Card Geotechnics Limited
Providing Ground Solutions

Urbanest UK Limited

103 Camley Street, London

Stage 2 Geotechnical and Geoenvironmental report

June, 2012

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EXECUTIVE SUMMARY

Urbanest UK Limited has commissioned Card Geotechnics Limited to undertake a *Stage 2 Geotechnical and geoenvironmental investigation* at 103, Camley Street, London. These works have been undertaken in relation to proposed redevelopment of the site to include multi-storey student accommodation, with a lower ground floor level intended for student business enterprises.

The site is located within a predominantly industrial/commercial area near to Saint Pancras International Station in the London Borough of Camden. The site is bounded to the east by Camley Street and to the west by the Regents Canal. To the southeast of the site there is an electrical substation and to the north there is residential development. The site was historically part of the Midland Railway Infrastructure but is now principally occupied by two warehouses and a number of portacabins and container units. The remainder of the site is utilised as a base for taxis. Five Underground Storage Tanks (USTs) are also present on site. The site lies at a higher level that the Regents Canal, and is supported on the western boundary by a wall retaining the site level.

Geological records show that he site is underlain by the London Clay Formation, which is classified as non productive strata in accordance with the Water Framework Directive (WFD). Therefore, the site does not lie within a Source Protection Zone. The site is not in a particularly sensitive environmental setting.

A previous investigation of the site was completed in 2000 by Albury SI Limited, which indicated the presence of some 5-6m of Made Ground on the site, comprising notable concentrations of lead and Total Petroleum Hydrocarbons (TPH) contamination. An additional investigation of the site has been completed by CGL in March 2012, and consisted of 21 window samples, 4 deep cable percussive boreholes and a series of dynamic probe tests. Monitoring wells were also installed on site to allow for the completion of soil gas and groundwater monitoring.

The investigation was largely confirmatory of the original findings outlined within the Albury SI report, in that a significant thickness (maximum 6.0m) of variable Made Ground was encountered over the London Clay Formation, which was proven to a maximum drilled depth of 35.0mbgl. The clay was noted to be slightly weathered towards the surface and became still to very stiff around 13.0 to 18.0mbgl. In two of the deepest boreholes (BH3 and BH4), the clay became very sandy with depth and groundwater was encountered in

sandy partings at depths in the order of 22.0m to 24.0mbgl. Perched groundwater also identified in the Made Ground at depths in the order of 3.2m to 5.7mbgl.

Chemical analysis of the soils has indicated that generally contamination is present at acceptable concentrations in relation to assessment criteria for a '*Commercial'* end land use. Notwithstanding this, the majority of Made Ground will be removed to approximately towpath level to accommodate a lower ground floor level area. Traces of hydrocarbons (staining and odours) were noted within soils removed from locations drilled near to the USTs on site. Whilst the concentrations are considered acceptable, this may be indicative of leaks/spills and so the reduced level formation should be inspected once again post tank removal. The tank decommissioning/removal process should be supervised by a Geoenvironmental Engineer.

Generally the total soils and Waste Acceptance Criteria (WAC) testing has confirmed that the majority of soils may be disposed as *non hazardous* waste. Two of the WAC tests have indicated that there may also be discrete areas of material that can be disposed as *inert* waste. However, two hotspots have also been identified; asbestos was positively identified in WS1 in a cemented form, but not elsewhere in exploratory holes across the site. Dependent upon the volume identified, it may mean that some of the soils in the total area local to WS1 could be classified as *hazardous* waste. Also in WS4, material was classified as hazardous waste on the basis of elevated lead concentrations. The test data can be used to form a waste disposal strategy that can be agreed with the receiving landfills to see that the correct classification is applied and waste volumes are minimised. The excavation/waste disposal process should be supervised by a Geoenvironmental Engineer.

Whilst the vast majority of Made Ground soils will be removed from site, some material may remain. Therefore, a capping layer comprising of 300mm fresh topsoil/subsoil is recommended to promote healthy plant growth in soft landscaped areas. Additionally, all potable water supply pipework should be Protectaline, or a similar specification.

Given the anticipated loads of the development, the recommended foundations for the proposed structure are bored piles formed into the London Clay. The retaining walls for the lower ground level should be contiguous pile walls, with an appropriate internal drainage cavity between the pile wall and internal facing, discharging to a positive sump, to accommodate residual groundwater seepages through the wall.

Suspended floors will be required to accommodate any movement due to heave. The final pile design should also allow for heave protection as the London Clay has high to very high

volume change potential. Elevated sulphate has been recorded on site, which indicates that buried concrete within Made Ground and the London Clay Formation should be designed to Design Sulfate Class DS-5 and ACEC Class AC-5. However, in accordance with BRE Special Digest 1, a Design Chemical (DC) Class for cast-in-situ concrete of DC-3 is deemed to be appropriate based on the available information, assuming an intended working life of at least 100 years and section thicknesses greater than 450mm with some chemical attack being acceptable.

1. INTRODUCTION

Urbanest UK Limited has commissioned Card Geotechnics Limited (CGL) to undertake an intrusive ground investigation to assess geotechnical conditions and potential environmental risks associated with the redevelopment of the site of 103, Camley Street, London, NW1 0PF. The site's location is shown on Figure 1.

These works have been undertaken in relation to proposed redevelopment of the site to include substantial multi-storey student accommodation, with a lower ground floor level and 'incubation' space intended for student business enterprises.

CGL previously completed a *Stage 1 Geoenvironmental report*[1] for the site, which should be read in conjunction with this document.

This report presents a summary of earlier reports that have been completed for the site by CGL and Albury SI, the findings of the present intrusive investigation and includes a risk assessment with an updated conceptual site model to determine any ground-related environmental issues associated with the site. The investigation also includes geotechnical information and recommendations for foundation and floor slab design.

This report includes the following:

- Review of salient information from previous reports;
- Details of site works undertaken and the ground conditions encountered;
- Logs and factual data to generate geotechnical design parameters and assist foundation and sub-structure design;
- Chemical laboratory test data and characterisation;
- Geotechnical and geoenvironmental recommendations for the proposed development;
- Contamination risk assessment and remediation and waste disposal classification;
- Development of an updated Conceptual Site Model (CSM).

[1] CGL. (2011). Stage 1 Geoenvironmental report: 103 Camley Street, London. CG/5521. Rev 1

2. DESK STUDY AND SITE VISIT

2.1 Site location and description

The site is located off Camley Street in the London Borough of Camden to the north, northwest of Saint Pancras International Station. The Ordnance Survey Grid Reference for the site location is 529720, 183780.

The site location is presented in Figure 1.

2.2 Proposed development

The anticipated development will comprise multi-storey student accommodation of up to 12 storeys, with incubation space for student business enterprise, cycle parking and a café in a lower ground level formed by the reduction of site levels from that adjacent to Camley Street to that of the Regent's Canal towpath. Areas of green space will be incorporated adjacent to the canal towpath. Anticipated lower ground and ground floor layouts are provided as Figures 2a and 2b respectively.

2.3 Site walkover

A site walkover was completed as part of the earlier *Stage 1 Geoenvironmental report* that was completed by CGL. It was noted that two warehouses are present in the east of the site and are occupied by a dry food goods warehouse and toy business. In addition to the warehouses, several informal containers are noted on site as well as portacabins used as a café, and there are open areas that are used for taxi parking. Evidence for Underground Storage Tanks (USTs) was noted on site. London Fire Brigade Planning Authority confirmed the likely presence of five tanks that held petrol, diesel and gas oil. The tank that contained petrol was filled with water in 1989; the status of the remaining tanks is unknown.

The site is positioned adjacent to the towpath that runs parallel to the Regent's Canal, however, the site is some 5m above the level of the canal. An electrical substation is noted off site towards the southeast.

2.4 Historical development

The *Stage 1 report* indicated that the site once formed part of the Midland Railway infrastructure, with a large Goods Depot building extending over the eastern part of the

site that was later demolished. After this time, two rectangular shaped structures were developed to the eastern perimeter of the site and are still present on site today.

2.5 Previous reports

Several reports have been completed for the site, which are summarised in the *Stage 1 report*; salient details from some these documents are summarised as follows:

Albury SI completed a ground investigation in 2000[2], which indicated the presence of some 5 to 6m of Made Ground on the site, comprising notable concentrations of heavy metals, particularly lead and Total Petroleum Hydrocarbons (TPH) and Polycyclic Aromatic Hydrocarbons (PAH). The hydrocarbons appeared to coincide with the area of the buried tanks.

CGL completed a *Stage 1 Geoenvironmental report* for the site in November 2010 (Revised August 2011), which comprised a search of the past land usage of the site and of potential contaminative land uses. It also included a preliminary assessment of the ground and groundwater conditions and the provision of a preliminary conceptual site model (CSM) for the site. The CSM indicated that there was a generally medium risk potential for contamination, but high in the area of the underground fuel storage tanks.

CGL also completed an *Outline remediation method statement*[3], based on the desk study information, to set out the measures that will be required to protect the users of the development, the general public and the environment during the construction and operation stages. It also sets out the basis of the validation procedures that will be in place to confirm compliance with the remediation methodology.

2.6 Anticipated ground conditions

According to the British Geological Map Sheet 256[4] the site is shown to be underlain by the London Clay Formation. The previous investigation completed by Albury SI indicated that there was a significant thickness of Made Ground overlying the natural strata. In the upper horizons, the Made Ground was noted to consist of brick rubble and earth predominantly. With depth, it comprised mainly a silty clay with brick fragments.

[2] Albury SI. (2002). 103 Camley Street: Letter report. Reference: 00/4901/NVM/CM/rpt. 12th December 2000.
[3] CGL. (2010). Outline Remediation Method Statement: 103 Camley Street. CG/5521. November, 2012.
[4] British Geological Survey (1994). North London, England and Wales Sheet 256. Drift Geology. 1:50,000.

2.7 Radon

Reference to the BRE[5] and HPA[6] guidance documents on radon protection measures indicates that the site is not positioned within a radon affected area, and that less than 1% of homes are below the action level. Therefore, no special precautions are considered necessary for new developments at this site.

2.8 Hydrogeology and hydrology

The Environment Agency[7] has produced an aquifer designation system consistent with the requirements of the Water Framework Directive. The designations have been set for superficial and bedrock geology and are based on the importance of aquifers for potable water supply, and their role in supporting surface water bodies and wetland ecosystems.

The London Clay Formation is designated as 'Unproductive Stratum', which contains insignificant quantities of groundwater. The site does not lie within a Source Protection Zone and there are no potable water abstraction points near to the site.

The site is positioned some 5m above, but adjacent to, the Regent's Canal. Information obtained as part of the *Stage 1 report* indicated the canal is likely to have been constructed within the natural underlying strata, i.e. the London Clay Formation

On this basis, the risk to controlled waters is considered to be minimal.

2.9 Preliminary conceptual site model

An earlier CSM was included within CGL's *Stage 1 report*. This was based on the available information and past land uses identified in and around the site and the anticipated ground conditions.

Generally a medium risk potential for contamination was identified, but this was anticipated to be higher in the area of the USTs. This risk was assigned on the basis that a significant thickness of Made Ground was identified on site during the Albury SI investigation and that the on site USTs may have leaked.

[5] BRE. (1999). Radon: Guidance on protective measures for new buildings. Building Research Establishment, Report BR211, 1999
[6] HPA. (2007). Interactive atlas of radon in England and Wales. Health Protection Agency, HPA-RPD-033, 2007
[7] www.environment-agency.gov.uk (2012)

3. PRESENT GROUND INVESTIGATION

3.1 General

An intrusive investigation was completed by CGL from the 2nd to the 19th April 2012 and comprised of four cable percussive boreholes (BH1-4) with associated in-situ testing and sampling. 21 window sample holes were completed using a tracked rig to obtain samples for contamination analyses. A series of dynamic probes were completed at two locations that extended inwards towards the site from the retaining wall. These positions were completed to determine the extent of the heel to the wall.

All of the exploratory hole locations were agreed in advance of site works with the Client and were completed in zones on the basis that the site is fully operational and becomes heavily trafficked by vehicle. The holes were positioned to allow for a suitable coverage of the site but were also targeted in relation to specific sources of contamination, such as the tanks and the substation. The indicative exploratory hole locations are shown on Figure 3.

Prior to the completion of site works, a full service search was completed on site by a specialist contractor. The survey drawing showing the services and all of the exploratory hole locations is in Appendix A. This also included a survey by means of Ground Penetrating Radar (GPR), which was used to located the buried tanks. Five tanks were located, which was consistent with information that was provided by LFB Planning Authority in the *Stage 1 report*. An output image showing the USTs is provided as Figure 4. In addition to the tanks, a tunnel was also identified which extended from the centre of the site in a south west direction. The full extent of the tunnel could not be determined and it is unclear as to its original purposes. However, there is the potential that this was part of the former Midland Railway infrastructure.

Potential hazards were discussed with the drilling crew and machine operators prior to the commencement of works and the CGL Engineer used a Cable Avoidance Tool (CAT) at each location as a precautionary measure to check for the presence of electrical services.

The boreholes were drilled by means of a Dando shell and auger rig to a maximum depth of 35.0m bgl. Standard Penetration Tests (SPTs) were carried out at regular intervals and were alternated with undisturbed sampling. The exploratory holes were positioned to enable suitable site coverage and upon completion were installed with gas and groundwater monitoring well equipment. Two of the deeper boreholes (BH3 and BH4)

were dual installed with a shallow standpipe extending through the Made Ground and a deeper standpipe that extended towards the base of the drilled hole.

Upon completion of the window samples locations, the arisings were backfilled in reverse order and reinstated at the surface with concrete. Three window samples were re-drilled in order that they could be backfilled with concrete to allow a noise/vibration impact assessment to be completed. These positions are marked as V1-V3 on the survey drawing. This assessment is being completed by others and is no longer referred to in this document.

The investigation was undertaken in general accordance with the requirements of BS 5930:1999[8] and BS 10175:2011[9]. The exploratory holes were logged and representatively sampled by the CGL Engineer.

The full stratigraphic logs are provided in Appendix B and geological cross sections are provided in Appendix C.

3.2 Monitoring

Following the completion of the investigation, the installed monitoring wells were left to equilibrate for approximately one week. Subsequently, six gas and groundwater level monitoring rounds were completed on a weekly basis. The monitoring results are in Appendix G.

On the first monitoring round there was an issue with one of the monitoring wells (BH3), in that blockages were identified within both of the standpipes. The drilling crew attended site on the second monitoring visit to repair the wells.

3.3 Laboratory testing

3.3.1 Geotechnical

Selected geotechnical samples were classified and analysed by Geolabs Limited for the following parameters:

- Particle Size Distribution (PSDs);

[8] BSI (1999). Code of Practice for Site Investigations BS 5930:1999. British Standards Institution.
[9] BSI (2011). Investigation of Potentially Contaminated Sites – Code of Practice. BS 10175:2011. British Standards Institution, 2011.

- Moisture content and Atterberg Limits;
- Quick undrained triaxial testing;
- Water soluble sulfate and pH determination;
- Consolidation/swelling tests by odeometer.

The results are in Appendix D.

3.3.2 Chemical

Selected soil samples were dispatched to i2 Analytical Limited, a UKAS and MCERTS accredited laboratory, for the following analyses:

- Soil Organic Matter (SOM);
- pH determination;
- Metals, including arsenic, barium, beryllium, boron cadmium, chromium, copper, lead, mercury, nickel, selenium, vanadium and zinc;
- Total cyanide;
- Acid soluble sulfate;
- Total monohydric phenols;
- Speciated Polycyclic Aromatic Hydrocarbons (PAH) and;
- Speciated Total Petroleum Hydrocarbons (TPH).

Selected samples were also tested for Polychlorinated Biphenyls (PCBs) and asbestos identification on the basis of site observations.

Leachate testing was completed on eight samples for a similar suite of determinands as those outlined above; twelve samples were submitted for Waste Acceptance Criteria (WAC) testing. All of the chemical results are in Appendix F.

4. GROUND AND GROUNDWATER CONDITIONS

4.1 General

The ground conditions encountered during the intrusive investigation are summarised in Table 1 below but were largely confirmatory of the anticipated ground conditions. Generally, the site is underlain by a significant thickness of Made Ground of variable composition over the London Clay Formation. Partings of sand were noted at depth with the London Clay in the deeper boreholes where groundwater was also encountered. These sandy horizons suggest that the lower beds of the London Clay Formation are present in this area.

4.2 Soils

Table 1: Ground conditions summary

Strata	Depth to top of stratum (m bgl)	Thickness (m)
Reinforced concrete and/or brick paviours. [MADE GROUND/HARDSTANDING]	0.0	0.1-0.5
Consisting of varying horizons of sandy gravel, gravelly sand and/or gravelly clay. Gravels are of flint, brick, concrete, glass, clinker, coal, metal, wood and ceramics. [MADE GROUND] *(*Smaller thicknesses of Made Ground are recorded due to refusal being met on brick/concrete obstructions)*	0.10-0.50	* Up to 6.00
Firm orange grey brown mottled silty sandy CLAY (weathered London Clay) becoming stiff to very stiff dark grey sandy CLAY with depth. In BH3 and BH4 siltstone was noted at depths of 22.65m and 19.80m respectively. Sand partings were also noted in these boreholes at depths of 24.1m and 21.35m respectively. [LONDON CLAY FORMATION]	4.20-6.20	Proven to 35mbgl

Further details of the ground conditions encountered are detailed in the following sections. The full stratigraphic logs are provided in Appendix B and geological cross sections are provided in Appendix C. A plot of SPT 'N' values vs. depth is provided as Figure 5 and a plot of Cu values against depth is provided as Figure 6.

4.2.1 Made Ground

The Made Ground was encountered across the site below the concrete/brick paviour hardstanding. The composition was variable, with horizons of sandy gravel and/or gravelly sand over gravelly silty clay. The Made Ground had a limited biodegradable fraction within the matrix. Very organic material was only noted in WS1, WS2A and WS16 comprising rotting timber/wood and organic peaty clay.

Generally the Made Ground comprised gravels of flint, brick, concrete, ceramic, metal and clinker. A number of concrete/brick obstructions were encountered during window sampling, which meant that some of the positions were either relocated or terminated at shallow depths. The obstructions appeared to be more prevalent along the west of the site where the retaining wall is located.

This is consistent with the borehole drilling crew's observations whereby brick rubble and concrete boulders were noted in the starter pits that were hand dug for BH2 and BH4. SPT tests taken within the Made Ground returned 'N' values in the range of 10 to 24 in the granular fill, which corresponds to material that is medium dense and 9 to 11 in the clay fill, which corresponds to material that is soft to firm (where $f_1 = 5$).

Some of the SPTs did not extend through the full length of the test and so the data was extrapolated to give SPT-N values in the range of 80 to 187. These values are inconsistent with the other values recorded in the fill, therefore, it is likely that the SPT could not penetrate through the material due to the presence of brick and concrete hardcore obstructions.

Visual and olfactory evidence of contamination was noted in several of the window sample holes in the Made Ground. In WS1 a cemented fibrous fragment of material was noted at 0.8mbgl. This was segregated and submitted for asbestos identification; the results are discussed in Section 5.0. In addition, black staining and/or a hydrocarbon odour was noted in locations WS1, 6, 7, 9-13A, 18 and 19. Generally, these observations were made in the locations that were positioned closest to the USTs, which is consistent with previous findings made by Albury SI. Whilst this may be indicative of the tanks having leaked historically, there was no gross contamination ie: free product noted. Therefore, the extent of leakage is considered to be somewhat limited.

4.2.2 London Clay Formation

The London Clay Formation was encountered in some of the window samples and all of the boreholes below the Made Ground. In some cases, the clay was noted to be weathered at shallow depths, consisting of firm orange grey brown mottled silty sandy London Clay nearer to the top of the stratum. Generally, the formation was encountered as stiff to very stiff dark brown sandy clay.

SPT-N values recorded in the clay were in the range of 11 to 49. Generally, the material had correlated *(f_1 = 4.5)* Cu values between 50kPa to 220kPa (SPT-N to Cu), which generally increased with depth and indicated the material to be 'firm to very stiff'.

The results of six triaxial tests on undisturbed samples between 6.0mbgl and 19.5mbgl returned undrained shear strengths in the range of approximately 51kPa and 149kPa, which correspond with the correlated Cu values determined from the SPT results and generally increase with depth. The results of the geotechnical classification analyses have indicated index properties for the London Clay in the following ranges:

- Moisture Contents between 23% and 36%;
- Liquid Limits between 56% and 79%;
- Plastic Limits between 23% and 34%; and
- Plasticity Indices between 32% and 46%.

On this basis the London Clay may be classified as a clay of high to very high plasticity[10] with a medium to high volume change potential[11]; a plasticity chart is presented as Figure 7.

Consolidation tests were completed at depths of 6.0m and 8.0m in the London Clay to determine the likely heave effect on the clay following the removal of the Made Ground. It has been estimated that some 5.0m of Made Ground may be removed from the site, which would equivalent to removing approximately 100kPa overburden on the clay. Basic heave calculations have been completed using the unloading stages of the consolidation. It is estimated that there may be some 50 to 90mm of heave following the removal of the Made Ground in the unconstrained case, although actual figures will be influenced by the moderating effects of pile and retaining wall installation.

All of the geotechnical results are provided in Appendix D.

4.3 Dynamic probing

Dynamic probe tests (DPTs) were completed at two locations against the retaining wall. The purpose of these works was to ascertain the extent of the heel of the wall that flanks the south west of the site. A plan showing the test locations is provided as Figure 8.

The tests were completed at regular intervals at locations that extended from the wall inwards towards the site. Eight DPTs were completed at location DP1 and three DPTs were completed at location DP2. Generally the probes that were formed closest to the wall met refusal at depths between 1.2m and 1.4mbgl at both DP1 and DP2. Refusal was met from the wall to approximately 2.5-3.5m inwards of the site. Beyond this, the probes advanced straight through to depths of 8.0mbgl, where the test was terminated.

It is unlikely that the heel of the wall has been encountered because it would not be situated at depths where refusal has been recorded. When comparing the results to the logs, it is noted that there were several window samples holes that refused along this flank of the site. In addition, the drilling crew recorded rubble and concrete boulders. Therefore, it is possible that a zone of hardcore material has been placed behind the wall historically when the site levels were being increased with fill material. This material is preventing the probes from advancing through the Made Ground, therefore, it is recommended that trial pits are excavated once the site has been cleared to determine the extent of the heel of the wall.

The dynamic probe results are provided in Appendix E.

4.4 Sulfate and pH

Water soluble sulfate results have been returned in the range of 410 to 6600mg/l and pH has been recorded in the range of 7.2 to 10.3 in samples taken from the Made Ground. The sulfate content within the London Clay at depth was in the order of 1300 to 8000mg/l and pH was in the range of 7.2 to 8.1.

[10] British Standards Institution. (1999). Code of practice for site investigations. BS5930:1999 Inc. Amendment 2.
[11] National House-Building Council. (2007). Building Near Trees- Chapter 4.2.

On the basis of testing completed in the London Clay, 40% of the samples tested have a percentage of oxidisable sulfate greater than 0.3%. Therefore, it is possible that there may be pyrite present in the London Clay. This is discussed further in Section 6.7.

The results of all chemical tests are included in Appendix F.

4.5 Groundwater

During window sampling, perched water was noted in the Made Ground in WS1 at 5.20mbgl, WS6 at 3.60mbgl and BH1 at 5.7mbgl. Water seepage was also noted in WS14 at 3.2mbgl. In the boreholes, groundwater was generally not encountered. However, in the deepest boreholes (BH3 and BH4), groundwater was encountered within the sandy partings noted at depth. Therefore, these boreholes were installed with a deep standpipe (as well as a shallower standpipe with a response zone through the Made Ground), in order that the groundwater could be monitored.

Six monitoring rounds have been completed subsequent to the intrusive investigation; the groundwater levels are summarised in Table 2 below:

Table 2: Groundwater level summary

Exploratory hole	Groundwater (mbgl)					
	26.04.12	**02.05.12**	**10.05.12**	**17.05.12**	**24.05.12**	**31.05.12**
BH1	5.09	4.98	5.11	5.14	5.16	5.16
BH2	4.24	3.28*	3.28	3.38	3.53	3.52
BH3 (Shallow)	NR	4.82	4.74	4.91	4.92	4.92
BH3 (Deep)	NR	9.82	6.83	6.32	6.42	6.40
BH4 (Shallow)	4.28	4.32	4.52	4.55	4.60	4.68
BH4 (Deep)	5.90	5.43	5.62	5.59	5.67	5.70

Notes:

NR Not recorded due to problem with monitoring well

* Standing water from the surface went into the standpipe when the bung was removed

Sandy partings were noted towards the base of BH3 and BH4, where a groundwater strikes were recorded at depths of 24.05m and 22.40mbgl respectively. During monitoring, these levels were noted to rise to depths in the range of 5.43m to 9.82mbgl, which are likely to be reflective of the long term water table in the London Clay. Water that has been encountered within the shallower installations and during drilling of the window samples is likely to be representative of perched water within the Made Ground above the more impermeable London Clay below.

4.6 Soil gas

Gas monitoring was completed from the 26th April to the 31st May 2012 by a CGL Engineer when atmospheric pressure was recorded between 990 and 1023mb. Monitoring was completed during periods at which atmospheric pressure was below 1000mb and when it was rising and falling.

Positive and negative flow rates were detected on site, with the maximum flow being recorded in BH2 at 1.8l/hr. Oxygen was recorded in the range of 19.0 to 21.0%. Methane was not detected on site. Carbon dioxide was recorded in the range of 0.0 to 0.5% by volume in air. A Photo Ionisation Detector (PID) was used to detect the presence of Volatile Organic Compounds (VOCs). The readings were negligible and were all 0.0 parts per million.

The monitoring records are provided in Appendix G.

5. CONTAMINATION ASSESSMENT

5.1 Human health assessment

Representative samples from the present investigation were selected for laboratory analysis. The test results have been compared against the published Soil Guideline Values (SGVs) for the "commercial" land-use category to assess the risk to human health from chemical contamination. Whilst the site is being redeveloped for student residence, the majority of the Made Ground will be removed to allow for a lower ground level to be constructed. At this level, it is proposed that 'incubation spaces' will be provided for student business enterprises. In addition, there will be no areas for private gardens and so the 'commercial' land use category is considered appropriate for the site in question.

Currently, SGVs have only been issued by the Environment Agency for a limited number of contaminants, namely selenium, mercury, arsenic, nickel, the BTEX compounds, phenol and cadmium. The SGVs have all been issued for a sandy loam soil with a Soil Organic Matter of 6% as standard.

Where SGVs are not available, the soil results have been compared to Generic Assessment Criteria (GACs) that have been derived in-house by CGL using the *Contaminated Land Exposure Assessment (CLEA)* model[12] and version 1.06 of the CLEA software. The GACs represent conservative screening criteria and have been calculated using the default parameters for the standard land use scenario set out in the CLEA technical report and toxicological inputs in line with the requirements of *Science Report SC050021/SR2*[13] and, in the case of petroleum hydrocarbons, Science *Report P5-080/TR3*[14]. The GACs have been generated assuming a sandy loam soil type and a Soil Organic Matter of 1%, which are suitable assumptions for the site in question. More detailed information on the derivation of the CGL GACs can be provided upon request.

Assessment against the SGVs and GACs is carried out at the 95th percentile on the sample mean (designated US_{95}), which is considered to represent a reasonable worst-case scenario. The US_{95} has been rounded up to the nearest whole number. Statistical

[12] Environment Agency. (January 2009). *Updated technical background to the CLEA model*. Science Report SC050021/SR3.
[13] Environment Agency. (January 2009). *Human health toxicological assessment of contaminants in soil*. Science Report SC050021/SR2.
[14] Environment Agency. (February 2005). *The UK Approach for Evaluating Human Health Risks from Petroleum Hydrocarbons in Soils*. Science Report P5-080/TR3.

assessment of the results has been completed in accordance with the recommendations set out in the recently published CL:AIRE guidance[15]. In this regard, an assessment of the normality of the data has been undertaken. Where datasets are normally distributed the one sample t-test has been applied to calculate the US_{95}. In the case of non-parametric datasets, the Chebychev Theorem has been applied. The Grubbs Test has also been used to identify potential outliers within datasets. Copies of the relevant statistical analysis are available on request.

The results of the assessment are set out below in Tables 3a and 3b. A copy of the factual data is included as Appendix F.

Table 3a: Summary of soil contamination (risks to human health)

Contaminant	SGV or GAC @ 1% SOM for Commercial land-use (mg/kg)	Notes on soil saturation limits (SSL)[1]	Measured range (mg/kg)	US_{95} (mg/kg)	US_{95} > Assessment Criteria? (Y/N) #- outlier detected
SOM (%)	*[2]		0.6-5.7	*	*
Arsenic	640[3]	-	3.2-29	17.13	N#
Cadmium	230[3]	-	<0.2-1.6	0.39	N
Chromium (total)	330	-	6.7-78	39.44	N
Chromium (III)	9,600	-	37-78	59.95	N
Chromium (VI)	35	-	<4	<4	N
Lead	6,800	-	21-2500	664.89	N
Mercury (inorganic)	3,600[3]	-	<0.3-2.6	1.00	N
Selenium	13,000[3]	-	<1.0	<1.0	N
Boron	*		<0.2-6.5	2.48	*
Copper	73,000	-	23-230	104.30	N
Nickel	1,800[3]	-	7-57	33.61	N
Zinc	330,000	-	35-1900	356.16	N#
Barium	*		37-1300	285.84	*
Beryllium	220	-	0.2-3.8	1.46	N#
Vanadium	5,500	-	8.5-90	62.54	N
Phenols[4]	750[3]	(c)	<2	<2.0	N
Cyanide	*		<1-2	1.12	*
BTEX compounds					
Benzene	29[5]	-	<0.001-0.18	0.02	N#

[15] J. Lowe et al. (May 2008). *Guidance on comparing soil contamination data with a critical concentration*. CL:AIRE, CIEH & SAGTA.

Contaminant	SGV or GAC @ 1% SOM for Commercial land-use (mg/kg)	Notes on soil saturation limits (SSL)[1]	Measured range (mg/kg)	US_{95} (mg/kg)	US_{95} > Assessment Criteria? (Y/N) #- outlier detected
Toluene	870[5]	(d)	<0.001	<0.001	N
Ethyl benzene	520[5]	(d)	<0.001	<0.001	N
m-xylene[6]	630[5]	(d)	<0.001	<0.001	N
o-xylene[6]	480[5]	(d)	<0.001	<0.001	N

Notes:
1. - = green; (a) = amber i.e. GAC set to model output, [SSL provided in square brackets] ; (b) = red i.e. SSL exceeded & considered to affect interpretation. GAC calculated in accordance with the CLEA Software Handbook ; (c) = based on direct contact; (d) GAC limited to SSL.
2. * = no value currently defined
3. Based on published Soil Guideline Value (Environment Agency, 2009), adjusted for 1% SOM
4. GAC relates to Phenol (C_6H_5OH) only and is based on direct skin contact
5. Based on the published SGVs for BTEX at 6% SOM (Environment Agency, 2009), adjusted for 1% SOM
6. Concentrations for total xylenes should be compared to the value for m-xylene for fresh spills and to o-xylene for all other cases.

Table 3b: Summary of soil contamination (risks to human health) cont.

Contaminant	SGV or GAC @ 1% SOM for Commercial land-use (mg/kg)	Notes on soil saturation limits (SSL)[1]	Measured range (mg/kg)	US_{95} (mg/kg)	US95 > Assessment Criteria? (Y/N) #- outlier detected
Total Petroleum Hydrocarbons (TPH)					
TPH aliphatic EC5-6	370	(d)	<0.1	<0.1	N
TPH aliphatic EC>6-8	170	(d)	<0.1	<0.1	N
TPH aliphatic EC>8-10	93,000	(b)	<0.1	<0.1	N
TPH aliphatic EC>10-12	95,000	(b)	<1.0	<1.0	N
TPH aliphatic EC>12-16	95,000	(b)	<2-67	12.34	N
TPH aliphatic EC>16-35	1,900,000	(b)	16-360	86.06	N
TPH aromatic EC5-7	29	-	<0.1-0.2	0.11	N
TPH aromatic EC>7-8	870	(d)	<0.1	<0.1	N
TPH aromatic EC>8-10	34,000	(b)	<0.1	<0.1	N
TPH aromatic EC>10-12	38,000	(b)	<1	<1	N
TPH aromatic EC>12-16	38,000	(b)	<2-20	4.97	N
TPH aromatic EC>16-21	26,000 [60]	(a)	<10-140	32.56	N
TPH aromatic EC>21-35	28,000 [4.8]	(a)	<10-290	49.07	N
Polycyclic Aromatic Hydrocarbons (PAH)					
Acenaphthene	110,000	(b)	<0.1-2.10	0.02	N
Anthracene	530,000 [7.7]	(a)	<0.1-5.9	0.99	N
Benzo(a)anthracene	192 [1.7]	(a)	<0.2-14	2.39	N

Contaminant	SGV or GAC @ 1% SOM for Commercial land-use (mg/kg)	Notes on soil saturation limits (SSL)[1]	Measured range (mg/kg)	US_{95} (mg/kg)	US95 > Assessment Criteria? (Y/N) #- outlier detected
Benzo(a)pyrene	22 [0.9]	(a)	<0.1-13	0.48	N#
Benzo(b)fluoranthene	220 [1.2]	(a)	<0.2-5.8	0.99	N#
Benzo(g,h,i)perylene	2,200 [0.02]	(a)	<0.05-8.0	1.35	N#
Benzo(k)fluoranthene	220 [0.7]	(a)	<0.2-5.8	1.14	N#
Chrysene	2,100 [0.4]	(a)	<0.05-14	2.47	N#
Dibenzo(a,h)anthracene	22 [0.004]	(a)	<0.2-1.2	0.32	N#
Fluoranthene	72,000 [19]	(a)	<0.2-33	5.60	N
Fluorene	64,000 [150]	(a)	<0.2-2.3	0.51	N#
Indeno(1,2,3-cd)pyrene	210 [0.06]	(a)	<0.2-6.9	1.24	N#
Naphthalene	23,000	(b)	<0.05	<0.05	N
Pyrene	54,000 [2.2]	(a)	<0.2-27	4.57	N#

Notes:
1. - = green; (a) = amber i.e. GAC set to model output, [SSL provided in square brackets] ; (b) = red i.e. SSL exceeded & considered to affect interpretation. GAC calculated in accordance with the CLEA Software Handbook ; (c) = based on direct contact; (d) GAC limited to SSL.

The results of the statistical analysis indicate that there are no unacceptable concentrations of contamination across the site in comparison to the assessment criteria for the chosen land use scenario. Traces of TPH and benzene were noted in some locations that were advanced near to the underground fuel storage tanks. Whilst the concentrations were below the associated assessment criteria, this may be indicative of historic leaks/spills from the tanks. Therefore, the soils below the tanks should be inspected further following their removal. This is discussed further in Section 7.4.

Selected samples were submitted for PCB analysis given the presence of an electrical substation off site. The results that were returned were all below the limits of detection, therefore, the risk from this source is considered to be minimal. In addition, a sample of fibrous material was taken from one of the window sample locations and was submitted for asbestos identification. The laboratory has positively identified chrysotile fibres within the sample. Whilst other evidence of Asbestos Containing Materials (ACMs) was not noted during the investigation, it is possible that asbestos might be present in other areas across the site. This is discussed in Section 7.3

5.2 Risks to controlled waters

Given the nature of the local hydrological and hydrogeological regime, the risk to controlled waters is anticipated to be minimal. The site is underlain by the London Clay Formation, which is designated as an 'Unproductive Stratum' by the EA. Therefore, no groundwater samples have been taken as part of these works. However, eight soil samples were submitted for leachate analysis in order to assess the risks from mobile contamination; the results are reported in Table 4. The results have been compared to Environmental Quality Standards (EQS) and the Drinking Water Values (DWV). When given the local ground conditions, this is considered to be a stringent assessment for the site in question.

Table 4: Summary of leachate results

Contaminant	Freshwater EQS[1] (µg/l)	EC Drinking Water Value (µg/l)	Measured range (µg/l)	No. of samples exceeding EQS	No. of samples exceeding Drinking Water Value
Arsenic	50	10	2.2-8.7	0	0
Cadmium	5	5	<0.1	0	0
Chromium	250	50	1.5-9	0	0
Lead	**250**	**10**	**1.4-21**	**0**	**2 of 8**
Mercury	1	1	<0.5-0.9	0	0
Selenium	*[2]	10	<4.0	*	0
Boron	2000	1000	29-170	0	0
Copper	28	2000	2.6-12	0	0
Nickel	200	20	1.2-4.4	0	0
Zinc	500	(5000)[3]	2.3-14	0	0
Barium	*	(1000)[3]	12-81	*	0
Beryllium	(15)[4]	*	<0.2	0	*
Vanadium	60	*	<1.7-13	0	*
Phenols	30	(0.5)[3]	<10	0	LOD > DWV
Cyanide	5[5]	50	<10	LOD > EQS	0
Sulfate (mg/l)	400	250	7.6-190	0	0
TPH	*	(10)[3]	<10	*	0[8]
PAH	*	0.1[7]	<0.04	*	0[8]
Benzo(a)pyrene	*	0.01	<0.01	*	0
Naphthalene	10	*	<0.01	0	*
Benzene	30	1	<1.0	0	0
Toluene	50	*	<1.0	0	*
Ethylbenzene	*	*	<1.0	*	*
Xylenes	30	*	<1.0	0	*
MTBE	*	*	<1.0	*	*
pH	6.0 - 9.0	6.5 - 10.0	6.5-7.9	0	0

The results of the groundwater sample analysis have indicated that, where tested, chemical determinands are generally present at acceptable concentrations below the EQS and DWV values. However, lead is present at concentrations that exceed the DWV in two of the samples tested. Lead was detected at a maximum concentration of 21µg/l, which exceeds the DWV of 10µg/l but not the EQS. However, as the hydrogeological and hydrological setting of the site is not greatly sensitive, the risk from this contaminant to controlled waters is considered to be minimal.

In the case of cyanide and phenols, the laboratory limits of detection exceed the EQS and DWV respectively in the groundwater sample. However, the total soil concentrations of phenols and cyanide are below the limits of detection and so it is unlikely that there would be any significant phenol or cyanide contamination within the dissolved phase. The factual data is provided in Appendix F.

5.3 Updated qualitative risk assessment

A preliminary Conceptual Site Model was provided in the initial *Stage 1 Geoenvironmental report*, which identified the potential pollutant linkages that may have existed at the site in accordance with Contaminated Land Report (CLR) 11[16]. The risks identified are in accordance with the DEFRA and Contaminated Land Report (CLR) 6[17], site prioritisation and categorisation rating system which is summarised in Table 5 below.

[16] The Environment Agency (2004) Model Procedures for the Management of Land Contamination, CLR 11
[17] M.J. Carter Associates (1995) Prioritisation and Categorisation Procedure for Sites which may be Contaminated, Department of the Environment, CLR 6

Table 5: Risk Rating Terminology

Risk Rating	Description
High Risk	Contaminants very likely to represent an unacceptable risk to identified targets Site probably not suitable for proposed use Enforcement action possible, Urgent action required
Medium Risk	Contaminants likely to represent an unacceptable risk to identified targets Site probably not suitable for proposed use Action required in the medium term
Low Risk	Contaminants may be present but unlikely to create unacceptable risk to identified targets Site probably suitable for proposed use Action unlikely to be needed whilst site remains in current use
Negligible Risk	If contamination sources are present they are considered to be minor in nature and extent Site suitable for proposed use No further action required

Based on the above terminology, an assessment of the risks posed by the potential pollutant linkages at the site is outlined in the Updated CSM, which has been reviewed on the basis of findings from the present ground investigation and is presented as Table 6.

Table 6: Qualitative Risk Assessment

Source/Medium	Receptor	Potential Exposure Route	Risk Rating
Explosive / asphyxiating gases from within Made Ground (if present)	Internal building spaces & future occupiers	Migration of gases through the surface and via permeable soils	Low to negligible risk as no methane, and minimal concentrations of carbon dioxide have been identified.
Asbestos within Made Ground (if present)	Construction workers	Direct ingestion of soil & dust, inhalation of particulates & vapours and dermal contact	Medium risk as evidence of asbestos has been identified in one location, however, this is in a cemented form, limited in extent and risks can be mitigated.
Organic/inorganic contaminants (e.g. PAHs, TPH, metals etc.) within Made Ground (if present) and potential fuel spillage	Construction workers	Direct ingestion of soil & dust, inhalation of particulates & vapours and dermal contact	Low risk as minimal concentrations of contaminants have been identified, however, there is potential that hydrocarbon contamination may be present below the buried tanks.
	Future site occupiers Controlled waters	Direct ingestion of soil & dust, inhalation of particulates & vapours, indirect ingestion by means of dermal contact Migration via leaching/transport in groundwater	Low to negligible risk given that the majority of Made Ground will be removed and/or encapsulated beneath structures thus minimising leaching.
	Vegetation and plants	Root uptake	Low risk as planting is likely to be minimal as it will be landscaped, therefore, vegetables are unlikely to be grown on site.
	Buildings & structures	Direct contact and migration & accumulation within building spaces	Low risk given that no VOCs have been recorded on site, and the sources of contamination will be removed. Elevated sulphate has been identified on site.
PCBs from the former railway industry and the electrical substation.	Construction workers	Direct ingestion of soil & dust, inhalation of particulates & vapours and dermal contact	Low to negligible risk given that the potential sources are predominantly located off site. PCBs are not present at concentrations above the limits of detection.
	Future site occupiers	Direct ingestion of soil & dust, inhalation of particulates & vapours and dermal contact	

Despite there being a significant thickness of Made Ground across the site, the gas regime has been identified as being very low risk. Minimal concentrations of carbon dioxide (0.5%) and methane (0.0%) have been recorded, which may be because a minimal biodegradable fraction was encountered within the soil matrix. Asbestos was identified in one location, which could mean that further fragments of cement bound fragments or loose fibres are present within the soil, although given the history of the site, the occurrences would be isolated and restricted to the upper layers if present. Therefore, site workers should employ the use of Personal Protective Equipment (PPE) to mitigate the risk from contact with fibres, particularly inhalation, as a sensible precaution. The presence of asbestos may also have implications for waste disposal, which is discussed in Section 7.3.

Limited soils contamination has been encountered on site; traces of hydrocarbons were noted in window sample locations that were drilled close to the underground fuel storage tanks. Whilst these contaminants have been identified at acceptable concentrations, there is the potential that more significant contamination may be present closer to/below the tanks. The tanks should be decommissioned and removed as part of the future development so that the soils in this area can be inspected and removed if they have been grossly impacted. This is discussed further in Section 7.4. The risk from hydrocarbon vapours is considered to be low given that negligible VOC concentrations has been detected during monitoring and because the tanks will be removed from site.

Elevated sulfate has been identified in both the Made Ground and natural soils. This may have implications for buried concrete structures, however, this risk can be mitigated by using an appropriate design class of concrete, which is discussed in Section 6.7.

The risk to plants is considered to be minimal as the development proposals include landscaped/border vegetation as opposed to private gardens where homegrown vegetables might be grown.

A diagrammatic CSM is provided as Figure 9.

6. GEOTECHNICAL RECOMMENDATIONS

6.1 General

The anticipated development will comprise multi-storey student accommodation of up to 12 storeys, with 'incubation space' for student business enterprise, cycle parking and a café in the ground floor level. Areas of green space will be incorporated adjacent to the canal towpath.

The following recommendations are based on the ground and groundwater conditions encountered during the present ground investigation and the results of subsequent testing for geotechnical parameters.

6.2 Geotechnical Design Parameters

Geotechnical design parameters for the proposed development are summarised in Table 7 below. These are based on the results of SPT testing, geotechnical laboratory testing, and published data for the well-studied London geology.

Table 7: Geotechnical design parameters

Stratum	**Design Level (mOD)**	**Bulk Unit Weight γ_b (kN/m^3)**	**Undrained Cohesion c_u (kPa) [c']**	**Friction Angle ϕ' (°)**	**Young's Modulus E_u (MPa) [E']**
Made Ground (Granular)	28	19	-	28[b]	[14]
Weathered London Clay	22.5	20	$50 + 10z$[c] [5]	24[a]	$30 + 6z$[d] $[22.5 + 4.5z]$[e]
London Clay	15	20	$130 + 3.2z$[c] [5]	24[a]	$78 + 1.9z$[d] $[58.5 + 1.5z]$[e]

a. BS 8002:1994 Code of practice for Earth retaining structures, British Standards institution.
b. Peck, R.B., Hanson, W.E., and Thornburn, T.H., Foundation Engineering, 2nd Edn, John Wiley, New York, 1967, p.310.
c. z = depth below surface of the London Clay
d. Based on 600Cu
e. Based on 0.75Eu

The parameters in Table 14 are unfactored 'moderately conservative' design values.

6.3 Excavations

Based on the ground conditions encountered excavations required during the development should not pose significant difficulties for conventional excavators and earthmoving equipment. However, it should be noted that concrete obstructions may be present near to the retaining wall.

As the dynamic probing, completed as part of the present investigation, did not delineate the extent of the heel of the retaining wall on site it is recommended that a machine excavator is used during the demolition or groundworks phase of the development to determine the extent of this feature. Given the variable nature of the Made Ground, it is necessary that any trial pits excavated against the wall are suitably shored and supported.

Excavation of the lower ground level will take place to approximately 5.0 to 6.0mbgl through the Made Ground. Perched groundwater has been identified in the Made Ground at levels in the order of 3.28m to 5.14mbgl. Therefore, groundwater control may be required during the basement excavation (see Section 6.5).

Excavations in excess of 1.2mbgl should be suitably shored or otherwise supported or battered and should be inspected regularly by a competent person. No operatives should enter unshored or otherwise unprotected excavations.

6.4 Foundations

Based on the anticipated development loads and the recorded ground conditions, pile foundations are considered appropriate for the site. At this stage specific column loads have not been provided.

