Appendix F-2: RSK Group, Twickenham Railway Station, London Road, Geotechnical Report, August 2010 (Ref: 241458-01(00)

RSK GROUP PLC

Solum Regeneration

Twickenham Railway Station, London Road.

Geotechnical Report

Project no. 241458-01(01)

August 2010

Safeguarding your business environment

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1. INTRODUCTION

1.1 Instructions

On the instructions of Waterman Structures, on behalf of Solum Regeneration (the 'Client'), RSK STATS Geoconsult (RSK) has carried out a ground investigation of Twickenham Railway Station, London Road, in Twickenham.

The project was commissioned in connection with a proposal by the Client to redevelop the site with a new ticket office and station entrance, with residential apartments overlying the railway on a raised deck, ranging between 3 and 15 storey high.

1.2 Project Brief

The project was carried out to an agreed brief as set out in RSK's proposal letter of 31st March 2010, reference 241458/01JDB Rev 01. The agreed scope of work also included the requirements of Waterman Energy, Environment & Design Limited, as set out in their Environmental Ground Investigation Specification, EED11251-100/S/1.1.1/CWS.

The work undertaken included the following tasks:

Site Investigation

- Seven light cable percussive boreholes to depths ranging between 15.0m and 35mbgl.
- Four drive-in window sampler boreholes to a nominal depth of 5.0m, with follow on dynamic probing to find the London Clay interface beneath the site;
- Installation of three gas and groundwater monitoring wells;
- Off site analysis for geotechnical and geoenvironmental purposes; and
- Interpretative geotechnical reporting.

1.3 Standards

The intrusive aspects of the investigation were generally carried out following guidance given in BS 5930:1999 - Code of Practice for Site Investigations.

The collection and recovery of environmental samples were generally carried out following guidance given in BS 10175:2001, Investigation of potentially Contaminated Sites.

1.4 Limitations

This report should be considered in the light of any changes in legislation, statutory requirement or industry practices that may have occurred subsequent to the date of issue.

The opinions and recommendations expressed in this report are based on the ground conditions encountered during the site work, the results of field and laboratory testing and interpretation between exploratory holes. The material encountered and samples obtained represent only a small proportion of the materials present on-site, therefore other conditions may prevail at the site which have not been revealed by this investigation.

The interpretation of issues relating to ground contamination was outside the agreed scope of this report.

The results of RSK laboratory tests are covered by UKAS accreditation, but opinions and interpretations expressed in the report and on the site work records are outside the scope of this accreditation. Where laboratory testing has been carried out at a sub-contractor laboratory, this laboratory is an approved sub-contractor in accordance with the requirements of the RSK quality management system and is UKAS accredited for the relevant range of tests undertaken.

The results of a site investigation by Ground Investigation & Piling Ltd on an adjacent site “Regal House” have been incorporated (where appropriate) into this report on the instruction of Waterman Structures. RSK cannot accept any liability for the veracity or accuracy of this information.

2. SITE DETAILS

2.1 Description and Geographic Setting

The site is located at Twickenham Railway Station in London at National Grid reference 516130, 173700, as shown on **Figure 1**.

The site is roughly triangular in shape and covers an area of approximately 1 hectare. The site is occupied by an active railway station and associated car park for Twickenham Railway Station. There are five rail tracks and associated platforms in the southern half of the site, four of which are active, and the station ticket office is located at western boundary with London Road. A concrete footbridge crosses the tracks at the eastern site boundary. An iron footbridge crosses the tracks on the sites western boundary. The current layout of the site is as shown on **Figure 2**.

The area around the site is a mixture of residential and commercial uses, as detailed below:

To the North:	The River Crane bounds the north of the site, with residential properties beyond.
To the East:	The railway and station platforms are present to the east.
To the South:	Marys Terrace, followed by a large commercial building Regal House and residential terrace properties, bound the south of the site.
To the West:	London Road, followed by the Post Office sorting office and a number of smaller commercial practises, bound the west of the site.

2.2 Reconnaissance Survey

The site was visited on 1st June 2010. The characteristics of the site observed during the site reconnaissance visit and obtained from current Ordnance Survey maps are summarised in **Table 2.1**.

Table 2.1 – Site description

Feature	Description
Physical characteristics	
Area of site	Approximately 1 hectare.
Ground levels	The ground slopes generally downwards towards the east with ground levels at the site ranging from around 12.5mAOD to 8.0mAOD.
Depressions in the ground surface	None observed.
Waterlogged or marshy ground	None observed.
Surface water	The River Crane flows in an easterly direction past the northern site boundary.
Trees and hedges	Trees are present along the northern site boundary with the River Crane, as on shown on **Figure 2**. Japanese Knotweed has also been identified by others in the planters near the car park access road and within an area of rough waste ground between the railway and car park / ticket office.
Existing buildings and basements on site	The site contains a ticket office with semi-basement level at the western boundary.

Feature	Description
External hardstanding	Buildings and areas of external hard surfacing cover the majority of the site.
Retaining walls and adjacent buildings on or close to site boundary	Retaining structures incorporated within the semi-basement level of the ticket office building presumably facilitate the drop in ground level from London Road. The banks of the River Crane are retained.
Made ground, earthworks and quarrying	A variable thickness of made ground would be anticipated across the site.
Potentially unstable slopes on or close to site	None observed.
Buried services present	There are a number of manhole covers on site, as well as surface water drainage. High voltage electric cables and gas also run across the site.

2.3 Summary of Historical Development

The history of the site's land-use and development from Victorian times onwards has been obtained from a Phase 1 Ground Contamination Desk Study Report of the site, written by Capita Symonds in October 2007.

The southern portion of the site was occupied by the Twickenham Junction railway line pre 1870's, whilst the northern portion of the site was open land used for agricultural purposes. During the mid 1890's, the railway expanded further northwards across the site, and by the 1914, several small buildings were located on the northern half of the site.

During the early 1960's, most of the northern portion of the site was developed into a car park, which expanded round to the west of the site by the 1970's. A ticket office, footbridge and storage building were later developed to the west of the site, together with three platforms and associated railways lines at the time.

By the early 2000's, two more footbridges were developed, one concrete bridge, crossing the tracks to the east of the site and one leading off London Road, allowing access to the platforms. There is little change at the site from this period of time to present day.

3. GEOLOGY, HYDROGEOLOGY AND HYDROLOGY

3.1 Geology

3.1.1 Published Geology

The published 1:50,000 scale geological map of the area (Sheet No 270 'South London') indicates that the site is underlain by the Kempton Park Gravel Formation, which is further underlain by London Clay Formation.

Two borehole records have been obtained from the British Geological Survey and copies are presented in **Appendix A**. The first was sunk for London Road Bridge at the western site boundary (Ref: TQ17SE172, 516110, 173640) and the second at the brewery site some 100m west of the site (TQ17SE3, 516030, 173690). The first record indicates made ground to 0.33m over Gravel and sand (Kempton Park Gravel) overlying Blue clay (London Clay) at a depth of 3.96m, which extends beyond the terminal depth of the borehole at 18.28m bgl. The second record indicates made ground to 2.13m over River Gravel (Kempton Park Gravel) to 4.57m over Blue Clay (London Clay) to 53.04m over Woolwich and Reading Beds (Lambeth Group) to 77.42m over Thanet Sand to 79.86, with the Chalk (White Chalk Sub-group) at depth.

On the basis of the published geological maps and borehole records of the area, the full succession of natural strata in the vicinity of the site is likely to comprise:

Table 3.1 – Conjectural Geological Succession beneath the Site

Geological Unit	Brief Description	Anticipated Thickness
Superficial Soils/Drift		
Kempton Park Gravel Formation	Sand and Gravel	Variable (up to 8m)
Solid Geology Deposits		
London Clay Formation	Clay and Silt	>50m
Lambeth Group	Sand, Clay and Pebbles	~ 25m
Thanet Sand Formation	Fine Sand	Few metres
White Chalk Sub-group	White Micritic Limestone	Up to 100m

The existing topography and history of development of the site suggests that, in addition to these natural strata, made ground is likely to be present beneath the site due to the sites development as a railway station.

3.1.2 Regal House Site Investigation Proven Ground Conditions

The results of a site investigation undertaken by Ground Investigation & Piling Ltd (GIP) in April 2010 at Regal House adjacent to the southern site boundary have been made available for review and the results are to be incorporated into this report. The information provided includes records of four cable percussive boreholes (BH1 to BH4) sunk to depths ranging from 5.5m to 40.05m bgl and associated laboratory testing results. Copies of the borehole records and laboratory test results are presented in **Appendix A**. A borehole location plan has not been provided.

The results of the Regal House site investigation generally confirm the published geology outlined above in that beneath a variable thickness of made ground, it revealed a ground profile comprising deposits of Kempton Park Gravels overlying the London Clay Formation.

The ground conditions encountered are summarised in **Table 3.2** below.

Table 3.2 – Proven Ground Conditions for Regal House

Strata	Depth to top of stratum m.bgl (mOD)*	Thickness (m)
Made Ground	0.00 (8.50)	1.00 to 1.90
Kempton Park Gravel	1.00 to 1.90 (7.50 to 6.60)	6.60 to 7.10
London Clay	8.20 to 8.50 (0.30 to 0.00)	Proven to 35.00mbgl (-31.90mOD

*Assumes a general site level of 8.5mAOD.

The Kempton Park Gravel was recorded as a dense to very dense yellow brown and brown sand and gravel and gravely sand. SPT N Values in the stratum ranged from 28 to >50.

The London Clay formation was described as very stiff, becoming hard in parts, dark grey silty clay with rare shelly fossils and rare intact mudstone fragments between 22m and 22.45mbgl. Some sandy pockets and further mudstone fragments were identified below 30m.

The results of three quick undrained triaxial tests are provided that indicate undrained strengths for the London Clay ranging from 109 to 185kN/m^2. Two consolidation tests are also included that indicate the clays can be classified as being of low compressibility.

A start of shift water level reading of 25m bgl in the London Clay is recorded on the record for BH2, but the casing seals groundwater in the overlying Kempton Park Gravel out, so this is unlikely to reflect a true standing water level. No other groundwater information is recorded on the records.

3.2 Hydrogeology

3.2.1 General Characteristics

Based on the published geological map referred to above, the hydrogeology of the site is likely to be characterised by the presence of an unconfined shallow aquifer comprising the Kempton Park Gravel Formation overlying the London Clay Formation (an aquiclude).

The Kempton Park Gravel Formation is classified by the Environment Agency (EA) as a Principal Aquifer (as indicated on the Environment Website).

Confined by the London Clay Formation is a deep aquifer, comprising a sequence of deposits consisting of the lower part of the Lambeth Group and Thanet Sands (Basal Sands) and the White Chalk. These units are expected to be in hydraulic continuity.