Given the ground conditions and urban nature of the site it is likely that continuous flight auger (CFA) will be appropriate to limit disturbance to neighbours. The use of CFA piling methods will also overcome the potential for pile bore collapse due to water ingress in the sandier zones of the London Clay. Preliminary pile working loads are presented in Figure 10 based on CFA piles with an adhesion value of 0.5 within the London Clay and a factor of safety of 2.6 as recommended in current LDSA guidance[18]. This assumes that no pile testing is undertaken. It should be noted that this factor of safety can be reduced to 2.2 on completion of a representative number (1% of total number of piles) of working load tests and to 2.0 on completion of working load tests and preliminary pile tests.

[18] LDSA. (2009*). Foundations, No.1 Guidance Notes for the Design of Straight Shafted Bored Piles in London Clay*.

Indicative pile safe working loads are summarised in Table 8 below based on 25m effective length piles with a toe level at circa -3mOD and a cut-off level of circa 22mOD (i.e. 2m below lower ground floor level).

Table 8. Summary of preliminary pile safe working loads (FoS = 2.6).

Pile Diameter (mm)	Safe Working Load (MN)
600	1.48
750	1.90
900	2.35

Depending on column loads either single piles or pile groups may be utilised. Final pile design should be undertaken by the piling contractor.

6.5 Retaining walls

Retaining walls for the lower ground floor will be required in those areas away from the towpath. It is anticipated that the basement will be constructed using contiguous or secant bored pile walls, dependent on groundwater conditions and basement drainage requirements. Based on the groundwater conditions encountered on-site (see Section 4.5), groundwater is largely limited to small volumes of perched water in the Made Ground. As such a contiguous pile wall with an appropriate internal drainage cavity between the pile wall and internal facing is recommended to accommodate residual groundwater seepages through the wall in the permanent condition.

It is recommended the basement retaining walls toe a minimum of 1m into the London Clay to provide an effective groundwater seal during construction. It is likely a greater depth will be required to ensure stability if the retaining wall is to be designed as a cantilever. Given that only a limited number of adjacent structures are generally in close proximity, and given the history of ground level raising in the area are likely to be supported by piled foundations, the risk of damage to neighbouring structures is considered to be low and a cantilevered solution is feasible. The retaining wall will be supported in the permanent condition by the lower ground floor and ground floor slabs.

The basement box should be dewatered, if required, to below formation level so that the lower ground floor slab can be cast. Groundwater control could take the form of a sump drainage system with active collection pumps. It is envisaged an effective seal into the London Clay will limit potential recharge following dewatering so that pumping will only be

required to remove residual seepage. Once dewatered, minimal groundwater seepage through, or beneath the pile walls is anticipated and it is likely this could be controlled by localised sump pumping. A design groundwater level of 23.5mOD should be adopted for temporary works.

Geotechnical parameters for retaining wall design are provided in Table 7. For short term temporary works undrained parameters for the London Clay should be adopted, however should the pile wall remain in the cantilevered condition for periods of greater than 3 months, drained parameters should be used.

6.6 Lower ground level and slab

The London Clay will be subjected to some stress relief as some 5.0m of Made Ground is removed. Due to the cohesive nature of the London Clay (silty clays), they are likely to be affected by seasonal shrink-swell and subject to some volume change during unloading and loading. Basic heave calculations have been completed and it is estimated that there may be some 50 to 90mm of heave following the removal of the Made Ground. Therefore, the design should also allow for heave protection as the London Clay has high to very high volume change potential.

As such it is considered a suspended lower ground floor slab is adopted for the development, incorporating an appropriate compressible material or void former beneath the slab to accommodate heave movements.

Similarly a void, void former or compressible material should be provided against the inside faces of external pile caps. Piles should be reinforced to a depth sufficient to counteract heave forces causing uplift over the upper portion of the pile shaft.

6.7 Pavement design

A CBR value of 2% is recommended for roads and pavements founded where Made Ground is to be retained. The material should be proof rolled, and if pockets of weak material are encountered these should be removed and replaced with well compacted granular fill.

6.8 Drainage

Infiltration testing was outside of the scope of works for the present investigation. However, on the basis of the ground conditions encountered, soakaways would not be recommended as a suitable drainage option for the site due to the anticipated infiltration rates.

Other suitable Sustainable Drainage System (SuDS) options may be available for the site, which should be discussed with a specialist drainage consultant. Any such system would need to have a high degree of storage to attenuate against low infiltration rates.

6.9 Buried concrete

Based on BRE Special Digest 1[19], buried concrete within Made Ground and the London Clay Formation should be designed to Design Sulfate Class DS-5 and ACEC Class AC-5 assuming mobile groundwater.

This is a high design grade of concrete even within the London Clay Formation, which comprises sulfate-bearing selenite. Also on the basis of the testing completed, there is potential that there may be pyrite present in the London Clay. This can be problematic in situations where the ground is disturbed to the extent that the pyrite is exposed to oxidising conditions giving rise to sulfate ions, which may affect the concrete.

However, on the basis that piled foundations have been recommended for the site, in the London Clay, it is likely that ground disturbance in the formation will be minimal. This risk will also be mitigated by the use of the higher design chemical class for concrete.

In accordance with BRE Special Digest 1, a Design Chemical (DC) Class for cast-in-situ concrete of DC-3 is deemed to be appropriate based on the available information, assuming an intended working life of at least 100 years and section thicknesses greater than 450mm with some chemical attack being acceptable.

At shallower depths where Made Ground will remain, it may be possible to replace the Made Ground with non-sulfate bearing material such as Type 1 fill in order that the design grade for buried concrete can be reduced at such depths. However, it may not be practical to make this differentiation during development construction, in which case the higher classification would need to apply to buried concrete.

[19] BRE Construction Division. *Concrete in aggressive ground*. Special Digest 1:2005. 3rd Edition.

7. CONTAMINATION RECOMMENDATIONS

7.1 General

The following recommendations have been made on the basis that the future development will involve the removal of the majority of Made Ground and will consist of a commercial space at the lower ground level. With reference to potential contamination issues, the '*Commercial*' end land use is considered to be most appropriate for the site.

The following recommendations are based on the ground and groundwater conditions encountered during the present ground investigation and the results of subsequent testing for contamination parameters.

7.2 Soil contamination and remediation

Gross contamination was not identified across the site in terms of a '*Commercial'* end use scenario. Where tested, all of the determinands were present at acceptable concentrations in relation to available SGVs and CGL GACs. Nevertheless, site workers should follow health and safety procedures, outlined in Section 7.10, as standard when working in close contact with exposed soils.

Beneath the building footprint the floorslab will act as a physical barrier to isolate any residual soil contamination and prevent vertical infiltration of surface water. No remediation measures are expected in this part of the development.

Where areas of Made Ground are left in-situ and/or soils will be exposed, a capping layer is recommended as discussed in Section 7.2.1

7.2.1 Capping layer

The capping layer should consist of a thickness of 300mm of topsoil and subsoil. It is anticipated that this thickness of cover will be appropriate to act as a barrier to above ground receptors and promote healthy plant growth in the areas of soft landscaping.

The imported soil should be clean, 'non waste' soil imported from a known and reputable source. A greenfield source should be utilised where possible. Chemical test results and details of source will be provided by the Contractor prior to the material being brought to site. The material will not exceed the Maximum Permissible Concentrations set out in

Appendix H. In addition, the topsoil will meet the requirements of BS 3882:2007 Classification – General Purpose Grade or better, and should be free from propagules of aggressive weeds.

Once on site, the imported material will be subject to validation testing. At least one chemical test will be undertaken for every 50m^3 of imported material. Imported earthworks material, including general fill, should be subjected to a similar testing regime if any is required.

7.3 Material management and waste classification

It is anticipated that the majority of soils requiring disposal will be generated during the removal of the Made Ground from site. A Geoenvironmental Engineer should be present at this time in order that material of a similar composition can be stockpiled and sampled to allow for waste characterisation.

In general, the total soil analysis and subsequent WAC testing has indicated that the Made Ground can be disposed at a *non hazardous* landfill facility. WAC test results for material in WS 6 at 0.6m and WS7 at 3.0m may be disposed at an *inert* facility if required. There may be other discrete areas of material that could be classified as *inert*, which is likely to apply to areas of brick and concrete rubble that have been identified. Such material should be stockpiled so that samples for further WAC analysis can be completed. A sampling frequency of 1 per 250m^3 for small waste streams and 1 per 500m^3 for larger volumes could be applied.

Screening of the arisings may permit recycling/reuse of the material for other sites under the WRAP protocol[20] or the CL:AIRE protocol[21] and would lead to a reduction in disposal requirements. Therefore, it is recommended that the excavation of the Made Ground is completed in zones in order that any potentially grossly contaminated material (identified by discolouration, odour etc.) can be segregated from potentially re-useable material, such as concrete and other hardcore materials. It is recommended that the tank removal is completed first in order that cross contamination can be minimised.

In WS4 at 0.5mbgl, the material has been classified as hazardous on the basis of the lead concentration. It will be necessary to segregate this material to allow for separate disposal at a *hazardous* landfill. Again, further areas of hazardous material may be present on site

[20] WRAP. (n.d.) *The Quality Protocol.*
[21] CL:AIRE.(2011). *The Definition of Waste: Development Industry Code of Practice.* Version 2.

particularly where the underground fuel tanks are located. Therefore, these areas particularly should be inspected by a Geoenvironmental Engineer in order that any grossly contaminated material can be segregated and sampled to determine a suitable end point for disposal.

Within the Made Ground at WS1 at 0.8mbgl, a small fragment of ACM was encountered in the form of cement type material comprising chrysotile fibres. Given the form and type of asbestos encountered and the isolated occurrence, this is considered to be a low risk to human health. With regard to waste disposal requirements, waste with >0.1% asbestos is considered *hazardous*, however, given the limited quantity encountered this is not considered to be a concern. Appropriate precautions will be however be required during construction works should further ACMs be found. This could include wetting the sides/bases of excavations, covering excavated spoil to reduce risk of fibre release (considered to be low as in the form of cemented material) and appropriate personal and respirator protective equipment (PPE/RPE).

Natural arisings which are not contaminated can be disposed at an *inert* landfill based on being classified a natural soil and a listed inert waste with no requirement for WAC testing.

All material intended for off site disposal should be transported and disposed in accordance with the Environmental Protection (Duty of Care) Regulations, 1991 and the Landfill (England and Wales) Regulations, 2002 (as amended). Waste legislation stipulates that *hazardous* and *not hazardous* waste should be pre-treated prior to disposal. Pre-treatment can be undertaken either at the site of origin or may be carried out at a licensed off-site facility and can include selective segregation of soils conducted on site.

7.4 Removal of tanks and decommissioning

The present investigation involved a GPR survey of the site, which confirmed the location and number of tanks in the vicinity of the retaining wall on the western boundary. In total, five buried tanks were identified, which is consistent with information presented in the *Stage 1 Geoenvironmental report.*

It is recommended that the tanks are decommissioned in accordance with PPG2[22] and the Health and Safety Executive guide CS 15: *Cleaning and gas freeing of tanks containing flammable residues*. Suitable fire fighting equipment and emergency spill response materials should be retained on site during this phase.

All decommissioning and removal works should be supervised by a competent foreman at all times and all leaks and spills monitored and controlled to prevent spread of contamination. Any liquid in the tanks should be pumped out, including liquid requiring a hand pump to remove. The contents of the tanks should be transferred to a tanker for off site disposal or recycling at a licensed facility. Any solids or sludge should also be removed. All tanks should be removed from the ground by lifting with suitable plant.

After the removal of the tanks and associated pipework etc., it would be prudent to inspect the area below the tanks to determine whether the underlying soils have been impacted. Hydrocarbon impacted arisings will have to be stockpiled to enable testing for waste classification as per the recommendations in Section 7.3.

In addition, the tanks, contents and fittings should be transferred to a registered waste carrier for off site disposal at a licensed landfill or recycled as scrap metal. Transport of the tanks should be in accordance with all applicable regulations, including the Environmental Protection (Duty of Care) Regulations. Waste disposal documentation should be retained for validation purposes.

7.5 Groundwater

Leachate testing has indicated that lead is potentially mobile at concentrations that exceed the Drinking Water Value. However, because the site is not positioned within a groundwater protection zone and is underlain by the London Clay Formation this assessment criterion is considered stringent for the site. Given the ground conditions on site, it is not anticipated that there is a viable pathway for mobile contamination to migrate to potable water sources and so the risk to groundwater is considered to be low to negligible.

Perched groundwater has been identified within the Made Ground and so there is the potential that this water will be encountered during the main ground excavation and may require dewatering. As there is potential for this water to have been impacted by contamination, it should be extracted, stored, transported or treated and disposed of in accordance with current legislation to a foul sewer under a short term trade effluent consent agreed with the water authorities.

[22] EA. (2010). PPG2 Above ground oil storage tanks. Environment Agency.

7.6 Surface water

The site is located adjacent to the Regent's Canal, therefore, measures will be required to see that spills/run-off from the site cannot enter the water body. This will largely be achieved by removing the USTs from site and by controlling the migration of perched groundwater by dewatering.

In this regard, it is recommended that inspection of the canal side is completed daily to check for evidence of contamination migration as part of a watching brief, which is discussed in Section 7.7.

7.7 Watching brief and discovery strategy

It is recommended that a Geoenvironmental Engineer is present on site through the majority of the ground works phase. However, during times when this is not possible, then a watching brief should be maintained by the Main Contractor. Should any gross contamination, such as oily material or material of an unusual colour or odour, be encountered during excavation, the following strategy is recommended:

1. Work to cease in that area.

2. Notify Geoenvironmental Engineer, to attend site and sample material in case it is spread around. Notify Contaminated Land Officers of the London Borough of Camden.

3. Geoenvironmental Engineer to supervise the excavation of contaminated material, which should be placed in a bunded area and covered to prevent rainwater infiltration.

4. Soil samples should be obtained by the Geoenvironmental Engineer from both the excavated material, and the soils in the sides and base of the excavation to demonstrate that the full area of contamination has been excavated. If appropriate, in-situ testing should be undertaken on the sides and base of the excavation to assess the presence of residual contamination in the soils.

5. On receipt of chemical test results, the soils may be appropriately classified for treatment or disposal, and dealt with accordingly.

6. Detailed records of the stockpile sizes, source and location should be kept and regularly updated to allow materials to be easily tracked from excavation until leaving the site.

7.8 Gas protection measures

Gas screening values have been calculated in accordance with CIRIA 665[23]. Using the maximum flow rate and based on the maximum concentration for CO_2, the Gas Screening Value (GSV) is calculated as 0.009l/hr. Therefore, the site conforms to Characteristic Situation 1 and hence no specific gas protection measures are required.

7.9 Services

Based on the lack of site specific data relating to the proposed locations of pipe runs, and in accordance with current UKWIR[12] guidance, the use of barrier pipes for water supply may be required. Water supply pipes should be non-plastic, ductile iron or proprietary hydrocarbon resistant pipes such as Protectaline, to prevent possible permeation of residual hydrocarbons into drinking water supplies. The local water supply company should be contacted for the exact specification that is required in light of the remaining concentrations of contaminants in the remaining Made Ground.

7.10 Health and safety

All site works will be undertaken in accordance with the guidelines prepared by the Health and Safety Executive (HSE, 1991)[24]. In this context, the risks will be low, and nominal safety precautions should be acceptable (the adoption of good hygiene practices and the use of overalls, gloves and dust masks if necessary).

During the redevelopment, precautions should be taken to minimise exposure of workers and the general public to potentially harmful substances. Attention should also be paid to restricting possible off-site nuisance such as dust and odour emissions. Such precautions should include, but not be limited to:

1. Personal hygiene, washing and changing procedures.
2. Personal protective equipment, including disposable overalls, gloves etc.
3. Measures to avoid surface water ponding and positive collection and disposal of all on-site run-off.

[23] CIRIA (2007). Assessing risks posed by hazardous ground gases to buildings, CIRIA Report C665, London
[24] HSE (1991). Protection of Workers and the General Public During the Development of Contaminated Land. Guidance Note HS(G)66, Health and Safety Executive, HMSO, 1991.

4. Regular cleaning of all site roads, access roads and the public highway including dust suppressions methods (e.g. water spraying), if necessary.

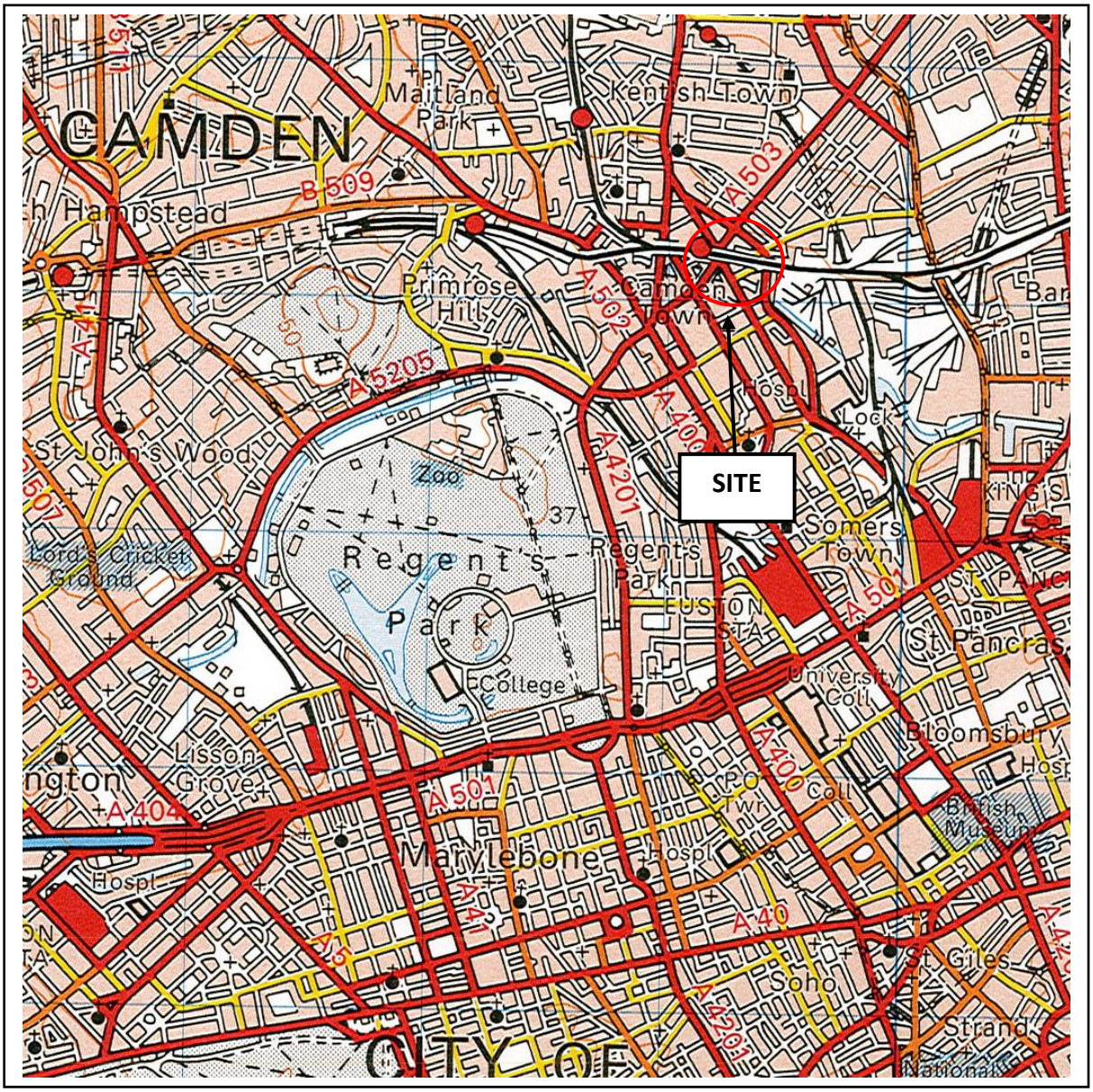
Excavations should be planned and inspected regularly by a competent person. No operatives will be permitted to enter unshored or otherwise protected excavations identified as unstable by a competent person, however shallow they are.

7.11 Regulatory requirements

This report should be submitted to the London Borough of Camden Council for their comments and approval. The contamination recommendations should be finalised in a revised *Remediation Method Statement*, which will be followed by verification works and reporting to include, but not be limited to the following:

- Site visit records and photographic records of the relevant site works.
- Location and details of all tanks and contaminated material encountered and remediation measures taken, including chemical test results for residual soils.
- Duty of care records for disposal of waste material including the landfill site(s) where the material has been disposed and a copy of the Contractor's current waste carrier's licence (to be provided by Contractor).
- Details of source and chemical test results for imported materials.
- Confirmation of capping layer thicknesses.
- Compliance testing of capping layer materials.
- Confirmation of water supply pipe materials.

FIGURES



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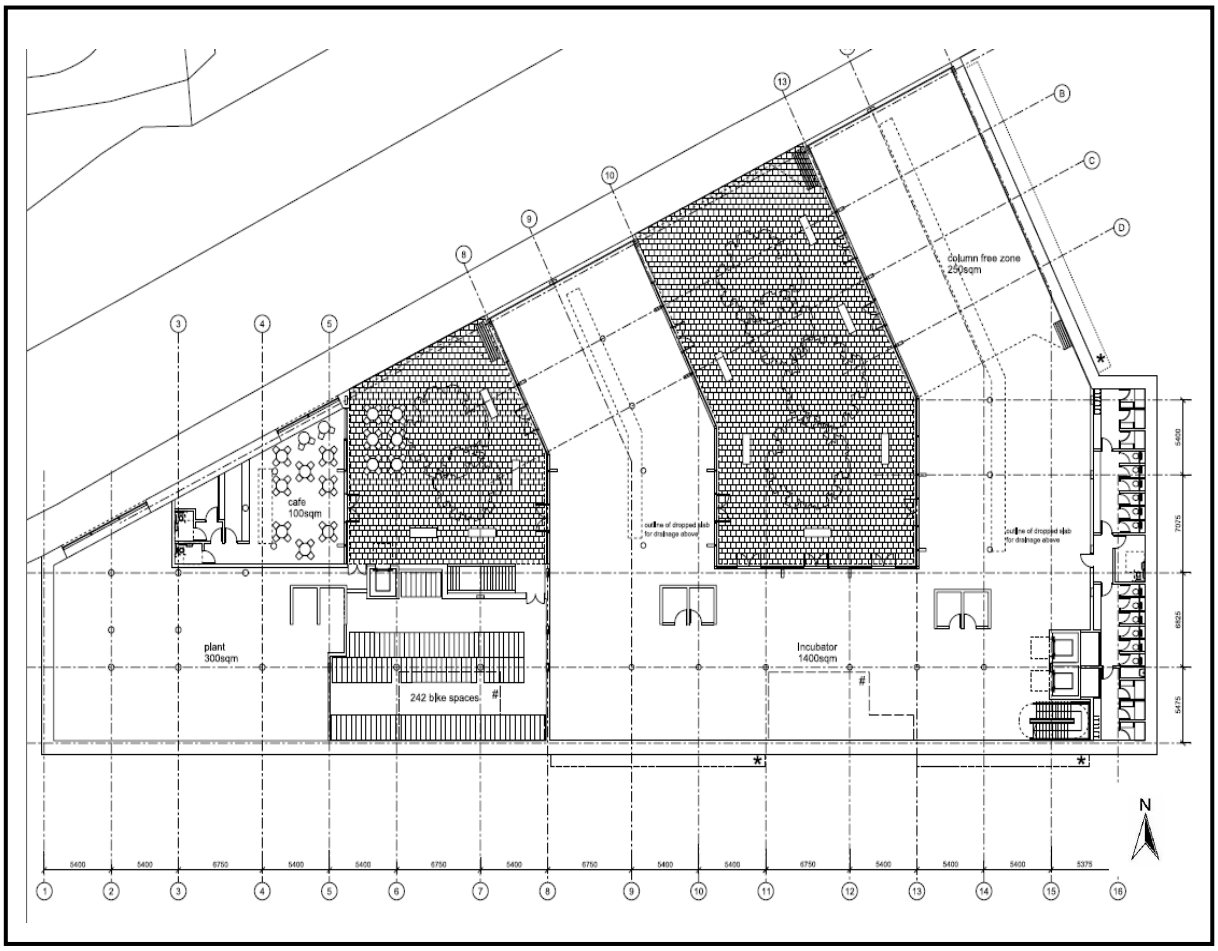
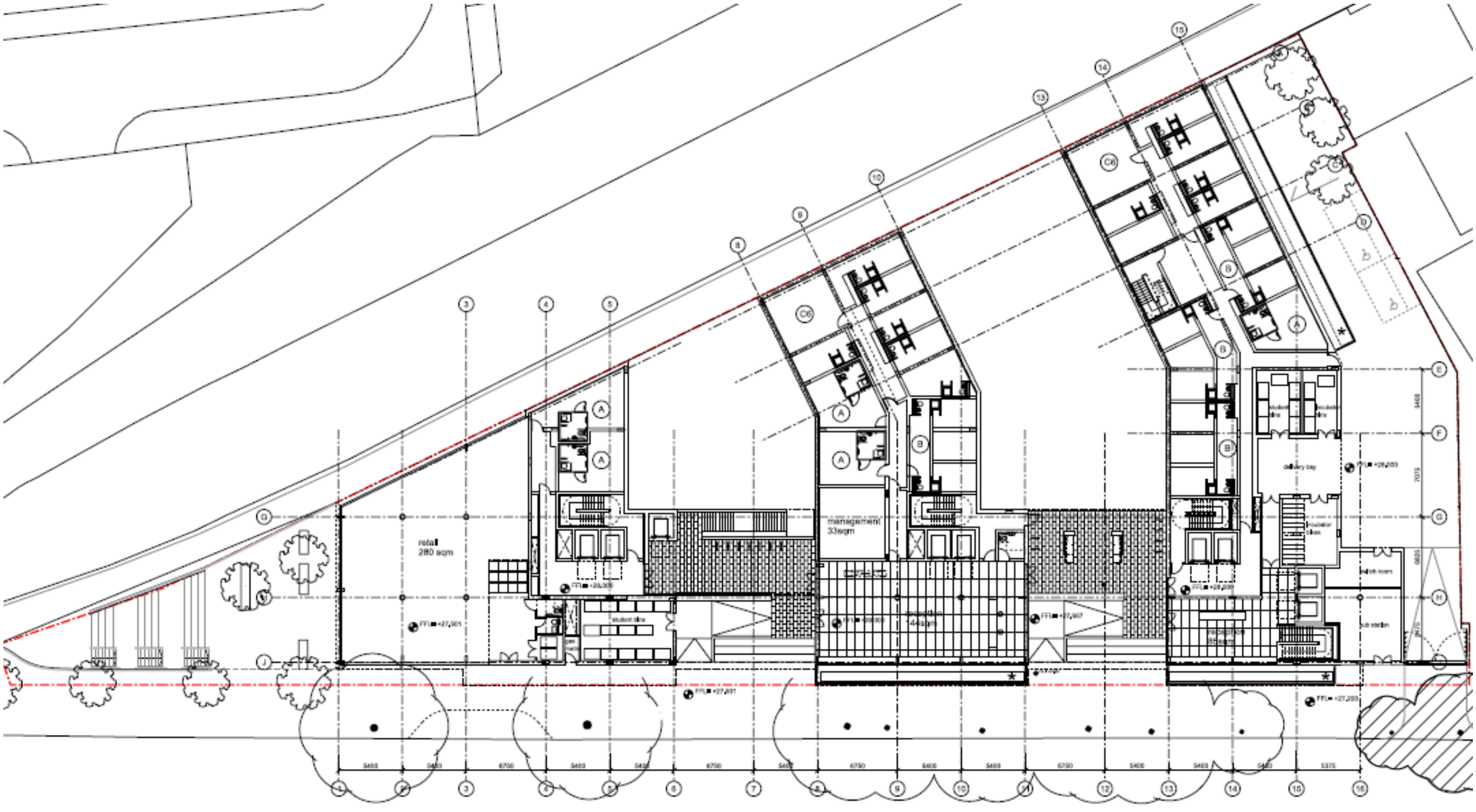
Client	Project	Job No
Urbanest UK Limited	**103 Camley Street, London**	**CG/5521c**
CGL	Title **Site location plan**	**Figure 1**

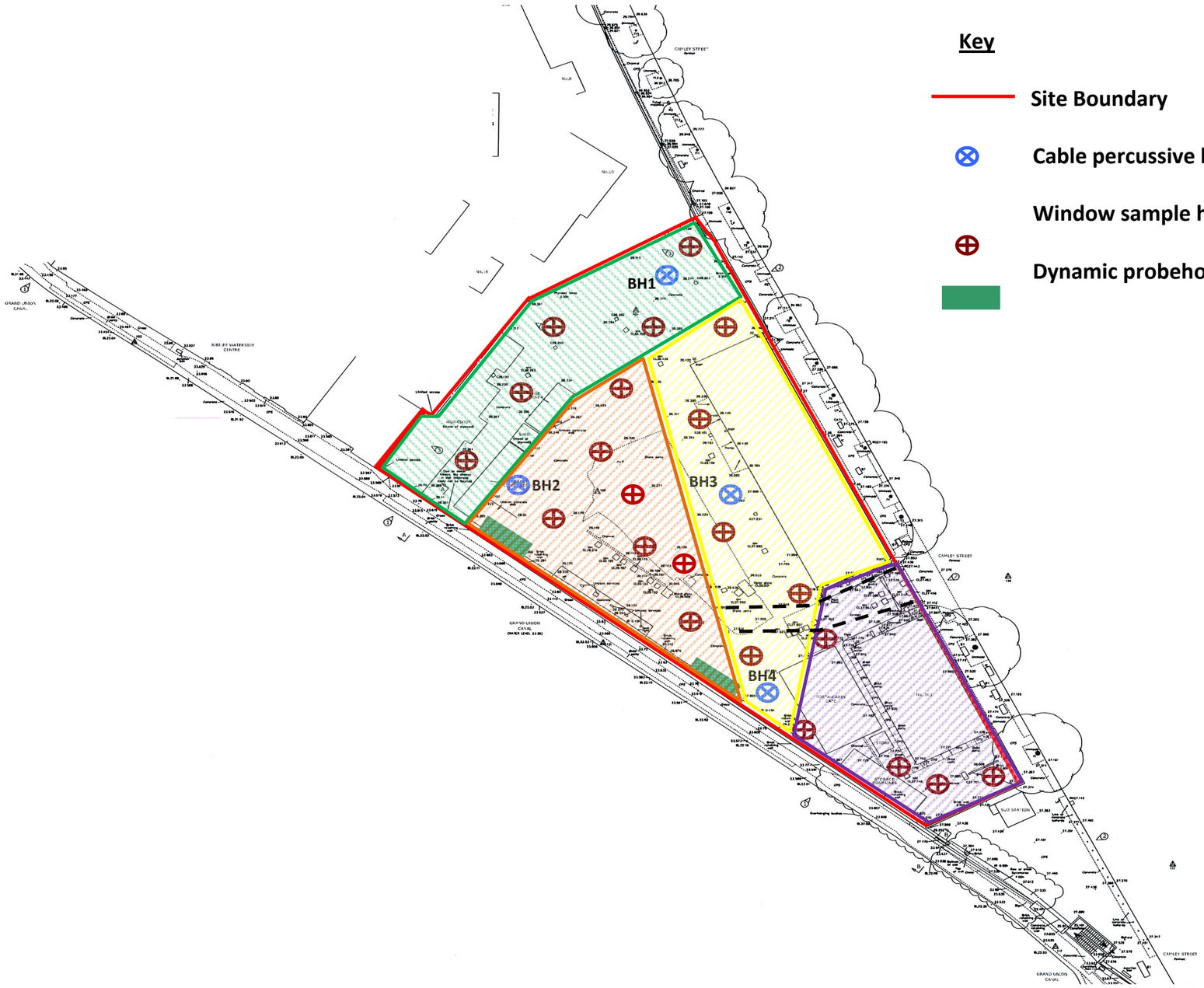


Client	Project	Job No
Urbanest UK Limited	**103 Camley Street, London**	**CG/5521c**
CGL	Title **Lower ground floor development plan**	**Figure 2a**



Client	Project	Job No
Urbanest UK Limited	**103 Camley Street, London**	**CG/5521c**
CGL	Title **Ground floor development plan**	**Figure 2b**

N



Key

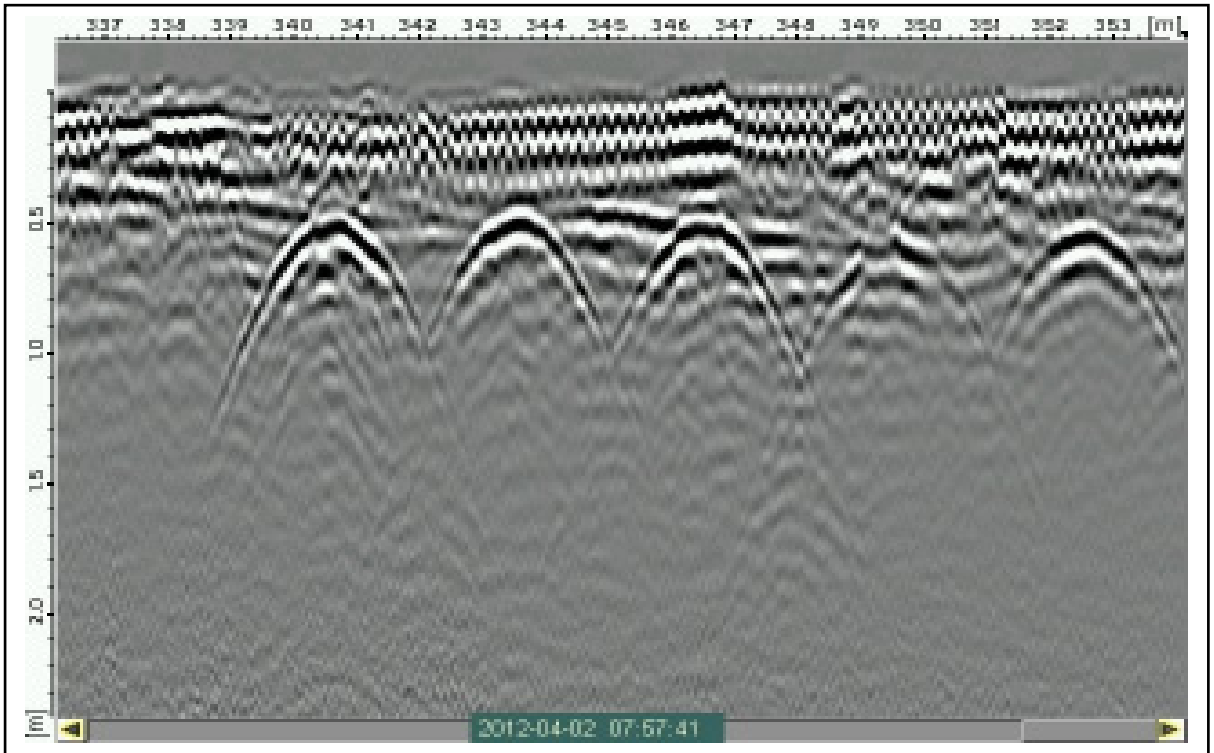
- Site Boundary
- Cable percussive boreholes
- Window sample holes
- Dynamic probeholes

Site zones

- Zone 1
- Zone 2
- Zone 3
- Zone 4

Not to scale

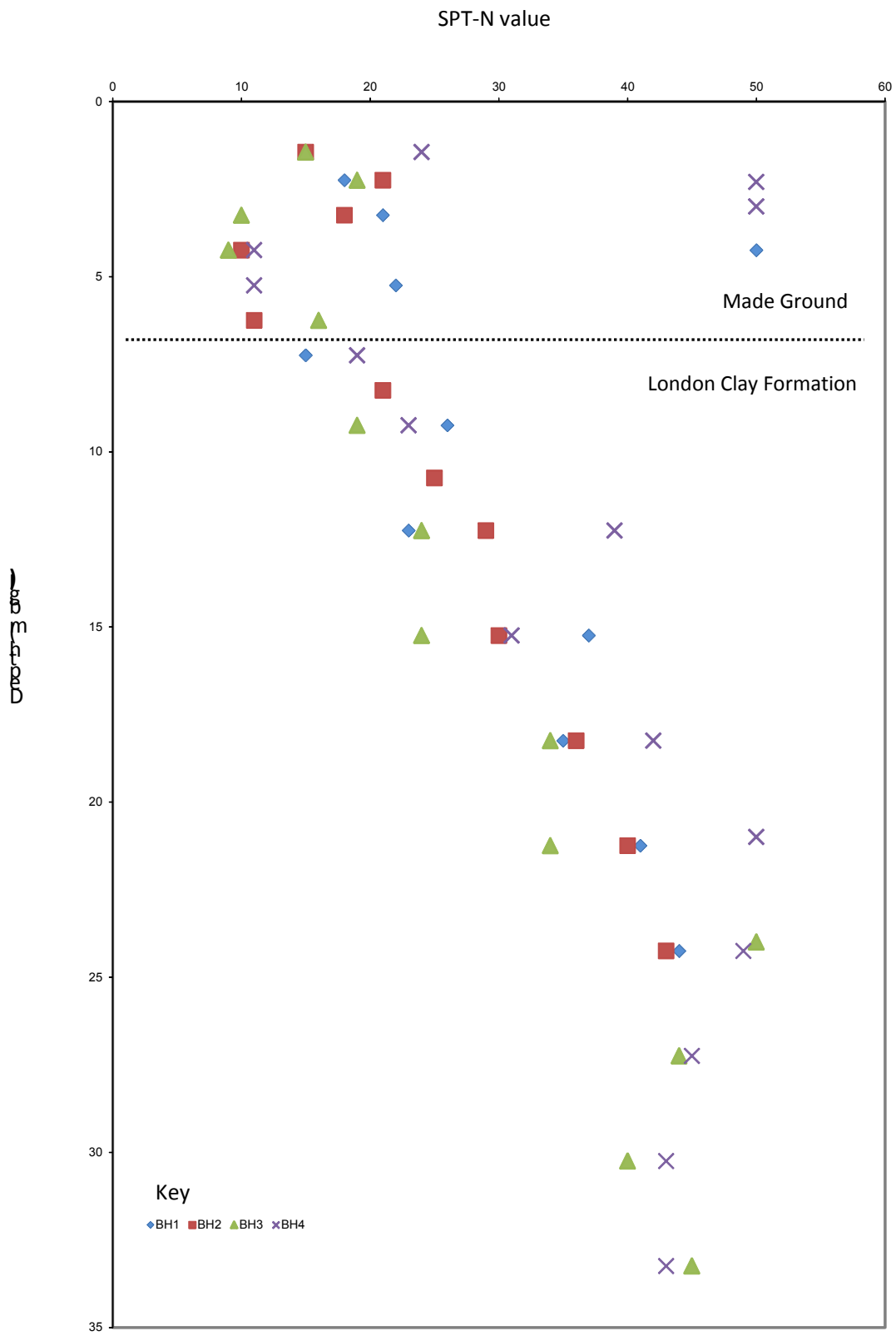
Client	Project	Job No
Urbanest UK Limited	**103 Camley Street, London**	**CG/5521c**
CGL	Title **Exploratory hole location plan**	**Figure 3**



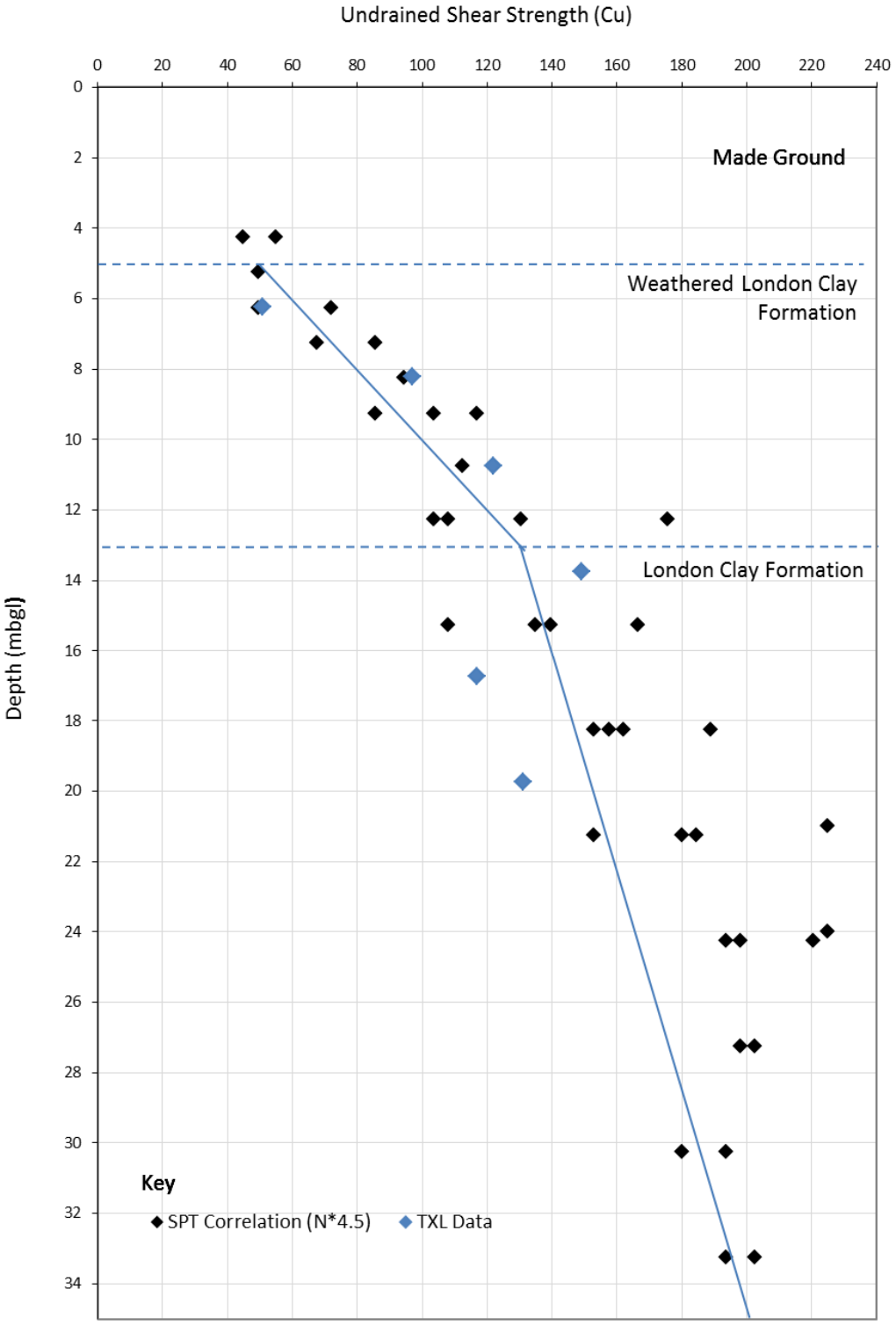
Results from Ground Penetrating Radar scan confirming the presence of five Underground Storage Tanks (USTs) in the locations shown on the final survey drawing (Reference: SL-CGL-0511/001A).

The survey is confirmatory of the information provided by LFB in the earlier *Desktop Study Report* (CG/5521), which indicated five tanks to be present on site that held petrol, diesel and gas oil.

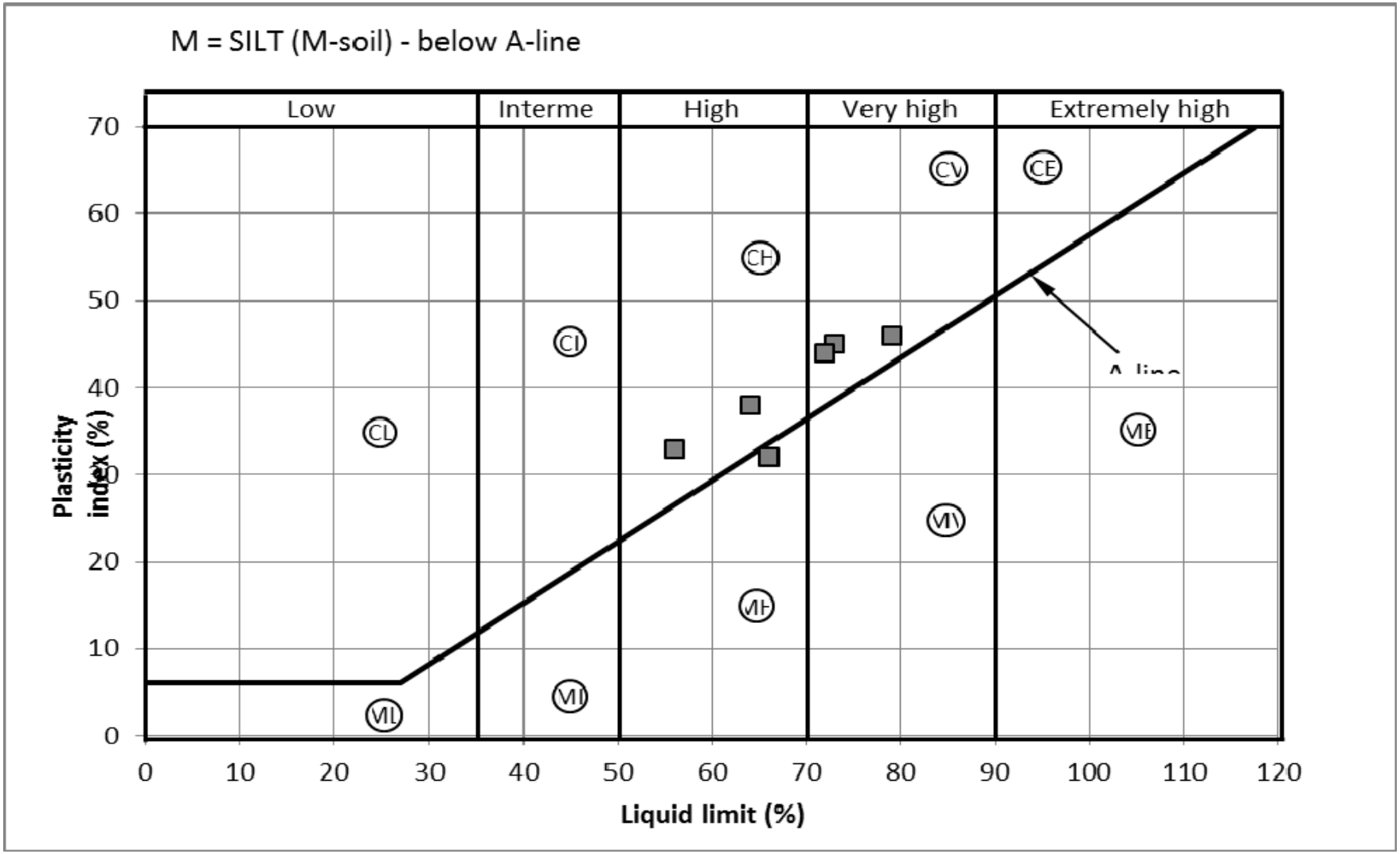
Client	Project	Job No
Urbanest UK Limited	**103 Camley Street, London**	**CG/5521c**
CGL	Title **Underground Storage Tanks**	**Figure 4**



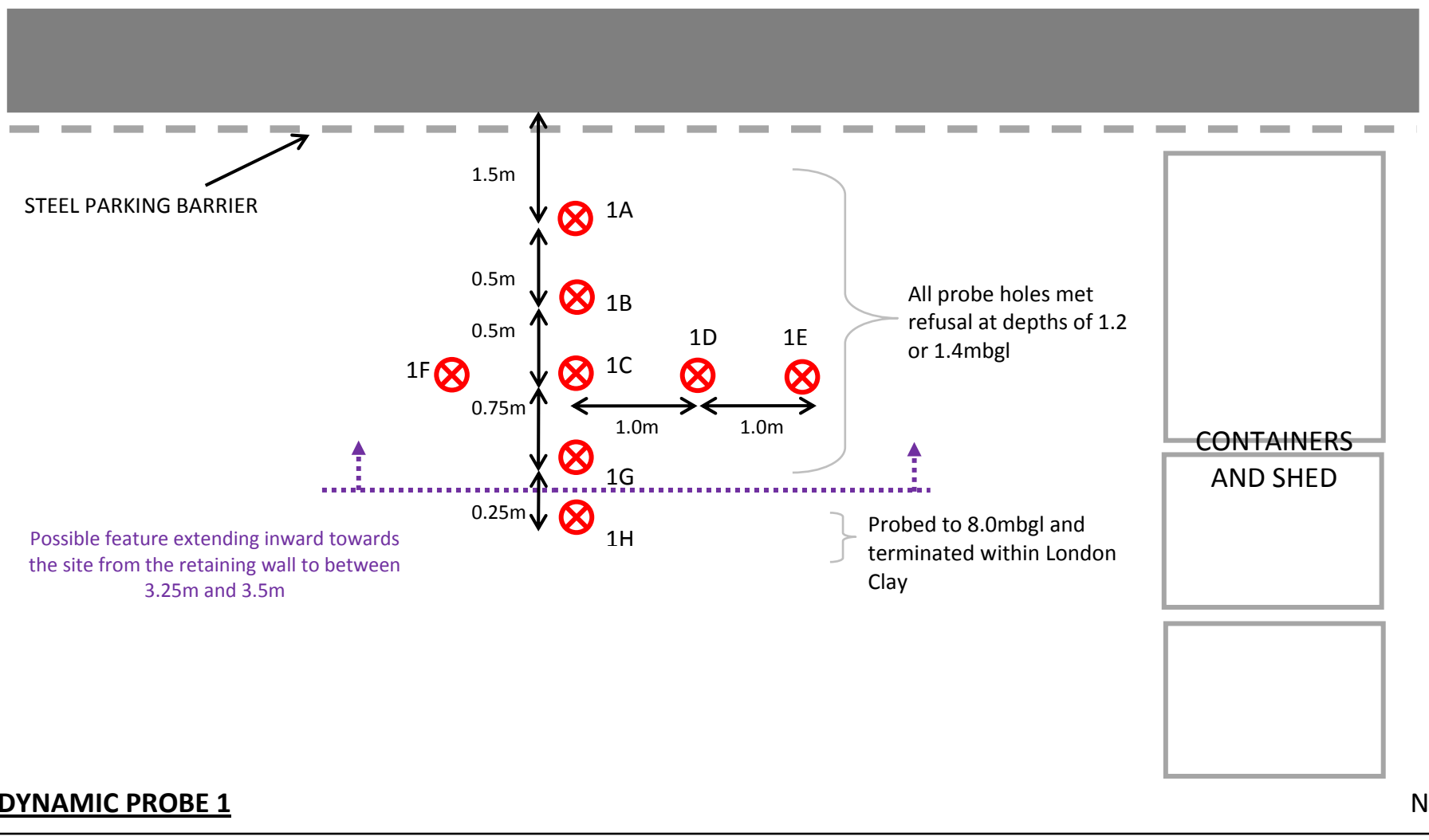
Client	Project	Job No
Urbanest UK Limited	**103 Camley Street, London**	**CG/5521c**
CGL	Title **SPT-N vs. depth**	**Figure 5**



Client	Project	Job No
Urbanest UK Limited	**103 Camley Street, London**	**CG/5521c**
CGL	Title **Undrained Shear Strength vs. Depth**	**Figure 6**

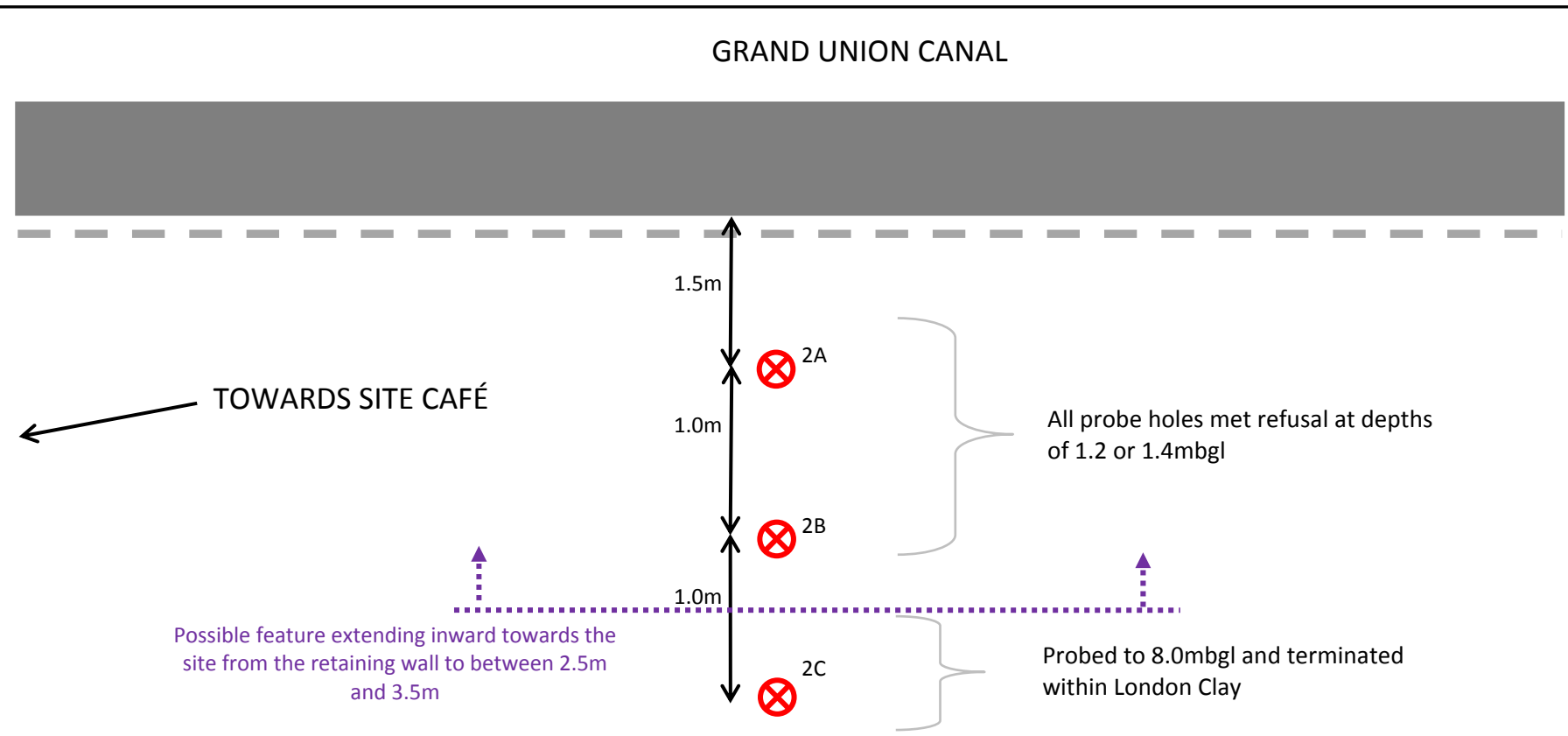


Client	Project	Job No
Urbanest UK Limited	**103 Camley Street, London**	**CG/5521c**
CGL	Title **Plasticity chart**	**Figure 7**



DYNAMIC PROBE 1

NTS



DYNAMIC PROBE 2

NTS

Client	Project	Job No
Urbanest UK Limited	**103, Camley Street, London**	**CG/5521c**
CGL	Title: **Dynamic probe locations**	**Figure 8**

1. Negligible concentrations of PCBs detected on site, therefore, no risk from the off-site substation.

2. Potable water supply barrier pipework to prevent permeation of residual hydrocarbons into drinking water from remaining Made Ground.

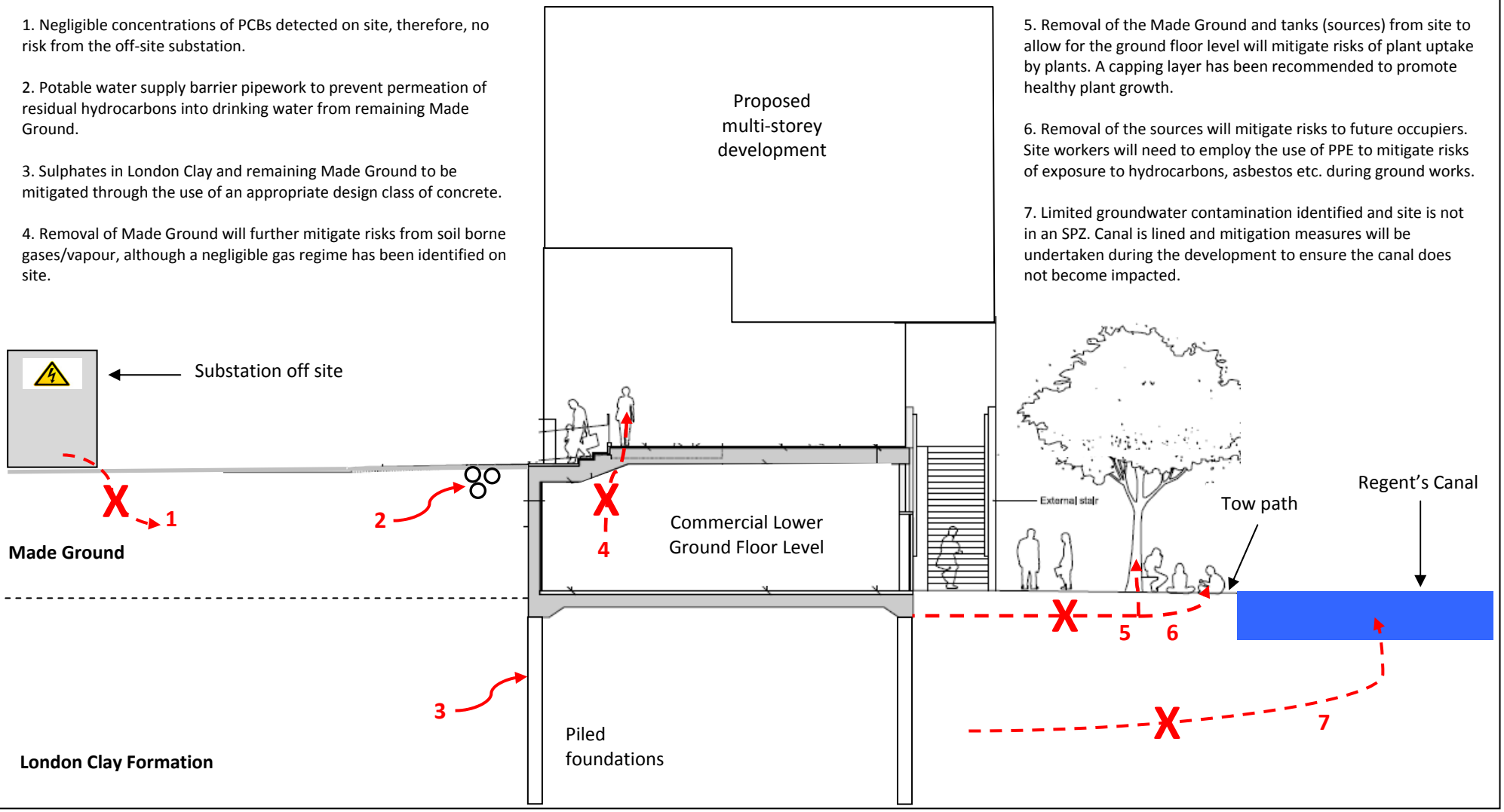
3. Sulphates in London Clay and remaining Made Ground to be mitigated through the use of an appropriate design class of concrete.

4. Removal of Made Ground will further mitigate risks from soil borne gases/vapour, although a negligible gas regime has been identified on site.

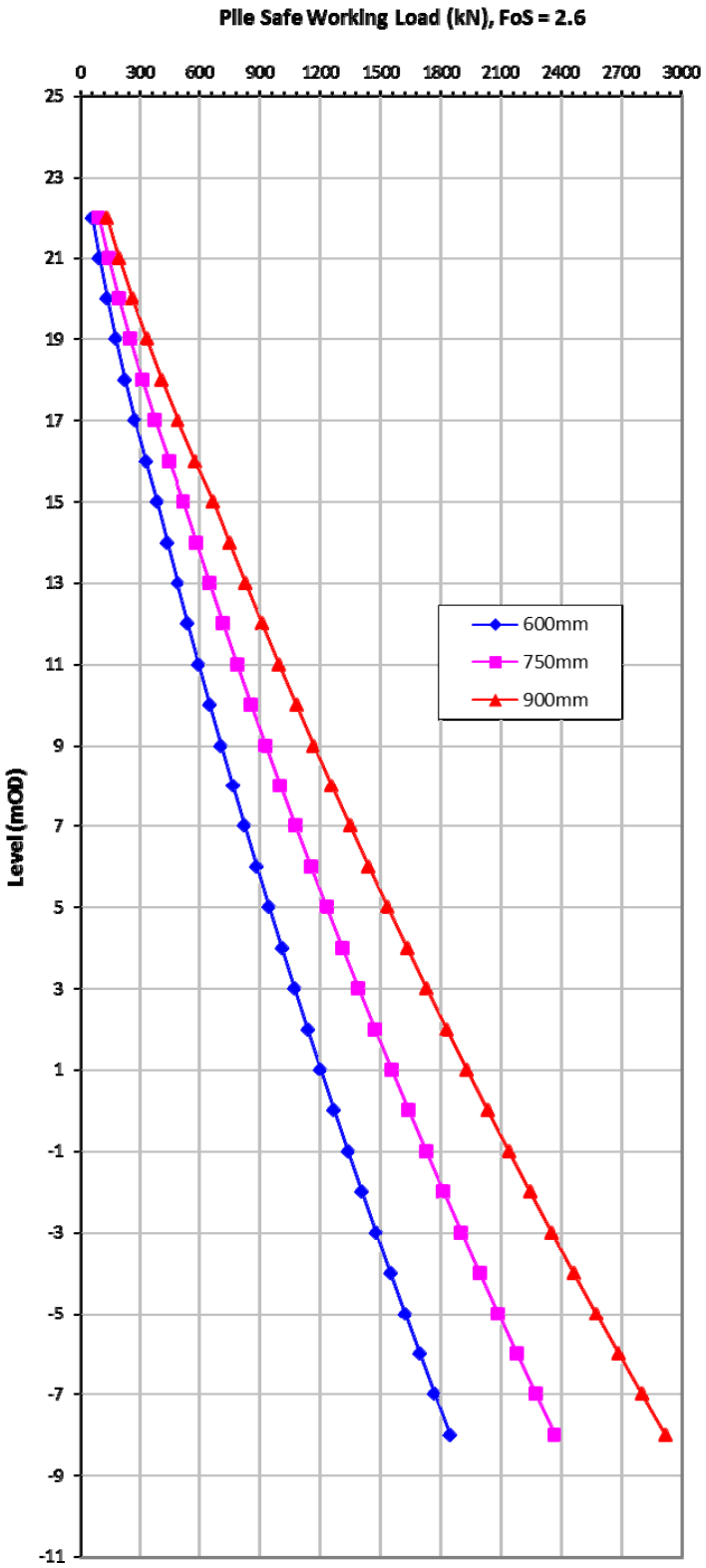
5. Removal of the Made Ground and tanks (sources) from site to allow for the ground floor level will mitigate risks of plant uptake by plants. A capping layer has been recommended to promote healthy plant growth.

6. Removal of the sources will mitigate risks to future occupiers. Site workers will need to employ the use of PPE to mitigate risks of exposure to hydrocarbons, asbestos etc. during ground works.

7. Limited groundwater contamination identified and site is not in an SPZ. Canal is lined and mitigation measures will be undertaken during the development to ensure the canal does not become impacted.



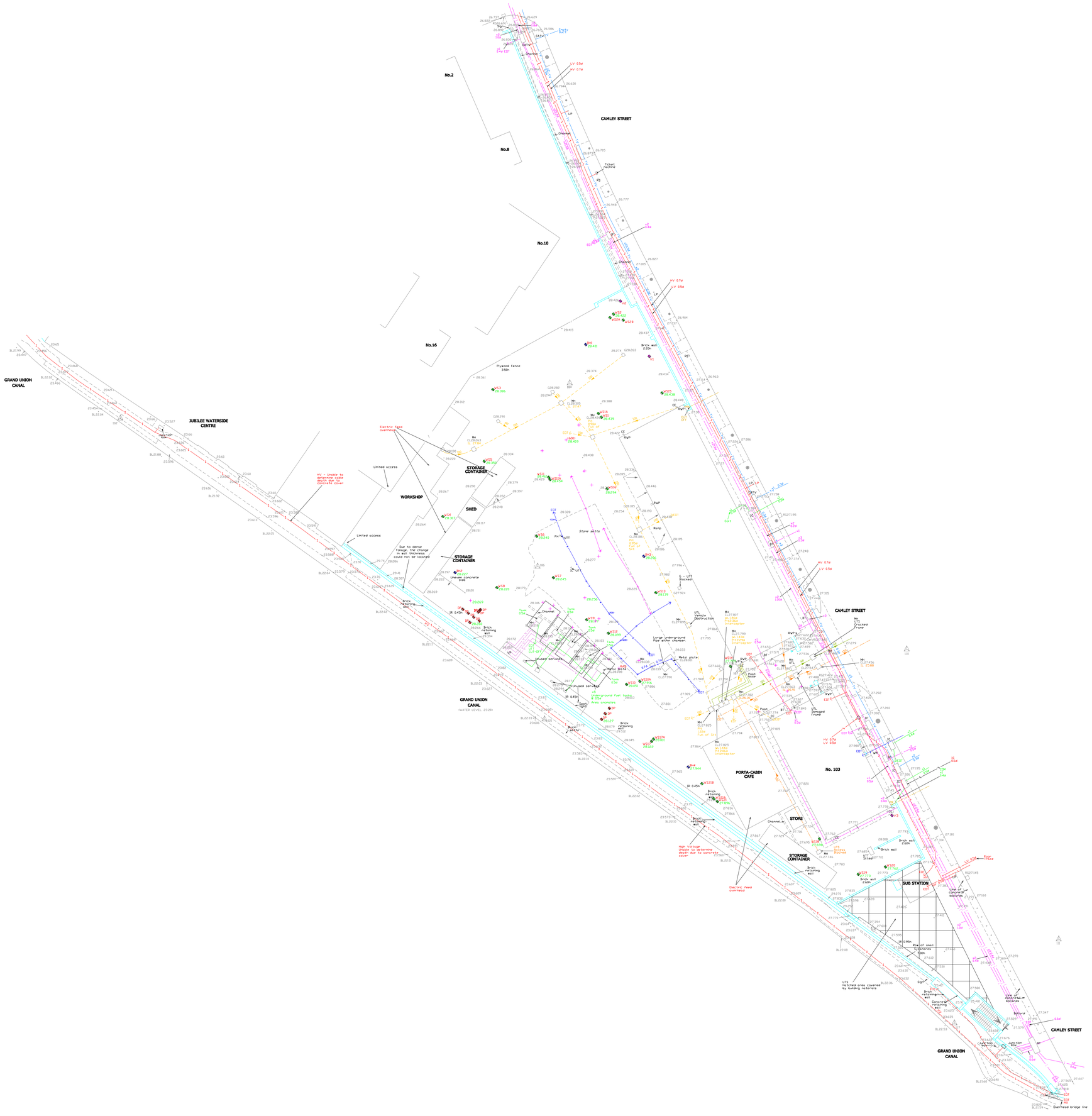
Client	Project	Job No
Urbanest UK Limited	**103, Camley Street**	**CG/5521c**
CGL	Title: **Updated Conceptual Site Model**	**Figure 9**



Client	Project	Job No
Urbanest UK Limited	**103 Camley Street, London**	**CG/5521c**
CGL	Title **Preliminary Pile Safe Working Loads**	**Figure 10**

APPENDIX A

Survey drawing



RICS

NOTES

1. Levels related to Local Datum
2. Grid : local and arbitrary.
3. North Point indicative only.
4. Drainage pipe sizes are estimated from surface.

KEY

AV	AIR VALVE	LT	LIGHT
BB	BELISHA BEACON	LV	LOW VOLTAGE
BH	BOREHOLE	MH	MANHOLE COVER
BO	BOLLARD	MK	MARKER
BM	BENCH MARK	ME	MARKER ELECTRIC
BS	BUS STOP	MFH	MARKER FIRE HYDRANT
BT	BRITISH TELECOM COVER	MG	MARKER GAS
B+W	BARBED WIRE	MT	MARKER TELEPHONE
CB	CONTROL BOX	MW	MARKER WATER
CH	CHAMBER COVER	NP	NEWSPAPER STAND
CL	COVER LEVEL	NP	NAME PLATE
C+L	CHAIN LINK	PO	POST
CP	CONCRETE POST	PP	PETROL PUMP
CPS	CONCRETE PAVING SLABS	P&R	POST & RAIL
CTV	CABLE TV COVER	P&W	POST & WIRE
DP	DRAINAGE POINT	RB	REFLECTOR BOX
EOT	END OF TRACE	RP	REFLECTOR POST
EP	ELECTRIC POLE	RS	ROAD SIGN
FB	FLOWER BED	SP	SIGN POST
FH	FIRE HYDRANT	STP	STAND PIPE
FP	FEEDER PILLAR	SV	SLUICE VALVE
G	GULLY WATER	TB	TELEPHONE BOX
GU	GULLY	TP	TRAP
GP	GATE POST	TBM	TEMPORARY BENCH MARK
HB	HOSE BOX	TL	TRAFFIC LIGHT CONTROL BOX
HH	HEDGE HEIGHT	TL	TRAFFIC LIGHT
HV	HIGH VOLTAGE	TM	TICKET MACHINE
IC	INSPECTION COVER	UP	UNDERGROUND PIPE
I+R	IRON RAILING	UTL	UNABLE TO LIFT
KO	KERB OUTLET	WH	WALL HEIGHT
LP	LAMP POST	WO	WASH OUT
		WO	WASH OUT
		VT	VENT

NOTES

1. Depths in brackets.
2. Grid : local and arbitrary.
3. North Point indicative only.

The Utility Survey information on this plan has been produced using electro magnetic and/or Ground Penetrating Radar locating techniques. Although being the most accurate available the signals are susceptible to distortion on the surface especially in congested areas. There may also be other services not producing sufficient signals for detection.
Drainage pipe sizes and invert levels have been measured from the surface and should be regarded as approximate.
Whilst every effort has been made to produce an accurate plan of the buried services crucial dimensions and depths should be checked and health and safety guidelines consulted prior to any excavation. Service Location except no responsibility for any damage for whatever reason from other companies excavations.

LINETYPE MENU

Top Bank		Telephone	
Bottom Bank		Electricity	
Building		Unidentified	
Foliage		Vent	
Hedge		Water line	
Pipe		Gas line	
Verge		Cable TV	
Wall		Tree	
Track		Spread/Girth/Height	
Fence		Manhole/ Inspection cover	
Overhead Cable		FWS	
Drop Kerb		SWS	
Depth mm	(300)	CWS	
UG Survey Boundary		GPR Feature	
Window Sample		Grid Cross	
Bore Hole		Vibration Test	
Dynamic Probe			

SERVICE LOCATION Ltd
UNDERGROUND UTILITY LOCATING, SURVEYING AND MAPPING
Survey House, 22 Hillview Lane,
Tewning, Tewkesbury,
Gloucestershire. GL20 6JN
Tel/Fax 0845 6023966

CLIENT	CGL
PROJECT	103 CAMLEY STREET
DRAWING TITLE	Utility Survey & Site Investigation Positions
SCALE	Scaled to fit @A1
SHEET	1
DATE	16/04/12
DRAWING NO.	SL-CGL-0511/001B
REVISION	1

APPENDIX B

CGL Logs

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				**BH1**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	19-04-12 20-04-12	28.40	E 529,707.9 N 183,819.6	
Client				Sheet
Urbanest UK Limited				1 of 4

SAMPLES & TESTS			Water	STRATA				Instrument /Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
				28.20		0.20	Reinforced CONCRETE. [MADE GROUND]	
				27.90		0.50	Medium dense red hardcore. [MADE GROUND]	
0.60-0.70	B						Medium dense brown sandy clay with much brick and occasional concrete. [MADE GROUND]	
1.20-1.65	B							
1.20-1.65	D							
1.20		N15						
2.00-2.45	D							
2.00		N18				(3.85)		
3.00-3.45	D							
3.00		N21						
4.00-4.45	D							
4.00		N50/ 115 mm		24.05		4.35		
							Medium dense brown and black very sandy clay and brick/concrete fill. [MADE GROUND]	
5.00-5.45	B					(1.35)		
5.00-5.45	D							
5.00		N22						
			1	22.70		5.70		
				22.45		5.95	Loose fine to coarse wet flint gravels. [MADE GROUND]	
6.00-6.45	U100	93 blows					Firm to stiff becoming stiff brown mottled grey turning dark brown mottled light brown CLAY. [LONDON CLAY FORMATION]	
6.45-6.55	D							
7.00-7.45	B							
7.00-7.45	D							
7.00		N15						

Boring Progress and Water Observations

Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

Method/ Plant Used	Field Crew	Logged By	Checked By
Cable percussion	Bainbridge	Bainbridge	IMM

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				**BH1**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	19-04-12 20-04-12	28.40	E 529,707.9 N 183,819.6	
Client				Sheet
Urbanest UK Limited				2 of 4

SAMPLES & TESTS			Water	STRATA				Instrument /Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
8.00-8.45	U100	101 blows					Firm to stiff becoming stiff brown mottled grey turning dark brown mottled light brown CLAY. [LONDON CLAY FORMATION] *(continued)*	
8.45-8.50	D							
9.00-9.45	D							
9.00		N26				(7.30)		
10.50-10.95	U100	122 blows						
10.95-11.00	D							
12.00-12.45	D							
12.00		N23						
				15.15		13.25		
13.50-13.95	U100	139 blows					Stiff to very stiff grey sandy CLAY. [LONDON CLAY FORMATION]	
13.95-14.00	D							
15.00-15.45	B							
15.00-15.45	D							
15.00		N37						

Boring Progress and Water Observations

Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

Method/ Plant Used	Field Crew	Logged By	Checked By
Cable percussion	Bainbridge	Bainbridge	IMM

CGL BH LOG CG5521C.GPJ GINT STD AGS 3_1.GDT 23/5/12

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				**BH1**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	19-04-12 20-04-12	28.40	E 529,707.9 N 183,819.6	
Client				Sheet
Urbanest UK Limited				3 of 4

SAMPLES & TESTS			Water	STRATA				Instrument /Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
							Stiff to very stiff grey sandy CLAY. [LONDON CLAY FORMATION] *(continued)*	
16.50-16.95	U100	144 blows						
16.95-17.00	D							
18.00-18.45	D							
18.00		N35						
						(11.75)		
19.50-19.95	U100	143 blows						
19.95-20.00	D							
21.00-21.45	D							
21.00		N41						
22.50-22.95	U100	191 blows						
22.95-23.00	D							

Boring Progress and Water Observations

Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

Method/ Plant Used	Field Crew	Logged By	Checked By
Cable percussion	Bainbridge	Bainbridge	IMM

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				**BH1**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	19-04-12 20-04-12	28.40	E 529,707.9 N 183,819.6	
Client				Sheet
Urbanest UK Limited				4 of 4

SAMPLES & TESTS			Water	STRATA				Instrument /Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
24.00-24.45 24.00	D	N44		3.40		25.00	Stiff to very stiff grey sandy CLAY. [LONDON CLAY FORMATION] *(continued)*	

Boring Progress and Water Observations					
Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

Method/ Plant Used	Field Crew	Logged By	Checked By
Cable percussion	Bainbridge	Bainbridge	IMM

CGL BH LOG CG5521C.GPJ GINT STD AGS 3_1.GDT 23/5/12

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				**BH2**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	18-04-12 19-04-12	28.23	E 529,688.5 N 183,785.7	
Client				Sheet
Urbanest UK Limited				1 of 4

SAMPLES & TESTS			Water	STRATA				Instrument /Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
				28.03		0.20	Reinforced CONCRETE. [MADE GROUND]	
0.60-0.70	B						Medium dense brick rubble with occasional concrete boulders. [MADE GROUND]	
1.20-1.65 1.20	D	N15						
2.00-2.45 2.00-2.45 2.00	B D	N21				(4.60)		
3.00-3.45 3.00	D	N18						
4.00-4.45 4.00-4.45 4.00	B D	N10						
				23.43		4.80	Firm grey mottled black sandy clay with occasional fine to coarse flint gravel. [MADE GROUND]	
5.00-5.45	U100	62 blows						
5.45-5.50	D					(1.40)		
6.00-6.45 6.00	D	N11		22.03		6.20	Stiff to very stiff brown slightly mottled grey sandy CLAY. [LONDON CLAY FORMATION]	
7.00-7.45	U100	91 blows						
7.45-7.50	D							

Boring Progress and Water Observations

Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

1. Hole dry

Method/ Plant Used	Field Crew	Logged By	Checked By
Cable percussion	Bainbridge	Bainbridge	IMM

CGL BH LOG CG5521C.GPJ GINT STD AGS 3_1.GDT 23/5/12

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				BH2
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	18-04-12 19-04-12	28.23	E 529,688.5 N 183,785.7	
Client				Sheet
Urbanest UK Limited				2 of 4

SAMPLES & TESTS			Water	STRATA				Instrument /Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
8.00-8.45	D						Stiff to very stiff brown slightly mottled grey sandy CLAY.	
8.00		N21					[LONDON CLAY FORMATION] *(continued)*	
9.00-9.45	U100	108 blows						
9.45-9.50	D					(7.00)		
10.50-10.95	B							
10.50-10.95	D							
10.50		N25						
12.00-12.45	D							
12.00		N29						
				15.03		13.20		
							Stiff to very stiff grey sandy CLAY.	
13.50-13.95	U100	171 blows					[LONDON CLAY FORMATION]	
13.95-14.00	D							
15.00-15.45	D							
15.00		N30						

Boring Progress and Water Observations

Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

1. Hole dry

Method/ Plant Used	Field Crew	Logged By	Checked By
Cable percussion	Bainbridge	Bainbridge	IMM

CGL BH LOG CG5521C.GPJ GINT STD AGS 3_1.GDT 23/5/12

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				**BH2**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	18-04-12 19-04-12	28.23	E 529,688.5 N 183,785.7	
Client				Sheet
Urbanest UK Limited				3 of 4

SAMPLES & TESTS			Water	STRATA				Instrument /Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
							Stiff to very stiff grey sandy CLAY. [LONDON CLAY FORMATION] *(continued)*	
16.50-16.95	U100	193 blows						
16.95-17.00	D							
18.00-18.45	B							
18.00-18.45	D							
18.00		N36						
						(11.80)		
19.50-19.95	U100	174 blows						
19.95-20.00	D							
21.00-21.45	D							
21.00		N40						
22.50-22.95	U100	190 blows						
22.95-23.00	D							

Boring Progress and Water Observations

Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

1. Hole dry

Method/ Plant Used	Field Crew	Logged By	Checked By
Cable percussion	Bainbridge	Bainbridge	IMM

CGL BH LOG CG5521C.GPJ GINT STD AGS 3_1.GDT 23/5/12

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				**BH2**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	18-04-12 19-04-12	28.23	E 529,688.5 N 183,785.7	
Client				Sheet
Urbanest UK Limited				4 of 4

SAMPLES & TESTS			Water	STRATA				Instrument /Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
24.00-24.45 24.00	D	N43		3.23		25.00	Stiff to very stiff grey sandy CLAY. [LONDON CLAY FORMATION] *(continued)*	

Boring Progress and Water Observations

Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

1. Hole dry

Method/ Plant Used	Field Crew	Logged By	Checked By
Cable percussion	Bainbridge	Bainbridge	IMM

CGL BH LOG CG5521C.GPJ GINT STD AGS 3_1.GDT 23/5/12

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				**BH3**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	16-04-12 17-04-12	28.21	E 529,716.5 N 183,788.2	
Client				Sheet
Urbanest UK Limited				1 of 5

SAMPLES & TESTS			Water	STRATA				Instrument /Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
				27.96		0.25	Reinforced CONCRETE. [MADE GROUND]	
				27.66		0.55	Medium dense to dense hardcore/rubble. [MADE GROUND]	
0.50-0.60	B						Firm brown very sandy clay and brick rubble. [MADE GROUND]	
1.20-1.65 1.20	D	N15						
2.00-2.45 2.00	D	N19				(3.50)		
3.00-3.45 3.00-3.45 3.00	B D	N10						
				24.16		4.05	3.80 Black concrete fill from 3.80m.	
4.00-4.45 4.00-4.45 4.00	B D	N9				(0.65)	Brown sandy clay with occasional to some fine to coarse gravels. Occasional black sand lenses. [MADE GROUND]	
				23.51		4.70		
							Firm to stiff brown slightly mottled grey CLAY. [LONDON CLAY FORMATION]	
5.00-5.45	U100	75 blows						
5.45-5.50	D							
6.00-6.45 6.00-6.45 6.00	B D	N16						
7.50-7.95	U100	82 blows						

Boring Progress and Water Observations

Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

1. Water standing at 24.05m overnight.

Method/ Plant Used	Field Crew	Logged By	Checked By
Cable percussion	Bainbridge	Bainbridge	IMM

CGL BH LOG CG5521C.GPJ GINT STD AGS 3_1.GDT 23/5/12

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				BH3
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	16-04-12 17-04-12	28.21	E 529,716.5 N 183,788.2	
Client				Sheet
Urbanest UK Limited				2 of 5

SAMPLES & TESTS			Water	STRATA				Instrument /Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
7.95-8.00	D						Firm to stiff brown slightly mottled grey CLAY. [LONDON CLAY FORMATION] *(continued)*	
9.00-9.45 9.00	D	N19				(8.60)		
10.50-10.95	U100	121 blows						
10.95-11.00	D						11.30 Turning stiff dark brown mottled light brown from 11.30m.	
12.00-12.45 12.00-12.45 12.00	B D	N24						
				14.91		13.30		
13.50-13.95	U100	135 blows					Stiff to very stiff grey sandy CLAY. [LONDON CLAY FORMATION]	
13.95-14.00	D							
15.00-15.45 15.00	D	N24						

Boring Progress and Water Observations

Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

1. Water standing at 24.05m overnight.

Method/ Plant Used	Field Crew	Logged By	Checked By
Cable percussion	Bainbridge	Bainbridge	IMM

CGL BH LOG CG5521C.GPJ GINT STD AGS 3_1.GDT 23/5/12

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				**BH3**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	16-04-12 17-04-12	28.21	E 529,716.5 N 183,788.2	
Client				Sheet
Urbanest UK Limited				3 of 5

SAMPLES & TESTS			Water	STRATA				Instrument /Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
							Stiff to very stiff grey sandy CLAY. [LONDON CLAY FORMATION] *(continued)*	
16.50-16.95	U100	138 blows						
16.95-17.00	D							
18.00-18.45	B							
18.00-18.45	D							
18.00		N34						
19.50-19.95	U100	200+ blows						
19.95-20.00	D							
21.00-21.45	D							
21.00		N34						
22.50-22.95	B							
22.50-22.95	U100	200+ blows					22.65 - 22.75 Siltstone band.	

Boring Progress and Water Observations

Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

1. Water standing at 24.05m overnight.

Method/ Plant Used	Field Crew	Logged By	Checked By
Cable percussion	Bainbridge	Bainbridge	IMM

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				**BH3**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	16-04-12 17-04-12	28.21	E 529,716.5 N 183,788.2	
Client				Sheet
Urbanest UK Limited				4 of 5

SAMPLES & TESTS			Water	STRATA				Instrument /Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
24.00-24.15 24.00	D	N50/ 80 mm				(21.70)	Stiff to very stiff grey sandy CLAY. [LONDON CLAY FORMATION] *(continued)*	
25.50-25.95	U100	183 blows						
25.95-26.00	D							
27.00-27.45 27.00	D	N44						
28.50-28.95	U100	172 blows						
28.95-29.00	D							
30.00-30.45 30.00-30.45 30.00	B D	N40						
							31.10 Sand partings from 31.1m.	
31.50-31.95	U100	192 blows						

Boring Progress and Water Observations

Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

1. Water standing at 24.05m overnight.

Method/ Plant Used	Field Crew	Logged By	Checked By
Cable percussion	Bainbridge	Bainbridge	IMM

CGL BH LOG CG5521C.GPJ GINT STD AGS 3_1.GDT 23/5/12

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				**BH3**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	16-04-12 17-04-12	28.21	E 529,716.5 N 183,788.2	
Client				Sheet
Urbanest UK Limited				5 of 5

SAMPLES & TESTS			Water	STRATA				Instrument /Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
31.95-32.00	D						Stiff to very stiff grey sandy CLAY. [LONDON CLAY FORMATION] *(continued)*	
33.00-33.45 33.00	D	N45						
34.50-34.60	B							
				-6.79		35.00		

Boring Progress and Water Observations

Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

1. Water standing at 24.05m overnight.

Method/ Plant Used	Field Crew	Logged By	Checked By
Cable percussion	Bainbridge	Bainbridge	IMM

CGL BH LOG CG5521C.GPJ GINT STD AGS 3_1.GDT 23/5/12

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				**BH4**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	17-04-12 18-04-12	27.94	E 529,723.2 N 183,756.8	
Client				Sheet
Urbanest UK Limited				1 of 5

SAMPLES & TESTS			Water	STRATA				Instrument /Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
				27.69		0.25	Reinforced CONCRETE. [MADE GROUND]	
							Concrete and brick rubble fill with much brown sandy clay. [MADE GROUND]	
1.20-1.65	B							
1.20-1.65	D							
1.20		N24						
						(3.45)		
2.30-2.45	D							
2.30		N50/ 85 mm						
3.00-3.40	B							
3.00-3.40	D							
3.00		N56/ 210 mm						
				24.24		3.70		
							Firm grey mottled black slightly organic clay with occasional brick fragments. [MADE GROUND]	
4.00-4.45	B					(0.90)		
4.00-4.45	D							
4.00		N11						
				23.34		4.60		
							Firm to stiff brown slightly mottled grey CLAY. [LONDON CLAY FORMATION]	
5.00-5.45	D							
5.00		N11						
6.00-6.45	U100	89 blows						
6.45-6.50	D							
7.00-7.45	D							
7.00		N19						

Boring Progress and Water Observations

Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

1. Water standing at 22.40m overnight.

Method/ Plant Used	Field Crew	Logged By	Checked By
Cable percussion	Bainbridge	Bainbridge	IMM

CGL BH LOG CG5521C.GPJ GINT STD AGS 3_1.GDT 23/5/12

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				BH4
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	17-04-12 18-04-12	27.94	E 529,723.2 N 183,756.8	
Client				Sheet
Urbanest UK Limited				2 of 5

SAMPLES & TESTS			Water	STRATA				Instrument /Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
8.00-8.45	U100	101 blows					Firm to stiff brown slightly mottled grey CLAY. [LONDON CLAY FORMATION] *(continued)*	
8.45-8.50	D					(8.45)		
9.00-9.45	B							
9.00-9.45	D							
9.00		N23						
10.50-10.95	U100	120 blows						
10.95-11.00	D							
12.00-12.45	D							
12.00		N39						
				14.89		13.05		
							Stiff to very stiff grey sandy CLAY. [LONDON CLAY FORMATION]	
13.50-13.95	U100	132 blows						
13.95-14.00	D							
15.00-15.45	B							
15.00-15.45	D							
15.00		N31						

Boring Progress and Water Observations

Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

1. Water standing at 22.40m overnight.

Method/ Plant Used	Field Crew	Logged By	Checked By
Cable percussion	Bainbridge	Bainbridge	IMM

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				**BH4**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	17-04-12 18-04-12	27.94	E 529,723.2 N 183,756.8	
Client				Sheet
Urbanest UK Limited				3 of 5

SAMPLES & TESTS			Water	STRATA				Instrument /Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
							Stiff to very stiff grey sandy CLAY. [LONDON CLAY FORMATION] *(continued)*	
16.50-16.95	U100	144 blows						
16.95-17.00	D							
18.00-18.45	D							
18.00		N42						
19.50-19.95	U100	200 blows						
							19.80 - 19.85 Siltstone band.	
19.95-20.00	D							
21.00-21.45	D							
21.00		N50/ 115 mm					21.35 - 21.45 Very sandy.	
22.50-22.95	U100	172 blows						
22.95-23.00	D							

Boring Progress and Water Observations

Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

1. Water standing at 22.40m overnight.

Method/ Plant Used	Field Crew	Logged By	Checked By
Cable percussion	Bainbridge	Bainbridge	IMM

CGL BH LOG CG5521C.GPJ GINT STD AGS 3_1.GDT 23/5/12

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				**BH4**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	17-04-12 18-04-12	27.94	E 529,723.2 N 183,756.8	
Client				Sheet
Urbanest UK Limited				4 of 5

SAMPLES & TESTS			Water	STRATA				Instrument /Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
24.00-24.45	D					(21.95)	Stiff to very stiff grey sandy CLAY.	
24.00		N49					[LONDON CLAY FORMATION] *(continued)*	
25.50-25.95	U100	184 blows						
25.95-26.00	D							
27.00-27.45	D							
27.00		N45						
28.50-28.95	U100	191 blows						
28.95-29.00	D							
30.00-30.45	D							
30.00		N43					30.35 Sand partings from 30.35m.	
31.50-31.95	U100	190 blows						

Boring Progress and Water Observations

Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

1. Water standing at 22.40m overnight.

Method/ Plant Used	Field Crew	Logged By	Checked By
Cable percussion	Bainbridge	Bainbridge	IMM

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				**BH4**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	17-04-12 18-04-12	27.94	E 529,723.2 N 183,756.8	
Client				Sheet
Urbanest UK Limited				5 of 5

SAMPLES & TESTS			Water	STRATA				Instrument /Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
31.95-32.00	D						Stiff to very stiff grey sandy CLAY. [LONDON CLAY FORMATION] *(continued)*	
33.00-33.45 33.00	D	N43						
34.50-34.95	U100	194 blows						
34.95-35.00	D			-7.06		35.00		

Boring Progress and Water Observations

Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

1. Water standing at 22.40m overnight.

Method/ Plant Used	Field Crew	Logged By	Checked By
Cable percussion	Bainbridge	Bainbridge	IMM

CGL BH LOG CG5521C.GPJ GINT STD AGS 3_1.GDT 23/5/12

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				WS1
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	02-04-12 02-04-12	28.44	E 529,710.2 N 183,808.8	
Client				Sheet
Urbanest UK Limited				1 of 1

SAMPLES & TESTS			Water	STRATA				Instrument /Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
				28.24		0.20	Steel reinforced concrete over LDPE membrane. [MADE GROUND]	
				28.04		0.40	Medium dense to dense dark reddish brown slightly clayey gravelly medium to coarse sand. Gravel is subangular to rounded fine to medium of flint and concrete. [MADE GROUND]	
0.50 0.50	D ES							
1.00 1.00	D ES					(1.60)	Soft to firm dark brownish yellow sandy gravelly clay. Sand is fine to medium. Gravel is subangular to subrounded fine to medium of flint. Occasional coarse gravel of flint, brick, coal, and slate. Rare rotting wood/timber. Possible ACM at 0.8m. [MADE GROUND] 0.80 - 2.00 Becoming less gravelly from 0.8m and increasing in gravel from 1.0m with rare rotting timber.	
				26.44		2.00		
2.00 2.00	D ES					(0.50)	Soft very silty clay. Rare subangular to subrounded fine gravel of flint and brick. [MADE GROUND]	
				25.94		2.50		
2.50 2.50	D ES					(0.70)	Medium dense to dense dark black gravelly medium to coarse sand. Gravel is subangular to subrounded fine to medium of flint and brick. Becoming brown and clayey from 2.9m. Slight hydrocarbon odour noted. [MADE GROUND] 2.90 - 3.20 Becoming brown and clayey. Slight hydrocarbon odour noted.	
				25.24		3.20		
3.50 3.50	D ES					(1.80)	Soft brown silty sandy clay with occasional gravel. Gravel is subangular to subrounded fine to medium of flint, brick and coal. [MADE GROUND] 4.00 - 4.90 Becoming very soft.	
				23.44		5.00	4.90 - 5.00 Becoming very gravelly.	
			1 1			(0.40)	Very soft very silty clay. Occasional subangular to subrounded fine to medium gravel of flint. [MADE GROUND]	
				23.04		5.40		
5.50 5.50	D ES					(1.10)	Firm mottled brown and blue grey silty CLAY. [LONDON CLAY FORMATION]	
				21.94		6.50		

Boring Progress and Water Observations

Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				**WS2**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	02-04-12 02-04-12	28.42	E 529,712.0 N 183,824.2	
Client				Sheet
Urbanest UK Limited				1 of 1

SAMPLES & TESTS			Water	STRATA				
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	Instrument /Backfill
				28.22		0.20	Steel reinforced concrete slab over LDPE membrane. [MADE GROUND]	
				28.02		0.40	Medium dense to dense dark reddish brown slightly clayey gravelly medium to coarse sand. Gravel is subangular to rounded fine to medium of flint and concrete. [MADE GROUND]	
				27.92		0.50		
						(0.70)	Medium dense to dense dark grey sandy subangular to subrounded fine to coarse gravel of brick and concrete. Sand is medium to coarse. [MADE GROUND]	
				27.22		1.20	Medium dense to dense dark brownish grey slightly clayey gravelly fine to medium sand. Gravel is subangular to subrounded fine to medium of flint, brick, concrete and coal fragments. Frequent shards of glass. [MADE GROUND]	
							Refusal on concrete. Window sanmple hole moved to location WS2A.	