The anticipated depth to the water table in the Kempton Park Gravel, i.e. the thickness of the unsaturated zone, is in the order of a few metres below ground level. Shallow groundwater in the site area is anticipated to flow in a north / north east direction, i.e. towards and in the direction of flow of the River Crane.

It is also possible that localised perched water may also be present in the Made Ground on site.

3.2.2 Risk from Rising Groundwater Levels in the Deep Aquifer

The site does not lie within the critical areas in the London basin defined by Simpson *et al* (CIRIA SP69) in which exceptional structures are potentially at risk from the rising groundwater levels in the deep aquifer.

3.3 Hydrology

The River Crane flows in an easterly direction past the northern site boundary.

4. GROUND INVESTIGATION

4.1 Site Work

4.1.1 Rationale

The purpose of the intrusive investigation is to aid confirmation of the ground conditions underlying the site. The techniques adopted for the investigation have been chosen considering the anticipated ground conditions and the proposed development.

Environmental sampling of soils, groundwater and surface waters, along with post-fieldwork gas and groundwater monitoring, was undertaken on behalf of Waterman Energy, Environment & Design Limited. The factual results relating to the above are presented in the relevant appendices.

4.1.2 Scope of Works

The main site work was carried out between the 1st June and 18th June 2010 and the trackside window sampling was undertaken during night possessions between the 6th July and 8th July 2010. The work comprised the activities summarised in **Table 4.1** below, which includes a justification for each exploratory hole location. The investigation and the soil descriptions were carried out in general accordance with BS5930:1999 - Code of Practice for Site Investigations. The exploratory hole logs and other site work records are presented in **Appendix B**.

Table 4.1 – Summary of Ground Investigation Activities

Investigation Type	No.	Designation	Rationale
Boreholes - by light cable percussive methods	7	BHA to BHG	To prove the geological succession beneath the site and obtain geotechnical data from the underlying strata; To enable sampling of the made ground and natural soils beneath the site, to allow Waterman Environmental to determine the contamination status of the ground; and To install dual purpose groundwater and gas monitoring wells within three of the boreholes for ongoing monitoring.
Boreholes – by drive-in-sampler with follow on dynamic probing	4	WS1 to WS4	To confirm the shallow geological succession and obtain geotechnical data in areas with difficult access. Dynamic Probing was used to confirm the depth to the underlying London Clay Formation.
PID screening of samples	All BHs*	N/A	Detection of volatile organic compounds
Water level monitoring in piezometer/ monitoring well installations	3 (6) occasions	BHA, BHD and BHF	Measurement of depth to groundwater, within the Kempton Park Gravel.
Obtain water sample	1 (2)	BHA, BHD and BHF and	Measurement of groundwater quality.

Investigation Type	No.	Designation	Rationale
from: Monitoring well installations after purging well; and Samples from the River Crane at location up stream, down stream and adjacent to the site.	occasions	three samples from the River Crane.	Measurement of surface water quality of river adjacent to the site, pre construction phase.
Ground gas monitoring in monitoring well installations	3 (6) occasions	BHA, BHD and BHF	Measurement of ground gas emission rates, originating from beneath the site.

* All shallow samples of made ground and natural underlying soils tested.
() 3 monitoring visits and 1 groundwater sampling visit still to be completed

The investigation points were agreed with the Waterman Structures and Network Rail and located approximately by reference to physical features present on the site at the time of investigation. The ground levels at the borehole locations were interpolated from the levels shown on the site plan provided by Waterman Structures.

4.1.3 Limitations of Fieldwork

During the site investigation, access to drive in window sampler borehole location WS4 could not be achievable safely and therefore the hole was terminated at a depth of 1.20mbgl (i.e. the base of the hand pit).

4.2 Laboratory Testing

4.2.1 Introduction

A programme of geotechnical testing, scheduled by RSK and as detailed below, was carried out on selected samples taken from various strata. Chemical laboratory testing, scheduled by Waterman Environmental was undertaken on selected samples of soil, groundwater and surface water. The laboratory results are presented in **Appendices C** and **D**, respectively.

4.2.2 Geotechnical Testing

The programme of geotechnical tests undertaken on samples obtained from the intrusive investigation is presented in **Table 4.2**, the main purpose of which was to assess the engineering characteristic of the underlying strata. Where appropriate, testing was undertaken in accordance with BS 1377:1990 Method of Tests for Soils for Civil Engineering Purposes within RSK's UKAS accredited laboratory.

Tests carried out in order to classify the concrete class required on site have been undertaken following the procedures within BRE SD1:2005 by a UKAS accredited laboratory (Chemtest).

Table 4.2 – Summary of Geotechnical Testing Programme

Strata	Tests undertaken	No of Tests
Kempton Park Gravels	Particle Size Distribution Test	7
	Particle Size Distribution Test with Hydrometer Analysis.	4
London Clay Formation	Unconsolidated Undrained Triaxial Test	31
	Particle Size Distribution Test with Hydrometer Analysis.	1
	Consolidation Testing	4
	Moisture Content	55
	Plasticity Index	9
	pH and water soluble Sulfate	17

4.2.3 Chemical Testing

The programme of chemical tests was scheduled by Waterman Energy, Environment & Design Limited and was undertaken on samples obtained from the intrusive investigation as presented in **Table 4.3** and **4.4**.