Boring Progress and Water Observations

Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

Additional window sample bored nearby for vibration assessment: Location 'V2' - backfilled with concrete to 1.4mbgl.

Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				**WS2A**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	02-04-12 02-04-12	28.42	E 529,711.5 N 183,823.6	
Client				Sheet
Urbanest UK Limited				1 of 1

SAMPLES & TESTS			Water	STRATA				Instrument /Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
				28.22		0.20	Steel reinforced concrete slab over LDPE membrane. [MADE GROUND]	
				27.92		0.50	Medium dense to dense dark reddish brown slightly clayey gravelly medium to coarse sand. Gravel is subangular to rounded fine to medium of flint and concrete. [MADE GROUND]	
						(0.70)	Medium dense to dense dark brownish grey slightly clayey gravelly fine to medium sand. Gravel is subangular to subrounded fine to medium of flint, brick, concrete and coal fragments. Frequent shards of glass and fragments of wood/timber and road stone. Very organic. [MADE GROUND]	
				27.22		1.20	Refusal on concrete. Window sample hole moved to location WS2B.	

Boring Progress and Water Observations					
Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

CGL BH LOG CG5521C.GPJ GINT STD AGS 3_1.GDT 23/5/12

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				**WS2B**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	02-04-12 02-04-12	28.42	E 529,713.5 N 183,823.3	
Client				Sheet
Urbanest UK Limited				1 of 1

SAMPLES & TESTS			Water	STRATA				Instrument /Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
				28.12		0.30	Steel reinforced concrete slab over LDPE membrane. [MADE GROUND]	
0.50 0.50	D ES			27.42		(0.70) 1.00	Medium dense to dense dark reddish brown slightly clayey gravelly medium to coarse sand. Gravel is subangular to rounded fine to medium of flint and concrete. [MADE GROUND] 0.50 - 1.00 Brick, coal, glass, wood/timber and road stone present. Slightly organic. Becoming more clayey from 0.9m.	
				27.22		1.20	Medium dense to dense dark brownish grey slightly clayey gravelly fine to medium sand. Gravel is subangular to subrounded fine to medium of flint, brick, concrete and coal fragments. Frequent shards of glass and fragments of wood/timber and road stone. Slightly organic. [MADE GROUND]	
1.50 1.50	D ES			26.42		(0.80) 2.00	Soft brown very sandy gravelly clay. Gravel is subangular to subrounded fine to medium of flint, brick, concrete and coal. [MADE GROUND]	
				26.22		2.20	Medium dense to dense brown very sandy subangular to subrounded fine to medium gravel of flint, brick, concrete and coal fragments. Occasional fragments of wood. [MADE GROUND]	
2.50 2.50	D ES					(1.80)	Medium dense to dense dark brown very gravelly fine to medium sand. Gravel is subangular to subrounded fine to medium of flint, brick, concrete and coal fragments. [MADE GROUND] 2.70 - 3.00 Becoming grey/black. 3.00 - 4.00 Becoming clayey and abundant red brick rubble noted from 3.9m.	
3.50 3.50	D ES			24.42		4.00		
				24.12		4.30	Medium dense to dense dark greyish brown sandy subangular to subrounded fine to medium gravel of flint, brick, concrete and coal fragments. Sand is medium to coarse. [MADE GROUND]	
				23.92		4.50	Medium dense to dense dark brown very gravelly slightly clayey fine to medium sand. Gravel is subangular to subrounded fine to medium of flint, brick, concrete and coal fragments. [MADE GROUND]	
							Refusal on concrete.	

Boring Progress and Water Observations

Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

CGL BH LOG CG5521C.GPJ GINT STD AGS 3_1.GDT 23/5/12

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				WS3
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	02-04-12 02-04-12	28.39	E 529,694.1 N 183,812.9	
Client				Sheet
Urbanest UK Limited				1 of 1

SAMPLES & TESTS			Water	STRATA				Instrument /Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
				28.14		0.25	Steel reinforced concrete slab over LDPE membrane. [MADE GROUND]	
0.50 0.50	D ES			27.69		(0.45) 0.70	Medium dense to dense dark reddish brown gravelly medium to coarse sand. Gravel is subangular to rounded fine to medium of flint and concrete. [MADE GROUND] 0.50 - 0.70 Brick, coal, charcoal present.	
1.00 1.00	D ES						Soft to firm dark greyish brown gravelly sandy clay. Sand is fine to medium. Gravel is angular to subrounded fine of flint, coal, brick and ceramic. [MADE GROUND]	
1.50 1.50	D ES					(2.30)	2.00 - 3.00 Becoming very sandy.	
				25.39		3.00		
3.00	ES			25.19		3.20	Medium dense to dense sandy clayey subangular to subrounded fine to medium gravel of brick, flint and ceramic. Sand is fine to medium. [MADE GROUND]	
3.50 3.50	D ES					(1.60)	Firm to stiff dark greyish brown silty clay with rare subangular to subrounded fine gravel of flint and brick. [MADE GROUND] 3.50 - 4.00 Becoming soft, organic odour noted. 4.00 - 4.80 Clinker and ceramic noted in matrix.	
4.50 4.50	D ES			23.59		4.80		
						(0.70)	Firm to stiff dark greyish green silty CLAY. [WEATHERED LONDON CLAY FORMATION] 4.90 - 5.50 Becoming light brownish grey silty CLAY.	
				22.89		5.50		
5.50	ES					(1.00)	Stiff dark bluish grey silty CLAY. [LONDON CLAY FORMATION]	
				21.89		6.50		

Boring Progress and Water Observations

Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				**WS4**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	02-04-12 02-04-12	28.31	E 529,686.7 N 183,794.1	
Client				Sheet
Urbanest UK Limited				1 of 1

SAMPLES & TESTS			Water	STRATA				Instrument /Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
				28.06		0.25	Steel reinforced concrete slab over LDPE membrane. [MADE GROUND]	
0.50 0.50	D ES						Medium dense to dense dark brownish grey gravelly fine to medium sand. Gravel is subangular to subrounded fine to medium of concrete. [MADE GROUND] 0.40 - 2.90 Becoming clayeye. Flint, brick, concrete, roadstone, clinker, coal, slate and fragments of wood present. Frequent brick rubble from 2.8m.	
1.00 1.00	D ES					(2.65)		
2.00 2.00	D ES							
				25.41		2.90	Refusal on obstruction.	

Boring Progress and Water Observations					
Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

CGL BH LOG CG5521C.GPJ GINT STD AGS 3_1.GDT 23/5/12

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				WS5
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	02-04-12 02-04-12	28.35	E 529,692.8 N 183,802.3	
Client				Sheet
Urbanest UK Limited				1 of 1

SAMPLES & TESTS			Water	STRATA				Instrument /Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
				28.10		0.25	Steel reinforced concrete slab over LDPE membrane. [MADE GROUND]	
0.50 0.50	D ES			27.45		(0.65) 0.90	Medium dense to dense dark brownish grey gravelly fine to medium sand. Gravel is subangular to subrounded fine to medium of concrete. [MADE GROUND] 0.50 - 0.90 Becoming reddish brown. Gravels are occasionally coarse of flint, brick, coal and clinker. Brick becoming more frequent from 0.6m.	
1.50 1.50	D ES					(2.90)	Soft to firm dark greyish brown slightly silty sandy gravelly clay. Sand is fine to medium. Gravel is subangular to subrounded fine to medium of flint, brick, coal and clinker. [MADE GROUND]	
2.50 2.50	D ES						2.50 - 3.80 Becoming fimer.	
3.50 3.50	D ES			24.55		3.80		
4.50 4.50	D ES			23.55		(1.00) 4.80	Soft dark blackish grey silty clay. Occasional subangular to subrounded fine to medium gravel of flint, brick and clinker. [MADE GROUND]	
				21.85		(1.70) 6.50	Firm brownish grey silty CLAY. [LONDON CLAY FORMATION]	

Boring Progress and Water Observations					
Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

CGL BH LOG CG5521C.GPJ GINT STD AGS 3_1.GDT 23/5/12

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				**WS6**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	03-04-12 03-04-12	28.24	E 529,700.6 N 183,791.1	
Client				Sheet
Urbanest UK Limited				1 of 1

SAMPLES & TESTS			Water	STRATA				Instrument /Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
				28.09		0.15	Brick paviours. [MADE GROUND]	
				27.84		0.40	Concrete. [MADE GROUND]	
				27.64		0.60	Medium dense orangish red gravelly medium to coarse sand. Gravel is subangular to subrounded fine to medium of flint and brick. [MADE GROUND]	
0.60 0.60	D ES					(0.50)		
				27.14		1.10	Soft gravelly sandy clay. Sand is fine to medium. Gravel is subangular to subrounded fine to medium of flint, brick and coal. [MADE GROUND]	
1.20 1.20	D ES					(0.90)	Medium dense to dense dark blackish grey ashy clayey sandy subangular to subrounded fine to medium gravel of flint, brick and coal. Slight hydrocarbon odour. [MADE GROUND]	
1.80 1.80	D ES			26.24		2.00	1.50 - 1.60 Becoming very clayey. 1.80 - 2.00 Becoming reddish orange with abundant fragments of brick; no hydrocarbon odour.	
2.50 2.50	D ES					(2.20)	Soft greyish brown gravelly sandy clay. Sand is fine to medium. Gravel is subangular to subrounded fine to medium of flint, brick and coal. Hydrocarbon odour. [MADE GROUND] 2.60 - 2.80 Becoming firmer. 2.80 - 3.10 Becoming very gravelly; abundant red brick rubble. No odour. 3.10 - 4.20 Gravel less abundant. Clay is soft to firm.	
				24.04		4.20		
				23.24		(0.80) 5.00	Firm dark brownish grey silty CLAY. [LONDON CLAY FORMATION]	

Boring Progress and Water Observations

Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

CGL BH LOG CG5521C.GPJ GINT STD AGS 3_1.GDT 23/5/12

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				**WS7**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	03-04-12 03-04-12	28.25	E 529,703.1 N 183,785.0	
Client				Sheet
Urbanest UK Limited				1 of 1

SAMPLES & TESTS			Water	STRATA				Instrument /Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
				28.15		0.10	Brick paviours. [MADE GROUND]	
				27.85		0.40	Concrete. [MADE GROUND]	
0.50 0.50	D ES						Medium dense to dense dark brownish grey gravelly fine to coarse sand. Gravel is subangular to subrounded fine to medium of concrete. [MADE GROUND] 0.50 - 1.80 Gravels are occasionally coarse flint, brick, coal and clinker. Frequent oyster shells.	
1.00 1.00	D ES					(1.60)		
				26.25		2.00	1.80 - 2.00 Becoming orangish red with abundant red brick rubble and a hydrocarbon odour.	
2.00 2.00	D ES						Soft dark greyish brown friable gravelly sandy clay. Sand is fine to coarse. Gravel is subangular to subrounded fine to medium of flint, brick, coal and clinker. [MADE GROUND] 2.20 - 2.80 Becoming more cohesive.	
3.00 3.00	D ES					(2.00)	2.80 - 3.90 Becoming very soft and silty with coarse gravel size fragments of copper from 3.9m.	
				24.25		4.00		
							Refusal on metal obstruction.	

Boring Progress and Water Observations					
Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

CGL BH LOG CG5521C.GPJ GINT STD AGS 3_1.GDT 23/5/12

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				**WS8**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	03-04-12 03-04-12	28.22	E 529,694.7 N 183,783.5	
Client				Sheet
Urbanest UK Limited				1 of 1

SAMPLES & TESTS			Water	STRATA				Instrument /Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
				28.07		0.15	Concrete. [MADE GROUND]	
0.50 0.50	D ES						MADE GROUND comprising dark greyish orange sandy fine to medium occasionally coarse subangular to subrounded gravel of flint, brick, concrete, roadstone and wood/timber. Sand is medium to coarse. Limited recovery of core. [MADE GROUND]	
1.00 1.00	D ES							
2.00 2.00	D ES					(3.85)	2.00 - 4.00 Becoming clayey, also with frequent fragments of clinker and ceramic.	
3.00 3.00	D ES							
				24.22		4.00		
4.00 4.00	D ES					(0.80)	Firm greyish brown silty clay with occasional subangular to subrounded fine to medium gravel of flint and lignite. [MADE GROUND]	
				23.42		4.80		
				23.22		5.00	Firm greyish brown silty CLAY. [LONDON CLAY FORMATION]	

Boring Progress and Water Observations

Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				WS9
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	03-04-12 03-04-12	28.18	E 529,708.0 N 183,778.7	
Client				Sheet
Urbanest UK Limited				1 of 1

SAMPLES & TESTS			Water	STRATA				Instrument /Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
				28.08		0.10	Brick paviours. [MADE GROUND]	
				27.83		0.35	Concrete. [MADE GROUND]	
				27.68		0.50		
0.50 0.50	D ES						Medium dense to dense dark reddish brown sandy subangular to subrounded fine to medium gravel of flint and brick. Sand is medium to coarse. [MADE GROUND]	
1.00 1.00	D ES					(1.50)	Soft dark reddish brown slightly friable sandy gravelly clay. Sand is fine to medium. Gravel is subangular to subrounded fine to medium of flint, brick, coal and ceramic. [MADE GROUND] 1.00 - 1.20 Becoming firm dark greyish brown and silty. Occasional black staining and hydrocarbon odour noted.	
1.50 1.50	D ES							
				26.18		2.00	1.20 - 2.00 No odour noted.	
							Refusal on obstruction.	

Boring Progress and Water Observations					
Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

CGL BH LOG CG5521C.GPJ GINT STD AGS 3_1.GDT 23/5/12

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				**WS10**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	03-04-12 03-04-12	28.05	E 529,714.0 N 183,769.1	
Client				Sheet
Urbanest UK Limited				1 of 1

SAMPLES & TESTS			Water	STRATA				
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	Instrument /Backfill
				27.95		0.10	Brick paviours.	
				27.80		0.25	[MADE GROUND]	
				27.55		0.50	Concrete. [MADE GROUND]	
0.50	D						Medium dense to dense dark brownish grey gravelly medium to coarse sand. Gravel is subangular to subrounded fine to medium of flint and concrete. [MADE GROUND]	
0.50	ES							
1.20	D						Soft dark orangish brown friable sandy gravelly clay. Sand is medium to coarse. Gravel is subangular to subrounded fine to medium flint, brick and coal. [MADE GROUND] 0.90 - 2.30 Becoming firmer and more cohesive. Black staining and hydrocarbon odour noted.	
1.20	ES							
2.20	ES						2.30 - 3.80 Clay becoming very silty and oyster shells noted within the matrix. Occasional black staining and hydrocarbon odour noted.	
						(4.45)		
3.50	D						3.80 - 4.95 Hydrocarbon odour very strong.	
4.00	ES							
4.50	D							
				23.10		4.95		
				23.05		5.00	Firm dark greyish brown firm silty CLAY. Occasional black staining. Hydrocarbon odour noted. [LONDON CLAY FORMATION]	

Boring Progress and Water Observations

Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

Window sample WS10A moved due to concrete obstruction at 0.44mbgl.

Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				**WS11A**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	03-04-12 03-04-12	28.45	E 529,702.6 N 183,799.6	
Client				Sheet
Urbanest UK Limited				1 of 1

SAMPLES & TESTS			Water	STRATA				Instrument /Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
				28.35		0.10	Concrete. [MADE GROUND]	
0.50 0.50	D ES					(0.70)	Medium dense to dense dark greyish brown gravelly medium to coarse sand. Gravel is subangular to subrounded fine to medium of flint and concrete. [MADE GROUND]	
				27.65		0.80	0.50 - 0.80 Becoming clayey with occasional coal fragments.	
1.00 1.00	D ES						MADE GROUND comprising soft dark orangish brown sandy gravelly clay. Sand is medium to coarse. Gravel is subangular to subrounded fine to medium of flint, brick and coal. Occasional black staining. Frequent lignite. [MADE GROUND]	
1.50 1.50	D ES						1.50 - 2.40 Becoming silty and slightly organic. Occasional black staining and slight organic odour noted.	
						(2.10)		
2.50 2.50	D ES						2.40 - 2.90 Becoming firm to stiff and less organic. No staining or odours noted.	
				25.55		2.90		
						(0.50)	Medium dense to dense dark blackish brown gravelly medium to coarse sand. Gravel is subangular to subrounded fine of flint, coal and brick. [MADE GROUND]	
				25.05		3.40	3.00 - 3.40 Inclusions of soft dark greyish brown silty clay. Slight hydrocarbon odour noted.	
3.50 3.50	D ES						Soft dark greyish black silty clay with occasional lignite and rounded to subrounded fine to medium gravel of flint and brick. Slight hydrocarbon odour noted. [MADE GROUND]	
						(1.55)		
4.50 4.50	D ES							
				23.50		4.95		
				23.45		5.00	Firm dark greyish brown silty CLAY. [LONDON CLAY FORMATION]	

Boring Progress and Water Observations

Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

Window sample WS11 moved due to concrete obstruction at 0.5mbgl.

Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

CGL BH LOG CG5521C.GPJ GINT STD AGS 3_1.GDT 23/5/12

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				**WS12**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	04-04-12 04-04-12			
Client				Sheet
Urbanest UK Limited				1 of 1

SAMPLES & TESTS			Water	STRATA				
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	Instrument /Backfill
						0.15	Brick paviours. [MADE GROUND]	
						0.35	Concrete. [MADE GROUND]	
0.50 0.50	D ES					(0.35) 0.70	Medium dense to dense dark orangish red gravelly medium to coarse sand. Gravel is subangular to subrounded fine to medium of flint and brick. [MADE GROUND] 0.60 - 0.70 Becoming clayey.	
1.00 1.00	D ES						Soft dark greenish grey silty sandy clay with occasional subangular to subrounded fine to medium gravel of flint, coal, brick and clinker. Occasional black staining. Slight hydrocarbon odour. [MADE GROUND] 0.90 - 1.10 Staining becoming rare, no odour.	
2.00 2.00	D ES						2.00 - 2.60 Becoming firmer.	
						(4.25)		
3.00 3.00	D ES							
4.00 4.00	D ES							
						4.95 5.00	Soft to firm dark greyish brown very silty CLAY. [LONDON CLAY FORMATION]	

Boring Progress and Water Observations					
Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

CGL BH LOG CG5521C.GPJ GINT STD AGS 3_1.GDT 23/5/12

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				**WS13**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	04-04-12 04-04-12	28.14	E 529,718.3 N 183,782.7	
Client				Sheet
Urbanest UK Limited				1 of 1

SAMPLES & TESTS			Water	STRATA				
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	Instrument /Backfill
				27.89		0.25	Steel reinforced concrete over LDPE membrane. [MADE GROUND]	
				27.64		0.50	Medium dense to dense dark brownish grey sandy subangular to subrounded fine to medium gravel of flint and concrete. Sand is fine to medium. [MADE GROUND]	
0.50 0.50	D ES					(0.70)	0.35 - 0.50 Becoming slightly clayey with fragments of plastic and brick.	
1.00 1.00	D ES			26.94		1.20	Medium dense dark orangish brown slightly gravelly fine to medium sand with rare soft inclusions of clay. Gravel is subrounded to rounded medium to coarse of flint. [MADE GROUND]	
1.50 1.50	D ES					(0.80)	Soft to firm dark orangish brown sandy clay with subangular to subrounded fine to medium gravel of flint, brick and clinker. [MADE GROUND]	
2.00 2.00	D ES			26.14		2.00	1.90 - 2.00 Occasional black staining and slight hydrocarbon odour noted from 1.9m.	
							Refusal on obstruction.	

Boring Progress and Water Observations

Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				**WS14**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	04-04-12 04-04-12	27.73	E 529,729.4 N 183,771.8	
Client				Sheet
Urbanest UK Limited				1 of 1

SAMPLES & TESTS			Water	STRATA				Instrument /Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
				27.43		0.30	Steel reinforced concrete. [MADE GROUND]	
				27.33		0.40	Medium dense to dense dark brownish grey sandy subangular to subrounded fine to medium gravel of flint, coal and brick. Sand is fine to medium. [MADE GROUND]	
0.80	ES					(1.00)	Soft dark greyish brown sandy gravelly clay. Sand is fine to medium. Gravel is subangular to subrounded fine to medium of flint, brick and coal. [MADE GROUND]	
1.20	D			26.33		1.40	1.20 - 1.40 Abundant brick.	
						(0.60)	Medium dense dark greyish brown very clayey ashey sandy gravel. Gravel is subangular to subrounded fine to medium of flint, concrete and brick. Sand is medium to coarse. [MADE GROUND]	
				25.73		2.00		
2.50 2.50	D ES						Firm dark brownish orange sandy gravelly clay. Sand is medium to coarse. Gravel is fine to medium subangular to subrounded of flint, brick and coal. [MADE GROUND]	
						(3.00)		
3.50 3.50	D ES						3.50 - 4.00 Becoming firm to stiff.	
							4.00 - 5.00 Becoming less stiff and silty. No coal noted.	
4.50 4.50	D ES							
				22.73		5.00		

Boring Progress and Water Observations

Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				**WS15**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	04-04-12 04-04-12	28.44	E 529,719.3 N 183,812.4	
Client				Sheet
Urbanest UK Limited				1 of 1

SAMPLES & TESTS			Water	STRATA				Instrument /Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
				28.19		0.25	Steel reinforced concrete over LDPE membrane. [MADE GROUND]	
0.40 0.40	D ES			27.44		(0.75) 1.00	Medium dense to dense dark orangish red gravelly fine to medium sand. Gravel is subangular to subrounded fine to medium of flint and concrete. [MADE GROUND] 0.40 - 1.00 Becoming clayey, with fragments of plastic and metal.	
1.00 1.00	D ES			26.54		(0.90) 1.90	Soft dark greyish brown very gravelly sandy clay. Sand is medium to coarse. Gravel is subangular to subrounded fine to coarse of flint, brick, coal, chalk and metal. [MADE GROUND]	
2.00 2.00	D ES			25.84		(0.70) 2.60	Medium dense to dense dark greyish brown slightly clayey sandy gravel. Gravel is subangular to subrounded fine to coarse of flint, brick, coal and ceramic. Sand is fine to medium. [MADE GROUND]	
							Refusal on obstruction.	

Boring Progress and Water Observations

Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

Additional window sample bored nearby for vibration assessment: Location 'V1' - backfilled with concrete to 2.6mbgl.

Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				**WS16**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	04-04-12 04-04-12	28.29	E 529,711.1 N 183,798.2	
Client				Sheet
Urbanest UK Limited				1 of 1

SAMPLES & TESTS			Water	STRATA				Instrument /Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
				27.99		0.30	Steel reinforced concrete over LDPE membrane. [MADE GROUND]	
0.50 0.50	D ES					(0.90)	Medium dense to dense dark orangish brown slightly clayey sandy gravel. Gravel is subangular to subrounded fine to medium of flint, brick and concrete. Occasional coarse gravel to cobble size fragments of concrete. [MADE GROUND]	
				27.09		1.20		
1.50 1.50	D ES			26.49		(0.60) 1.80	Soft to firm dark greyish brown slightly sandy silty clay with occasional subangular to subrounded fine to medium gravel of flint and brick. Sand is fine to medium. [MADE GROUND]	
2.50 2.50	D ES					(2.40)	Medium dense dark orangish red sandy gravel. Gravel is angular to subrounded medium to coarse of flint and brick. [MADE GROUND] 2.95 - 3.00 Inclusion of soft dark black organic peaty silty organic clay.	
3.50 3.50	D ES			24.09		4.20	4.00 - 4.10 Inclusions of soft dark brownish grey clay.	
							Refusal on obstruction.	

Boring Progress and Water Observations					
Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

CGL BH LOG CG5521C.GPJ GINT STD AGS 3_1.GDT 23/5/12

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				**WS17**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	04-04-12 04-04-12	28.02	E 529,717.7 N 183,760.6	
Client				Sheet
Urbanest UK Limited				1 of 1

SAMPLES & TESTS			Water	STRATA				
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	Instrument /Backfill
				27.87		0.15	Steel reinforced concrete over LDPE membrane. [MADE GROUND]	
				27.52		(0.35) 0.50	Medium dense to dense dark brownish grey sandy gravel. Gravel is subangular to subrounded fine to medium of flint and concrete. Sand is fine to medium. [MADE GROUND]	
				27.02		(0.50) 1.00	Soft dark brownish grey sandy gravelly clay. Sand is medium to coarse. Gravel is subangular to rounded fine to medium of flint, brick and ceramic. [MADE GROUND]	
				26.82		1.20	Medium dense to dense dark greyish brown sandy gravel. Gravel is subangular to rounded fine to medium of flint, brick and ceramic. [MADE GROUND]	
							Refusal on coarse brick rubble.	

Boring Progress and Water Observations					
Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

CGL BH LOG CG5521C.GPJ GINT STD AGS 3_1.GDT 23/5/12

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				**WS17A**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	04-04-12 04-04-12	28.00	E 529,718.0 N 183,761.0	
Client				Sheet
Urbanest UK Limited				1 of 1

SAMPLES & TESTS			Water	STRATA				Instrument /Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
				27.85		0.15	Steel reinforced concrete over LDPE membrane. [MADE GROUND]	
				27.50		(0.35) 0.50	Medium dense dark brownish grey sandy gravel. Gravel is subangular to subrounded fine to medium of flint and concrete. Sand is fine to medium. [MADE GROUND]	
0.80 0.80	D ES					(1.30)	Soft dark brownish grey sandy gravelly clay. Sand is medium to coarse. Gravel is subangular to rounded fine to medium of flint, brick and ceramic. [MADE GROUND] 1.00 - 1.20 Becoming very gravelly.	
1.50 1.50	D ES			26.20		1.80		
				25.80		(0.40) 2.20	Medium dense dark orangish brown sandy gravel. gravel is subangular to subrounded fine to coarse of flint, brick and concrete. Sand is medium to coarse. [MADE GROUND] 2.00 - 2.20 Becoming very clayey.	
2.50 2.50	D ES						Soft to firm dark greyish brown friable sandy gravelly clay. Sand is medium to coarse. Gravel is subangular to subrounded fine to medium, occasionally coarse, of flint, brick and coal. [MADE GROUND] 2.90 - 4.95 Becoming more cohesive from and slightly firmer.	
3.50 3.50	D ES					(2.75)		
4.50 4.50	D ES							
				23.05		4.95		
				23.00		5.00	Firm dark greyish brown silty CLAY. [LONDON CLAY FORMATION]	

Boring Progress and Water Observations

Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

CGL BH LOG CG5521C.GPJ GINT STD AGS 3_1.GDT 23/5/12

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				**WS18**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	05-04-12 05-04-12	27.70	E 529,742.7 N 183,746.1	
Client				Sheet
Urbanest UK Limited				1 of 1

SAMPLES & TESTS			Water	STRATA				Instrument /Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
				27.55		0.15	Steel reinforced concrete over LDPE membrane. [MADE GROUND]	
0.50 0.50	D ES			26.90		(0.65) 0.80	Dark brownish grey gravelly fine to medium sand. Gravel is subrounded of subangular fine to medium of flint and brick. [MADE GROUND] 0.50 - 0.80 Becoming yellow and slightly clayey with coal.	
1.50 1.50	D ES					(2.20)	Soft to firm brown sandy gravelly clay. Sand is medium to coarse. Gravel is subangular to subrounded fine to medium, occasionally coarse, of flint, brick, coal and clinker. [MADE GROUND]	
2.50 2.50	D ES			24.70		3.00		
3.50 3.50	D ES					(1.95)	Soft to firm blackish brown sandy gravelly clay. Sand is medium to coarse. Gravel is subangular to subrounded fine to medium, occasionally coarse, of flint, brick, coal and clinker. [MADE GROUND]	
4.80 4.80	D ES			22.75 22.70		4.95 5.00	4.80 - 4.95 Becoming black with slight hydrocarbon odour. Firm dark greyish brown silty CLAY. [LONDON CLAY FORMATION]	

Boring Progress and Water Observations

Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

CGL BH LOG CG5521C.GPJ GINT STD AGS 3_1.GDT 23/5/12

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				**WS19**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	05-04-12 05-04-12	27.77	E 529,748.4 N 183,740.9	
Client				Sheet
Urbanest UK Limited				1 of 1

SAMPLES & TESTS			Water	STRATA				Instrument /Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
				27.62		0.15	Steel reinforced concrete over LDPE membrane. [MADE GROUND]	
				27.42		0.35	Medium dense dark brownish grey gravelly fine to medium sand. Gravel is subrounded of subangular fine to medium of flint and brick. [MADE GROUND]	
						(0.65)		
				26.77		1.00	Medium dense dark greyish brown clayey sandy gravel. Gravel is subangular to subrounded fine to medium of flint, brick and coal. Sand is medium to coarse. [MADE GROUND]	
1.00 1.00	D ES						Firm to stiff dark greyish brown slightly gravelly clay. Gravel is subangular to subrounded fine to medium, occasionally coarse, of flint and brick. [MADE GROUND]	
2.00 2.00	D ES						2.00 - 3.00 Becoming stiff dark and yellowish brown with occasional calcrete inclusions noted.	
						(3.95)		
3.00 3.00	D ES						3.00 - 3.95 Becoming slightly friable.	
4.00 4.00	D ES						3.95 - 4.00 Black staining and hydrocarbon odour.	
				22.82		4.95		
5.00 5.00	D ES						Firm dark greyish brown silty CLAY. [LONDON CLAY FORMATION]	
						(1.55)		
				21.27		6.50		

Boring Progress and Water Observations

Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				**WS20**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	05-04-12 05-04-12	27.76	E 529,752.5 N 183,742.0	
Client				Sheet
Urbanest UK Limited				1 of 1

SAMPLES & TESTS			Water	STRATA				
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	Instrument /Backfill
				27.61		0.15	Steel reinforced concrete over LDPE membrane. [MADE GROUND]	
				27.41		0.35	Medium dense dark brownish grey gravelly fine to medium sand. Gravel is subrounded of subangular fine to medium of flint and brick. [MADE GROUND]	
0.50 0.50	D ES					(0.65)		
				26.76		1.00	Medium dense dark greyish brown clayey sandy gravel. Gravel is subangular to subrounde fine to medium of flint, brick and coal. Sand is medium to coarse. [MADE GROUND]	
1.50 1.50	D ES					(2.00)	Firm to stiff dark greyish brown slightly gravelly clay. Gravel is subangular to subrounded fine to medium, occasionally coarse, of flint and brick. [MADE GROUND] 2.00 - 3.00 Becoming very sandy. Calcrete inclusions and lignite noted.	
2.50 2.50	D ES							
				24.76		3.00	Window sample terminated due to an expanding crack on a nearby wall.	

Boring Progress and Water Observations

Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

Additional window sample bored nearby for vibration assessment: Location 'V3' - backfilled with concrete to 5.0mbgl.

Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				**WS21**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	05-04-12 05-04-12	27.90	E 529,727.5 N 183,751.7	
Client				Sheet
Urbanest UK Limited				1 of 1

SAMPLES & TESTS			Water	STRATA				Instrument /Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	
				27.75		0.15	Concrete. [MADE GROUND]	
				27.55		0.35	Medium dense to dense dark brownish grey gravelly fine to medium sand. Gravel is subangular to subrounded fine to medium of flint and concrete. [MADE GROUND]	
0.80 0.80	D ES			26.90		(0.65) 1.00	Firm dark greyish brown sandy gravelly clay. Gravel is subangular to subrounded fine to coarse of flint, coal, plastic, brick and concrete. Gravel becoming more abundant towards the base. [MADE GROUND] Refusal on brick and concrete.	

Boring Progress and Water Observations

Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

General Remarks

Window sample WS21A: cored through concrete. Refusal on obstruction at 0.9mbgl.

Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

BOREHOLE LOG

Card Geotechnics Limited

Project				BOREHOLE No
103 Camley Street, London				**WS21B**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	05-04-12 05-04-12	27.90	E 529,725.2 N 183,754.4	
Client				Sheet
Urbanest UK Limited				1 of 1

SAMPLES & TESTS			Water	STRATA				
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	Instrument /Backfill
				27.75		0.15	Concrete.	
				27.65		0.25	[MADE GROUND]	
						(0.65)	Medium dense to dense dark brownish grey gravelly fine to medium sand. Gravel is subangular to subrounded fine to medium of flint and concrete. [MADE GROUND]	
0.80	D			27.00		0.90	Firm dark greyish brown sandy gravelly clay. Gravel is subangular to subrounded fine to coarse of flint, coal, plastic, brick and concrete. Gravel becoming more abundant and black staining towards the base. [MADE GROUND]	
0.80	ES						Refusal on brick and concrete.	

Boring Progress and Water Observations

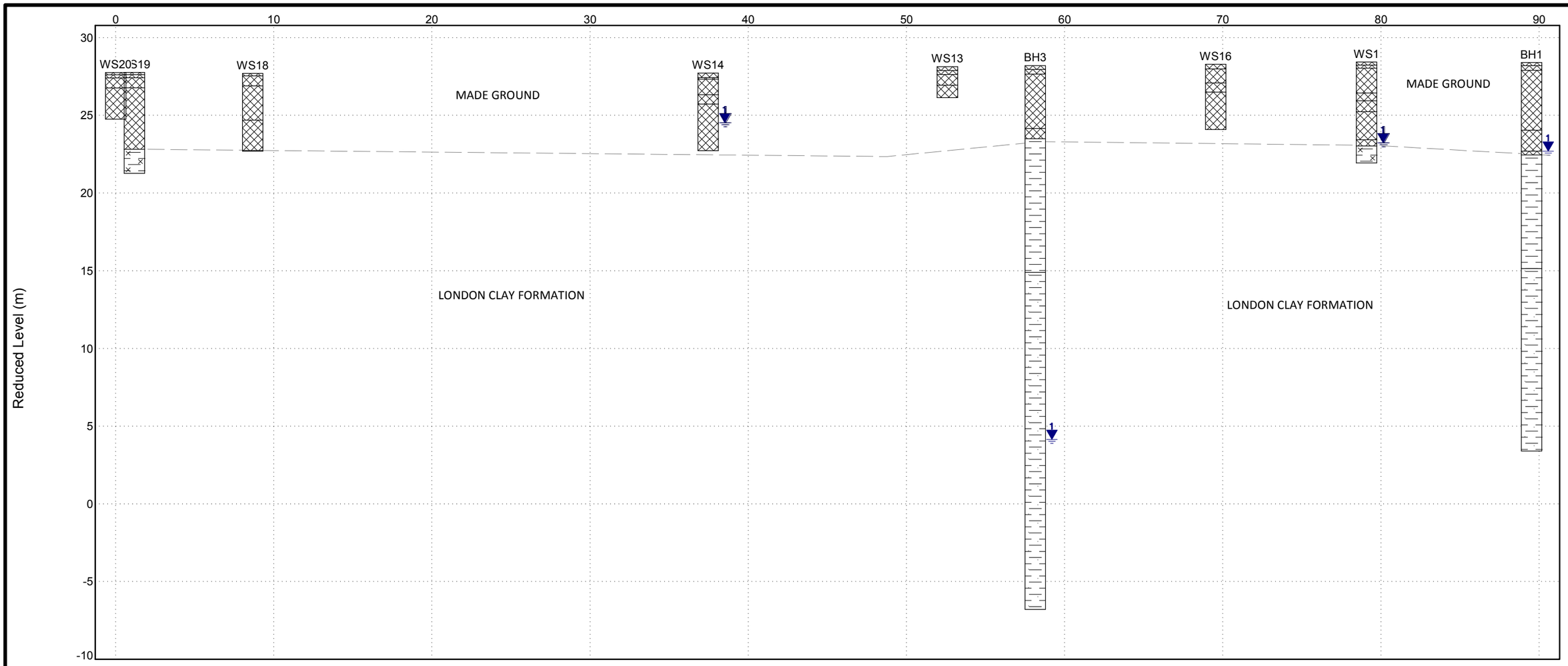
Date	Comment	Depth	Casing Depth	Casing Dia. mm	Water Depth

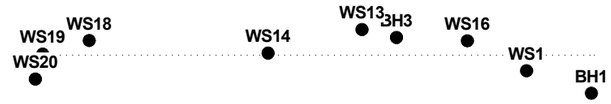
General Remarks

Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

APPENDIX C

Geological cross sections





LITHOLOGY GRAPHICS

MADE GROUND | CLAY | Sandy CLAY | Silty CLAY

Card Geotechnics Limited

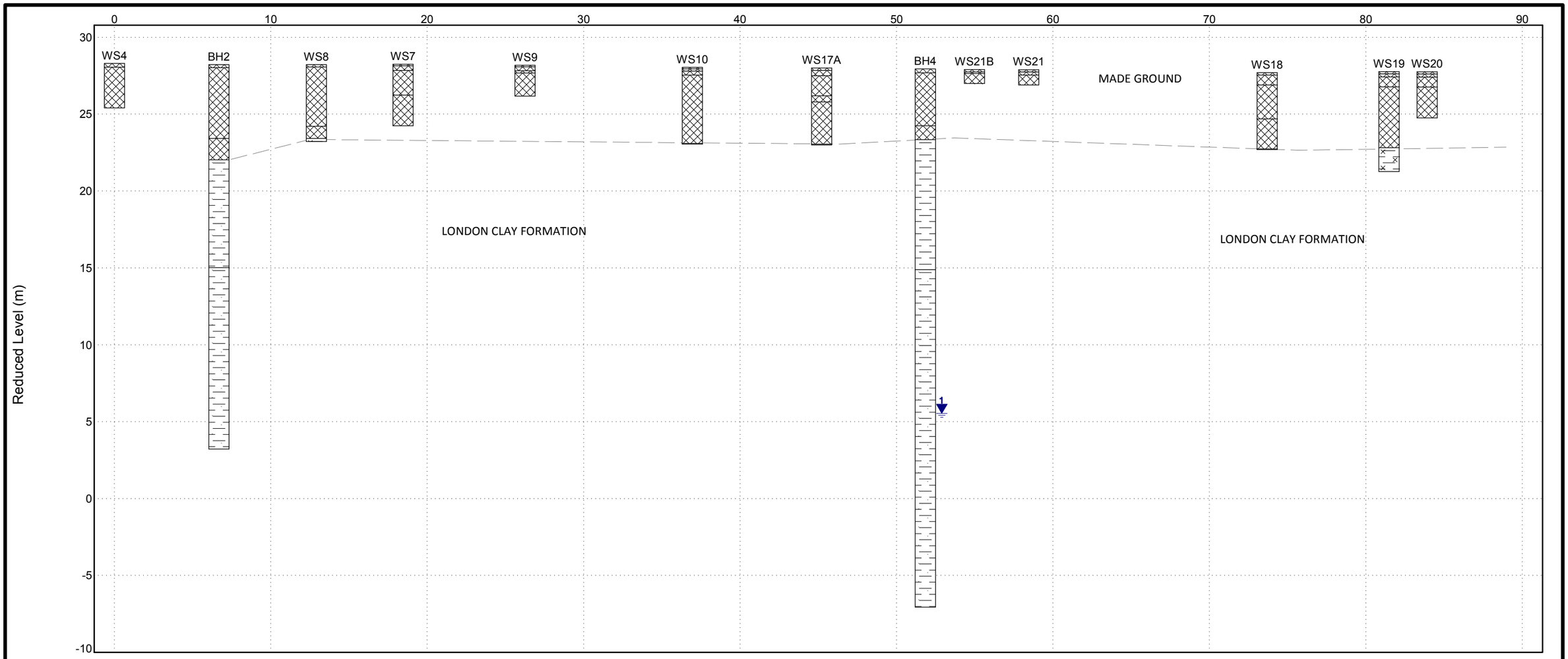
SUBSURFACE SECTION Cross Section 1

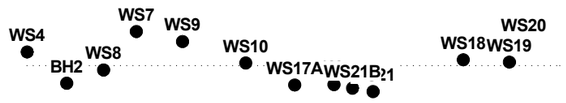
Client: Urbanest UK Limited

Project: 103 Camley Street, London

Number: CG/5521C

AGS3 LITHOLOGY SITEMAP - A3 CG5521C.GPJ GINT STD AGS 3 1.GDT 23/5/12





LITHOLOGY GRAPHICS

MADE GROUND | Sandy CLAY | CLAY | Silty CLAY

Card Geotechnics Limited

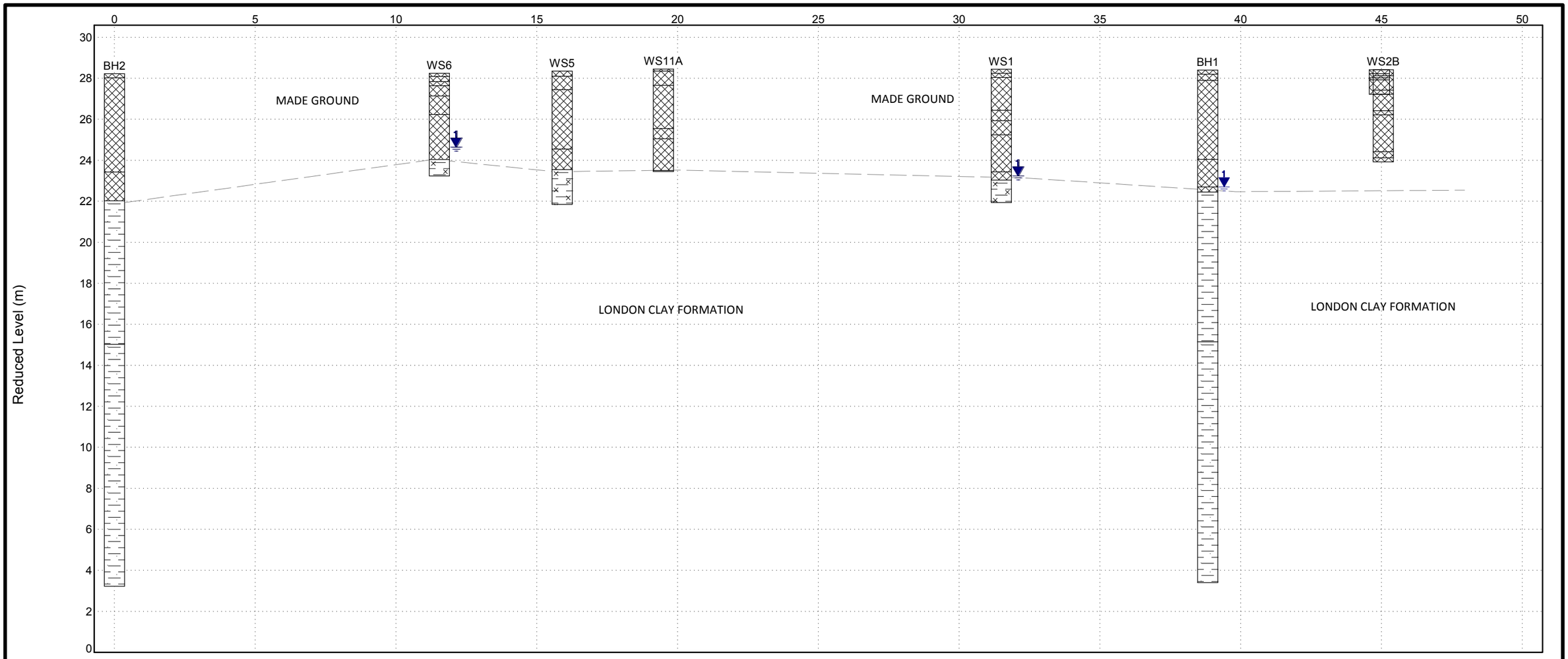
SUBSURFACE SECTION Cross Section 2

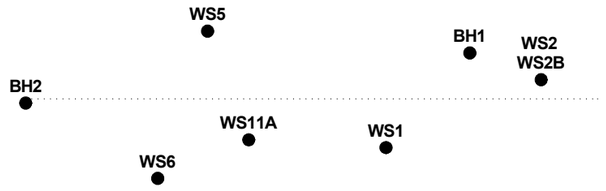
Client: Urbanest UK Limited

Project: 103 Camley Street, London

Number: CG/5521C

AGS3 LITHOLOGY SITEMAP - A3 CG5521C.GPJ GINT STD AGS 3 1.GDT 23/5/12





Card Geotechnics Limited

LITHOLOGY GRAPHICS

MADE GROUND | CLAY | Sandy CLAY | Silty CLAY

SUBSURFACE SECTION Cross Section 3

Client: Urbanest UK Limited

Project: 103 Camley Street, London

Number: CG/5521C

AGS3 LITHOLOGY SITEMAP - A3 CG5521C.GPJ GINT STD AGS 3 1.GDT 23/5/12

APPENDIX D

Geotechnical results

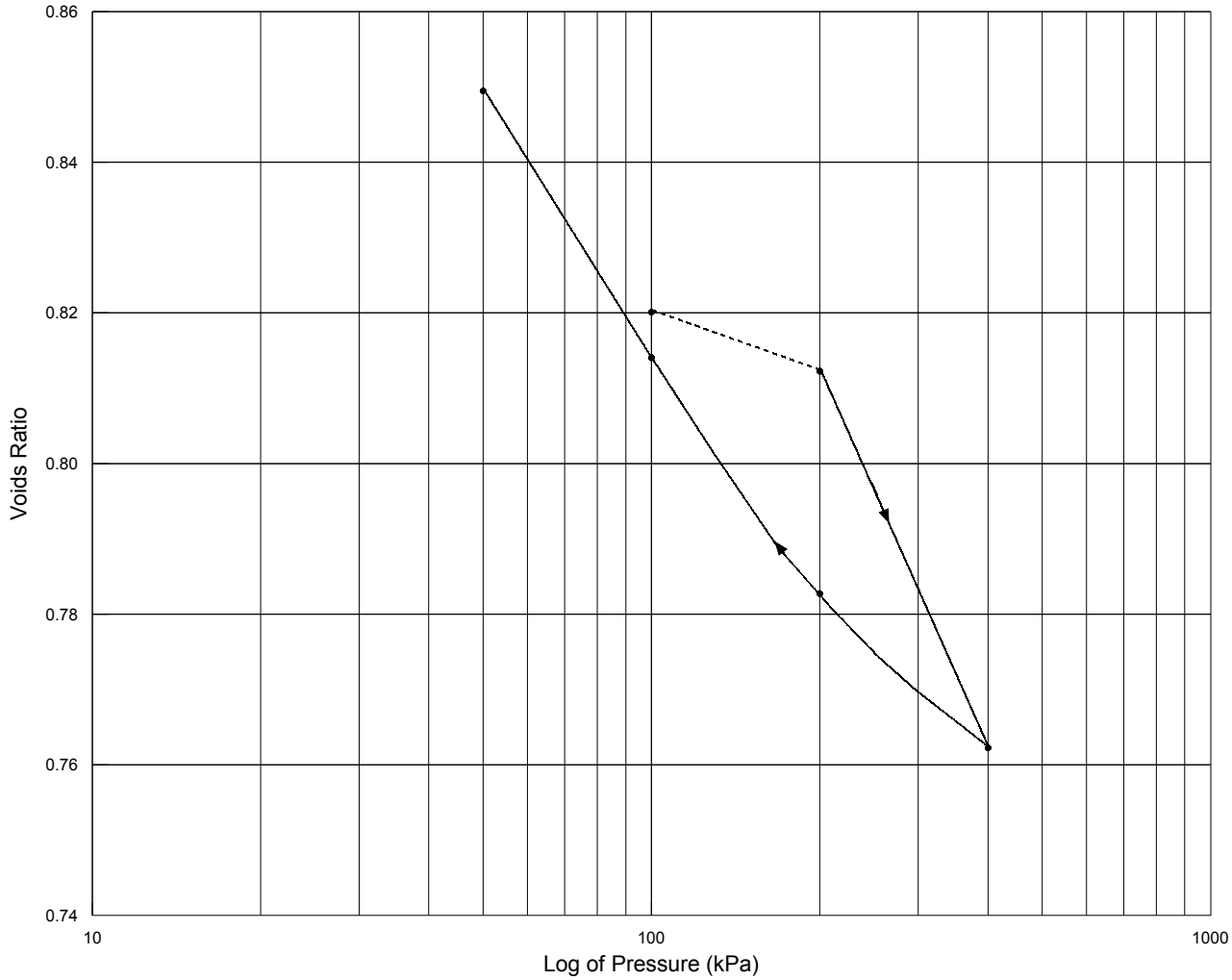
BS1377 : Part 5 : Clause 3 : 1990

Determination of One Dimensional Consolidation Properties of Soil

Borehole No:	BH1
Sample No:	-
Depth (m):	6.00 - 6.45
Depth of test specimen (m):	6.05
Orientation:	Vertical
Specimen preparation:	Undisturbed

Description:

Stiff brown silty CLAY



Initial Conditions:

Moisture Content (%)	32	Particle Density (Mg/m³)	2.72 (Assumed)
Voids Ratio	0.836		
Diameter (mm)	76.2	Laboratory Temperature (°C)	19.1
Height (mm)	18.5		
Bulk Density (Mg/m³)	1.95		
Dry Density (Mg/m³)	1.48		

Pressure Range (kPa)	Mv (m²/MN)	Cv (m²/yr)	Time Fitting Method	Voids Ratio
0 - 100	-	Specimen swelled	-	0.820
100 - 200	0.0432	9.13	t90	0.812
200 - 400	0.138	0.355	t50	0.762
400 - 200	- 0.0581	0.334 (Sv)	t50	0.783
200 - 100	- 0.176	0.139 (Sv)	t50	0.814
100 - 50	- 0.390	0.0653 (Sv)	t50	0.849

Checked and Approved

Initials: JS

Date: 14/05/2012

Project Number: **GEO / 18229**

Project Name: **CAMLEY STREET (KINGS CROSS)**

Project No: CG5221C

UKAS TESTING 1982

GEOLABS®

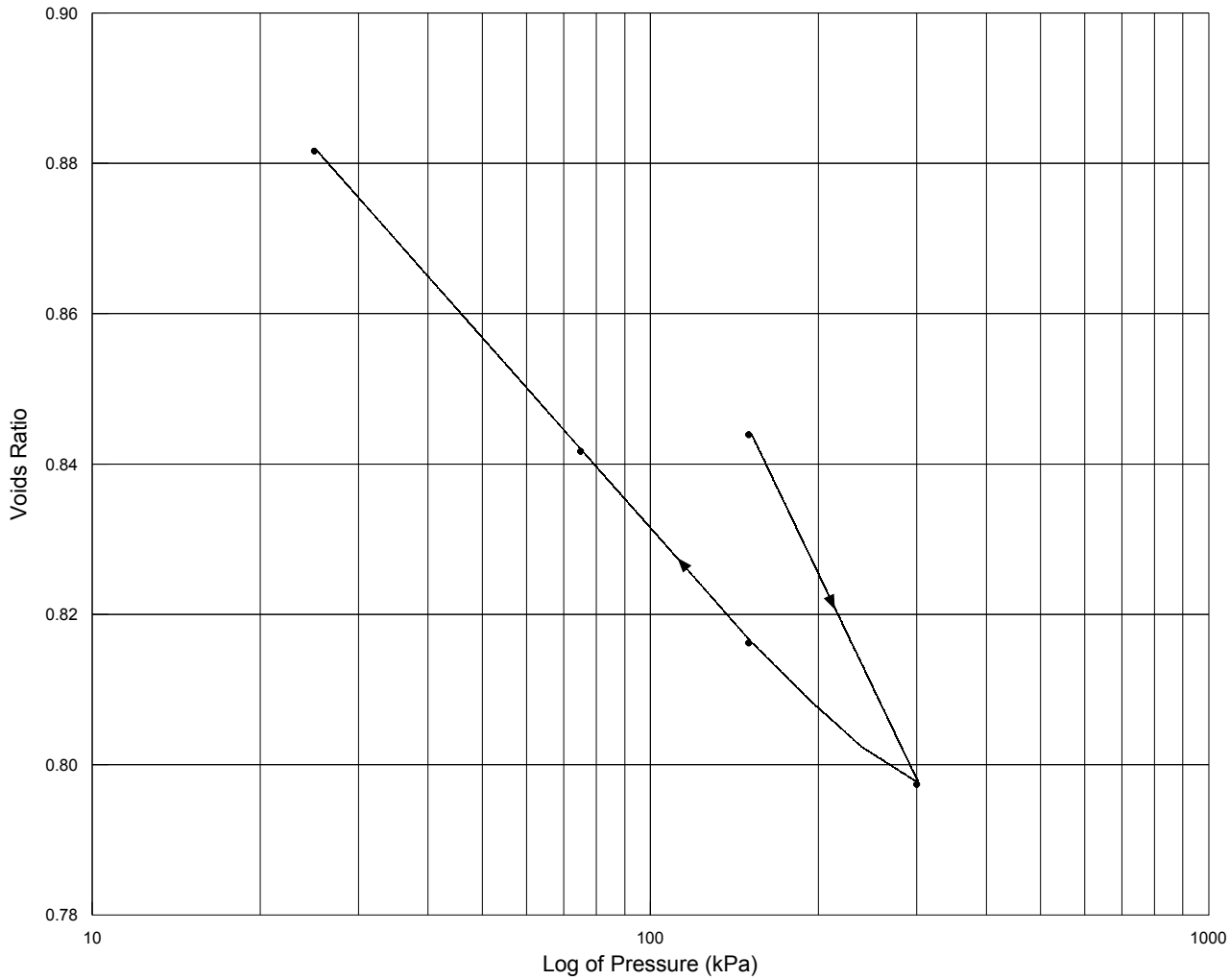
BS1377 : Part 5 : Clause 3 : 1990

Determination of One Dimensional Consolidation Properties of Soil

Borehole No:	BH4
Sample No:	-
Depth (m):	8.00 - 8.45
Depth of test specimen (m):	8.05
Orientation:	Vertical
Specimen preparation:	Undisturbed

Description:

Firm to stiff brown silty CLAY



Initial Conditions:

Moisture Content (%)	33	Particle Density (Mg/m³)	2.72 (Assumed)
Voids Ratio	0.880		
Diameter (mm)	75.0	Laboratory Temperature (°C)	19.6
Height (mm)	18.9		
Bulk Density (Mg/m³)	1.92		
Dry Density (Mg/m³)	1.45		

Pressure Range (kPa)	Mv (m²/MN)	Cv (m²/yr)	Time Fitting Method	Voids Ratio
0 - 150	0.126	0.487	t50	0.844
150 - 300	0.168	0.215	t50	0.797
300 - 150	- 0.0698	0.313 (Sv)	t50	0.816
150 - 75	- 0.187	0.172 (Sv)	t50	0.842
75 - 25	- 0.434	0.0825 (Sv)	t50	0.882

Checked and Approved

Initials: JS

Date: 14/05/2012

Project Number:

GEO / 18229

Project Name:

CAMLEY STREET (KINGS CROSS)

Project No: CG5221C

UKAS TESTING 1982

GEOLABS®

BS1377 : Part 2 : Clause 9 : 1990

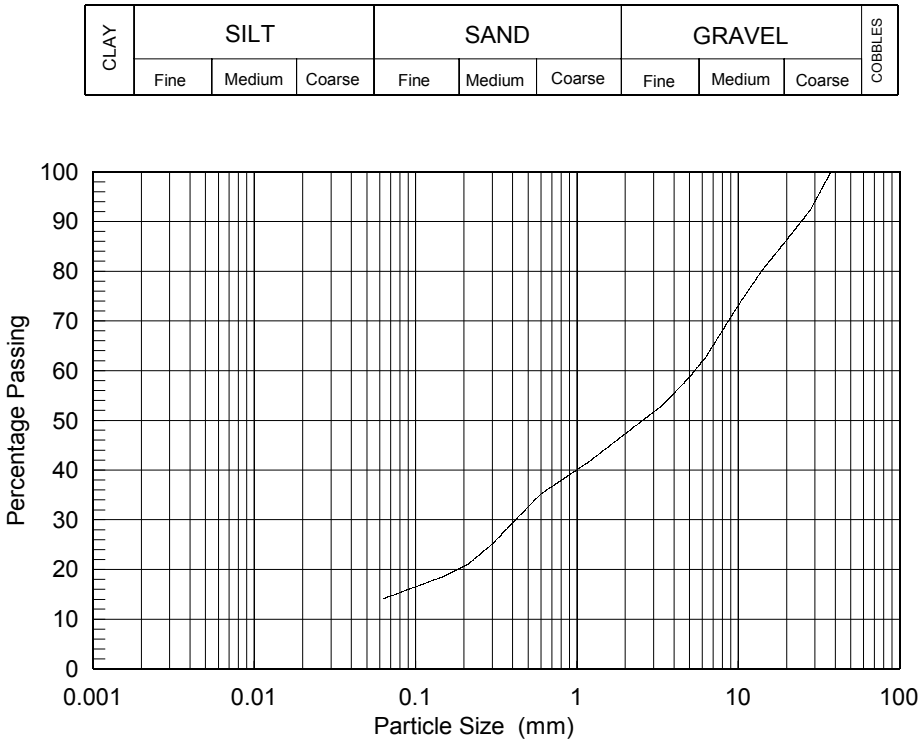
Determination of Particle Size Distribution

Borehole Number:	BH1
Sample Number:	
Depth (m):	5.00 - 5.45

Description:
MADE GROUND (Brown silty sandy gravel.
Gravel includes clinker and slag)
Insufficient material supplied to be representative in accordance with BS1377 requirements.

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

SIEVE	
Sieve	% pass
200 mm	100
125 mm	100
90 mm	100
75 mm	100
63 mm	100
50 mm	100
37.5 mm	100
28 mm	92
20 mm	86
14 mm	80
10 mm	73
6.3 mm	63
5 mm	59
3.35 mm	53
2 mm	47
1.18 mm	42
600 µm	35
425 µm	30
300 µm	25
212 µm	21
150 µm	19
63 µm	14



Particle Proportions		
Cobbles	0.0	%
Gravel	52.7	%
Sand	33.2	%
Silt & Clay	14.1	%

Checked and Approved
Initials: SB
Date: 14/05/2012

Project Number:
GEO / 18229
Project Name:
CAMLEY STREET (KINGS CROSS)
Project No: CG5221C

UKAS TESTING 1982

GEOLABS®

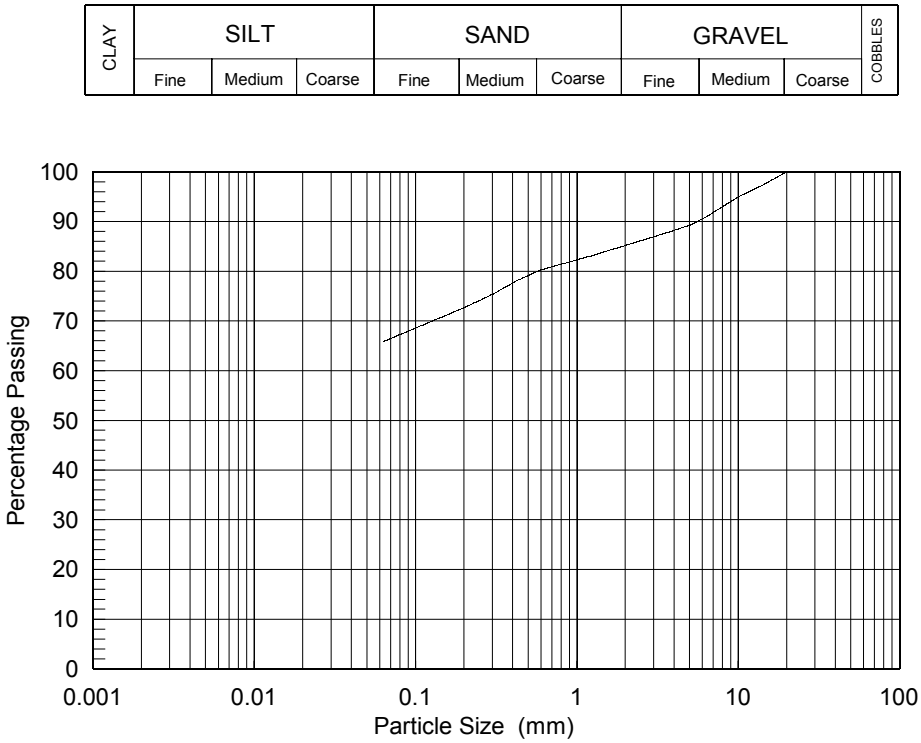
BS1377 : Part 2 : Clause 9 : 1990

Determination of Particle Size Distribution

Borehole Number: BH2 Sample Number: Depth (m): 5.45 - 5.50	Description: Firm brown silty fine to medium gravelly sandy CLAY

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

SIEVE	
Sieve	% pass
200 mm	100
125 mm	100
90 mm	100
75 mm	100
63 mm	100
50 mm	100
37.5 mm	100
28 mm	100
20 mm	100
14 mm	97
10 mm	95
6.3 mm	91
5 mm	89
3.35 mm	87
2 mm	85
1.18 mm	83
600 µm	80
425 µm	78
300 µm	75
212 µm	73
150 µm	71
63 µm	66



Particle Proportions		
Cobbles	0.0	%
Gravel	14.8	%
Sand	19.4	%
Silt & Clay	65.8	%

Checked and Approved Initials: SB Date: 14/05/2012	Project Number: **GEO / 18229** Project Name: **CAMLEY STREET (KINGS CROSS)** **Project No: CG5221C**	UKAS TESTING 1982 GEOLABS®

PROJECT NAME	**CAMLEY STREET (KINGS CROSS)**	Date	14/05/2012
	Project No: CG5221C	Approved	*Simon Burke*
PROJECT NO:	**GEO / 18229**	Page	1 of 2

Sample details					Classification Tests					Density Tests		Undrained Triaxial Compression Tests			Chemical Tests			
Borehole No.	Depth (m)	No.	Type	Description	MC (%)	LL (%)	PL (%)	PI (%)	<425 mic (%)	Bulk (Mg/m³)	Dry (Mg/m³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Shear Stress (kPa)	pH	2:1 W/S SO4 (g/l)	Ground Water SO4 (g/l)	Other tests and comments
BH1	5.00 - 5.45	-	D	MADE GROUND (Brown silty sandy gravel. Gravel includes clinker and slag)														Particle Size Distribution Test
BH1	6.00 - 6.45	-	U	Stiff brown silty CLAY														Oedometer Consolidation Test
BH1	8.00 - 8.45	-	U	Stiff brown CLAY	36					1.87	1.38	150	195	97				
BH1	13.50 - 13.95	-	U	Stiff dark grey CLAY	23					2.05	1.66	250	297	149				
BH1	19.50 - 19.95	-	U	Stiff dark grey CLAY	27					1.96	1.55	400	262	131				
BH2	5.45 - 5.50	-	D	Firm brown silty fine to medium gravelly sandy CLAY														Particle Size Distribution Test
BH2	16.50 - 16.95	-	U	Stiff dark grey CLAY	29					2.01	1.56	300	235	117				
BH3	10.50 - 10.95	-	U	Stiff brown CLAY	29					1.90	1.47	200	243	122				
BH4	4.00 - 4.45	-	B	Firm dark brown and black sandy gravelly clayey SILT. Gravel is fine to medium flint	35	66	34	32	81									
BH4	6.00 - 6.45	-	U	Firm brown CLAY	26					1.97	1.56	100	102	51				
BH4	6.45 - 6.50	-	D	Stiff mottled brown, orange and grey silty CLAY	30	73	28	45	100									
BH4	8.00 - 8.45	-	U	Firm to stiff brown silty CLAY														Oedometer Consolidation Test

SUMMARY OF GEOTECHNICAL TESTING

GEOLABS®

Authorised Signatories: □ J R Masters (Qual Mgr) □ C F Wallace (Tech Mgr) □ J Sturges (Ops Mgr) [X] Simon Burke (Snr Tech) □ J J M Powell (Tech Dir)
GEOLABS®
Client: Card Geotechnics Limited, 4 Godalming Business Centre, Woolsack Way, Godalming, Surrey, GU7 1XW

PROJECT NAME	**CAMLEY STREET (KINGS CROSS)**	Date	14/05/2012
	Project No: CG5221C	Approved	*Simon Burke*
PROJECT NO:	**GEO / 18229**	Page	2 of 2

Sample details					Classification Tests					Density Tests		Undrained Triaxial Compression Tests			Chemical Tests			
Borehole No.	Depth (m)	No.	Type	Description	MC (%)	LL (%)	PL (%)	PI (%)	<425 mic (%)	Bulk (Mg/m^3)	Dry (Mg/m^3)	Cell Pressure (kPa)	Deviator Stress (kPa)	Shear Stress (kPa)	pH	2:1 W/S SO4 (g/l)	Ground Water SO4 (g/l)	Other tests and comments
BH4	10.50 - 10.95	-	U	Stiff brown silty CLAY with rare selenite crystals	36	79	33	46	100									
BH4	15.00 - 15.45	-	B	Stiff dark grey-brown silty CLAY	28	64	26	38	100									
BH4	22.50	-	U	Stiff dark brown silty CLAY	26	72	28	44	100									
BH4	28.50 - 28.95	-	U	Stiff dark grey-brown slight fine sandy silty CLAY	23	56	23	33	100									

SUMMARY OF GEOTECHNICAL TESTING

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BS1377 : Part 7 : Clause 8 : 1990

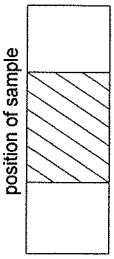
Quick Undrained Triaxial Compression Test

Borehole Number: BH1 Sample Number: - Depth (m): 8.00 - 8.45	Description: Stiff brown CLAY

Single Stage Specimen

Specimen details	Single Specimen
Specimen condition:	Undisturbed
Length (mm):	198.1
Diameter (mm):	103.4
Moisture Content (%):	36
Bulk Density (Mg/m³):	1.87
Dry Density (Mg/m³):	1.38
Test details	
Latex membrane thickness (mm):	0.3
Membrane correction (kPa):	0.7
Axial displacement rate (%/min):	2.0
Cell pressure (kPa):	150
Strain at failure (%):	10.6
Maximum Deviator Stress (kPa):	195
Shear Stress Cu (kPa):	97

Orientation and position of sample



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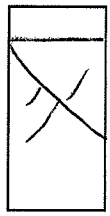

Checked and Approved

Initials: *SB*

Date: 14/05/2012

Project Number: **GEO / 18229**

Project Name: **CAMLEY STREET (KINGS CROSS)**

Project No: CG5221C

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BS1377 : Part 7 : Clause 8 : 1990

Quick Undrained Triaxial Compression Test

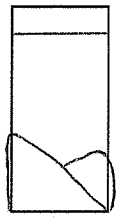
Borehole Number: BH1 Sample Number: - Depth (m): 13.50 - 13.95	Description: Stiff dark grey CLAY

Single Stage Specimen

Specimen details	Single Specimen
Specimen condition:	Undisturbed
Length (mm):	202.4
Diameter (mm):	102.9
Moisture Content (%):	23
Bulk Density (Mg/m³):	2.05
Dry Density (Mg/m³):	1.66
Test details	
Latex membrane thickness (mm):	0.3
Membrane correction (kPa):	0.6
Axial displacement rate (%/min):	2.0
Cell pressure (kPa):	250
Strain at failure (%):	7.9
Maximum Deviator Stress (kPa):	297
Shear Stress Cu (kPa):	149

Orientation and position of sample

Mode of failure:



Checked and Approved Initials: *SB* Date: 14/05/2012	Project Number: **GEO / 18229** Project Name: **CAMLEY STREET (KINGS CROSS)** **Project No: CG5221C**	UKAS TESTING 1982

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Quick Undrained Triaxial Compression Test

Borehole Number: BH1 Sample Number: - Depth (m): 19.50 - 19.95	Description: Stiff dark grey CLAY

Single Stage Specimen

Specimen details	Single Specimen
Specimen condition:	Undisturbed
Length (mm):	202.2
Diameter (mm):	102.9
Moisture Content (%):	27
Bulk Density (Mg/m³):	1.96
Dry Density (Mg/m³):	1.55
Test details	
Latex membrane thickness (mm):	0.3
Membrane correction (kPa):	0.5
Axial displacement rate (%/min):	2.0
Cell pressure (kPa):	400
Strain at failure (%):	7.4
Maximum Deviator Stress (kPa):	262
Shear Stress Cu (kPa):	131

Orientation and position of sample

Mode of failure:

Checked and Approved Initials: *SB* Date: 14/05/2012	Project Number: **GEO / 18229** Project Name: **CAMLEY STREET (KINGS CROSS)** **Project No: CG5221C**	UKAS TESTING 1982 GEOLABS®

BS1377 : Part 7 : Clause 8 : 1990

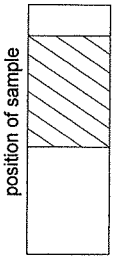
Quick Undrained Triaxial Compression Test

Borehole Number: BH2 Sample Number: - Depth (m): 16.50 - 16.95	Description: Stiff dark grey CLAY

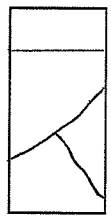
Single Stage Specimen

Specimen details	Single Specimen
Specimen condition:	Undisturbed
Length (mm):	191.8
Diameter (mm):	102.6
Moisture Content (%):	29
Bulk Density (Mg/m³):	2.01
Dry Density (Mg/m³):	1.56
Test details	
Latex membrane thickness (mm):	0.3
Membrane correction (kPa):	0.8
Axial displacement rate (%/min):	2.1
Cell pressure (kPa):	300
Strain at failure (%):	13.0
Maximum Deviator Stress (kPa):	235
Shear Stress Cu (kPa):	117

Orientation and position of sample



Mode of failure:



Checked and Approved Initials: *SB* Date: 14/05/2012	Project Number: **GEO / 18229** Project Name: **CAMLEY STREET (KINGS CROSS)** **Project No: CG5221C**	UKAS TESTING 1982

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BS1377 : Part 7 : Clause 8 : 1990

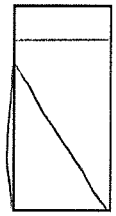
Quick Undrained Triaxial Compression Test

Borehole Number: BH3 Sample Number: - Depth (m): 10.50 - 10.95	Description: Stiff brown CLAY

Single Stage Specimen

Specimen details	Single Specimen
Specimen condition:	Undisturbed
Length (mm):	178.2
Diameter (mm):	103.5
Moisture Content (%):	29
Bulk Density (Mg/m³):	1.90
Dry Density (Mg/m³):	1.47
Test details	
Latex membrane thickness (mm):	0.3
Membrane correction (kPa):	0.7
Axial displacement rate (%/min):	2.2
Cell pressure (kPa):	200
Strain at failure (%):	11.2
Maximum Deviator Stress (kPa):	243
Shear Stress Cu (kPa):	122

Orientation and position of sample



Mode of failure:

Checked and Approved Initials: *SB* Date: 14/05/2012	Project Number: **GEO / 18229** Project Name: **CAMLEY STREET (KINGS CROSS)** **Project No: CG5221C**	UKAS TESTING 1982 GEOLABS ®

BS1377 : Part 7 : Clause 8 : 1990

Quick Undrained Triaxial Compression Test

Borehole Number: BH4 Sample Number: - Depth (m): 6.00 - 6.45	Description: Firm brown CLAY

Single Stage Specimen

Specimen details	Single Specimen
Specimen condition:	Undisturbed
Length (mm):	202.6
Diameter (mm):	103.4
Moisture Content (%):	26
Bulk Density (Mg/m³):	1.97
Dry Density (Mg/m³):	1.56
Test details	
Latex membrane thickness (mm):	0.3
Membrane correction (kPa):	0.6
Axial displacement rate (%/min):	2.0
Cell pressure (kPa):	100
Strain at failure (%):	7.9
Maximum Deviator Stress (kPa):	102
Shear Stress Cu (kPa):	51

Orientation and position of sample

Mode of failure:

Checked and Approved

Initials: *SB*

Date: 14/05/2012

Project Number: **GEO / 18229**

Project Name: **CAMLEY STREET (KINGS CROSS)**

Project No: CG5221C

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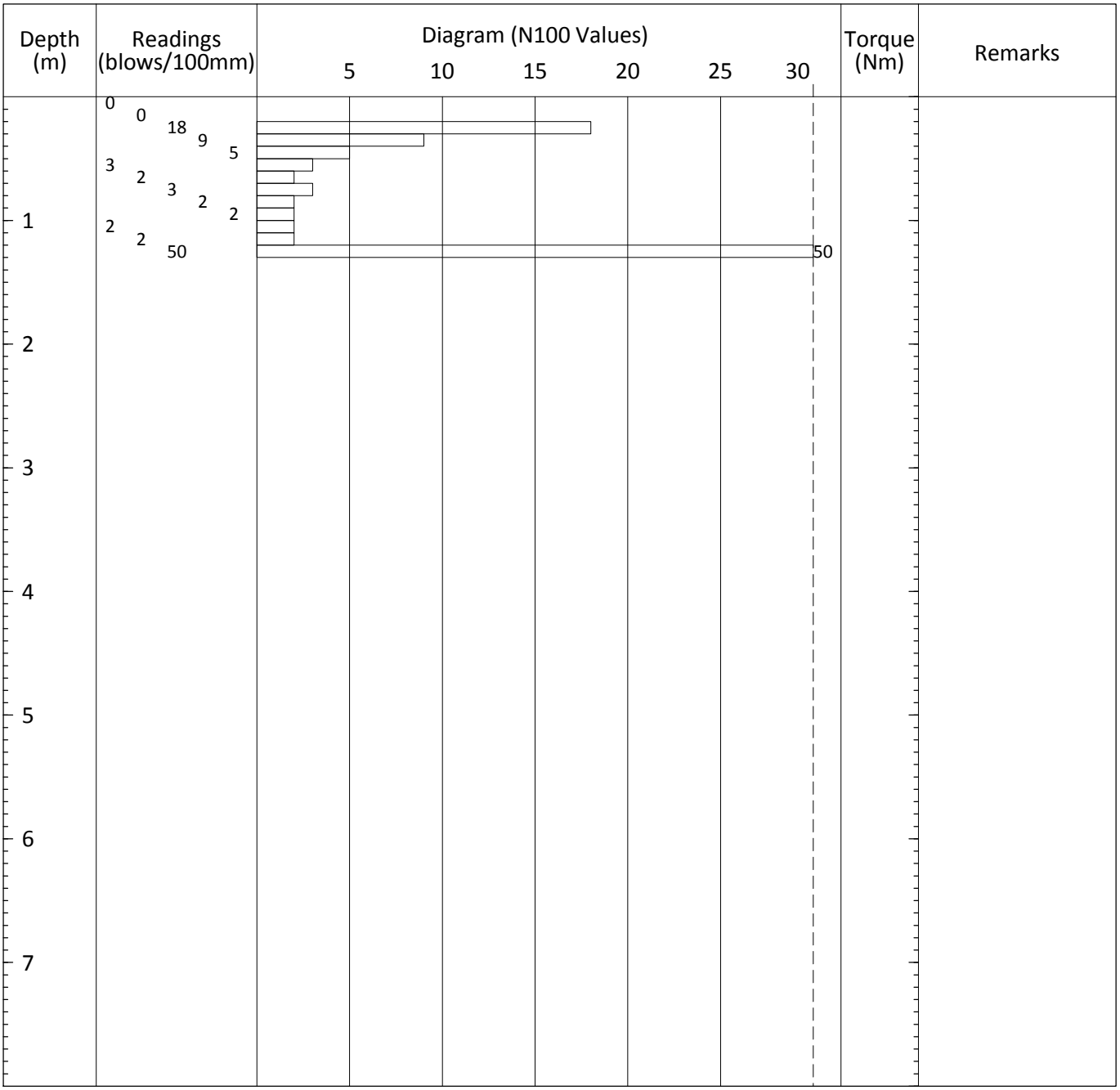
APPENDIX E

Dynamic probe results

DYNAMIC PROBE LOG

Card Geotechnics Limited

Project				PROBE No
103 Camley Street, London				**DPT1A**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	10-04-12 10-04-12			
Client				Sheet
Urbanest UK Limited				1 of 1



Hammer Wt (kg)	63.5
Hammer Drop (mm)	750
Cone Dia (mm)	50.5
Cone Type	DPSH
Damper	

General Remarks

1. DPT 1A positioned 1.5m from retaining wall
2. Reinforced concrete to 0.1mbgl
3. Made Ground to 1.2mbgl where refusal met (+50 blows)

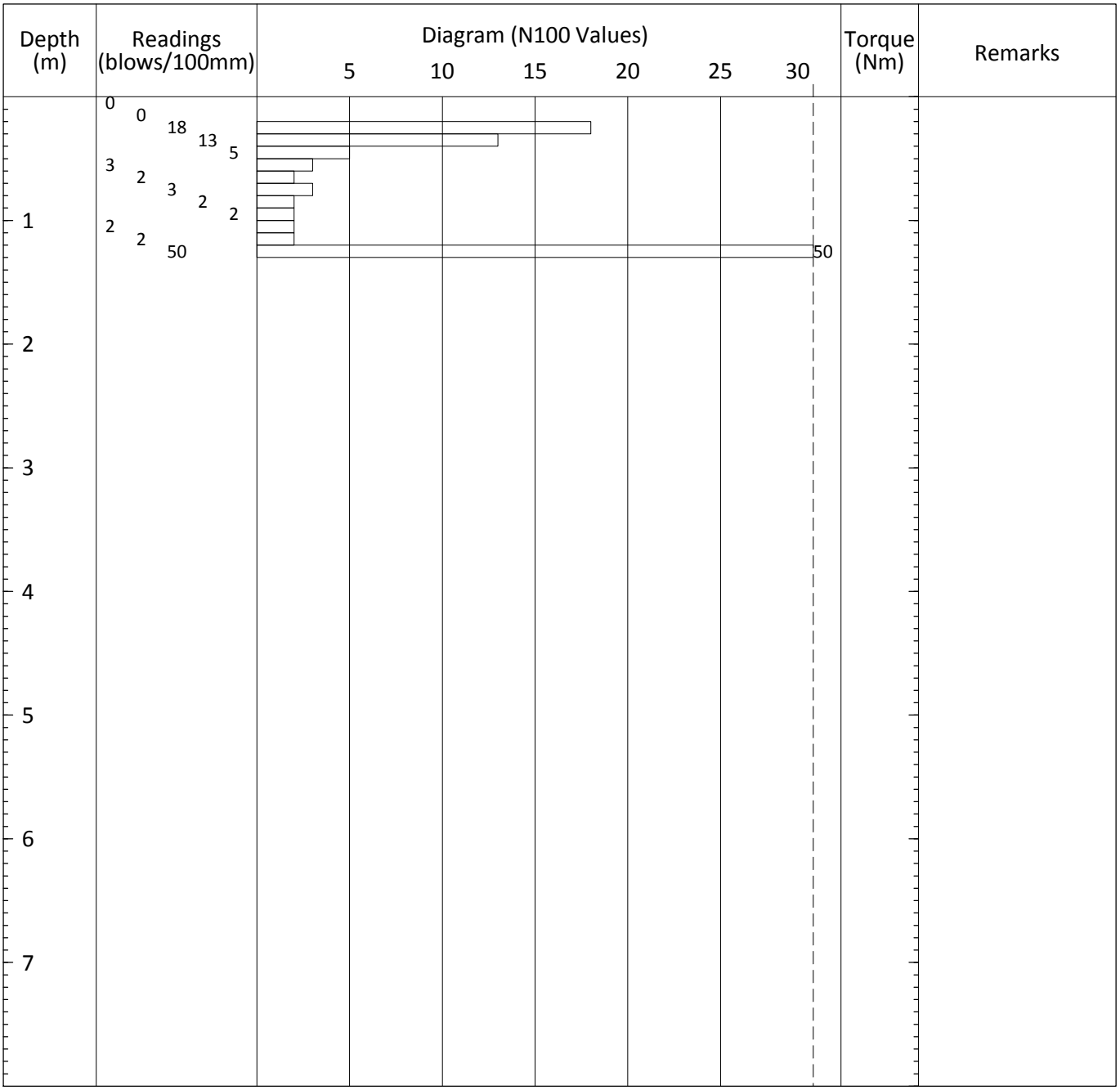
Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

CGL DP LOG CG5521C.GPJ GINT STD AGS 3_1.GDT 23/5/12

DYNAMIC PROBE LOG

Card Geotechnics Limited

Project				PROBE No
103 Camley Street, London				**DPT1B**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	10-04-12 10-04-12			
Client				Sheet
Urbanest UK Limited				1 of 1



Hammer Wt (kg)	63.5
Hammer Drop (mm)	750
Cone Dia (mm)	50.5
Cone Type	DPSH
Damper	

General Remarks

1. DPT 1B positioned 2.0m from retaining wall
2. Reinforced concrete to 0.1mbgl
3. Made Ground to 1.2mbgl where refusal met (+50 blows)

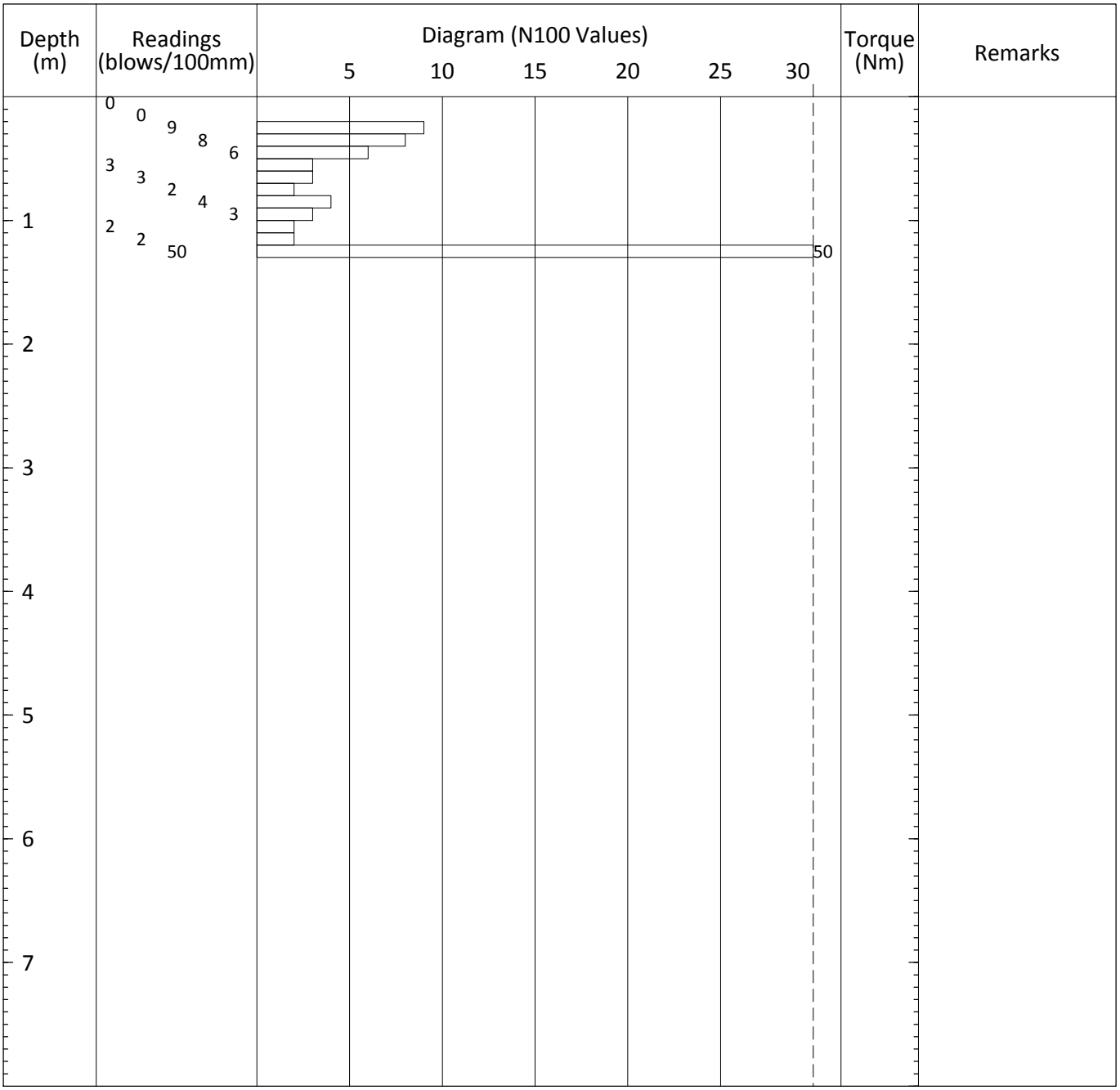
Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

CGL DP LOG CG5521C.GPJ GINT STD AGS 3_1.GDT 23/5/12

DYNAMIC PROBE LOG

Card Geotechnics Limited

Project				PROBE No
103 Camley Street, London				**DPT1C**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	10-04-12 10-04-12			
Client				Sheet
Urbanest UK Limited				1 of 1



Hammer Wt (kg)	63.5
Hammer Drop (mm)	750
Cone Dia (mm)	50.5
Cone Type	DPSH
Damper	

General Remarks

1. DPT 1C positioned 2.5m from retaining wall
2. Reinforced concrete to 0.1mbgl
3. Made Ground to 1.2mbgl where refusal met (+50 blows)

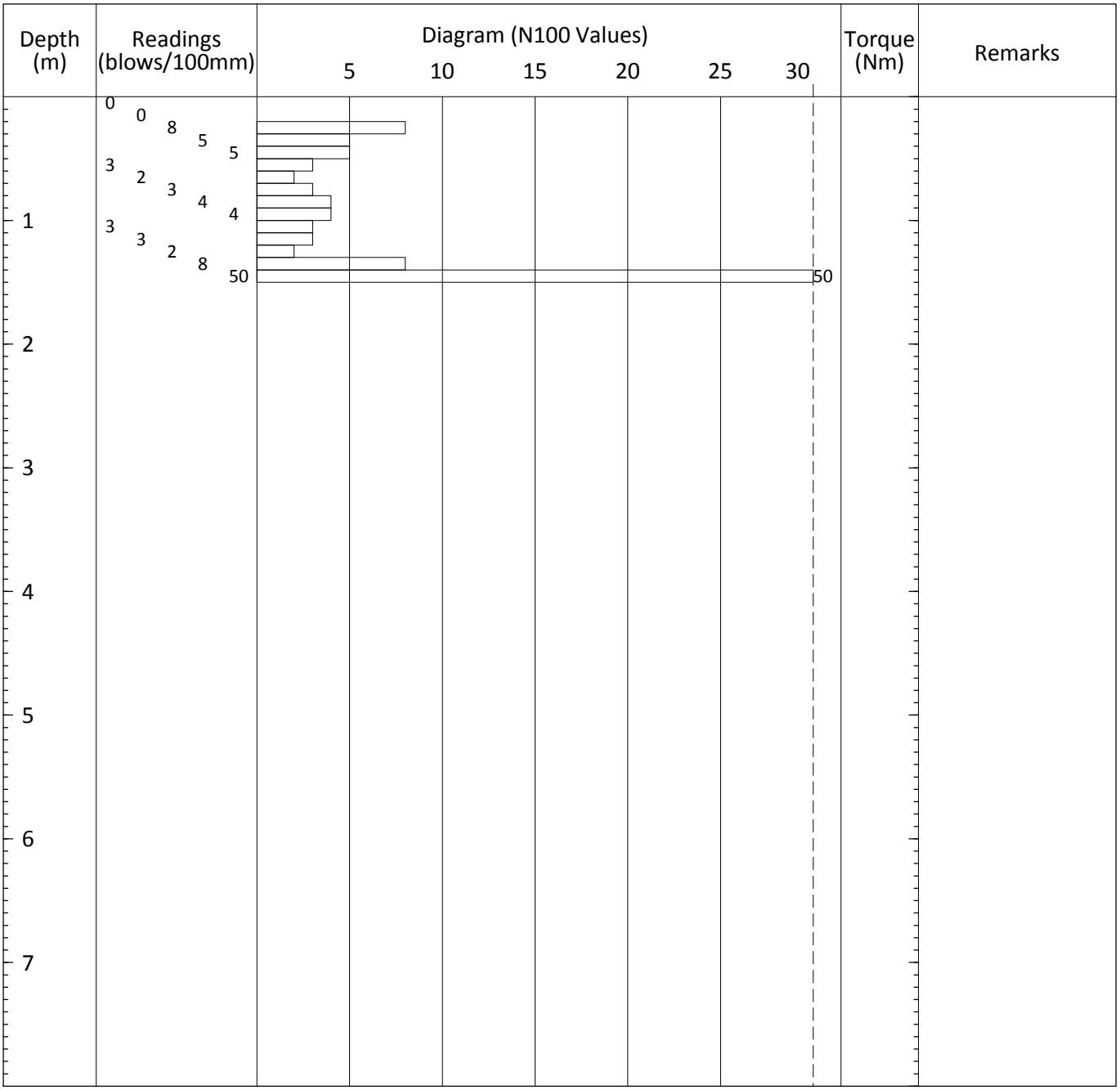
Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

CGL DP LOG CG5521C.GPJ GINT STD AGS 3_1.GDT 23/5/12

DYNAMIC PROBE LOG

Card Geotechnics Limited

Project				PROBE No
103 Camley Street, London				**DPT1D**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	10-04-12 10-04-12			
Client				Sheet
Urbanest UK Limited				1 of 1



Hammer Wt (kg)	63.5
Hammer Drop (mm)	750
Cone Dia (mm)	50.5
Cone Type	DPSH
Damper	

General Remarks

1. DPT 1D positioned 2.5m from retaining wall, and 1.0m west of DPT 1C
2. Reinforced concrete to 0.1mbgl
3. Made Ground to 1.4mbgl where refusal met (+50 blows)