Testing of soils was carried out to assess the levels of contamination within the made ground and natural soils encountered on the site. Groundwater samples were collected after the completion of the site investigation from monitoring wells installed on site and from three locations along the River Crane, namely upstream of the site (River 1), opposite the site (River 2) an downstream of the site (River 3).

Testing was undertaken by a UKAS accredited laboratory (Chemtest). MCERTS accredited test methods were specified where applicable.

Table 4.3 – Summary of Chemical Testing Programme on soils

Strata	Tests undertaken	No of Tests
Made Ground and Natural Ground	Total Organic Carbon	30 (1)
	Heavy Metals and Metalloids	
	BRE SD1 Suite - pH, ws SO4, total SO4, total sulphur, ws Mg, ws ammonium, ws nitrate, ws chloride	
	Asbestos Screen	
	TPH Total (C6-C40) by GC-FID	
	Speciated PAH (16 USEPA, plus coronene and benzo(j)fluoranthene)	
	Phenols – Speciated HPLC	
	VOCs/SVOCs IncTICs (target list based on EPA8270) TIC VOCs 0.01//SVOCs 1mg/kg	
	Polychlorinated Biphenyls by GC/MS	
Made Ground	Full solid waste plus 2 batch leach test (WAC-E) plus As, Cd, Cr,Pb, Hg, Se, Cu, Ni, Zn	5

() One chemical test is outstanding and will be included in the final report

Table 4.4 – Summary of Chemical Testing Programme on Waters

Strata	Tests undertaken	No of Tests
Groundwater and River Water Samples	pH EC, Ammoniacal Nitrogen, Cl, SO4, tCN, Sulphide, TPH CWG (Spec. TPH), Speciated PAH (GC/MS), As, Cd, Cr, Cu, Hg, Pb, Ni, Se, Zn, Total Alkalinity.	6
	Phenols – Speciated HPLC	
	VOCs/SVOCs IncTICs (target list based on EPA8270) TIC VOCs 0.01//SVOCs 1mg/kg	
	Polychlorinated Biphenyls by GC/MS	
	Herbicides	

5. PHYSICAL GROUND CONDITIONS

5.1 Findings of Ground Investigation

5.1.1 General Succession of Strata

The exploratory holes revealed that the site is underlain by a variable thickness of made ground over the Kempton Park Gravel Formation, with the London Clay Formation at depth. This appears to confirm the stratigraphical succession described within the published geology and those encountered during the site investigation for Regal House.

For the purpose of discussion, the ground conditions encountered during this and the Regal House investigation are summarised in **Table 5.1** below. A geological cross section through the site is also presented on **Figure 9**.

Table 5.1 – General Succession of Strata Encountered

Strata	Exploratory Holes Encountered	Depth to top of stratum m.bgl (mOD)	Thickness (m)
Made Ground	All	0.00 to 0.30	1.15 to 4.80*
Kempton Park Gravel Formation	All	1.15 to 4.80* (7.30 to 4.40)*	2.10 to 7.10
London Clay Formation	All deep BH's	5.10 to 8.50 (*3.95 to 0.00*)	Proven to 40.40mbgl. (-31.90mAOD)

*Only references recent RSK boreholes sunk on site.

5.1.2 Made Ground

The exploratory holes encountered a variable thickness of made ground across the site ranging from 1.15m to 4.80m. The greatest thickness of made ground was encountered in the west of the site within the borehole located at higher level to front of the ticket office.

In general, the made ground comprises dark brown slightly silty sandy gravel of flint, with frequent red brick, crushed stone and concrete. Occasional ash and clinker was also apparent within some of the boreholes, together with rare tile, glass, and pottery.

Cohesive layers were also present locally within the made ground, recovered as brown orange mottled sandy gravelly clay, with frequent concrete, crushed stone, red brick and occasional ash.

Generally, visual/olfactory evidence of contamination was not encountered within the boreholes and drive in window samplers on site. Some occasional contamination in the form of ash and clinker was evident within some of the made ground on site. A slight hydrocarbon odour was noted within BHB between 3.00m and 4.80mbgl. On-site PID screening of disturbed samples indicated concentrations of volatile organic compounds (VOCs) between <0.1 and 7.5ppm. Results of the PID screening are presented within **Appendix B**.

5.1.3 Kempton Park Gravel Formation

The Kempton Park Gravel stratum typically comprised to medium dense to very dense, locally loose in near in surface in BHE, orange brown occasionally slightly silty and clayey, sandy to very sandy gravel. The gravel consists of angular to subrounded, fine to coarse flint gravel. Locally, pockets and partings of clayey sand were also encountered in some of the exploratory holes. Further, relatively thin layers (0.4 to 0.9m thick) of firm orange brown silty clay and slightly sandy slightly gravelly clay were encountered at the surface of the stratum in BHE and BHF, located near to the River Crane.

Eleven Particle Size Distribution tests (PSD) were undertaken on samples of the Kempton Park Gravel. The results of the PSD testing confirm the descriptions given on the exploratory hole records and indicate the following proportions of material: Cobbles - 0%, Gravel - 31 to 90%, Sand - 9 to 54% and clay / silt - 1 to 10%. A PSD on the near surface layer of cohesive material in BHF recorded: Gravel - 0 to 3%, Sand - 27 to 39%, Silt - 37 to 40% and Clay 21 to 33%.

Visual/olfactory evidence of contamination was not encountered within the Kempton Park Gravel stratum. On-site PID screening of near surface disturbed samples indicated concentrations of volatile organic compounds (VOCs) between <0.1 and 6.5ppm.