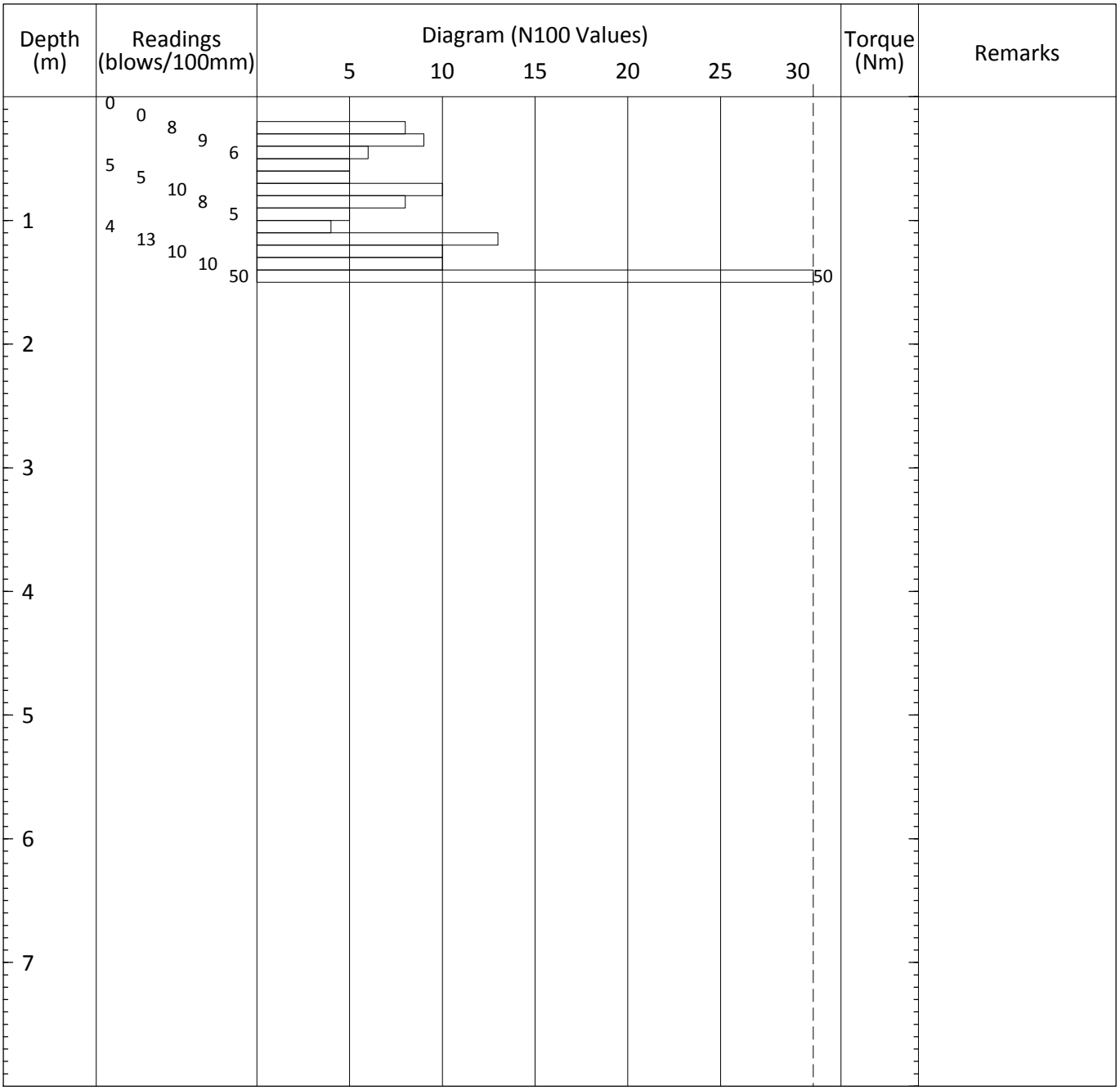
Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

CGL DP LOG CG5521C.GPJ GINT STD AGS 3_1.GDT 23/5/12

DYNAMIC PROBE LOG

Card Geotechnics Limited

Project				PROBE No
103 Camley Street, London				**DPT1E**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	10-04-12 10-04-12			
Client				Sheet
Urbanest UK Limited				1 of 1



Hammer Wt (kg)	63.5
Hammer Drop (mm)	750
Cone Dia (mm)	50.5
Cone Type	DPSH
Damper	

General Remarks

1. DPT 1E positioned 2.5m from retaining wall and 1.0m to the west of DPT 1D
2. Reinforced concrete to 0.1mbgl
3. Made Ground to 1.4mbgl where refusal met (+50 blows)

Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

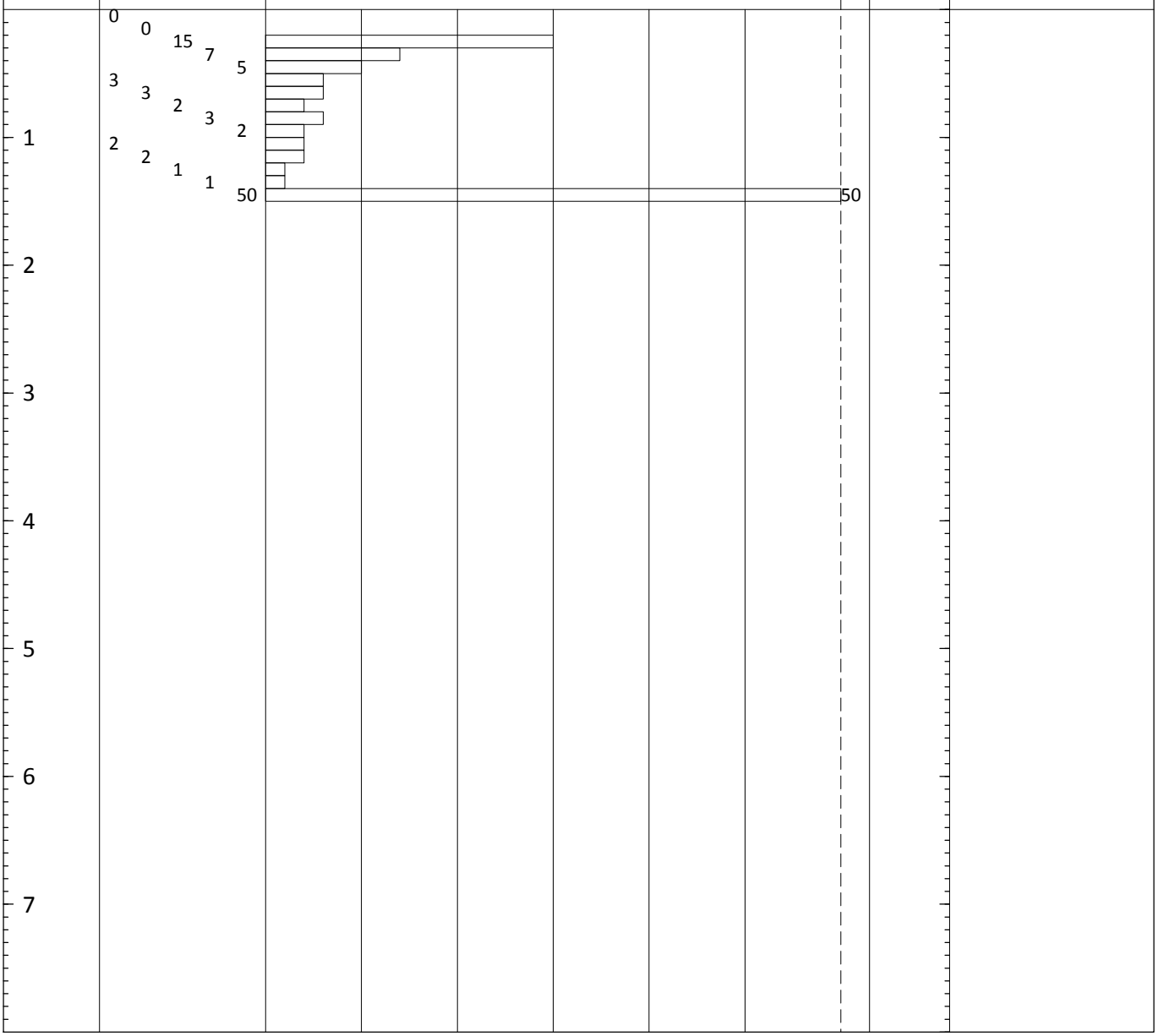
CGL DP LOG CG5521C.GPJ GINT STD AGS 3_1.GDT 23/5/12

DYNAMIC PROBE LOG

Card Geotechnics Limited

Project				PROBE No
103 Camley Street, London				**DPT1F**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	10-04-12 10-04-12			
Client				Sheet
Urbanest UK Limited				1 of 1

Depth (m)	Readings (blows/100mm)	Diagram (N100 Values)	Torque (Nm)	Remarks



Hammer Wt (kg)	63.5
Hammer Drop (mm)	750
Cone Dia (mm)	50.5
Cone Type	DPSH
Damper	

General Remarks

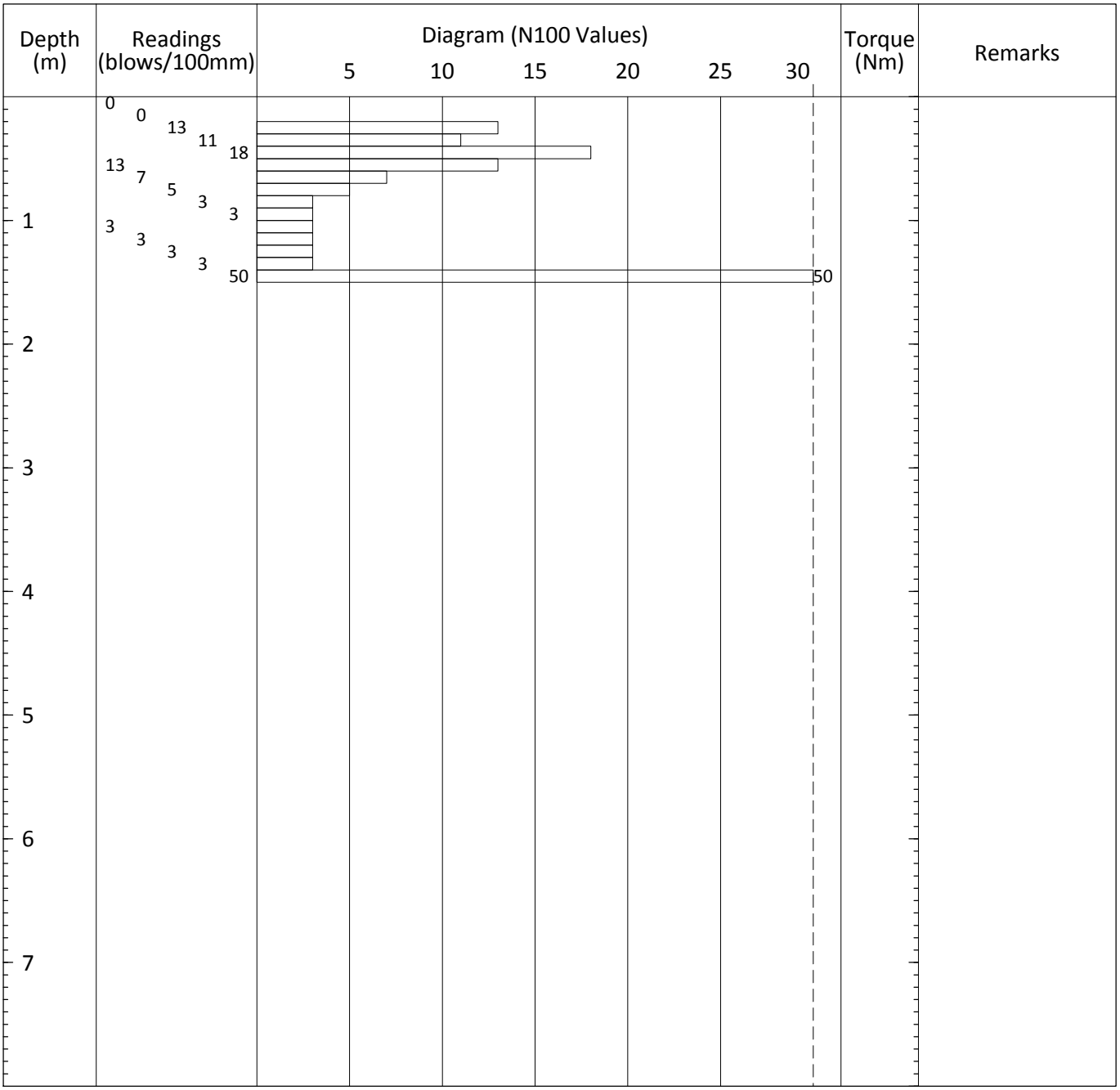
1. DPT 1F positioned 2.5m from retaining wall and 1.0m to the east of DPT 1C
2. Reinforced concrete to 0.1mbgl
3. Made Ground to 1.4mbgl where refusal met (+50 blows)

Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

DYNAMIC PROBE LOG

Card Geotechnics Limited

Project				PROBE No
103 Camley Street, London				**DPT1G**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	10-04-12 10-04-12			
Client				Sheet
Urbanest UK Limited				1 of 1



Hammer Wt (kg)	63.5
Hammer Drop (mm)	750
Cone Dia (mm)	50.5
Cone Type	DPSH
Damper	

General Remarks

1. DPT 1G positioned 3.25m from retaining wall
2. Reinforced concrete to 0.1mbgl
3. Made Ground to 1.4mbgl where refusal met (+50 blows)

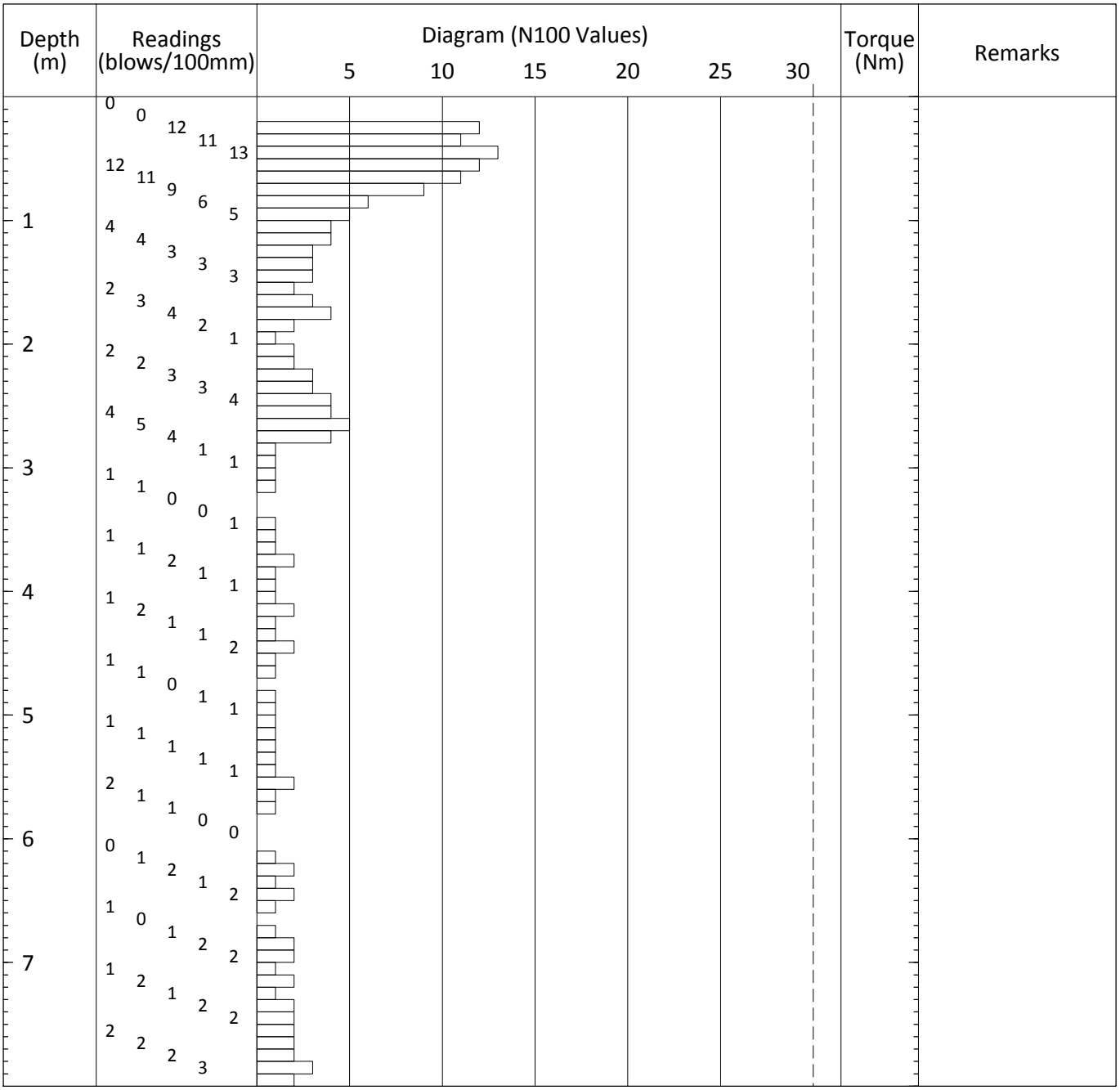
Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

CGL DP LOG CG5521C.GPJ GINT STD AGS 3_1.GDT 23/5/12

DYNAMIC PROBE LOG

Card Geotechnics Limited

Project				PROBE No
103 Camley Street, London				DPT1H
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	10-04-12 10-04-12			
Client				Sheet
Urbanest UK Limited				1 of 2



Hammer Wt (kg)	63.5
Hammer Drop (mm)	750
Cone Dia (mm)	50.5
Cone Type	DPSH
Damper	

General Remarks

1. DPT 1H positioned 3.50m from retaining wall
2. Reinforced concrete to 0.1mbgl
3. No obstructions, probe hole completed to 8.0mbgl

Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

CGL DP LOG CG5521C.GPJ GINT STD AGS 3_1.GDT 23/5/12

DYNAMIC PROBE LOG

Card Geotechnics Limited

Project				PROBE No
103 Camley Street, London				**DPT1H**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	10-04-12 10-04-12			
Client				Sheet
Urbanest UK Limited				2 of 2

Depth (m)	Readings (blows/100mm)	Diagram (N100 Values) 5 10 15 20 25 30	Torque (Nm)	Remarks
	2 2			
9				
10				
11				
12				
13				
14				
15				

Hammer Wt (kg)	63.5
Hammer Drop (mm)	750
Cone Dia (mm)	50.5
Cone Type	DPSH
Damper	

General Remarks

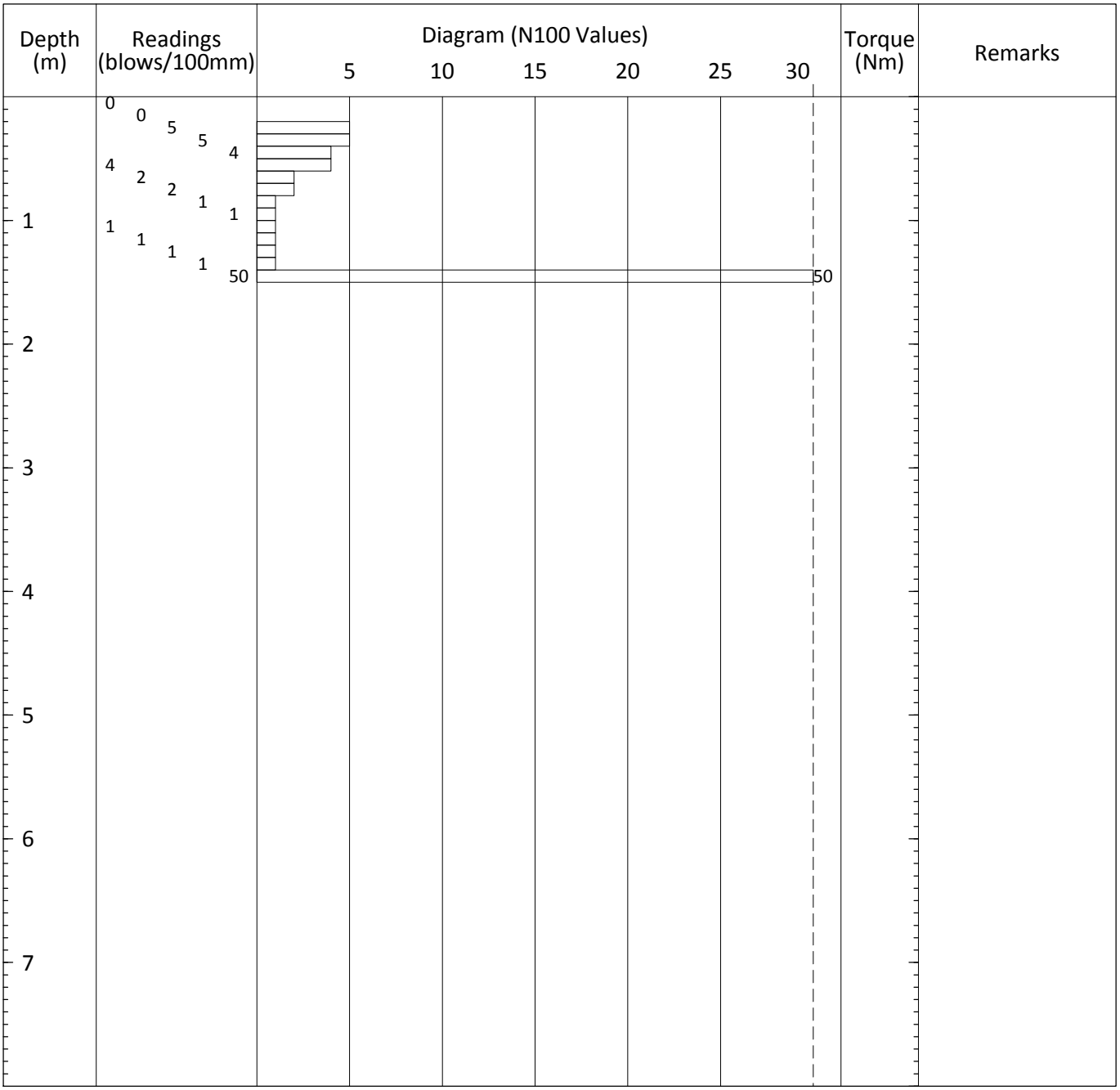
1. DPT 1H positioned 3.50m from retaining wall
2. Reinforced concrete to 0.1mbgl
3. No obstructions, probe hole completed to 8.0mbgl

Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

DYNAMIC PROBE LOG

Card Geotechnics Limited

Project				PROBE No
103 Camley Street, London				DPT2A
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	10-04-12 10-04-12			
Client				Sheet
Urbanest UK Limited				1 of 1



Hammer Wt (kg)	63.5
Hammer Drop (mm)	750
Cone Dia (mm)	50.5
Cone Type	DPSH
Damper	

General Remarks

1. DPT 2A positioned 1.5m from retaining wall
2. Reinforced concrete to 0.1mbgl
3. Made Ground to 1.4mbgl where refusal met (+50 blows)

Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

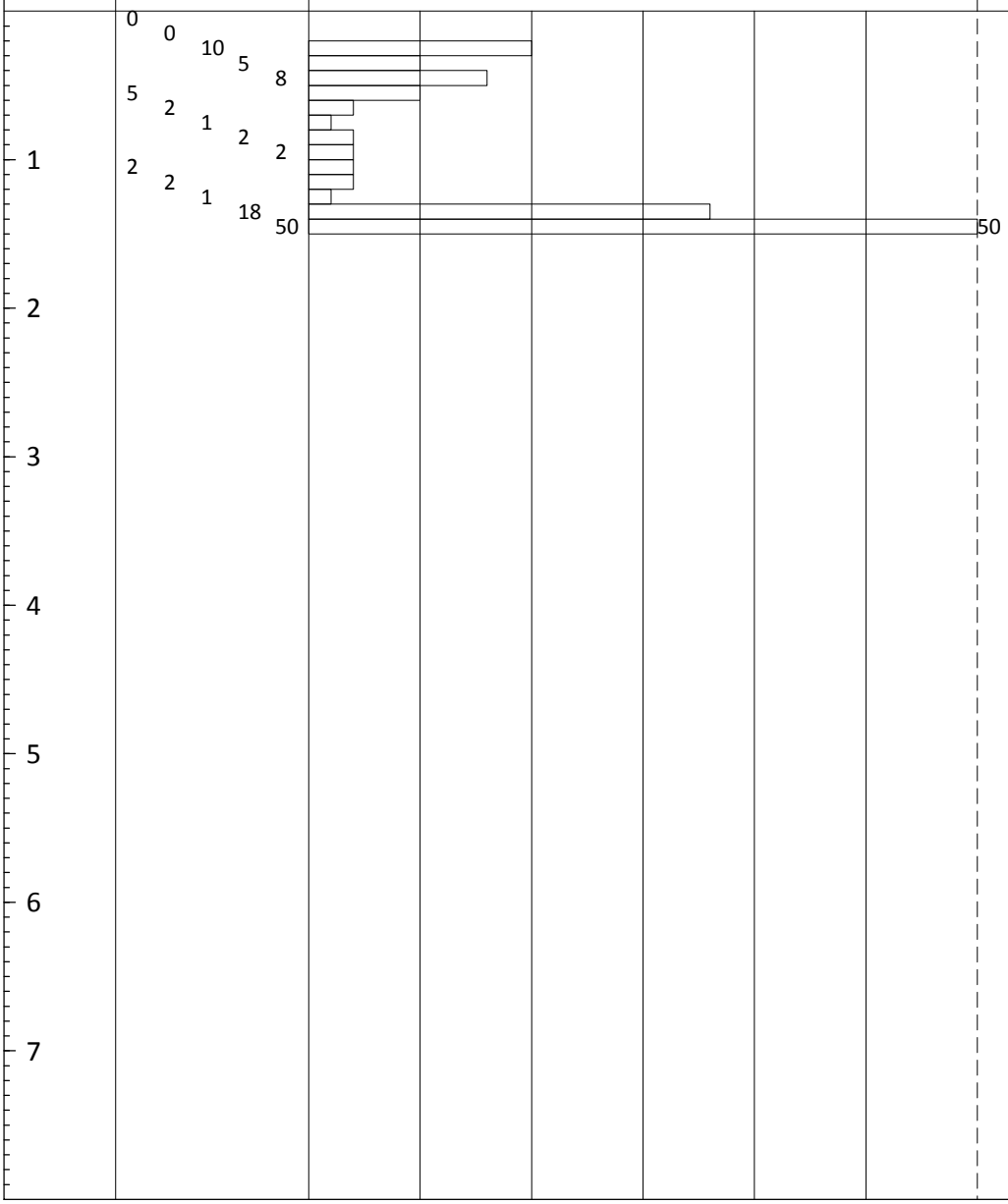
CGL DP LOG CG5521C.GPJ GINT STD AGS 3_1.GDT 23/5/12

DYNAMIC PROBE LOG

Card Geotechnics Limited

Project				PROBE No
103 Camley Street, London				**DPT2B**
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	10-04-12 10-04-12			
Client				Sheet
Urbanest UK Limited				1 of 1

Depth (m)	Readings (blows/100mm)	Diagram (N100 Values)	Torque (Nm)	Remarks



Hammer Wt (kg)	63.5
Hammer Drop (mm)	750
Cone Dia (mm)	50.5
Cone Type	DPSH
Damper	

General Remarks

1. DPT 2B positioned 2.5m from retaining wall
2. Reinforced concrete to 0.1mbgl
3. Made Ground to 1.4mbgl where refusal met (+50 blows)

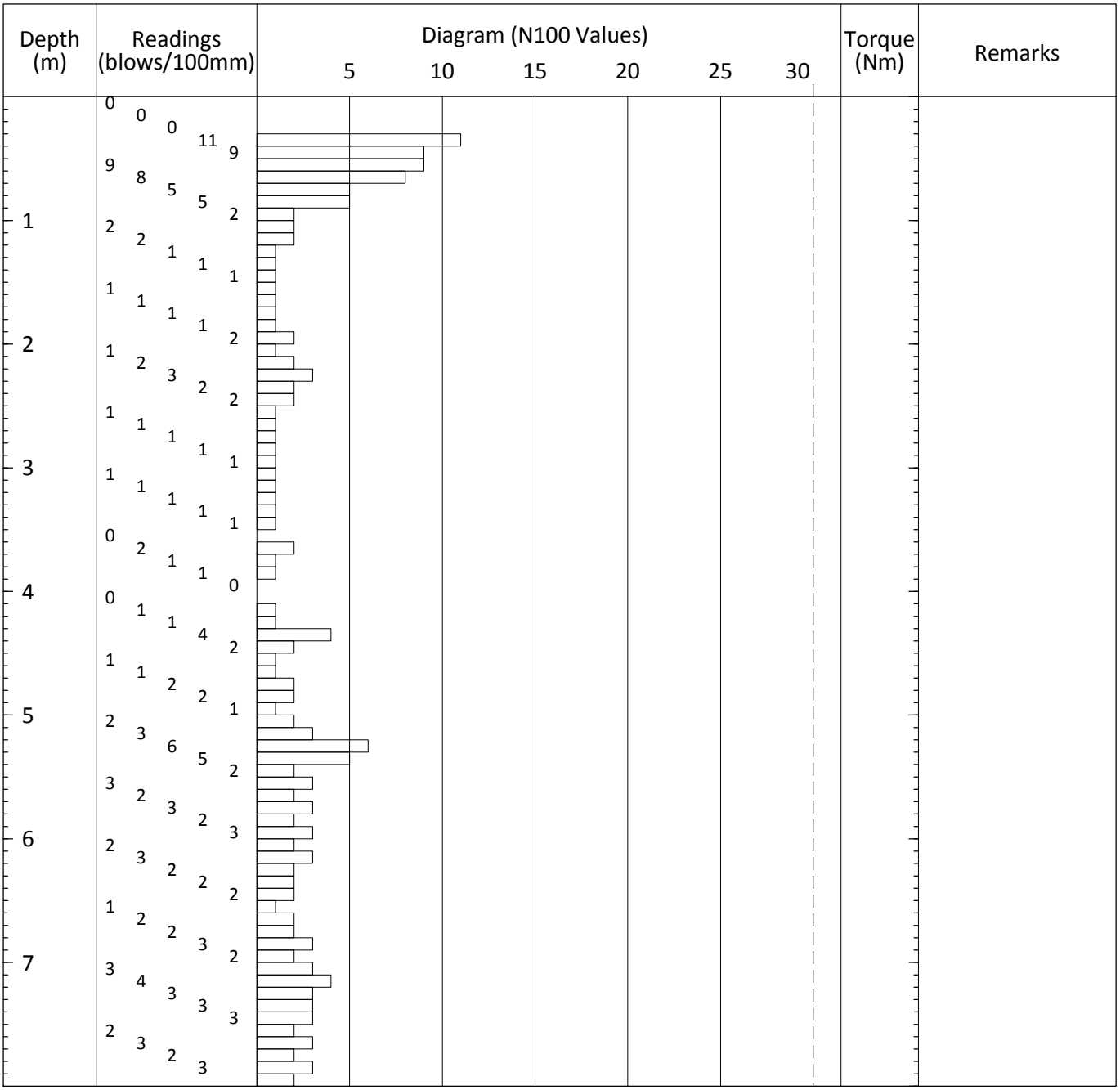
Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

CGL DP LOG CG5521C.GPJ GINT STD AGS 3_1.GDT 23/5/12

DYNAMIC PROBE LOG

Card Geotechnics Limited

Project				PROBE No
103 Camley Street, London				DPT2C
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	10-04-12 10-04-12			
Client				Sheet
Urbanest UK Limited				1 of 2



Hammer Wt (kg)	63.5
Hammer Drop (mm)	750
Cone Dia (mm)	50.5
Cone Type	DPSH
Damper	

General Remarks

1. DPT 2C positioned 3.5m from retaining wall
2. Reinforced concrete to 0.1mbgl
3. Terminated at 8.0mbgl in London Clay Formation

Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

DYNAMIC PROBE LOG

Card Geotechnics Limited

Project				PROBE No
103 Camley Street, London				DPT2C
Job No	Date	Ground Level (m)	Co-Ordinates (m)	
CG/5521C	10-04-12 10-04-12			
Client				Sheet
Urbanest UK Limited				2 of 2

Depth (m)	Readings (blows/100mm)	Diagram (N100 Values) 5 10 15 20 25 30	Torque (Nm)	Remarks
	3 2			
9				
10				
11				
12				
13				
14				
15				

Hammer Wt (kg)	63.5
Hammer Drop (mm)	750
Cone Dia (mm)	50.5
Cone Type	DPSH
Damper	

General Remarks

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2. Reinforced concrete to 0.1mbgl
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Method/ Plant Used	Field Crew	Logged By	Checked By
Tracked window sample rig	Bainbridge	CK	IMM

CGL DP LOG CG5521C.GPJ GINT STD AGS 3_1.GDT 23/5/12

APPENDIX F

Chemical test results

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Analytical Report Number : 12-33502

Project / Site name:	103 Camley Street	**Samples received on:**	05/04/2012
Your job number:	CG/5521C	**Samples instructed on:**	13/04/2012
Your order number:		**Analysis completed by:**	20/04/2012
Report Issue Number:	1	**Report issued on:**	23/04/2012
Samples Analysed:	8 leachate samples - 46 soil samples		

Signed:

Dr Claire Stone
Quality Manager
For & on behalf of i2 Analytical Ltd.

Signed:

Thurstan Plummer
Organics Technical Manager
For & on behalf of i2 Analytical Ltd.

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Analytical Report Number: 12-33502

Project / Site name: 103 Camley Street

Lab Sample Number				211048	211049	211050	211051	211052
Sample Reference				WS1	WS1	WS1	WS1	WS2B
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.80	2.00	3.50	1.50
Date Sampled				02/04/2012	02/04/2012	02/04/2012	02/04/2012	02/04/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	N/A	< 0.1	38	< 0.1
Moisture Content	%	N/A	NONE	22	N/A	20	20	11
Total mass of sample received	kg	0.001	NONE	1.8	N/A	1.6	1.7	1.5
Asbestos Identification Name	Type	N/A	ISO 17025	N/A	Chrysotile - Hard/cement type material	N/A	N/A	N/A
Asbestos in Soil Screen	P/A	N/A	ISO 17025	N/A	Present	N/A	N/A	N/A
General Inorganics								
pH	pH Units	N/A	MCERTS	8.1	N/A	8.1	8.1	7.8
Total Cyanide	mg/kg	1	MCERTS	< 1	N/A	< 1	< 1	< 1
Total Sulphate as SO_4	mg/kg	100	ISO 17025	830	N/A	2900	1700	2000
Organic Matter	%	0.1	MCERTS	1.5	N/A	1.4	2.1	1.5
Total Phenols								
Total Phenols (monohydric)	mg/kg	2	MCERTS	< 2.0	N/A	< 2.0	< 2.0	< 2.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	N/A	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	N/A	< 0.20	< 0.20	< 0.20
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	N/A	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.2	MCERTS	< 0.20	N/A	< 0.20	< 0.20	< 0.20
Phenanthrene	mg/kg	0.2	MCERTS	< 0.20	N/A	< 0.20	1.4	1.9
Anthracene	mg/kg	0.1	MCERTS	< 0.10	N/A	< 0.10	0.40	0.57
Fluoranthene	mg/kg	0.2	MCERTS	< 0.20	N/A	< 0.20	2.7	2.3
Pyrene	mg/kg	0.2	MCERTS	< 0.20	N/A	< 0.20	2.3	2.0
Benzo(a)anthracene	mg/kg	0.2	MCERTS	< 0.20	N/A	< 0.20	1.1	0.79
Chrysene	mg/kg	0.05	MCERTS	< 0.05	N/A	< 0.05	1.4	1.2
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	N/A	< 0.10	1.5	1.4
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	< 0.20	N/A	< 0.20	0.90	0.45
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	N/A	< 0.10	1.3	0.89
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	< 0.20	N/A	< 0.20	0.77	0.60
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20	N/A	< 0.20	< 0.20	< 0.20
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	N/A	< 0.05	1.0	0.69
Coronene	mg/kg	0.05	NONE	< 0.05	N/A	< 0.05	< 0.05	< 0.05
Total PAH								
Total WAC-17 PAHs	mg/kg	1.6	NONE	< 1.6	N/A	< 1.6	15	13
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	13	N/A	15	14	14
Barium (aqua regia extractable)	mg/kg	1	MCERTS	130	N/A	290	150	160
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.2	N/A	1.2	1.2	1.0
Boron (water soluble)	mg/kg	0.2	MCERTS	2.0	N/A	1.9	1.8	1.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	N/A	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	N/A	N/A	< 4.0	N/A
Chromium (III)	mg/kg	1	NONE	38	N/A	N/A	78	N/A
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	38	N/A	31	78	32
Copper (aqua regia extractable)	mg/kg	1	MCERTS	33	N/A	44	74	58
Lead (aqua regia extractable)	mg/kg	2	MCERTS	230	N/A	2100	330	310
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	N/A	0.6	0.4	< 0.3
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	43	N/A	32	57	30
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	N/A	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	62	N/A	59	65	54
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	92	N/A	120	160	150

Analytical Report Number: 12-33502

Project / Site name: 103 Camley Street

Lab Sample Number				211048	211049	211050	211051	211052
Sample Reference				WS1	WS1	WS1	WS1	WS2B
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.80	2.00	3.50	1.50
Date Sampled				02/04/2012	02/04/2012	02/04/2012	02/04/2012	02/04/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/kg	1	MCERTS	< 1.0	N/A	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	N/A	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	N/A	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	N/A	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	N/A	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	N/A	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH7 - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	N/A	< 0.1	< 0.1	< 0.1
TPH7 - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	N/A	< 0.1	< 0.1	< 0.1
TPH7 - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	N/A	< 0.1	< 0.1	< 0.1
TPH7 - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	N/A	< 1.0	< 1.0	< 1.0
TPH7 - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	N/A	< 2.0	3.5	< 2.0
TPH7 - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	N/A	< 8.0	15	< 8.0
TPH7 - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	N/A	< 8.0	91	25
TPH7 - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	N/A	< 10	110	25
TPH7 - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	N/A	< 0.1	< 0.1	< 0.1
TPH7 - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	N/A	< 0.1	< 0.1	< 0.1
TPH7 - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	N/A	< 0.1	< 0.1	< 0.1
TPH7 - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	N/A	< 1.0	< 1.0	< 1.0
TPH7 - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	N/A	< 2.0	< 2.0	< 2.0
TPH7 - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	N/A	< 10	< 10	< 10
TPH7 - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	N/A	< 10	< 10	< 10
TPH7 - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	N/A	< 10	< 10	< 10
PCBs by GC-MS								
PCB Congener 28	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 52	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 101	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 118	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 138	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 153	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 180	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
Total PCBs	mg/kg	0.3	NONE	N/A	N/A	N/A	N/A	N/A

Analytical Report Number: 12-33502

Project / Site name: 103 Camley Street

Lab Sample Number				211053	211054	211055	211056	211057
Sample Reference				WS2B	WS3	WS3	WS4	WS5
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.50	1.00	4.50	0.50	0.50
Date Sampled				02/04/2012	02/04/2012	02/04/2012	02/04/2012	02/04/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	45	51
Moisture Content	%	N/A	NONE	4.8	21	21	8.1	5.6
Total mass of sample received	kg	0.001	NONE	1.8	1.3	1.6	2.0	1.4
Asbestos Identification Name	Type	N/A	ISO 17025	N/A	N/A	N/A	N/A	N/A
Asbestos in Soil Screen	P/A	N/A	ISO 17025	N/A	N/A	N/A	N/A	N/A
General Inorganics								
pH	pH Units	N/A	MCERTS	8.2	7.8	8.1	8.9	8.3
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	2	< 1
Total Sulphate as SO_4	mg/kg	100	ISO 17025	2300	1400	950	3900	230
Organic Matter	%	0.1	MCERTS	1.4	3.0	1.7	3.0	0.8
Total Phenols								
Total Phenols (monohydric)	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.2	MCERTS	0.35	< 0.20	< 0.20	0.82	< 0.20
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	2.0	< 0.10
Fluorene	mg/kg	0.2	MCERTS	0.47	< 0.20	< 0.20	2.3	< 0.20
Phenanthrene	mg/kg	0.2	MCERTS	4.0	< 0.20	< 0.20	19	< 0.20
Anthracene	mg/kg	0.1	MCERTS	1.1	< 0.10	< 0.10	5.9	< 0.10
Fluoranthene	mg/kg	0.2	MCERTS	4.2	< 0.20	0.75	33	< 0.20
Pyrene	mg/kg	0.2	MCERTS	3.1	< 0.20	0.66	27	< 0.20
Benzo(a)anthracene	mg/kg	0.2	MCERTS	1.5	< 0.20	0.34	14	< 0.20
Chrysene	mg/kg	0.05	MCERTS	1.6	< 0.05	0.52	14	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	1.6	< 0.10	0.53	17	< 0.10
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	0.87	< 0.20	< 0.20	5.8	< 0.20
Benzo(a)pyrene	mg/kg	0.1	MCERTS	1.2	< 0.10	0.37	13	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	0.70	< 0.20	< 0.20	6.9	< 0.20
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	1.2	< 0.20
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.78	< 0.05	< 0.05	8.0	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	4.1	< 0.05
Total PAH								
Total WAC-17 PAHs	mg/kg	1.6	NONE	21	< 1.6	3.2	170	< 1.6
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	10	14	15	29	11
Barium (aqua regia extractable)	mg/kg	1	MCERTS	240	150	150	1300	56
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.6	1.2	1.2	1.1	0.8
Boron (water soluble)	mg/kg	0.2	MCERTS	0.7	3.0	2.6	0.4	< 0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	1.6	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	N/A	N/A	N/A	< 4.0	N/A
Chromium (III)	mg/kg	1	NONE	N/A	N/A	N/A	38	N/A
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	19	30	32	38	19
Copper (aqua regia extractable)	mg/kg	1	MCERTS	60	66	78	160	28
Lead (aqua regia extractable)	mg/kg	2	MCERTS	310	240	310	2500	69
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	1.4	1.2	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	20	24	23	44	18
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	37	64	67	46	33
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	180	84	110	1900	35

Analytical Report Number: 12-33502

Project / Site name: 103 Camley Street

Lab Sample Number				211053	211054	211055	211056	211057
Sample Reference				WS2B	WS3	WS3	WS4	WS5
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.50	1.00	4.50	0.50	0.50
Date Sampled				02/04/2012	02/04/2012	02/04/2012	02/04/2012	02/04/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH7 - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH7 - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	3.7	< 2.0
TPH7 - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	24	< 8.0
TPH7 - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	19	< 8.0	< 8.0	140	< 8.0
TPH7 - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	19	< 10	< 10	160	< 10

TPH7 - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH7 - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	15	< 2.0
TPH7 - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	14	< 10	< 10	140	< 10
TPH7 - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10	290	< 10
TPH7 - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	14	< 10	< 10	450	< 10

PCBs by GC-MS

PCB Congener 28	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 52	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 101	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 118	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 138	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 153	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 180	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
Total PCBs	mg/kg	0.3	NONE	N/A	N/A	N/A	N/A	N/A

Analytical Report Number: 12-33502

Project / Site name: 103 Camley Street

Lab Sample Number				211058	211059	211060	211061	211062
Sample Reference				WS5	WS5	WS6	WS6	WS7
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.50	4.50	0.60	1.80	2.00
Date Sampled				02/04/2012	02/04/2012	03/04/2012	03/04/2012	03/04/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	33	54	41
Moisture Content	%	N/A	NONE	21	23	18	6.8	20
Total mass of sample received	kg	0.001	NONE	1.5	1.2	1.1	1.3	1.3
Asbestos Identification Name	Type	N/A	ISO 17025	N/A	N/A	N/A	N/A	N/A
Asbestos in Soil Screen	P/A	N/A	ISO 17025	N/A	N/A	N/A	N/A	N/A
General Inorganics								
pH	pH Units	N/A	MCERTS	8.0	7.9	8.1	8.2	8.0
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Total Sulphate as SO_4	mg/kg	100	ISO 17025	1800	1300	930	510	3000
Organic Matter	%	0.1	MCERTS	3.6	2.7	2.9	1.0	1.0
Total Phenols								
Total Phenols (monohydric)	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Phenanthrene	mg/kg	0.2	MCERTS	< 0.20	0.85	3.0	< 0.20	< 0.20
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.48	< 0.10	< 0.10
Fluoranthene	mg/kg	0.2	MCERTS	< 0.20	1.1	3.8	< 0.20	< 0.20
Pyrene	mg/kg	0.2	MCERTS	< 0.20	0.93	2.8	< 0.20	< 0.20
Benzo(a)anthracene	mg/kg	0.2	MCERTS	< 0.20	0.59	1.4	< 0.20	< 0.20
Chrysene	mg/kg	0.05	MCERTS	< 0.05	0.86	1.8	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	0.78	1.5	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	< 0.20	0.57	0.86	< 0.20	< 0.20
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	0.72	1.2	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	0.49	< 0.20	< 0.20
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.58	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Total WAC-17 PAHs	mg/kg	1.6	NONE	< 1.6	6.4	18	< 1.6	< 1.6
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	14	17	18	12	17
Barium (aqua regia extractable)	mg/kg	1	MCERTS	130	120	140	49	160
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.5	1.3	1.3	0.8	0.7
Boron (water soluble)	mg/kg	0.2	MCERTS	0.8	2.4	3.6	< 0.2	1.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	N/A	N/A	N/A	N/A
Chromium (III)	mg/kg	1	NONE	39	N/A	N/A	N/A	N/A
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	39	30	27	21	27
Copper (aqua regia extractable)	mg/kg	1	MCERTS	48	210	140	23	51
Lead (aqua regia extractable)	mg/kg	2	MCERTS	170	280	490	59	330
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.7	0.9	1.8	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	33	31	27	19	26
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	81	70	61	38	54
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	82	97	170	37	120

Analytical Report Number: 12-33502

Project / Site name: 103 Camley Street

Lab Sample Number				211058	211059	211060	211061	211062
Sample Reference				WS5	WS5	WS6	WS6	WS7
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.50	4.50	0.60	1.80	2.00
Date Sampled				02/04/2012	02/04/2012	03/04/2012	03/04/2012	03/04/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/kg	1	MCERTS	2.2	3.7	180	18	2.9
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH7 - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH7 - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH7 - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH7 - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH7 - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10

TPH7 - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	0.2	< 0.1	< 0.1
TPH7 - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH7 - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH7 - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	11	< 10	< 10
TPH7 - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH7 - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	11	< 10	< 10

PCBs by GC-MS

PCB Congener 28	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 52	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 101	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 118	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 138	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 153	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 180	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
Total PCBs	mg/kg	0.3	NONE	N/A	N/A	N/A	N/A	N/A

Analytical Report Number: 12-33502

Project / Site name: 103 Camley Street

Lab Sample Number				211063	211064	211065	211066	211067
Sample Reference				WS7	WS8	WS8	WS9	WS9
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.00	2.00	4.00	0.50	1.50
Date Sampled				03/04/2012	03/04/2012	03/04/2012	03/04/2012	03/04/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	42	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	25	12	15	20	22
Total mass of sample received	kg	0.001	NONE	1.5	1.3	1.2	1.2	1.3
Asbestos Identification Name	Type	N/A	ISO 17025	N/A	N/A	N/A	N/A	N/A
Asbestos in Soil Screen	P/A	N/A	ISO 17025	N/A	N/A	N/A	N/A	N/A
General Inorganics								
pH	pH Units	N/A	MCERTS	8.4	9.4	8.4	8.2	8.0
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Total Sulphate as SO_4	mg/kg	100	ISO 17025	2100	16000	34000	680	670
Organic Matter	%	0.1	MCERTS	1.9	1.7	1.9	1.1	1.6
Total Phenols								
Total Phenols (monohydric)	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	2.1	0.82	< 0.10	< 0.10
Fluorene	mg/kg	0.2	MCERTS	< 0.20	1.1	0.47	< 0.20	< 0.20
Phenanthrene	mg/kg	0.2	MCERTS	< 0.20	11	4.3	< 0.20	< 0.20
Anthracene	mg/kg	0.1	MCERTS	< 0.10	1.7	0.93	< 0.10	< 0.10
Fluoranthene	mg/kg	0.2	MCERTS	< 0.20	12	6.2	< 0.20	< 0.20
Pyrene	mg/kg	0.2	MCERTS	< 0.20	9.3	5.0	< 0.20	< 0.20
Benzo(a)anthracene	mg/kg	0.2	MCERTS	< 0.20	4.9	3.0	< 0.20	< 0.20
Chrysene	mg/kg	0.05	MCERTS	< 0.05	5.1	2.7	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	5.2	4.1	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	< 0.20	2.4	1.2	< 0.20	< 0.20
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	4.1	2.8	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	< 0.20	2.3	1.7	< 0.20	< 0.20
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20	0.32	0.20	< 0.20	< 0.20
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	2.6	2.0	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Total WAC-17 PAHs	mg/kg	1.6	NONE	< 1.6	64	35	< 1.6	< 1.6
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	16	20	13	14	16
Barium (aqua regia extractable)	mg/kg	1	MCERTS	160	320	210	100	120
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.0	0.3	0.6	1.4	1.2
Boron (water soluble)	mg/kg	0.2	MCERTS	0.9	0.4	1.4	0.4	0.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	N/A	N/A	N/A	< 4.0	N/A
Chromium (III)	mg/kg	1	NONE	N/A	N/A	N/A	38	N/A
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	31	21	25	38	37
Copper (aqua regia extractable)	mg/kg	1	MCERTS	74	160	76	46	46
Lead (aqua regia extractable)	mg/kg	2	MCERTS	330	280	230	170	130
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	1.1	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	28	23	25	37	26
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	65	30	41	77	70
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	130	350	340	75	66

Analytical Report Number: 12-33502

Project / Site name: 103 Camley Street

Lab Sample Number				211063	211064	211065	211066	211067
Sample Reference				WS7	WS8	WS8	WS9	WS9
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.00	2.00	4.00	0.50	1.50
Date Sampled				03/04/2012	03/04/2012	03/04/2012	03/04/2012	03/04/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/kg	1	MCERTS	13	< 1.0	< 1.0	< 1.0	2.9
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH7 - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH7 - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	67	21	< 2.0	< 2.0
TPH7 - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	190	84	< 8.0	< 8.0
TPH7 - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	35	170	91	< 8.0	< 8.0
TPH7 - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	35	430	200	< 10	< 10

TPH7 - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH7 - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	20	5.3	< 2.0	< 2.0
TPH7 - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	110	42	< 10	< 10
TPH7 - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	110	49	< 10	< 10
TPH7 - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	240	96	< 10	< 10

PCBs by GC-MS

PCB Congener 28	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 52	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 101	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 118	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 138	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 153	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 180	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
Total PCBs	mg/kg	0.3	NONE	N/A	N/A	N/A	N/A	N/A

Analytical Report Number: 12-33502

Project / Site name: 103 Camley Street

Lab Sample Number				211068	211069	211070	211071	211072
Sample Reference				WS10	WS10	WS11A	WS11A	WS11A
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	3.50	1.00	2.50	4.50
Date Sampled				03/04/2012	03/04/2012	03/04/2012	03/04/2012	03/04/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	45	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	13	21	22	22	25
Total mass of sample received	kg	0.001	NONE	1.2	1.3	1.2	1.0	1.2
Asbestos Identification Name	Type	N/A	ISO 17025	N/A	N/A	N/A	N/A	N/A
Asbestos in Soil Screen	P/A	N/A	ISO 17025	N/A	N/A	N/A	N/A	N/A
General Inorganics								
pH	pH Units	N/A	MCERTS	8.3	8.1	8.1	7.9	7.8
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Total Sulphate as SO_4	mg/kg	100	ISO 17025	640	5900	600	11000	1800
Organic Matter	%	0.1	MCERTS	1.6	1.6	2.1	0.9	5.0
Total Phenols								
Total Phenols (monohydric)	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Phenanthrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	mg/kg	0.2	MCERTS	0.65	< 0.20	< 0.20	< 0.20	0.44
Pyrene	mg/kg	0.2	MCERTS	0.55	< 0.20	< 0.20	< 0.20	0.34
Benzo(a)anthracene	mg/kg	0.2	MCERTS	0.21	0.24	< 0.20	< 0.20	0.27
Chrysene	mg/kg	0.05	MCERTS	0.45	0.37	< 0.05	< 0.05	0.55
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	0.36	0.33	< 0.10	< 0.10	0.53
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	0.22	0.20	< 0.20	< 0.20	0.33
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.23	< 0.10	< 0.10	< 0.10	0.57
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Total WAC-17 PAHs	mg/kg	1.6	NONE	2.8	< 1.6	< 1.6	< 1.6	3.0
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	18	14	15	13	17
Barium (aqua regia extractable)	mg/kg	1	MCERTS	240	110	120	58	120
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	3.8	1.2	1.3	1.3	1.3
Boron (water soluble)	mg/kg	0.2	MCERTS	< 0.2	2.2	1.7	2.0	6.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	N/A	N/A	N/A	< 4.0	N/A
Chromium (III)	mg/kg	1	NONE	N/A	N/A	N/A	46	N/A
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	25	35	37	46	33
Copper (aqua regia extractable)	mg/kg	1	MCERTS	52	49	69	41	230
Lead (aqua regia extractable)	mg/kg	2	MCERTS	200	140	270	58	1200
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	1.7	< 0.3	1.8	< 0.3	2.6
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	34	34	27	46	29
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	60	65	64	75	69
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	57	110	82	85	120

Analytical Report Number: 12-33502

Project / Site name: 103 Camley Street

Lab Sample Number				211068	211069	211070	211071	211072
Sample Reference				WS10	WS10	WS11A	WS11A	WS11A
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	3.50	1.00	2.50	4.50
Date Sampled				03/04/2012	03/04/2012	03/04/2012	03/04/2012	03/04/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH7 - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH7 - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH7 - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH7 - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH7 - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10

TPH7 - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH7 - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH7 - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH7 - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH7 - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10

PCBs by GC-MS

PCB Congener 28	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 52	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 101	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 118	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 138	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 153	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 180	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
Total PCBs	mg/kg	0.3	NONE	N/A	N/A	N/A	N/A	N/A

Analytical Report Number: 12-33502

Project / Site name: 103 Camley Street

Lab Sample Number				211073	211074	211075	211076	211077
Sample Reference				WS12	WS12	WS13	WS14	WS14
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.00	3.00	0.60	0.80	1.20
Date Sampled				04/04/2012	04/04/2012	04/04/2012	04/04/2012	04/04/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	23	24	6.6	18	18
Total mass of sample received	kg	0.001	NONE	1.1	1.3	1.4	1.2	1.1
Asbestos Identification Name	Type	N/A	ISO 17025	N/A	N/A	N/A	N/A	N/A
Asbestos in Soil Screen	P/A	N/A	ISO 17025	N/A	N/A	N/A	N/A	N/A
General Inorganics								
pH	pH Units	N/A	MCERTS	7.9	8.1	8.2	7.8	7.9
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Total Sulphate as SO_4	mg/kg	100	ISO 17025	1100	840	150	6500	1500
Organic Matter	%	0.1	MCERTS	2.5	1.9	0.6	1.8	1.6
Total Phenols								
Total Phenols (monohydric)	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Phenanthrene	mg/kg	0.2	MCERTS	< 0.20	3.4	< 0.20	1.7	< 0.20
Anthracene	mg/kg	0.1	MCERTS	< 0.10	0.86	< 0.10	0.61	< 0.10
Fluoranthene	mg/kg	0.2	MCERTS	< 0.20	4.2	< 0.20	3.2	0.68
Pyrene	mg/kg	0.2	MCERTS	< 0.20	3.2	< 0.20	2.8	0.63
Benzo(a)anthracene	mg/kg	0.2	MCERTS	< 0.20	1.6	< 0.20	1.7	0.22
Chrysene	mg/kg	0.05	MCERTS	< 0.05	2.3	< 0.05	2.0	0.52
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	1.9	< 0.10	2.2	0.48
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	< 0.20	0.76	< 0.20	1.2	0.20
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	1.5	< 0.10	2.2	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	< 0.20	0.55	< 0.20	1.2	< 0.20
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	0.61	< 0.05	1.6	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Total WAC-17 PAHs	mg/kg	1.6	NONE	< 1.6	21	< 1.6	20	2.8
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	15	12	3.2	17	15
Barium (aqua regia extractable)	mg/kg	1	MCERTS	130	140	43	300	140
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.3	1.4	0.2	0.9	1.2
Boron (water soluble)	mg/kg	0.2	MCERTS	2.1	1.8	< 0.2	3.5	3.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	0.4	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	N/A	< 4.0	N/A	N/A	N/A
Chromium (III)	mg/kg	1	NONE	N/A	41	N/A	N/A	N/A
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	32	41	6.7	32	34
Copper (aqua regia extractable)	mg/kg	1	MCERTS	78	54	140	120	71
Lead (aqua regia extractable)	mg/kg	2	MCERTS	270	160	37	550	240
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.9	0.5	< 0.3	< 0.3	0.3
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	27	38	7.0	29	39
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	62	79	8.5	55	61
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	97	79	120	500	140

Analytical Report Number: 12-33502

Project / Site name: 103 Camley Street

Lab Sample Number				211073	211074	211075	211076	211077
Sample Reference				WS12	WS12	WS13	WS14	WS14
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.00	3.00	0.60	0.80	1.20
Date Sampled				04/04/2012	04/04/2012	04/04/2012	04/04/2012	04/04/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH7 - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH7 - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	5.0	< 2.0
TPH7 - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	40	< 8.0
TPH7 - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	140	< 8.0
TPH7 - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	180	< 10

TPH7 - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH7 - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH7 - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	12	< 10	< 10	< 10
TPH7 - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	11	< 10	15	< 10
TPH7 - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	24	< 10	15	< 10

PCBs by GC-MS

PCB Congener 28	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 52	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 101	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 118	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 138	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 153	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 180	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
Total PCBs	mg/kg	0.3	NONE	N/A	N/A	N/A	N/A	N/A

Analytical Report Number: 12-33502

Project / Site name: 103 Camley Street

Lab Sample Number				211078	211079	211080	211081	211082
Sample Reference				WS14	WS15	WS16	WS16	WS16
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				4.50	1.00	1.50	2.50	3.50
Date Sampled				04/04/2012	04/04/2012	04/04/2012	04/04/2012	04/04/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	22	13	22	16	17
Total mass of sample received	kg	0.001	NONE	1.1	1.2	1.4	1.1	1.0
Asbestos Identification Name	Type	N/A	ISO 17025	N/A	N/A	N/A	N/A	N/A
Asbestos in Soil Screen	P/A	N/A	ISO 17025	N/A	N/A	N/A	N/A	N/A
General Inorganics								
pH	pH Units	N/A	MCERTS	7.7	7.2	7.9	8.0	7.7
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Total Sulphate as SO_4	mg/kg	100	ISO 17025	650	4400	700	1400	1700
Organic Matter	%	0.1	MCERTS	0.8	1.8	2.0	0.8	0.7
Total Phenols								
Total Phenols (monohydric)	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Phenanthrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	2.2	1.0	1.5
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.59	< 0.10	0.41
Fluoranthene	mg/kg	0.2	MCERTS	0.64	1.7	3.0	1.6	2.6
Pyrene	mg/kg	0.2	MCERTS	0.54	1.6	2.3	1.3	2.2
Benzo(a)anthracene	mg/kg	0.2	MCERTS	< 0.20	0.69	0.95	0.70	1.0
Chrysene	mg/kg	0.05	MCERTS	< 0.05	1.1	1.2	0.75	1.5
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	1.3	1.0	0.83	1.4
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	< 0.20	0.56	0.45	0.46	0.55
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	1.1	0.95	0.77	1.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	< 0.20	0.59	< 0.20	0.43	0.60
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	0.67	0.63	0.44	0.80
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Total WAC-17 PAHs	mg/kg	1.6	NONE	< 1.6	9.4	13	8.4	14
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	15	18	9.1	10	14
Barium (aqua regia extractable)	mg/kg	1	MCERTS	100	230	90	120	150
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.6	1.1	0.9	0.5	0.7
Boron (water soluble)	mg/kg	0.2	MCERTS	1.3	2.3	1.8	1.4	1.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.6	0.3	< 0.2	0.3
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	N/A	N/A	N/A	N/A
Chromium (III)	mg/kg	1	NONE	45	N/A	N/A	N/A	N/A
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	45	28	34	29	30
Copper (aqua regia extractable)	mg/kg	1	MCERTS	46	87	35	50	62
Lead (aqua regia extractable)	mg/kg	2	MCERTS	120	550	130	190	350
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	0.4
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	56	29	38	22	23
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	90	50	50	48	49
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	93	250	260	170	230

Analytical Report Number: 12-33502

Project / Site name: 103 Camley Street

Lab Sample Number				211078	211079	211080	211081	211082
Sample Reference				WS14	WS15	WS16	WS16	WS16
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				4.50	1.00	1.50	2.50	3.50
Date Sampled				04/04/2012	04/04/2012	04/04/2012	04/04/2012	04/04/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH7 - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH7 - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	20	5.3	28
TPH7 - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	49	30	72
TPH7 - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	25	30	56
TPH7 - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	94	65	160

TPH7 - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH7 - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH7 - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	19
TPH7 - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	12
TPH7 - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	32

PCBs by GC-MS

PCB Congener 28	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 52	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 101	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 118	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 138	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 153	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 180	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
Total PCBs	mg/kg	0.3	NONE	N/A	N/A	N/A	N/A	N/A

Analytical Report Number: 12-33502

Project / Site name: 103 Camley Street

Lab Sample Number				211083	211084	211085	211086	211087
Sample Reference				WS17A	WS17A	WS17A	WS18	WS18
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.80	1.50	4.50	1.50	4.80
Date Sampled				04/04/2012	04/04/2012	04/04/2012	05/04/2012	05/04/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	40	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	18	21	19	24	25
Total mass of sample received	kg	0.001	NONE	1.2	1.2	1.5	1.3	1.2
Asbestos Identification Name	Type	N/A	ISO 17025	N/A	N/A	N/A	N/A	N/A
Asbestos in Soil Screen	P/A	N/A	ISO 17025	N/A	N/A	N/A	N/A	N/A
General Inorganics								
pH	pH Units	N/A	MCERTS	8.1	8.1	8.0	8.0	7.4
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Total Sulphate as SO_4	mg/kg	100	ISO 17025	1500	1000	1000	560	2300
Organic Matter	%	0.1	MCERTS	1.8	0.9	1.9	1.5	5.7
Total Phenols								
Total Phenols (monohydric)	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Phenanthrene	mg/kg	0.2	MCERTS	1.7	< 0.20	1.3	< 0.20	< 0.20
Anthracene	mg/kg	0.1	MCERTS	0.51	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	mg/kg	0.2	MCERTS	2.4	0.44	1.7	< 0.20	< 0.20
Pyrene	mg/kg	0.2	MCERTS	2.1	0.45	1.4	< 0.20	< 0.20
Benzo(a)anthracene	mg/kg	0.2	MCERTS	0.94	0.31	0.58	< 0.20	< 0.20
Chrysene	mg/kg	0.05	MCERTS	1.3	0.43	1.1	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	1.2	0.35	0.90	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	0.46	0.21	0.44	< 0.20	< 0.20
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.94	0.34	0.65	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	0.43	< 0.20	< 0.20	< 0.20	< 0.20
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.59	< 0.05	< 0.05	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Total WAC-17 PAHs	mg/kg	1.6	NONE	13	2.6	8.2	< 1.6	< 1.6
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	20	17	16	17	16
Barium (aqua regia extractable)	mg/kg	1	MCERTS	170	93	92	96	120
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.0	1.0	1.0	1.4	1.1
Boron (water soluble)	mg/kg	0.2	MCERTS	1.5	1.3	1.1	< 0.2	4.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	N/A	N/A	N/A	N/A	N/A
Chromium (III)	mg/kg	1	NONE	N/A	N/A	N/A	N/A	N/A
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	28	31	25	36	29
Copper (aqua regia extractable)	mg/kg	1	MCERTS	87	51	49	90	95
Lead (aqua regia extractable)	mg/kg	2	MCERTS	400	170	290	200	290
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.9	0.3	0.7	0.5	1.8
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	27	32	25	34	23
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	58	58	48	69	66
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	150	74	71	110	93

Analytical Report Number: 12-33502

Project / Site name: 103 Camley Street

Lab Sample Number				211083	211084	211085	211086	211087
Sample Reference				WS17A	WS17A	WS17A	WS18	WS18
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.80	1.50	4.50	1.50	4.80
Date Sampled				04/04/2012	04/04/2012	04/04/2012	05/04/2012	05/04/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH7 - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH7 - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH7 - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH7 - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH7 - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10

TPH7 - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH7 - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH7 - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH7 - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH7 - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10

PCBs by GC-MS

PCB Congener 28	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 52	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 101	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 118	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 138	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 153	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
PCB Congener 180	mg/kg	0.02	NONE	N/A	N/A	N/A	N/A	N/A
Total PCBs	mg/kg	0.3	NONE	N/A	N/A	N/A	N/A	N/A

Analytical Report Number: 12-33502

Project / Site name: 103 Camley Street

Lab Sample Number				211088	211089	211090	211091	211092
Sample Reference				WS19	WS19	WS19	WS20	WS20
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	2.00	3.00	0.50	1.50
Date Sampled				05/04/2012	05/04/2012	05/04/2012	05/04/2012	05/04/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	33	< 0.1	37	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	13	14	12	18	14
Total mass of sample received	kg	0.001	NONE	1.1	1.0	1.3	1.0	0.95
Asbestos Identification Name	Type	N/A	ISO 17025	N/A	N/A	N/A	N/A	N/A
Asbestos in Soil Screen	P/A	N/A	ISO 17025	N/A	N/A	N/A	N/A	N/A
General Inorganics								
pH	pH Units	N/A	MCERTS	N/A	7.9	8.0	7.1	7.5
Total Cyanide	mg/kg	1	MCERTS	N/A	< 1	< 1	< 1	< 1
Total Sulphate as SO_4	mg/kg	100	ISO 17025	N/A	1800	1400	860	2100
Organic Matter	%	0.1	MCERTS	N/A	1.0	1.2	0.8	0.7
Total Phenols								
Total Phenols (monohydric)	mg/kg	2	MCERTS	N/A	< 2.0	< 2.0	< 2.0	< 2.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	N/A	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.2	MCERTS	N/A	< 0.20	< 0.20	< 0.20	< 0.20
Acenaphthene	mg/kg	0.1	MCERTS	N/A	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.2	MCERTS	N/A	< 0.20	< 0.20	< 0.20	< 0.20
Phenanthrene	mg/kg	0.2	MCERTS	N/A	< 0.20	< 0.20	< 0.20	< 0.20
Anthracene	mg/kg	0.1	MCERTS	N/A	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	mg/kg	0.2	MCERTS	N/A	< 0.20	0.92	< 0.20	< 0.20
Pyrene	mg/kg	0.2	MCERTS	N/A	< 0.20	0.80	< 0.20	< 0.20
Benzo(a)anthracene	mg/kg	0.2	MCERTS	N/A	< 0.20	0.33	< 0.20	< 0.20
Chrysene	mg/kg	0.05	MCERTS	N/A	< 0.05	0.52	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	N/A	< 0.10	0.55	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	N/A	< 0.20	< 0.20	< 0.20	< 0.20
Benzo(a)pyrene	mg/kg	0.1	MCERTS	N/A	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	N/A	< 0.20	< 0.20	< 0.20	< 0.20
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	N/A	< 0.20	< 0.20	< 0.20	< 0.20
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	N/A	< 0.05	< 0.05	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	N/A	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Total WAC-17 PAHs	mg/kg	1.6	NONE	N/A	< 1.6	3.2	< 1.6	< 1.6
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	N/A	11	12	12	12
Barium (aqua regia extractable)	mg/kg	1	MCERTS	N/A	100	86	37	61
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	N/A	1.1	0.7	1.3	1.2
Boron (water soluble)	mg/kg	0.2	MCERTS	N/A	1.5	0.7	0.8	1.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	N/A	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	N/A	< 4.0	N/A	< 4.0	< 4.0
Chromium (III)	mg/kg	1	NONE	N/A	37	N/A	47	44
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	N/A	37	22	47	44
Copper (aqua regia extractable)	mg/kg	1	MCERTS	N/A	35	40	32	33
Lead (aqua regia extractable)	mg/kg	2	MCERTS	N/A	72	560	21	42
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	N/A	< 0.3	0.4	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	N/A	36	22	50	44
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	N/A	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	N/A	60	41	83	74
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	N/A	64	50	72	74

Analytical Report Number: 12-33502

Project / Site name: 103 Camley Street

Lab Sample Number				211088	211089	211090	211091	211092
Sample Reference				WS19	WS19	WS19	WS20	WS20
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	2.00	3.00	0.50	1.50
Date Sampled				05/04/2012	05/04/2012	05/04/2012	05/04/2012	05/04/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/kg	1	MCERTS	N/A	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	N/A	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	N/A	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	N/A	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	N/A	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	N/A	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH7 - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	N/A	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	N/A	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	N/A	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	N/A	< 1.0	< 1.0	< 1.0	< 1.0
TPH7 - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	N/A	< 2.0	< 2.0	< 2.0	< 2.0
TPH7 - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	N/A	< 8.0	< 8.0	< 8.0	< 8.0
TPH7 - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	N/A	< 8.0	< 8.0	< 8.0	< 8.0
TPH7 - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	N/A	< 10	< 10	< 10	< 10
TPH7 - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	N/A	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	N/A	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	N/A	< 0.1	< 0.1	< 0.1	< 0.1
TPH7 - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	N/A	< 1.0	< 1.0	< 1.0	< 1.0
TPH7 - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	N/A	< 2.0	< 2.0	< 2.0	< 2.0
TPH7 - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	N/A	< 10	< 10	< 10	< 10
TPH7 - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	N/A	< 10	< 10	< 10	< 10
TPH7 - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	N/A	< 10	< 10	< 10	< 10
PCBs by GC-MS								
PCB Congener 28	mg/kg	0.02	NONE	< 0.02	N/A	N/A	N/A	N/A
PCB Congener 52	mg/kg	0.02	NONE	< 0.02	N/A	N/A	N/A	N/A
PCB Congener 101	mg/kg	0.02	NONE	< 0.02	N/A	N/A	N/A	N/A
PCB Congener 118	mg/kg	0.02	NONE	< 0.02	N/A	N/A	N/A	N/A
PCB Congener 138	mg/kg	0.02	NONE	< 0.02	N/A	N/A	N/A	N/A
PCB Congener 153	mg/kg	0.02	NONE	< 0.02	N/A	N/A	N/A	N/A
PCB Congener 180	mg/kg	0.02	NONE	< 0.02	N/A	N/A	N/A	N/A
Total PCBs	mg/kg	0.3	NONE	< 0.30	N/A	N/A	N/A	N/A

Analytical Report Number: 12-33502

Project / Site name: 103 Camley Street

Lab Sample Number				211093				
Sample Reference				WS21				
Sample Number				None Supplied				
Depth (m)				0.80				
Date Sampled				04/04/2012				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	14				
Total mass of sample received	kg	0.001	NONE	1.0				
Asbestos Identification Name	Type	N/A	ISO 17025	N/A				
Asbestos in Soil Screen	P/A	N/A	ISO 17025	N/A				
General Inorganics								
pH	pH Units	N/A	MCERTS	7.2				
Total Cyanide	mg/kg	1	MCERTS	< 1				
Total Sulphate as SO_4	mg/kg	100	ISO 17025	3300				
Organic Matter	%	0.1	MCERTS	1.8				
Total Phenols								
Total Phenols (monohydric)	mg/kg	2	MCERTS	< 2.0				
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05				
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20				
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10				
Fluorene	mg/kg	0.2	MCERTS	< 0.20				
Phenanthrene	mg/kg	0.2	MCERTS	< 0.20				
Anthracene	mg/kg	0.1	MCERTS	< 0.10				
Fluoranthene	mg/kg	0.2	MCERTS	1.3				
Pyrene	mg/kg	0.2	MCERTS	1.2				
Benzo(a)anthracene	mg/kg	0.2	MCERTS	< 0.20				
Chrysene	mg/kg	0.05	MCERTS	< 0.05				
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	0.59				
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	0.29				
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.34				
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	< 0.20				
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05				
Coronene	mg/kg	0.05	NONE	< 0.05				
Total PAH								
Total WAC-17 PAHs	mg/kg	1.6	NONE	3.8				
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	14				
Barium (aqua regia extractable)	mg/kg	1	MCERTS	72				
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.1				
Boron (water soluble)	mg/kg	0.2	MCERTS	1.3				
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2				
Chromium (hexavalent)	mg/kg	4	MCERTS	N/A				
Chromium (III)	mg/kg	1	NONE	N/A				
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	31				
Copper (aqua regia extractable)	mg/kg	1	MCERTS	73				
Lead (aqua regia extractable)	mg/kg	2	MCERTS	130				
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3				
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	30				
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0				
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	62				
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	73				

Analytical Report Number: 12-33502

Project / Site name: 103 Camley Street

Lab Sample Number				211093				
Sample Reference				WS21				
Sample Number				None Supplied				
Depth (m)				0.80				
Date Sampled				04/04/2012				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/kg	1	MCERTS	< 1.0				
Toluene	µg/kg	1	MCERTS	< 1.0				
Ethylbenzene	µg/kg	1	MCERTS	< 1.0				
p & m-xylene	µg/kg	1	MCERTS	< 1.0				
o-xylene	µg/kg	1	MCERTS	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0				

Petroleum Hydrocarbons

TPH7 - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1				
TPH7 - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1				
TPH7 - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1				
TPH7 - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0				
TPH7 - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0				
TPH7 - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0				
TPH7 - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0				
TPH7 - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10				

TPH7 - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1				
TPH7 - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1				
TPH7 - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1				
TPH7 - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0				
TPH7 - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0				
TPH7 - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10				
TPH7 - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10				
TPH7 - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10				

PCBs by GC-MS

PCB Congener 28	mg/kg	0.02	NONE	N/A				
PCB Congener 52	mg/kg	0.02	NONE	N/A				
PCB Congener 101	mg/kg	0.02	NONE	N/A				
PCB Congener 118	mg/kg	0.02	NONE	N/A				
PCB Congener 138	mg/kg	0.02	NONE	N/A				
PCB Congener 153	mg/kg	0.02	NONE	N/A				
PCB Congener 180	mg/kg	0.02	NONE	N/A				
Total PCBs	mg/kg	0.3	NONE	N/A				

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Project / Site name: 103 Camley Street

Lab Sample Number				211094	211095	211096	211097	211098
Sample Reference				WS1	WS4	WS6	WS9	WS13
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.50	2.00	1.20	1.00	1.50
Date Sampled				02/04/2012	02/04/2012	03/04/2012	03/04/2012	04/04/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	7.9	7.7	7.8	7.1	6.9
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO_4	µg/l	100	ISO 17025	64000	82000	25000	25000	7600
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Speciated PAHs								
Naphthalene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH								
Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1.1	ISO 17025	4.1	5.4	8.7	3.0	5.0
Barium (dissolved)	µg/l	0.05	ISO 17025	27	81	20	28	18
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Boron (dissolved)	µg/l	10	ISO 17025	29	170	100	62	43
Cadmium (dissolved)	µg/l	0.1	ISO 17025	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chromium (dissolved)	µg/l	0.4	ISO 17025	7.3	9.0	2.9	2.4	1.7
Copper (dissolved)	µg/l	0.7	ISO 17025	6.3	6.6	12	2.7	3.1
Lead (dissolved)	µg/l	1	ISO 17025	11	21	20	2.5	3.7
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	0.9	< 0.5	< 0.5	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	2.3	2.1	4.4	1.9	1.2
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Vanadium (dissolved)	µg/l	1.7	ISO 17025	4.2	< 1.7	13	< 1.7	< 1.7
Zinc (dissolved)	µg/l	0.4	ISO 17025	14	13	8.9	2.3	3.2

Analytical Report Number: 12-33502

Project / Site name: 103 Camley Street

Lab Sample Number				211094	211095	211096	211097	211098
Sample Reference				WS1	WS4	WS6	WS9	WS13
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.50	2.00	1.20	1.00	1.50
Date Sampled				02/04/2012	02/04/2012	03/04/2012	03/04/2012	04/04/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH7 - Aliphatic >C5 - C6	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH7 - Aliphatic >C6 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH7 - Aliphatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH7 - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH7 - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH7 - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH7 - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH7 - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH7 - Aromatic >C5 - C7	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH7 - Aromatic >C7 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH7 - Aromatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH7 - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH7 - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH7 - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH7 - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH7 - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

Analytical Report Number: 12-33502

Project / Site name: 103 Camley Street

Lab Sample Number				211099	211100	211101		
Sample Reference				WS14	WS17A	WS19		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				2.50	3.50	5.00		
Date Sampled				04/04/2012	04/04/2012	05/04/2012		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	6.5	6.9	6.9		
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10		
Sulphate as SO_4	µg/l	100	ISO 17025	190000	11000	39000		
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10		
Speciated PAHs								
Naphthalene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01		
Acenaphthylene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01		
Acenaphthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01		
Fluorene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01		
Phenanthrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01		
Anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01		
Fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01		
Pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01		
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01		
Chrysene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01		
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01		
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01		
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01		
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01		
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01		
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01		
Total PAH								
Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2	< 0.2	< 0.2		
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	1.1	ISO 17025	8.0	5.9	2.2		
Barium (dissolved)	µg/l	0.05	ISO 17025	47	12	20		
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2		
Boron (dissolved)	µg/l	10	ISO 17025	61	51	16		
Cadmium (dissolved)	µg/l	0.1	ISO 17025	< 0.10	< 0.10	< 0.10		
Chromium (dissolved)	µg/l	0.4	ISO 17025	1.6	3.6	1.5		
Copper (dissolved)	µg/l	0.7	ISO 17025	11	4.8	2.6		
Lead (dissolved)	µg/l	1	ISO 17025	4.6	3.9	1.4		
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5	< 0.5		
Nickel (dissolved)	µg/l	0.3	ISO 17025	1.6	1.4	2.2		
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0	< 4.0		
Vanadium (dissolved)	µg/l	1.7	ISO 17025	< 1.7	4.2	< 1.7		
Zinc (dissolved)	µg/l	0.4	ISO 17025	3.8	2.8	2.8		

Analytical Report Number: 12-33502

Project / Site name: 103 Camley Street

Lab Sample Number				211099	211100	211101		
Sample Reference				WS14	WS17A	WS19		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				2.50	3.50	5.00		
Date Sampled				04/04/2012	04/04/2012	05/04/2012		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0		
Toluene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0		
Ethylbenzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0		
p & m-xylene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0		
o-xylene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0		
MTBE (Methyl Tertiary Butyl Ether)	µg/l	10	NONE	< 10	< 10	< 10		
TPH7 - Aliphatic >C5 - C6	µg/l	10	NONE	< 10	< 10	< 10		
TPH7 - Aliphatic >C6 - C8	µg/l	10	NONE	< 10	< 10	< 10		
TPH7 - Aliphatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10		
TPH7 - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10		
TPH7 - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10		
TPH7 - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10		
TPH7 - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10		
TPH7 - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10		
TPH7 - Aromatic >C5 - C7	µg/l	10	NONE	< 10	< 10	< 10		
TPH7 - Aromatic >C7 - C8	µg/l	10	NONE	< 10	< 10	< 10		
TPH7 - Aromatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10		
TPH7 - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10		
TPH7 - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10		
TPH7 - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10		
TPH7 - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10		
TPH7 - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10		

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Project / Site name: 103 Camley Street

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and topsoil/loam soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 2 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
211048	WS1	None Supplied	0.50	Light brown clay with brick.
211049	WS1	None Supplied	0.80	N/A
211050	WS1	None Supplied	2.00	Light brown clay with brick.
211051	WS1	None Supplied	3.50	Light brown clay with chalk and stones.
211052	WS2B	None Supplied	1.50	Light brown clay and topsoil with brick and chalk.
211053	WS2B	None Supplied	3.50	Light brown sandy topsoil with gravel and brick.
211054	WS3	None Supplied	1.00	Light brown clay and topsoil with brick.
211055	WS3	None Supplied	4.50	Grey clay and topsoil with brick.
211056	WS4	None Supplied	0.50	Brown sandy topsoil with stones and brick.
211057	WS5	None Supplied	0.50	Light brown gravelly sand with stones and brick.
211058	WS5	None Supplied	2.50	Light brown clay with brick.
211059	WS5	None Supplied	4.50	Grey clay with brick.
211060	WS6	None Supplied	0.60	Brown clay with brick and stones.
211061	WS6	None Supplied	1.80	Brown topsoil and gravel with brick and stones.
211062	WS7	None Supplied	2.00	Light brown clay with stones and brick.
211063	WS7	None Supplied	3.00	Light brown clay with brick.
211064	WS8	None Supplied	2.00	Brown gravelly sand with rubble and brick.
211065	WS8	None Supplied	4.00	Light brown sandy clay with stones and brick.
211066	WS9	None Supplied	0.50	Light brown clay with brick.
211067	WS9	None Supplied	1.50	Brown clay with brick.
211068	WS10	None Supplied	0.50	Light brown clay with brick and stones.
211069	WS10	None Supplied	3.50	Light brown clay with brick.
211070	WS11A	None Supplied	1.00	Light brown clay.
211071	WS11A	None Supplied	2.50	Light brown clay.
211072	WS11A	None Supplied	4.50	Grey clay with brick.
211073	WS12	None Supplied	2.00	Grey clay with brick.
211074	WS12	None Supplied	3.00	Brown clay with brick.
211075	WS13	None Supplied	0.60	Light brown sand.
211076	WS14	None Supplied	0.80	Light brown clay with brick.
211077	WS14	None Supplied	1.20	Light brown clay with brick.
211078	WS14	None Supplied	4.50	Light brown clay.
211079	WS15	None Supplied	1.00	Light brown clay and topsoil with brick.
211080	WS16	None Supplied	1.50	Light brown clay.
211081	WS16	None Supplied	2.50	Light brown sand with brick.
211082	WS16	None Supplied	3.50	Light brown sand with brick.
211083	WS17A	None Supplied	0.80	Light brown clay with brick.
211084	WS17A	None Supplied	1.50	Light brown clay with brick.
211085	WS17A	None Supplied	4.50	Light brown clay with brick and stones.
211086	WS18	None Supplied	1.50	Brown clay with brick and chalk.
211087	WS18	None Supplied	4.80	Grey clay and topsoil.
211088	WS19	None Supplied	1.00	Light brown sandy topsoil with chalk and stones.
211089	WS19	None Supplied	2.00	Light brown clay.
211090	WS19	None Supplied	3.00	Light brown clay and sand with brick and stones.
211091	WS20	None Supplied	0.50	Light brown clay.
211092	WS20	None Supplied	1.50	Light brown clay with brick and chalk.
211093	WS21	None Supplied	0.80	Light brown clay and topsoil with brick and chalk.

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Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-UK	W	ISO 17025
Asbestos Screening in Soil	Screening of samples for Asbestos Fibres in Soil	In-house method based on HSG 248	A001-UK	W	ISO 17025
Boron in leachate	Determination of boron by acidification followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in leachates	Determination of BTEX and MTBE in leachates by headspace GC-MS.	In-house method based on USEPA8260	L036-UK	W	NONE
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Cr (III) in soil	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	D	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	D	MCERTS
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK	W	NONE
Monohydric phenols in leachate	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
PCB's By GC-MS in soil		In-house method based on USEPA 8082	L027-PL		NONE

Analytical Report Number : 12-33502

Project / Site name: 103 Camley Street

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
pH in leachate	Determination of pH in leachate by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	ISO 17025
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L070-UK	W	NONE
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
Stones content of soil	Stones not passing through a 2 mm sieve is determined gravimetrically and reported as a percentage of the dry weight. Sample results are not corrected for the stone content of the sample.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK	D	NONE
Sulphate in leachates	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Total cyanide in leachate	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	ISO 17025
TPHCWG (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS, speciation by interpretation.	In-house method	L070-UK	W	NONE
TPHCWG (Soil)	Determination of pentane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Analytical Report Number : 12-33503

Project / Site name:	103 Camley Street	**Samples received on:**	05/04/2012
Your job number:	CG/5521C	**Samples instructed on:**	13/04/2012
Your order number:		**Analysis completed by:**	24/04/2012
Report Issue Number:	1	**Report issued on:**	25/04/2012
Samples Analysed:	12 wac multi samples		

Signed:

Anna Romanska
Quality Manager
For & on behalf of i2 Analytical Ltd.

Signed:

Thurstan Plummer
Organics Technical Manager
For & on behalf of i2 Analytical Ltd.

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

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Waste Acceptance Criteria Analytical Results

Report No:	**12-33503**						
					Client:	**CARDGEO**	
Location	**103 Camley Street**						
Lab Reference (Sample Number)	211102				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	02/04/2012				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS1						
Depth (m)	0.50						
Solid Waste Analysis							
TOC (%)**	0.9				3%	5%	6%
Loss on Ignition (%) **	6.5				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg)	< 0.30				1	--	--
Mineral Oil (mg/kg)	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 1.6				100	--	--
pH (units)**	8.1				--	>6	--
Acid Neutralisation Capacity (mol / kg)	3.3				--	To be evaluated	To be evaluated
Eluate Analysis	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
	mg/l	mg/l		mg/kg			
Arsenic	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium	0.11	0.089		0.92	20	100	300
Cadmium	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium	0.0027	< 0.0010		0.010	0.5	10	70
Copper	0.0068	< 0.0030		0.027	2	50	100
Mercury	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum	0.022	0.021		0.21	0.5	10	30
Nickel	0.0023	< 0.0010		0.0079	0.4	10	40
Lead	< 0.0050	< 0.0050		0.034	0.5	10	50
Antimony	< 0.0050	< 0.0050		0.023	0.06	0.7	5
Selenium	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc	0.0077	0.0013		< 0.020	4	50	200
Chloride	5.3	< 4.0		< 15	800	4000	25000
Fluoride	1.4	1.3		13	10	150	500
Sulphate	700	130		1800	1000	20000	50000
TDS	700	200		2500	4000	60000	100000
Phenol Index	< 0.13	< 0.13		< 0.50	1	-	-
DOC	6.7	5.1		52	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.8						
Dry Matter (%)	78						
Moisture (%)	22						
Stage 1							
Volume Eluate L2 (litres)	0.31						
Filtered Eluate VE1 (litres)	0.16						

Results are expressed on a dry weight basis, after correction for moisture content where applicable
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Waste Acceptance Criteria Analytical Results

Report No:	**12-33503**						
					Client: CARDGEO		
Location	**103 Camley Street**						
Lab Reference (Sample Number)	211103				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	02/04/2012				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS2B						
Depth (m)	1.50						
Solid Waste Analysis							
TOC (%)**	0.9				3%	5%	6%
Loss on Ignition (%) **	4.6				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg)	< 0.30				1	--	--
Mineral Oil (mg/kg)	32				500	--	--
Total PAH (WAC-17) (mg/kg)	13				100	--	--
pH (units)**	7.8				--	>6	--
Acid Neutralisation Capacity (mol / kg)	10				--	To be evaluated	To be evaluated
Eluate Analysis	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
	mg/l	mg/l		mg/kg			
Arsenic	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium	0.11	0.077		0.80	20	100	300
Cadmium	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium	0.0054	0.0026		0.030	0.5	10	70
Copper	0.0080	< 0.0030		0.032	2	50	100
Mercury	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum	0.017	0.012		0.13	0.5	10	30
Nickel	0.0014	< 0.0010		0.0099	0.4	10	40
Lead	< 0.0050	< 0.0050		0.026	0.5	10	50
Antimony	< 0.0050	< 0.0050		< 0.020	0.06	0.7	5
Selenium	0.021	< 0.010		0.041	0.1	0.5	7
Zinc	0.0082	0.0012		0.020	4	50	200
Chloride	8.0	< 4.0		20	800	4000	25000
Fluoride	0.94	0.91		9.2	10	150	500
Sulphate	820	190		2600	1000	20000	50000
TDS	820	250		3200	4000	60000	100000
Phenol Index	< 0.13	< 0.13		< 0.50	1	-	-
DOC	7.0	4.6		49	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.5						
Dry Matter (%)	89						
Moisture (%)	11						
Stage 1							
Volume Eluate L2 (litres)	0.33						
Filtered Eluate VE1 (litres)	0.20						

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Waste Acceptance Criteria ANALYTICAL *RESULTS*

Report No:	**12-33503**						
					Client:	**CARDGEO**	
Location	**103 Camley Street**						
Lab Reference (Sample Number)	211104				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	02/04/2012				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS5						
Depth (m)	2.50						
Solid Waste Analysis							
TOC (%)**	2.1				3%	5%	6%
Loss on Ignition (%) **	7.6				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg)	< 0.30				1	--	--
Mineral Oil (mg/kg)	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 1.6				100	--	--
pH (units)**	8.0				--	>6	--
Acid Neutralisation Capacity (mol / kg)	7.7				--	To be evaluated	To be evaluated
Eluate Analysis	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
	mg/l	mg/l		mg/kg			
Arsenic	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium	0.082	0.069		0.70	20	100	300
Cadmium	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium	0.0013	< 0.0010		0.0080	0.5	10	70
Copper	0.0038	0.0034		0.035	2	50	100
Mercury	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum	0.028	0.013		0.14	0.5	10	30
Nickel	0.0028	0.0028		0.028	0.4	10	40
Lead	< 0.0050	< 0.0050		< 0.020	0.5	10	50
Antimony	< 0.0050	< 0.0050		0.036	0.06	0.7	5
Selenium	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc	0.0056	0.0022		0.025	4	50	200
Chloride	30	5.3		74	800	4000	25000
Fluoride	1.3	1.2		12	10	150	500
Sulphate	260	69		860	1000	20000	50000
TDS	390	140		1600	4000	60000	100000
Phenol Index	< 0.13	< 0.13		< 0.50	1	-	-
DOC	21	11		120	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.5						
Dry Matter (%)	79						
Moisture (%)	21						
Stage 1							
Volume Eluate L2 (litres)	0.31						
Filtered Eluate VE1 (litres)	0.15						

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Waste Acceptance Criteria ANALYTICAL *RESULTS*

Report No:	**12-33503**						
					Client:	**CARDGEO**	
Location	**103 Camley Street**						
Lab Reference (Sample Number)	211105				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	03/04/2012				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS6						
Depth (m)	0.60						
Solid Waste Analysis							
TOC (%)**	1.7				3%	5%	6%
Loss on Ignition (%) **	7.6				--	--	10%
BTEX (µg/kg) **	180				6000	--	--
Sum of PCBs (mg/kg)	< 0.30				1	--	--
Mineral Oil (mg/kg)	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	18				100	--	--
pH (units)**	8.2				--	>6	--
Acid Neutralisation Capacity (mol / kg)	21				--	To be evaluated	To be evaluated
Eluate Analysis	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
	mg/l	mg/l		mg/kg			
Arsenic	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium	0.10	0.069		0.72	20	100	300
Cadmium	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium	0.0019	0.0010		0.011	0.5	10	70
Copper	0.018	0.012		0.12	2	50	100
Mercury	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum	0.11	0.030		0.38	0.5	10	30
Nickel	0.011	0.0050		0.056	0.4	10	40
Lead	0.011	0.0086		0.088	0.5	10	50
Antimony	0.012	0.011		0.11	0.06	0.7	5
Selenium	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc	0.0076	0.0050		0.053	4	50	200
Chloride	16	< 4.0		31	800	4000	25000
Fluoride	0.67	0.50		5.1	10	150	500
Sulphate	180	87		970	1000	20000	50000
TDS	300	190		2000	4000	60000	100000
Phenol Index	< 0.13	< 0.13		< 0.50	1	-	-
DOC	41	15		180	500	800	1000
Leach Test Information							
Stone Content (%)	33						
Sample Mass (kg)	1.1						
Dry Matter (%)	82						
Moisture (%)	18						
Stage 1							
Volume Eluate L2 (litres)	0.32						
Filtered Eluate VE1 (litres)	0.19						

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Waste Acceptance Criteria ANALYTICAL *RESULTS*