Dynamic probing was carried out within Window Sampler boreholes WS1, WS2 and WS4, where the drive-in window sampling terminated due to the density of the Kempton Park Gravel. The purpose of the dynamic probing was to identify the boundary between the gravel and the underlying London Clay Formation. From the results of the dynamic probing, the surface of the London Clay stratum is inferred at depths ranging between 5.2m to 6.4m bgl (1.75 to 0.85mAOD). The results of the dynamic probing are presented within **Appendix B**.

The measured and inferred soil parameters for the stratum are listed in **Table 5.2** below.

Table 5.2 – Summary of Soil Parameters for Kempton Park Gravel

Soil Parameters	Range	Results
SPT 'N' Values	(8) 13 to >50	Figure 7
Density Term	Generally Medium to Dense	-

() Locally loose in BHE adjacent to the River Crane

5.1.4 London Clay Formation

The London Clay Formation generally comprised stiff to very stiff, locally hard, fissured, dark grey slightly silty, fine sandy clay, with occasional partings of grey silt, pyrite veins and gleying. Occasional nodules of claystone were recovered between 13m and 19mbgl. Regular thin bands of claystone were encountered at a depth of 20.50mbgl (~ –12.0mOD) within BHG on site. Further, the GIP BH2 records chiselling due to siltstone between 18.7 to 18.9m (~ -10.2mAOD) and 28.3 to 28.4m bgl (~ -19.8mAOD).

Visual/olfactory evidence of contamination was not encountered within the London Clay Strata.

The measured and inferred soil parameters for the stratum are listed in **Table 5.3** overleaf.

Table 5.3 – Summary of Soil Parameters for London Clay Formation

Soil Parameters	Range	Results
Moisture Content (%)	22 to 35	Figure 5
Liquid Limit (%)	70 to 75	Appendix C
Plastic Limit (%)	26 to 32	Appendix C
Plastic Index (%)	38 to 45	Appendix C
Plasticity Term	Very High Plasticity	Figure 6
SPT 'N' Values	21 to 69	Figure 7
Undrained Shear Strength (kN/m2) measured by Triaxial Testing	79 to 248	Figure 8
Undrained Shear Strength (kN/m2) inferred from SPT 'N' values	88 to 290	Figure 8
Consistency Index (I_c)	1.00 to 1.21	-
Consistency Term	Stiff to Very Stiff	Appendix C
Strength Term	High to Very High	-

5.2 Groundwater

The findings groundwater monitoring completed to date reflect a general groundwater table in the Kempton Park Gravel ranging between depths of 3.88m and 5.10mbgl, which corresponds to elevations of 4.50m to 3.11mAOD.

It should be noted that groundwater levels might fluctuate for a number of reasons including seasonal variations. On-going monitoring would be required to establish both the full range of conditions and any trends in groundwater levels.

5.3 Ground Gas Monitoring

Ground gases have been monitored in the well installation on three return visits to the site after the main fieldwork and the results are presented in **Appendix A**. Three additional visits are scheduled to take place over the next month and the results will be provided as an addendum to this report.

6. ENGINEERING CONSIDERATIONS

6.1 Details of the Proposed Development

It is understood that the proposed development will comprise a new ticket office and station entrance, with residential apartments overlying the railway on a raised deck, ranging between 3 and 15 storeys high.

The building and deck within the zone of the Network Rail will be designed and constructed in accordance with the guidelines of Network Rail. This will restrict the size of the pilling rig that can be used within the vicinity of the railway infrastructure. Additionally, new access stairs and passenger lifts are to be constructed at the western end of the existing platform

Preliminary scheme calculations by Waterman Structures for the structure over the rail has identified that the piles will need to resist vertical loads of approximately 900kN and horizontal loads of 150kN. The majority of the horizontal load is understood to be generated from the impact load criteria required to meet Network Rail guidelines.

The main building beyond the rail will be designed and constructed with conventional pilling rigs. Preliminary calculations for the building in this area, as supplied by Waterman Structures, indicate typical column loads will be approximately 1800 to 4000kN and up to 8000kN.

6.2 Geotechnical Hazards

A summary of commonly occurring geotechnical hazards is given in **Table 6.1** together with an assessment of whether the site may be affected by each of the stated hazards.

Table 6.1 – Summary of Main Potential Geotechnical Hazards that May Affect Site

Hazard category (excluding contamination issues)	**Hazard status** based on investigation findings and proposed development			**Engineering considerations** if hazard affects site
	Found to be present on site	Could be present but not found	Unlikely to be present and/or affect site	
Sudden lateral changes in ground conditions	✓	Range in depth of the made ground beneath the site from 1.15 to 4.80m.		Likely to affect ground engineering and foundation design and construction
Shrinkable clay soils			✓	Design to NHBC Standards Chapter 4 or similar
Highly compressible and low bearing capacity soils, (including peat and soft clay)		✓		Likely to affect ground engineering and foundation design and construction
Silt-rich soils susceptible to loss of strength in wet conditions	✓	Silt layers present within the London Clay Formation		Likely to affect ground engineering and foundation design and construction
Running sand at and below water table			✓	Likely to affect ground engineering and foundation design and construction
Karstic dissolution features (including ‘swallow holes’ in Chalk terrain)			✓	May affect ground engineering and foundation design and construction – refer to **Section 4.1.2**