Report No:	**12-33503**						
					Client:	**CARDGEO**	
Location	**103 Camley Street**						
Lab Reference (Sample Number)	211106				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	03/04/2012				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS7						
Depth (m)	3.00						
Solid Waste Analysis							
TOC (%)**	1.1				3%	5%	6%
Loss on Ignition (%) **	7.5				--	--	10%
BTEX (µg/kg) **	13				6000	--	--
Sum of PCBs (mg/kg)	< 0.30				1	--	--
Mineral Oil (mg/kg)	39				500	--	--
Total PAH (WAC-17) (mg/kg)	< 1.6				100	--	--
pH (units)**	8.4				--	>6	--
Acid Neutralisation Capacity (mol / kg)	19				--	To be evaluated	To be evaluated
Eluate Analysis	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
	mg/l	mg/l		mg/kg			
Arsenic	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium	0.077	0.057		0.59	20	100	300
Cadmium	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium	0.0026	< 0.0010		0.0090	0.5	10	70
Copper	0.012	0.0049		0.056	2	50	100
Mercury	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum	0.065	0.021		0.25	0.5	10	30
Nickel	0.0033	0.0031		0.031	0.4	10	40
Lead	0.013	0.0051		0.060	0.5	10	50
Antimony	0.0081	0.0056		0.059	0.06	0.7	5
Selenium	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc	0.0059	0.0032		0.035	4	50	200
Chloride	15	< 4.0		40	800	4000	25000
Fluoride	0.64	0.59		6.0	10	150	500
Sulphate	230	50		700	1000	20000	50000
TDS	330	110		1300	4000	60000	100000
Phenol Index	< 0.13	< 0.13		< 0.50	1	-	-
DOC	11	7.0		74	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.5						
Dry Matter (%)	75						
Moisture (%)	25						
Stage 1							
Volume Eluate L2 (litres)	0.31						
Filtered Eluate VE1 (litres)	0.19						

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Waste Acceptance Criteria ANALYTICAL *RESULTS*

Report No:	**12-33503**						
					Client:	**CARDGEO**	
Location	**103 Camley Street**						
Lab Reference (Sample Number)	211107				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	03/04/2012				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS8						
Depth (m)	2.00						
Solid Waste Analysis							
TOC (%)**	1.0				3%	5%	6%
Loss on Ignition (%) **	6.9				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg)	< 0.30				1	--	--
Mineral Oil (mg/kg)	430				500	--	--
Total PAH (WAC-17) (mg/kg)	64				100	--	--
pH (units)**	9.4				--	>6	--
Acid Neutralisation Capacity (mol / kg)	34				--	To be evaluated	To be evaluated
Eluate Analysis	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
	mg/l	mg/l		mg/kg			
Arsenic	< 0.010	< 0.010		0.052	0.5	2	25
Barium	0.082	0.067		0.70	20	100	300
Cadmium	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium	0.013	0.0058		0.069	0.5	10	70
Copper	0.077	0.059		0.62	2	50	100
Mercury	< 0.0015	< 0.0015		0.012	0.01	0.2	2
Molybdenum	0.036	0.0083		0.12	0.5	10	30
Nickel	0.016	0.0050		0.066	0.4	10	40
Lead	0.0060	< 0.0050		0.041	0.5	10	50
Antimony	0.075	0.045		0.49	0.06	0.7	5
Selenium	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc	0.0051	< 0.0010		< 0.020	4	50	200
Chloride	15	< 4.0		41	800	4000	25000
Fluoride	0.31	0.22		2.4	10	150	500
Sulphate	1500	1300		14000	1000	20000	50000
TDS	1200	1100		11000	4000	60000	100000
Phenol Index	< 0.13	< 0.13		< 0.50	1	-	-
DOC	16	9.3		100	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.3						
Dry Matter (%)	88						
Moisture (%)	12						
Stage 1							
Volume Eluate L2 (litres)	0.33						
Filtered Eluate VE1 (litres)	0.26						

Results are expressed on a dry weight basis, after correction for moisture content where applicable
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** = MCERTS accrediited

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Waste Acceptance Criteria ANALYTICAL *RESULTS*

Report No:	**12-33503**						
					Client:	**CARDGEO**	
Location	**103 Camley Street**						
Lab Reference (Sample Number)	211108				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	04/04/2012				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS12						
Depth (m)	3.00						
Solid Waste Analysis							
TOC (%)**	1.1				3%	5%	6%
Loss on Ignition (%) **	8.8				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg)	< 0.30				1	--	--
Mineral Oil (mg/kg)	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	21				100	--	--
pH (units)**	8.1				--	>6	--
Acid Neutralisation Capacity (mol / kg)	5.4				--	To be evaluated	To be evaluated
Eluate Analysis	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
	mg/l	mg/l		mg/kg			
Arsenic	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium	0.14	0.11		1.1	20	100	300
Cadmium	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium	0.0015	< 0.0010		0.0087	0.5	10	70
Copper	0.0057	0.0047		0.048	2	50	100
Mercury	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum	0.060	0.021		0.24	0.5	10	30
Nickel	0.0057	0.0046		0.047	0.4	10	40
Lead	0.0054	0.0050		0.051	0.5	10	50
Antimony	< 0.0050	< 0.0050		0.041	0.06	0.7	5
Selenium	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc	0.0029	0.0015		< 0.020	4	50	200
Chloride	33	5.4		73	800	4000	25000
Fluoride	1.9	1.3		13	10	150	500
Sulphate	150	53		600	1000	20000	50000
TDS	310	160		1700	4000	60000	100000
Phenol Index	< 0.13	< 0.13		< 0.50	1	-	-
DOC	6.0	13		120	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.3						
Dry Matter (%)	76						
Moisture (%)	24						
Stage 1							
Volume Eluate L2 (litres)	0.31						
Filtered Eluate VE1 (litres)	0.12						

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Waste Acceptance Criteria ANALYTICAL *RESULTS*

Report No:	**12-33503**						
					Client:	**CARDGEO**	
Location	**103 Camley Street**						
Lab Reference (Sample Number)	211109				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	04/04/2012				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS13						
Depth (m)	0.60						
Solid Waste Analysis							
TOC (%)**	0.3				3%	5%	6%
Loss on Ignition (%) **	0.9				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg)	< 0.30				1	--	--
Mineral Oil (mg/kg)	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 1.6				100	--	--
pH (units)**	8.2				--	>6	--
Acid Neutralisation Capacity (mol / kg)	2.1				--	To be evaluated	To be evaluated
Eluate Analysis	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
	mg/l	mg/l		mg/kg			
Arsenic	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium	0.038	0.026		0.27	20	100	300
Cadmium	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium	0.0032	0.0025		0.026	0.5	10	70
Copper	0.012	0.011		0.11	2	50	100
Mercury	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum	0.015	0.0047		0.061	0.5	10	30
Nickel	0.0023	0.0012		0.014	0.4	10	40
Lead	0.010	0.0056		0.062	0.5	10	50
Antimony	< 0.0050	< 0.0050		< 0.020	0.06	0.7	5
Selenium	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc	0.025	0.0158		0.17	4	50	200
Chloride	< 4.0	< 4.0		< 15	800	4000	25000
Fluoride	1.6	0.49		6.4	10	150	500
Sulphate	14	2.1		38	1000	20000	50000
TDS	40	20		230	4000	60000	100000
Phenol Index	< 0.13	< 0.13		< 0.50	1	-	-
DOC	4.9	3.8		39	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.4						
Dry Matter (%)	93						
Moisture (%)	6.6						
Stage 1							
Volume Eluate L2 (litres)	0.34						
Filtered Eluate VE1 (litres)	0.24						

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Waste Acceptance Criteria ANALYTICAL *RESULTS*

Report No:	**12-33503**						
					Client:	**CARDGEO**	
Location	**103 Camley Street**						
Lab Reference (Sample Number)	211110				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	04/04/2012				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS14						
Depth (m)	4.50						
Solid Waste Analysis							
TOC (%)**	0.5				3%	5%	6%
Loss on Ignition (%) **	9.5				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg)	< 0.30				1	--	--
Mineral Oil (mg/kg)	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 1.6				100	--	--
pH (units)**	7.7				--	>6	--
Acid Neutralisation Capacity (mol / kg)	1.2				--	To be evaluated	To be evaluated
Eluate Analysis	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
	mg/l	mg/l		mg/kg			
Arsenic	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium	0.068	0.052		0.53	20	100	300
Cadmium	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium	0.0017	0.0011		0.012	0.5	10	70
Copper	0.0084	0.0035		0.038	2	50	100
Mercury	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum	0.0040	0.0035		0.035	0.5	10	30
Nickel	0.0036	0.0030		0.030	0.4	10	40
Lead	< 0.0050	< 0.0050		0.025	0.5	10	50
Antimony	< 0.0050	< 0.0050		< 0.020	0.06	0.7	5
Selenium	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc	0.0098	0.0032		0.036	4	50	200
Chloride	30	6.0		72	800	4000	25000
Fluoride	1.4	1.3		14	10	150	500
Sulphate	100	35		380	1000	20000	50000
TDS	240	100		1100	4000	60000	100000
Phenol Index	< 0.13	< 0.13		< 0.50	1	-	-
DOC	22	11		110	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.1						
Dry Matter (%)	78						
Moisture (%)	22						
Stage 1							
Volume Eluate L2 (litres)	0.31						
Filtered Eluate VE1 (litres)	0.090						

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Waste Acceptance Criteria ANALYTICAL *RESULTS*

Report No:	**12-33503**						
					Client:	**CARDGEO**	
Location	**103 Camley Street**						
Lab Reference (Sample Number)	211111				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	05/04/2012				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS18						
Depth (m)	1.50						
Solid Waste Analysis							
TOC (%)**	0.9				3%	5%	6%
Loss on Ignition (%) **	7.2				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg)	< 0.30				1	--	--
Mineral Oil (mg/kg)	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 1.6				100	--	--
pH (units)**	8.0				--	>6	--
Acid Neutralisation Capacity (mol / kg)	9.5				--	To be evaluated	To be evaluated
Eluate Analysis	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
	mg/l	mg/l		mg/kg			
Arsenic	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium	0.032	0.028		0.28	20	100	300
Cadmium	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium	0.0038	0.0015		0.017	0.5	10	70
Copper	0.0099	0.0073		0.075	2	50	100
Mercury	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum	0.083	0.043		0.46	0.5	10	30
Nickel	0.0027	0.0026		0.026	0.4	10	40
Lead	0.013	< 0.0050		0.039	0.5	10	50
Antimony	< 0.0050	< 0.0050		< 0.020	0.06	0.7	5
Selenium	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc	0.0054	0.0020		0.023	4	50	200
Chloride	6.8	< 4.0		27	800	4000	25000
Fluoride	1.5	1.2		12	10	150	500
Sulphate	23	6.6		79	1000	20000	50000
TDS	150	80		860	4000	60000	100000
Phenol Index	< 0.13	< 0.13		< 0.50	1	-	-
DOC	5.4	5.3		54	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.3						
Dry Matter (%)	76						
Moisture (%)	24						
Stage 1							
Volume Eluate L2 (litres)	0.31						
Filtered Eluate VE1 (litres)	0.14						

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Waste Acceptance Criteria ANALYTICAL *RESULTS*

Report No:	**12-33503**						
					Client:	**CARDGEO**	
Location	**103 Camley Street**						
Lab Reference (Sample Number)	211112				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	05/04/2012				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS19						
Depth (m)	2.00						
Solid Waste Analysis							
TOC (%)**	0.6				3%	5%	6%
Loss on Ignition (%) **	5.2				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg)	< 0.30				1	--	--
Mineral Oil (mg/kg)	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 1.6				100	--	--
pH (units)**	7.9				--	>6	--
Acid Neutralisation Capacity (mol / kg)	3.4				--	To be evaluated	To be evaluated
Eluate Analysis	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
	mg/l	mg/l		mg/kg			
Arsenic	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium	0.075	0.063		0.63	20	100	300
Cadmium	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium	0.0015	< 0.0010		0.0094	0.5	10	70
Copper	0.0057	< 0.0030		0.021	2	50	100
Mercury	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum	0.036	0.019		0.20	0.5	10	30
Nickel	0.0015	< 0.0010		0.010	0.4	10	40
Lead	< 0.0050	< 0.0050		0.024	0.5	10	50
Antimony	< 0.0050	< 0.0050		0.023	0.06	0.7	5
Selenium	< 0.010	< 0.010		0.044	0.1	0.5	7
Zinc	0.0036	0.0016		< 0.020	4	50	200
Chloride	12	< 4.0		29	800	4000	25000
Fluoride	2.3	2.1		21	10	150	500
Sulphate	280	62		730	1000	20000	50000
TDS	400	140		1500	4000	60000	100000
Phenol Index	< 0.13	< 0.13		< 0.50	1	-	-
DOC	9.0	6.4		65	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.0						
Dry Matter (%)	86						
Moisture (%)	14						
Stage 1							
Volume Eluate L2 (litres)	0.32						
Filtered Eluate VE1 (litres)	0.090						

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Waste Acceptance Criteria ANALYTICAL *RESULTS*

Report No:	**12-33503**						
					Client: CARDGEO		
Location	**103 Camley Street**						
Lab Reference (Sample Number)	211113				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	05/04/2012				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS20						
Depth (m)	0.50						
Solid Waste Analysis							
TOC (%)**	0.7				3%	5%	6%
Loss on Ignition (%) **	3.3				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg)	< 0.30				1	--	--
Mineral Oil (mg/kg)	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	290				100	--	--
pH (units)**	7.7				--	>6	--
Acid Neutralisation Capacity (mol / kg)	12				--	To be evaluated	To be evaluated
Eluate Analysis	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
	mg/l	mg/l		mg/kg			
Arsenic	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium	0.096	0.035		0.42	20	100	300
Cadmium	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium	0.0024	0.0020		0.021	0.5	10	70
Copper	0.0044	0.0034		0.035	2	50	100
Mercury	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum	0.024	0.0086		0.10	0.5	10	30
Nickel	0.0011	< 0.0010		0.0092	0.4	10	40
Lead	< 0.0050	< 0.0050		0.022	0.5	10	50
Antimony	0.0053	< 0.0050		0.045	0.06	0.7	5
Selenium	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc	0.0042	0.0023		0.025	4	50	200
Chloride	14	< 4.0		30	800	4000	25000
Fluoride	1.5	1.1		11	10	150	500
Sulphate	660	71		1400	1000	20000	50000
TDS	700	120		1900	4000	60000	100000
Phenol Index	< 0.13	< 0.13		< 0.50	1	-	-
DOC	5.6	4.8		49	500	800	1000
Leach Test Information							
Stone Content (%)	32						
Sample Mass (kg)	0.98						
Dry Matter (%)	91						
Moisture (%)	9.0						
Stage 1							
Volume Eluate L2 (litres)	0.33						
Filtered Eluate VE1 (litres)	0.20						

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Analytical Report Number : 12-33503

Project / Site name: 103 Camley Street

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and topsoil/loam soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 2 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
211102	WS1	None Supplied	0.50	Light brown clay with brick.
211103	WS2B	None Supplied	1.50	Light brown clay and topsoil with brick and chalk.
211104	WS5	None Supplied	2.50	Light brown clay with brick.
211105	WS6	None Supplied	0.60	Brown clay with brick and stones.
211106	WS7	None Supplied	3.00	Light brown clay with brick.
211107	WS8	None Supplied	2.00	Brown gravelly sand with rubble and brick.
211108	WS12	None Supplied	3.00	Brown clay with brick.
211109	WS13	None Supplied	0.60	Light brown sand.
211110	WS14	None Supplied	4.50	Light brown clay.
211111	WS18	None Supplied	1.50	Brown clay with brick and chalk.
211112	WS19	None Supplied	2.00	Light brown clay.
211113	WS20	None Supplied	0.50	Light brown clay and sand with brick and stones.

Analytical Report Number : 12-33503

Project / Site name: 103 Camley Street

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe.	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance	L046	W	NONE
BTEX in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S	W	MCERTS
Chloride in WAC leachate	Determination of chloride in leachate by titration against silver nitrate.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L024	W	NONE
Fluoride in WAC leachate	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L033	W	NONE
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L047-PL	D	MCERTS
Metals in WAC leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039	W	ISO 17025
Mineral Oil in Soil	Determination of dichloromethane/hexane extractable hydrocarbons in soil by GC-MS.	In-house method based on USEPA 8270	L064	D	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK	W	NONE
Monohydric phenols in WAC leachate	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	NONE
PCB's by GC-MS in soil	Determination of PCB by extraction with DCM and analysis by GC-MS.	In-house method based on USEPA 8270	L064	D	NONE
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-UK	W	MCERTS
Seciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064	D	NONE
Stones content of soil	Stones not passing through a 2 mm sieve is determined gravimetrically and reported as a percentage of the dry weight. Sample results are not corrected for the stone content of the sample.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK	D	NONE
Sulphate in WAC leachate	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039	W	NONE
Total dissolved solids in WAC leachate	Determination of total dissolved solids in leachate by electrometric measurement.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L004	W	NONE

Analytical Report Number : 12-33503

Project / Site name: 103 Camley Street

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023	D	MCERTS
Total organic carbon in WAC leachate	Determination of total organic carbon in leachate by the measurement on a non-dispersive infrared analyser of carbon dioxide released by acidification.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L037	W	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Watford,
WD25 9XX

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Analytical Report Number : 12-33749

Project / Site name:	Camley Street	**Samples received on:**	27/04/2012
Your job number:	CG/5521C	**Samples instructed on:**	27/04/2012
Your order number:		**Analysis completed by:**	09/05/2012
Report Issue Number:	1	**Report issued on:**	10/05/2012
Samples Analysed:	10 soil samples		

Signed:

Dr Claire Stone
Quality Manager
For & on behalf of i2 Analytical Ltd.

Signed:

Anna Romanska
Quality Manager
For & on behalf of i2 Analytical Ltd.

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting

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Analytical Report Number: 12-33749

Project / Site name: Camley Street

Lab Sample Number				212539	212540	212541	212542	212543
Sample Reference				BH1	BH2	BH2	BH2	BH3
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.20-1.65	2.00-2.45	7.45-7.50	18.00-18.45	3.00-3.45
Date Sampled				19/04/2012	18/04/2012	18/04/2012	18/04/2012	16/04/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	17	14	18	18	20
Total mass of sample received	kg	0.001	NONE	2.0	2.0	1.0	2.0	2.0
General Inorganics								
pH	pH Units	N/A	MCERTS	7.9	8.9	7.9	7.4	10.3
Total Sulphate as SO_4	mg/kg	100	ISO 17025	N/A	N/A	79000	1300	N/A
Water Soluble Sulphate as SO_4 (2:1)	g/l	0.0025	MCERTS	6.5	6.6	9.1	1.3	0.41
Water Soluble Sulphate as SO_4 (2:1)	mg/kg	2.5	MCERTS	6500	6600	9100	1300	410
Total Sulphur	mg/kg	100	NONE	N/A	N/A	25000	5500	N/A
Heavy Metals / Metalloids								
Magnesium (water soluble)	mg/kg	5	NONE	220	28	N/A	N/A	N/A

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Project / Site name: Camley Street

Lab Sample Number				212544	212545	212546	212547	212548
Sample Reference				BH3	BH1	BH4	WS19	WS14
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				12.00-12.45	8.45-8.50	13.95-14.00	4.00	4.50
Date Sampled				16/04/2012	19/04/2012	17/04/2012	05/04/2012	04/04/2012
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	17	19	18	19	0.00
Total mass of sample received	kg	0.001	NONE	2.0	1.2	1.2	0.91	0.49
General Inorganics								
pH	pH Units	N/A	MCERTS	7.3	7.2	8.1	7.2	8.1
Total Sulphate as SO_4	mg/kg	100	ISO 17025	15000	8100	1400	N/A	N/A
Water Soluble Sulphate as SO_4 (2:1)	g/l	0.0025	MCERTS	5.0	8.0	1.3	2.3	1.4
Water Soluble Sulphate as SO_4 (2:1)	mg/kg	2.5	MCERTS	5000	8000	1300	2300	1400
Total Sulphur	mg/kg	100	NONE	5400	2700	3100	N/A	N/A
Heavy Metals / Metalloids								
Magnesium (water soluble)	mg/kg	5	NONE	N/A	N/A	N/A	N/A	N/A

Analytical Report Number : 12-33749

Project / Site name: Camley Street

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and topsoil/loam soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 2 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
212539	BH1	None Supplied	1.20-1.65	Light brown clay and sand.
212540	BH2	None Supplied	2.00-2.45	Light brown clay and sand.
212541	BH2	None Supplied	7.45-7.50	Light brown clay and sand.
212542	BH2	None Supplied	18.00-18.45	Grey clay.
212543	BH3	None Supplied	3.00-3.45	Grey clay and topsoil.
212544	BH3	None Supplied	12.00-12.45	Light grey clay.
212545	BH1	None Supplied	8.45-8.50	Light brown clay.
212546	BH4	None Supplied	13.95-14.00	Grey clay.
212547	WS19	None Supplied	4.00	Brown clay and topsoil.
212548	WS14	None Supplied	4.50	Brown clay and topsoil.

Analytical Report Number : 12-33749

Project / Site name: Camley Street

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Magnesium, water soluble, in soil	Determination of water soluble magnesium by extraction with water followed by ICP-OES.	In-house method based on TRL 447	L038-UK	D	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK	W	NONE
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS
Stones content of soil	Stones not passing through a 2 mm sieve is determined gravimetrically and reported as a percentage of the dry weight. Sample results are not corrected for the stone content of the sample.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by extraction with water followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	ISO 17025
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, and MEWAM 2006 Methods for the Determination of Metals in Soil	L038-PL	D	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

APPENDIX G

Monitoring records

GAS MONITORING RECORD SHEET

JOB DETAILS			
Site:	103 Camley Street, London	Job No:	CG/5521C
Date:	26.04.12	Engineer:	CK
Time:	09.00-11.00, returning 15.00-16.00	Client	Urbanest UK Limited

METEOROLOGICAL & SITE INFORMATION

State of ground:		Dry		Moist	x	Wet				
Wind:		Calm		Light	x	Moderate				Strong
Cloud cover:		None		Slight		Cloudy		x		Overcast
Precipitation:		None		Slight	x	Moderate	to	x		Heavy
Barometric pressure (mb):	990-991					Air temperature (oC):		12		

Well No.	Time (s)	Flow (l/hr)	dA (PA)	O_2 (% vol. in air)	CO_2 (% vol. in air)	CH_4 (% vol. in air)	H_2S (ppm)	PID (ppm)	Depth to GW (mbgl)	Free product (mm)	Comments
BH 1	0	-0.8	-2.7	20.3	0.0	0.0	NR	NR	5.09	NONE	BH depth = 6.00m
	15	0.1	0.0	20.8	0.0	0.0					Very windy
	30	0.0	0.0	20.8	0.0	0.0					
	45	0.0	0.1	20.8	0.0	0.0					
	60	-0.4	1.0	20.8	0.0	0.0					
	90	0.5	1.8	20.8	0.0	0.0					
	120	-0.1	2.8	20.8	0.0	0.0					
	150	0.8	3.1	20.8	0.0	0.0					
	180	0.6	0.8	20.8	0.0	0.0					
BH2	0	0.1	0.2	19.9	0.0	0.0	NR	NR	4.24	NONE	BH depth = 6.00m
	15	0.1	0.2	19.8	0.0	0.0					
	30	0.0	0.0	19.7	0.1	0.0					
	45	0.0	0.0	19.7	0.2	0.0					
	60	0.0	-0.1	19.7	0.3	0.0					
	90	0.0	0.0	19.7	0.3	0.0					
	120	0.0	0.0	19.7	0.0	0.0					
	150	0.0	0.0	19.7	0.3	0.0					
	180	0.0	0.0	19.7	0.3	0.0					
BH3 (Dual)	0	-0.1	0.0	20.7	0.0	0.0	NR	NR	DRY	NONE	Shallow BH depth = 1.00m
	15	0.0	0.0	21.0	0.0	0.0			NA	NONE	Deep BH depth = NA
	30	0.0	0.0	21.0	0.0	0.0					
	45	0.0	0.0	21.0	0.0	0.0					Blockage in shallow standpipe at 1mbgl and at 0.15m in deep standpipe. No gas tap in deep pipe, gas data relates to shallow install but might be spurious given blockage.
	60	0.0	0.0	21.0	0.0	0.0					
	90	0.0	0.0	21.0	0.0	0.0					
	120	0.0	0.0	21.0	0.0	0.0					
	150	0.0	0.1	21.0	0.0	0.0					
	180	0.0	0.0	21.0	0.0	0.0					
BH4 (Dual)	0	0.1	0.6	20.4	0.5	0.0	NR	NR	4.28	NONE	Shallow BH depth = 6.00m
	15	-0.1	-0.3	20.1	0.0	0.0			5.90	NONE	Deep BH depth = 16.78
	30	0.0	-0.3	19.7	0.4	0.0					
	45	0.0	0.0	19.6	0.5	0.0					
	60	0.0	0.0	19.6	0.5	0.0					Possible block in deep borehole.
	90	0.0	0.0	19.5	0.5	0.0					
	120	0.0	0.0	19.5	0.5	0.0					
	150	0.0	0.0	19.5	0.5	0.0					
	180	0.0	0.0	19.5	0.5	0.0					

Notes:
NR = Not recorded

GAS MONITORING RECORD SHEET

JOB DETAILS			
Site:	103 Camley Street, London	Job No:	CG/5521C
Date:	02.05.12	Engineer:	CK
Time:	09.00-11.00, returning 14.00 - 16.30	Client	Urbanest UK Limited

METEOROLOGICAL & SITE INFORMATION

State of ground:		Dry		Moist	x	Wet					
Wind:		Calm		Light	x	Moderate				Strong	
Cloud cover:		None		Slight		Cloudy		x		Overcast	
Precipitation:		None		Slight	x	Moderate	to	x		Heavy	
Barometric pressure (mb):	1019-1018					Air temperature (oC):		10			

Well No.	Time (s)	Flow (l/hr)	dA (PA)	O_2 (% vol. in air)	CO_2 (% vol. in air)	CH_4 (% vol. in air)	H_2S (ppm)	PID (ppm)	Depth to GW (mbgl)	Free product (mm)	Comments
BH 1	0	-0.1	-0.2	20.4	0.0	0.0	NR	NR	4.98	NONE	BH depth = 6.00m
	15	0.0	-0.1	20.7	0.0	0.0					
	30	0.0	0.0	20.8	0.0	0.0					
	45	0.0	0.0	20.8	0.0	0.0					
	60	0.0	-0.1	20.8	0.0	0.0					
	90	0.0	-0.1	20.8	0.0	0.0					
	120	0.0	0.0	20.8	0.0	0.0					
	150	0.0	0.0	20.8	0.0	0.0					
	180	0.0	0.1	20.8	0.0	0.0					
BH2	0	0.0	0.0	19.1	0.0	0.0	NR	NR	3.28	NONE	BH depth = 6.00m
	15	0.1	0.4	20.4	0.1	0.0					
	30	0.0	0.2	20.7	0.1	0.0					Lots of standing water had gone down the standpipe during period of heavy rainfall on previous visit.
	45	0.0	0.2	20.8	0.1	0.0					
	60	0.0	0.2	20.8	0.1	0.0					
	90	0.0	0.2	20.8	0.1	0.0					
	120	0.0	0.2	20.8	0.1	0.0					
	150	0.0	0.2	20.8	0.1	0.0					
	180	0.0	0.2	20.8	0.1	0.0					
BH3 (Dual)	0	0.0	0.2	19.0	0.0	0.0	NR	NR	4.82	NONE	Shallow BH depth = 5.00m
	15	0.0	0.2	20.1	0.1	0.0			9.82	NONE	Deep BH depth = 27.05m
	30	0.0	0.0	20.1	0.1	0.0					
	45	0.0	-0.1	20.1	0.1	0.0					Boreholes repaired during monitoring visit.
	60	0.0	0.0	20.0	0.1	0.0					
	90	0.0	0.1	19.9	0.1	0.0					No gas tap in deep installation - gas data relates to MG only.
	120	0.0	0.1	19.8	0.1	0.0					
	150	0.0	0.0	19.8	0.1	0.0					
	180	0.0	0.0	19.4	0.1	0.0					
BH4 (Dual)	0	0.0	0.0	20.4	0.0	0.0	NR	NR	4.32	NONE	Shallow BH depth = 6.00m
	15	0.1	0.3	20.1	0.1	0.0			5.43	NONE	Deep BH depth = 29.00m
	30	0.1	0.4	20.1	0.3	0.0					
	45	0.1	0.4	20.0	0.3	0.0					Deep borehole repaired during monitoring visit.
	60	0.1	0.3	20.0	0.3	0.0					
	90	0.0	0.2	20.0	0.3	0.0					
	120	0.1	0.3	20.0	0.3	0.0					
	150	0.0	0.2	19.9	0.4	0.0					
	180	0.0	0.2	19.8	0.4	0.0					

Notes:
NR = Not recorded

GAS MONITORING RECORD SHEET

JOB DETAILS			
Site:	103 Camley Street, London	Job No:	CG/5521C
Date:	10.05.12	Engineer:	CK
Time:	09.00	Client	Urbanest UK Limited

METEOROLOGICAL & SITE INFORMATION

State of ground:		Dry		Moist	x	Wet				
Wind:		Calm		Light	x	Moderate	to	x	Strong	
Cloud cover:		None		Slight		Cloudy		x	Overcast	
Precipitation:	x	None		Slight		Moderate			Heavy	

Barometric pressure (mb): 1005-1007 Air temperature (oC): 17

Well No.	Time (s)	Flow (l/hr)	dA (PA)	O_2 (% vol. in air)	CO_2 (% vol. in air)	CH_4 (% vol. in air)	H_2S (ppm)	PID (ppm)	Depth to GW (mbgl)	Free product (mm)	Comments
BH 1	0	-0.3	-0.4	20.6	0.0	0.0	NR	NR	5.11	NONE	BH depth = 6.00m
	15	0.1	0.3	20.8	0.0	0.0					
	30	0.0	-0.2	20.8	0.0	0.0					
	45	-0.2	-0.7	20.8	0.0	0.0					
	60	-0.7	-2.4	20.8	0.0	0.0					
	90	-0.7	-2.4	20.8	0.0	0.0					
	120	-0.5	-1.2	20.8	0.0	0.0					
	150	-0.3	-1.0	20.8	0.0	0.0					
	180	-0.3	-1.0	20.8	0.0	0.0					
BH2	0	0.9	3.2	20.4	0.0	0.0	NR	NR	3.28	NONE	BH depth = 6.00m
	15	0.3	0.9	20.7	0.0	0.0					
	30	1.8	2.4	20.6	0.0	0.0					
	45	0.2	0.9	20.6	0.0	0.0					
	60	1.3	2.4	20.6	0.0	0.0					
	90	0.4	1.0	20.6	0.0	0.0					
	120	0.8	2.8	20.6	0.0	0.0					
	150	0.4	1.3	20.6	0.0	0.0					
	180	0.0	0.0	20.6	0.0	0.0					
BH3 (Dual)	0	-0.3	-1.1	20.4	0.0	0.0	NR	NR	4.74	NONE	Shallow BH depth = 5.00m
	15	-0.4	-1.5	20.8	0.0	0.0			6.83	NONE	Deep BH depth = 27.05m
	30	-0.4	-1.5	21.0	0.0	0.0					
	45	-0.5	-1.8	21.0	0.0	0.0					
	60	-0.5	-2.1	21.0	0.0	0.0					
	90	-0.8	-2.7	21.0	0.0	0.0					No gas tap in deep installation - gas data relates to MG only.
	120	-0.8	-2.7	21.0	0.0	0.0					
	150	-0.1	-0.5	21.0	0.0	0.0					
	180	-0.1	-0.4	21.0	0.0	0.0					
BH4 (Dual)	0	0.2	0.9	20.4	0.0	0.0	NR	NR	4.52	NONE	Shallow BH depth = 6.00m
	15	0.1	0.6	20.7	0.0	0.0			5.62	NONE	Deep BH depth = 29.00m
	30	0.2	0.7	20.7	0.0	0.0					
	45	0.2	0.6	20.6	0.0	0.0					
	60	-0.1	-0.2	20.5	0.1	0.0					
	90	0.3	1.1	20.5	0.0	0.0					
	120	0.2	0.7	20.4	0.0	0.0					
	150	0.1	0.5	20.5	0.0	0.0					
	180	0.1	0.5	20.4	0.0	0.0					

Notes:
NR = Not recorded

GAS MONITORING RECORD SHEET

JOB DETAILS			
Site:	103 Camley Street, London	Job No:	CG/5521C
Date:	17.05.12	Engineer:	CK
Time:	09.00	Client	Urbanest UK Limited

METEOROLOGICAL & SITE INFORMATION

State of ground:	x	Dry		Moist		Wet			
Wind:	x	Calm		Light	x	Moderate		Strong	
Cloud cover:		None		Slight	x	Cloudy		Overcast	
Precipitation:	x	None		Slight		Moderate		Heavy	

Barometric pressure (mb): 1018-1017 Air temperature (oC): 12

Well No.	Time (s)	Flow (l/hr)	dA (PA)	O_2 (% vol. in air)	CO_2 (% vol. in air)	CH_4 (% vol. in air)	H_2S (ppm)	PID (ppm)	Depth to GW (mbgl)	Free product (mm)	Comments
BH 1	0	-0.1	-0.3	18.8	0.0	0.0	NR	NR	5.14	NONE	BH depth = 6.00m
	15	0.0	0.2	19.9	0.0	0.0					
	30	0.0	-0.3	20.8	0.0	0.0					
	45	0.0	-0.3	20.8	0.0	0.0					
	60	-0.1	-0.4	20.8	0.0	0.0					
	90	0.0	-0.1	20.8	0.0	0.0					
	120	0.0	0.0	21.0	0.0	0.0					
	150	0.0	0.0	21.0	0.0	0.0					
	180	-0.1	-0.4	21.0	0.0	0.0					
BH2	0	0.0	0.0	20.7	0.0	0.0	NR	NR	3.38	NONE	BH depth = 6.00m
	15	0.0	0.0	20.6	0.1	0.0					
	30	0.0	0.1	20.4	0.2	0.0					
	45	0.0	0.0	20.3	0.2	0.0					
	60	0.0	0.0	20.3	0.2	0.0					
	90	0.0	0.0	20.3	0.3	0.0					
	120	0.0	0.0	20.3	0.3	0.0					
	150	0.0	0.0	20.3	0.3	0.0					
	180	0.0	0.0	20.3	0.3	0.0					
BH3 (Dual)	0	0.0	0.0	20.4	0.0	0.0	NR	NR	4.91	NONE	Shallow BH depth = 5.00m
	15	0.0	0.0	20.6	0.0	0.0			6.32	NONE	Deep BH depth = 27.05m
	30	0.0	0.0	20.6	0.0	0.0					
	45	0.0	0.0	20.6	0.0	0.0					
	60	0.0	0.0	20.6	0.0	0.0					
	90	0.0	0.0	20.6	0.0	0.0					No gas tap in deep installation - gas data relates to MG only.
	120	0.0	0.0	20.6	0.0	0.0					
	150	0.0	0.0	20.6	0.0	0.0					
	180	0.0	0.0	20.6	0.0	0.0					
BH4 (Dual)	0	0.1	0.4	20.5	0.0	0.0	NR	NR	4.55	NONE	Shallow BH depth = 6.00m
	15	0.0	0.0	20.4	0.3	0.0			5.59	NONE	Deep BH depth = 29.00m
	30	0.0	0.2	19.8	0.4	0.0					
	45	0.1	0.3	19.8	0.5	0.0					
	60	0.0	0.2	19.7	0.5	0.0					
	90	0.1	0.3	19.7	0.5	0.0					
	120	0.0	0.0	19.7	0.5	0.0					
	150	0.1	0.4	19.7	0.5	0.0					
	180	0.1	0.4	19.7	0.5	0.0					

Notes:
NR = Not recorded

GAS MONITORING RECORD SHEET

JOB DETAILS			
Site:	103 Camley Street, London	Job No:	CG/5521C
Date:	24.05.12	Engineer:	CK
Time:	09.00	Client	Urbanest UK Limited

METEOROLOGICAL & SITE INFORMATION

State of ground:	x	Dry		Moist		Wet			
Wind:	x	Calm		Light		Moderate		Strong	
Cloud cover:	x	None		Slight		Cloudy		Overcast	
Precipitation:	x	None		Slight		Moderate		Heavy	
Barometric pressure (mb):	1024-1023				Air temperature (oC):		18		

Well No.	Time (s)	Flow (l/hr)	dA (PA)	O_2 (% vol. in air)	CO_2 (% vol. in air)	CH_4 (% vol. in air)	H_2S (ppm)	PID (ppm)	Depth to GW (mbgl)	Free product (mm)	Comments
BH 1	0	0.0	0.1	20.6	0.0	0.0	NR	0.0	5.16	NONE	BH depth = 6.00m
	15	0.1	0.3	20.6	0.1	0.0					
	30	0.0	0.2	20.4	0.2	0.0					
	45	0.0	0.2	20.0	0.4	0.0					
	60	0.0	0.1	20.0	0.4	0.0					
	90	0.0	0.1	20.0	0.4	0.0					
	120	0.0	0.1	20.0	0.4	0.0					
	150	0.0	0.1	20.0	0.4	0.0					
	180	0.0	0.1	20.0	0.4	0.0					
BH2	0	0.0	0.1	20.7	0.0	0.0	NR	0.0	3.53	NONE	BH depth = 6.00m
	15	0.0	0.0	20.7	0.1	0.0					
	30	0.0	0.0	20.7	0.1	0.0					
	45	0.0	0.0	20.7	0.1	0.0					
	60	0.0	0.0	20.7	0.1	0.0					
	90	0.0	0.0	20.7	0.1	0.0					
	120	0.0	0.1	20.7	0.1	0.0					
	150	0.0	0.2	20.7	0.1	0.0					
	180	0.0	0.1	20.7	0.1	0.0					
BH3 (Dual)	0	0.4	0.1	20.3	0.0	0.0	NR	0.0	4.92	NONE	Shallow BH depth = 5.00m
	15	0.2	0.8	20.4	0.0	0.0			6.42	NONE	Deep BH depth = 27.05m
	30	0.2	0.8	20.1	0.1	0.0					
	45	0.3	1.0	20.0	0.1	0.0					
	60	0.3	1.0	20.0	0.1	0.0					
	90	0.3	1.0	20.0	0.1	0.0					No gas tap in deep installation - gas data relates to MG only.
	120	0.2	0.9	20.0	0.1	0.0					
	150	0.2	0.8	20.0	0.1	0.0					
	180	0.2	0.8	20.0	0.1	0.0					
BH4 (Dual)	0	0.1	0.3	20.5	0.0	0.0	NR	0.0	4.68	NONE	Shallow BH depth = 6.00m
	15	0.0	0.2	20.5	0.1	0.0			5.67	NONE	Deep BH depth = 29.00m
	30	0.0	0.0	19.8	0.3	0.0					
	45	0.0	0.0	19.3	0.4	0.0					
	60	0.0	0.0	19.2	0.5	0.0					
	90	0.0	0.2	19.2	0.5	0.0					
	120	0.1	0.3	19.2	0.5	0.0					
	150	0.0	0.3	19.2	0.5	0.0					
	180	0.0	0.2	19.2	0.5	0.0					

Notes:
NR = Not recorded

GAS MONITORING RECORD SHEET

JOB DETAILS			
Site:	103 Camley Street, London	Job No:	CG/5521C
Date:	31.05.12	Engineer:	CK
Time:	11.30	Client	Urbanest UK Limited

METEOROLOGICAL & SITE INFORMATION

State of ground:	x	Dry		Moist		Wet			
Wind:		Calm	x	Light		Moderate		Strong	
Cloud cover:		None	x	Slight		Cloudy		Overcast	
Precipitation:	x	None		Slight		Moderate		Heavy	

Barometric pressure (mb): 1016-1015 Air temperature (oC): 18

Well No.	Time (s)	Flow (l/hr)	dA (PA)	O_2 (% vol. in air)	CO_2 (% vol. in air)	CH_4 (% vol. in air)	H_2S (ppm)	PID (ppm)	Depth to GW (mbgl)	Free product (mm)	Comments
BH 1	0	0.2	0.7	19.3	0.0	0.0	NR	0.0	5.16	NONE	BH depth = 6.00m
	15	0.2	0.7	20.4	0.0	0.0					
	30	0.2	0.6	20.7	0.0	0.0					
	45	0.0	0.0	20.8	0.1	0.0					
	60	0.0	0.0	20.8	0.1	0.0					
	90	0.0	0.0	20.6	0.2	0.0					
	120	0.2	0.7	20.5	0.2	0.0					
	150	0.2	0.7	20.5	0.2	0.0					
	180	0.1	0.4	20.5	0.2	0.0					
BH2	0	0.0	0.0	20.8	0.0	0.0	NR	0.0	3.52	NONE	BH depth = 6.00m
	15	0.0	0.0	20.8	0.0	0.0					
	30	0.0	0.0	20.8	0.0	0.0					
	45	0.0	0.0	20.8	0.0	0.0					
	60	0.0	0.1	20.8	0.0	0.0					
	90	0.0	0.0	20.8	0.0	0.0					
	120	0.0	0.0	20.8	0.0	0.0					
	150	0.0	0.0	20.8	0.0	0.0					
	180	0.0	0.0	20.8	0.0	0.0					
BH3 (Dual)	0	0.1	0.4	20.5	0.0	0.0	NR	0.0	4.92	NONE	Shallow BH depth = 5.00m
	15	0.0	0.2	20.8	0.0	0.0			6.40	NONE	Deep BH depth = 27.05m
	30	0.0	0.0	20.8	0.0	0.0					
	45	0.0	0.0	20.7	0.0	0.0					
	60	0.0	0.0	21.0	0.0	0.0					
	90	0.1	0.3	21.0	0.0	0.0					No gas tap in deep installation - gas data relates to MG only.
	120	0.0	0.0	21.0	0.0	0.0					
	150	0.0	0.0	21.0	0.0	0.0					
	180	0.0	0.0	21.0	0.0	0.0					
BH4 (Dual)	0	0.3	1.1	20.5	0.0	0.0	NR	0.0	4.60	NONE	Shallow BH depth = 6.00m
	15	0.2	0.7	20.8	0.0	0.0			5.70	NONE	Deep BH depth = 29.00m
	30	0.0	0.2	20.8	0.0	0.0					
	45	0.0	0.0	20.8	0.0	0.0					
	60	0.0	0.1	20.8	0.0	0.0					
	90	0.0	0.4	20.8	0.0	0.0					
	120	0.1	0.4	20.8	0.0	0.0					
	150	0.1	0.3	20.8	0.0	0.0					
	180	0.0	0.2	20.8	0.0	0.0					

Notes:
NR = Not recorded

APPENDIX H

Maximum permissible concentrations

Proposed MPCs for imported capping layer soils

Determinand		Public open spaces	Rationale
Arsenic		35	SGV[4]
Cadmium		85	SGV[4]
Chromium (total)		38	GAC[5]
Lead		450	SGV[4]
Mercury		240	SGV[4]
Selenium		600	SGV[4]
Copper		135 (6,700)[3]	Sludge Regulations 1989[6] (GAC[5])
Nickel		130	SGV[4]
Zinc		300 (20,000)[3]	Sludge Regulations 1989[6] (GAC[5])
Boron		5	Limit for phytotoxic effect[7]
Barium		300	Former GAC[14]
Beryllium		26	GAC[5]
Vanadium		210	GAC[5]
Benzo(a)pyrene		[2.5]	(GAC[±])
Benzo(a)anthracene		18	GAC[5]
Benzo(b)fluoranthene		24	
Benzo(k)fluoranthene		25	
Chrysene		230	
Dibenzo(a,h)anthracene		2.4	
Indeno(1,2,3-cd)pyrene		24	
Naphthalene		9.2	
TPH aliphatic[8]	EC_{5-6}	79	GAC[5] Comparison of TPH must also be made against the TPH waste assessment banding below to confirm the material does not classify as hazardous waste.
	$EC>_{6-8}$	230	
	$EC>_{8-10}$	59	
	$EC>_{10-12}$	540	
	$EC>_{12-16}$	1,000[9]	
	$EC>_{16-35}$	1,000[9]	
TPH aromatic[8]	EC_{5-7}	1.0	
	$EC>_{7-8}$	1,000[9]	
	$EC>_{8-10}$	96	
	$EC>_{10-12}$	480	
	$EC>_{12-16}$	1,000[9]	
	$EC>_{16-21}$	1,000[9]	
	$EC>_{21-35}$	1,000[9]	
Sum of TPH aliphatic & aromatic C_5-C_{10}		< 1,000	Hazardous waste thresholds[10] (C_{10}+ MPC based on threshold for C_{25}+)
Sum of TPH aliphatic & aromatic C_{10}+		< 1,000	
pH		5-10	
Phenols		520	SGV[4]
Sulphate - 2:1 water/soil extract (SO_4 mg/l)		500[11]	Limit for Design Sulphate Class DS-1[12]
Total Cyanide		17	GAC[5]
Asbestos		No fibres detected	-

Notes:

1. These maximum permissible concentrations (MPCs) are import criteria only and are not necessarily appropriate for human health risk assessment.
2. In mg/kg dry soil except sulphate and pH.
3. MPCs limited by waste assessment thresholds - if failure occurs further assessment can be made– copper and zinc concentrations may individually exceed MPC, subject to the assessment of the cumulative effect of copper and zinc, but may not exceed bracketed human health GAC values.
4. Soil Guideline Value for residential with plant uptake assuming 6% SOM.
5. Generic Assessment Criteria generated 'in-house' based on CLEA model.
6. Schedule 2, Sludge (Use in Agriculture) Regulations 1989. Values taken for pH 6-7.
7. Nable, Banuelos and Paul. (1997). *Boron Toxicity*. Plant and Soil, **Vol. 193**, pp1 81-198.
8. Speciated TPH values must not exceed GAC. Assessment of TPH must also be made against hazardous waste thresholds to confirm imported soils do not classify as hazardous material.
9. GAC derived MPC for TPH fraction limited to 1,000mg/kg based on 'waste thresholds'.
10. Environment Agency. (2007). *A Guide to Hazardous Waste Regulations: How to find out if waste oil and waste that contain oil are hazardous*. HWR08.
11. If failure occurs further assessment can be made.
12. 2:1 water/soil sulphate extract limit for DS-1 in accordance with BRE SD1.
13. Laboratory screen by microscopy may be required subject to source of material.
14. GAC created under the old approach (Dutch Intervention Value is 625mg/kg, so the GAC is considered conservative).