Hazard category (excluding contamination issues)	**Hazard status** based on investigation findings and proposed development			**Engineering considerations** if hazard affects site
	Found to be present on site	Could be present but not found	Unlikely to be present and/or affect site	
Evaporite dissolution features and/or subsidence			✓	May affect ground engineering and foundation design and construction
Ground subject to or at risk from landslides			✓	Likely to require special stabilisation measures
Ground subject to peri-glacial valley cambering with gulls possibly present			✓	Likely to affect ground engineering and foundation design and construction
Ground subject to or at risk from coastal or river erosion			✓	Likely to require special protection/stabilisation measures
High groundwater table (including waterlogged ground)		✓		May affect temporary and permanent works
Rising groundwater table due to diminishing abstraction in urban area			✓	May affect deep foundations, basements and tunnels
Underground mining		✓		Likely to require special stabilisation measures
Existing sub-structures (e.g. tunnels, foundations, basements, and adjacent sub-structures)	✓	Existing building foundations and bridge foundations. Previous railway infrastructure. Existing services are also present on site.		Likely to affect ground engineering and foundation design and construction
Filled and made ground (including embankments, infilled ponds and quarries)	✓	Ranging in depth from 1.15 to 4.80m.		Likely to affect ground engineering and foundation design and construction
Adverse ground chemistry (including expansive slags and weathering of sulphides to sulphates)	✓	Elevated sulfates detected. See Section 6.7.		May affect ground engineering and foundation design and construction

Note: Seismicity is not included in the above Table as this is not normally a design consideration in the UK.

6.3 Foundations

6.3.1 General Suitability

In view of the high column loads associated with the proposed development and sensitive nature of the adjacent railway and highway infrastructure, piles are considered to be the most suitable foundation solution to support the main building loads.

The current Stage D drawings indicate that piles will need to be constructed in close proximity to the live railway tracks and existing London Road bridge piers. Furthermore, it is understood that archive drawings indicate that the bridge piers are supported on conventional spread foundations placed on the Kempton Park Gravel at approximately 1.0m below existing ground

level. Careful consideration will therefore need to be given to the pile construction method and design in the vicinity of these sensitive structures to ensure that ground vibration / movements remain within acceptable levels.

It is anticipated that Network Rail will require a comprehensive geotechnical / ground movement assessment to demonstrate that the proposed development will not have any detrimental impact on the rail infrastructure.

Whilst piling is recommended for supporting the main building loads, the Kempton Park Gravel deposits generally encountered at relatively shallow depths beneath the site will be suitable for spread foundations to support any moderately loaded structural elements within the proposed development.

Recommendations for spread and piled foundations are outlined in the following sections.

6.3.2 Spread Foundations

The recommendations for the design and construction of spread foundations in relation to the ground conditions are set out in **Table 6.2** below.

Table 6.2 – Design and Construction of Spread Foundations

Design/construction considerations	**Design/construction recommendations**						
Founding stratum	Kempton Park Gravel – Medium dense / dense Sand & Gravel						
Depth	Foundations should be taken to a minimum depth of 1m below finished ground level and at least 0.1m into the founding stratum below any overlying made ground or cohesive soils.						
Bearing pressures for range of strip footings and square bases founded in the Kempton Park Gravel	**Net allowable bearing pressure kN/m^2**						
		Strip Footings			**Square bases**		
	Width	**0.5m**	**1.0m**	**1.5m**	**2.0m**	**3.0m**	**4.0m**
	Depth						
	1.0m+	300	280	215	270	205	170
Basis of allowable bearing pressures	Each allowable bearing pressure includes an overall factor of safety of 3 against bearing capacity failure and with total settlements associated with the bearing pressure estimated to be less than 25mm.						
Stability of excavations	The made ground and Kempton Park Gravel deposits may become unstable in open excavations. It is therefore recommended that excavation support systems are made available during the groundwork stage of the development.						
Dewatering	Groundwater monitoring has recorded a highest level of 4.5mAOD. Dewatering is therefore unlikely to be required to facilitate relatively shallow foundation excavations. Heavy pumping from open sumps in non-cohesive soils should be avoided as this can result in instability and general loosening of the soils at the base of the excavation. It is likely that dewatering in non-cohesive soils will require the use of well-pointing systems.						
Construction considerations	All foundation excavations should be inspected and any made ground, soft, organic or otherwise unsuitable materials removed and replaced with mass concrete.						

6.3.3 Piled Foundations

The recommendations for the design and construction of piled foundations in relation to the ground conditions are set out in **Table 6.3** overleaf.

Table 6.3 – Design and Construction of Piled Foundations

Design/construction considerations	Design/construction recommendations	
Pile type	The construction of both conventional rotary bored and CFA piles is considered technically feasible at this site.	
Possible constraints on choice of pile type	Given the close proximity of the rail infrastructure the use of driven piles will not be acceptable due to ground vibration, heave and noise related problems.	
Temporary casing where groundwater is present	Bored piles will require temporary casing throughout the non-self supporting and water bearing Kempton Park Gravel deposits. Alternatively, the use of continuous-flight-auger (CFA) injected bored piles usually overcomes this issue.	
Man-made obstructions	The presence of buried sub-structures or other obstructions within made ground may lead to some difficulty during piling. It is recommended that once the proposed pile layout has been determined, pre-pile probing be carried out at each of the pile positions. Where buried obstructions are encountered, it will be necessary to either relocate the pile(s) or make allowance for removing the obstruction.	
Hard strata	An allowance should be made for chiselling thin 'rock' bands (claystone) within the London Clay.	
Soil and pile design parameters for London Clay (cohesive soils)	Adhesion Factor (α)	0.6
	Bearing Capacity Factor (N_c)	9
	Undrained Shear Strength (c_u)	80 + 6.66z kN/m^2 where z = depth into clay
	Global Safety Factor	2.1 - 1% Load test on 1% of pre-contract test pile (non-working). 3.0 - No load test on pre-contract test pile.
	Limiting Shaft Friction	140 kN/m^2
	Limiting Concrete Stress	7.5N/mm^2
Bored pile shafts and bases	Bored pile concrete should be cast as soon after the completion of boring as possible and in any event the same day as boring. Prior to casting the base of the pile bore should be clean otherwise a reduced safe working load will be required. Similarly, if the pile bore is left open the shaft walls may relax/soften, leading to a reduced safe working load.	

The design procedure for piles varies considerably, depending on the proposed type of pile. However, for illustrative purposes the following **Tables 6.4** and **6.5** give preliminary pre-contract test pile (non working) loads for traditional bored, cast-in-situ concrete piles of various diameters, lengths, and global factors of safety (GSF), based on the design parameters given in **Table 6.3** above and worst case ground profile at BHA.

Table 6.4 Typical Pre-contract Test Pile Loads for Bored Cast-in-situ Piles (GSF = 3.0)

Typical Pre-contract Test Pile (non-working) Loads (kN)				
Depth of pile below the London Clay surface (m)	Pile Diameter			
	450mm	600mm	750mm	900mm
10.0	374	526	692	872
15.0	589	818	1064	1326
20.0	839	1158	1495	1852
25.0	1126	1545	1989	2450
30.0	1193	1981	2537	3119

Table 6.5 Typical Pre-contract Test Pile Loads for Bored Cast-in-situ Piles (GSF = 2.1)

Typical Pre-contract Test Pile (non-working) Loads (kN)				
Depth of pile below the London Clay surface (m)	Pile Diameter			
	450mm	600mm	750mm	900mm
10.0	561	789	1039	1321
15.0	883	1227	1596	1990
20.0	1193	1737	2243	2778
25.0	1193	2121	2980	3674
30.0	1193	2121	3313	4678

6.4 Ground Floor Slabs

The stated design loading for the proposed ground floor slabs at grade is 7.5kN/m^2. Assuming a formation level of approximately 7.45mAOD, the sub-grade soil conditions are anticipated from the investigation findings comprise a relatively thin layer of predominantly granular made ground overlying medium dense to dense sand and gravel deposits. The main exceptions to this appear to be at BHA in the northwest site corner toward the River Crane that encountered some 1.5m of soft / firm sandy gravelly clay below the proposed formation level and BHG, where some 4m or so of made ground would remain below the formation. In the case of the deeper made ground encountered at BHG, the results of the in-situ testing would appear to indicate that this is reasonably compact in nature.

Relatively lighted loaded reinforced concrete ground bearing floor slabs constructed on the predominantly granular made ground or natural soils are considered appropriate. Careful examination and rolling of the formation, replacement of exceptionally hard and soft material (i.e. as encountered at BHA) with suitable granular fill, and placement of a suitable blanket of well-compacted granular fill will be necessary.

6.5 Retaining Wall Design

It is understood that the construction of the semi-basement level to Block A will involve the construction of a secant piled wall along the boundary with London Road and gravity reinforced concrete retaining structure along the northern flank wall.

The following soil parameters in **Table 6.6** overleaf are recommended for preliminary design purposes.

Table 6.6 Preliminary Retaining Wall Parameters

Soil Type	N Value / c_u (kN/m^2)	Unit Weight (kN/m^3)	Short Term Characteristics		Long Term Strength Characteristics	
			Cu (kN/m^2)	Ø' (^{0})	c' (kN/m^2)	Ø' (^{0})
Made ground – sandy Gravel	-	18	0	30	0	30
Kempton Park Gravel – Medium dense to dense Sand & Gravel	13 to >50	20 Moist 22 Sat.	0	38	0	38
London Clay – Stiff fissured Clay	79 to 290	1.95	80 + 6.66z	0	3	25

The results of the groundwater monitoring completed to date has recorded a highest water level of 4.5mAOD, i.e. well below the proposed semi-basement level. However, some allowance should be made in design for the potential build up of hydrostatic pressures behind retaining structures unless effective drainage measures can be ensured.

In order to prevent damage to adjacent structures, the design of the retaining wall and basement excavation must address the risk of excessive deformation of the wall and bracing, both in the temporary and permanent condition, to ensure that the horizontal and vertical soil movement around and below the excavation remain within acceptable levels.

6.6 Roads and Hardstanding

In the 1m to 1.5m below the proposed finished ground level the exploratory holes have revealed a soil profile comprising predominantly granular Made Ground over Kempton Park Gravel.

In pavement design terms, the groundwater conditions are anticipated to comprise a low water table, i.e. at least 1m below the pavement formation level.

The results of in situ Clegg Hammer testing are summarised in **Table 6.7**.

Table 6.7 – Summary of CBR Values Derived from In Situ Clegg Hammer Tests

Test Location	Material Type	Minimum CBR value determined at or just below anticipated formation level
BHA	Made Ground	8%
BHC	Made Ground	8%
BHD	Made Ground	6%
BHF	Made Ground	9%

The recommended sub-grade soil CBR value for road pavement design is therefore 6%. This value assumes that during construction the formation level will be carefully compacted and any soft spots removed and replaced with well-compacted granular fill. The sub-grade soils in the vicinity of test locations are likely to be susceptible to improvement by rolling with

conventional compaction plant and therefore consideration may be given to undertaking additional in-situ CBR testing once the formation has been prepared to confirm design values.

The sub-grade soils can be regarded as non-frost-susceptible, after the criteria given in Appendix 1 of TRRL Report Road Note 29 (1970).

6.7 Chemical Attack on Buried Concrete

The results of chemical tests carried out on soil samples indicate 2:1 water soil extract sulfate contents of up to 1,200mg/l with pH values ranging from 6.2 to 10.1. Chemical tests on samples of groundwater recovered from the borehole installations recorded soluble sulphate concentrations up to a maximum of 180mg/l and pH values ranging from 6.3 to 6.5.

These current results indicate that, in accordance with BRE Special Digest 1: 2005 *Concrete in aggressive ground*, the Aggressive Chemical Environment for Concrete (ACEC) Classification is ***AC-2*** with a Design Sulphate Class for the site of ***DS-2***. This assumes nominally mobile groundwater conditions and that no significantly disturbed clay comes into contact with concrete foundations or structures.

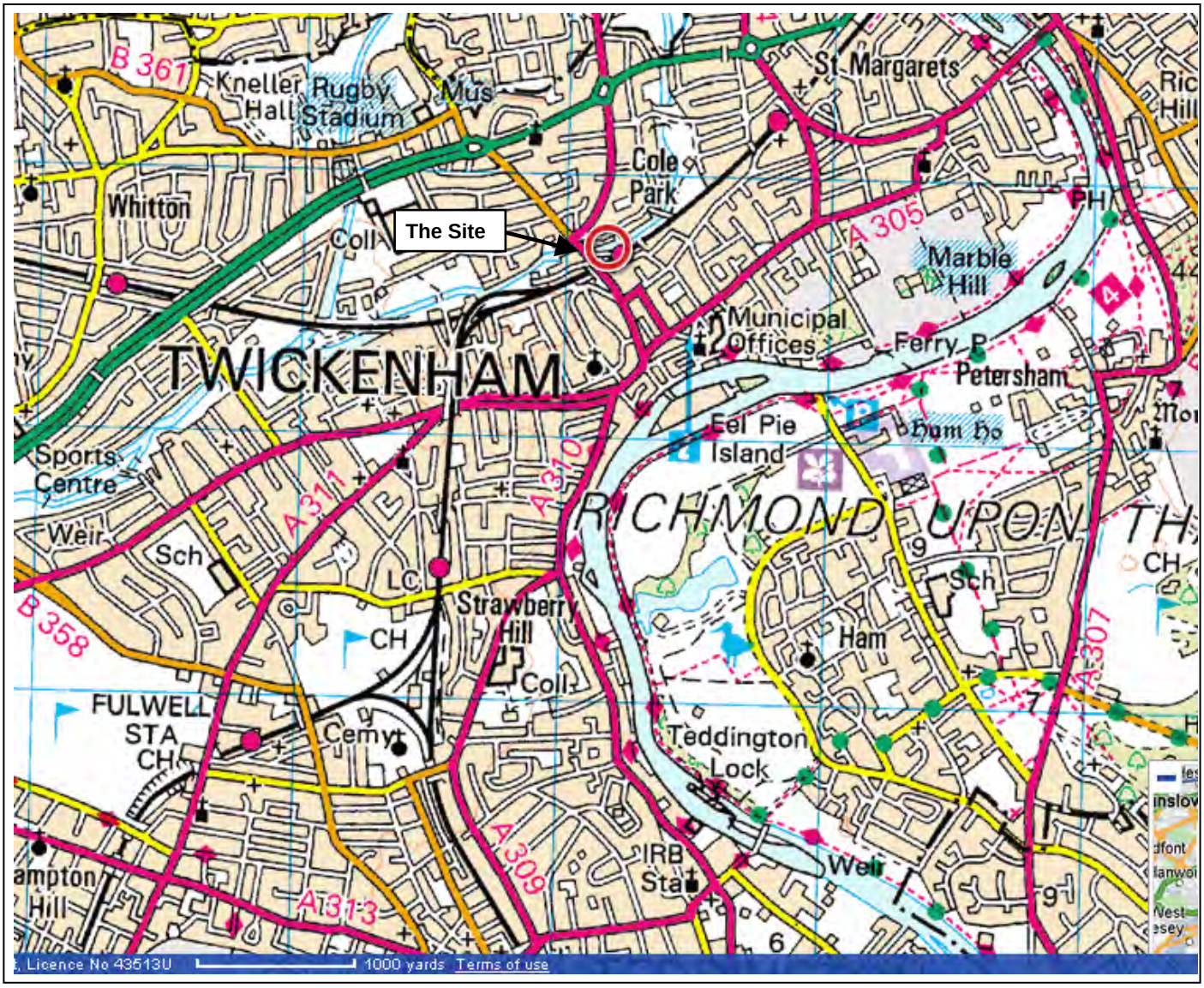
If significantly disturbed London Clay (i.e. pile arisings) were to be reused on site in any location where it is likely to come into contact with buried concrete structures, the ACEC Classification and Design Sulphate Class should be increased to ***AC-3*** with a Design Sulphate Class for the site of ***DS-3***.

6.8 Soakaways

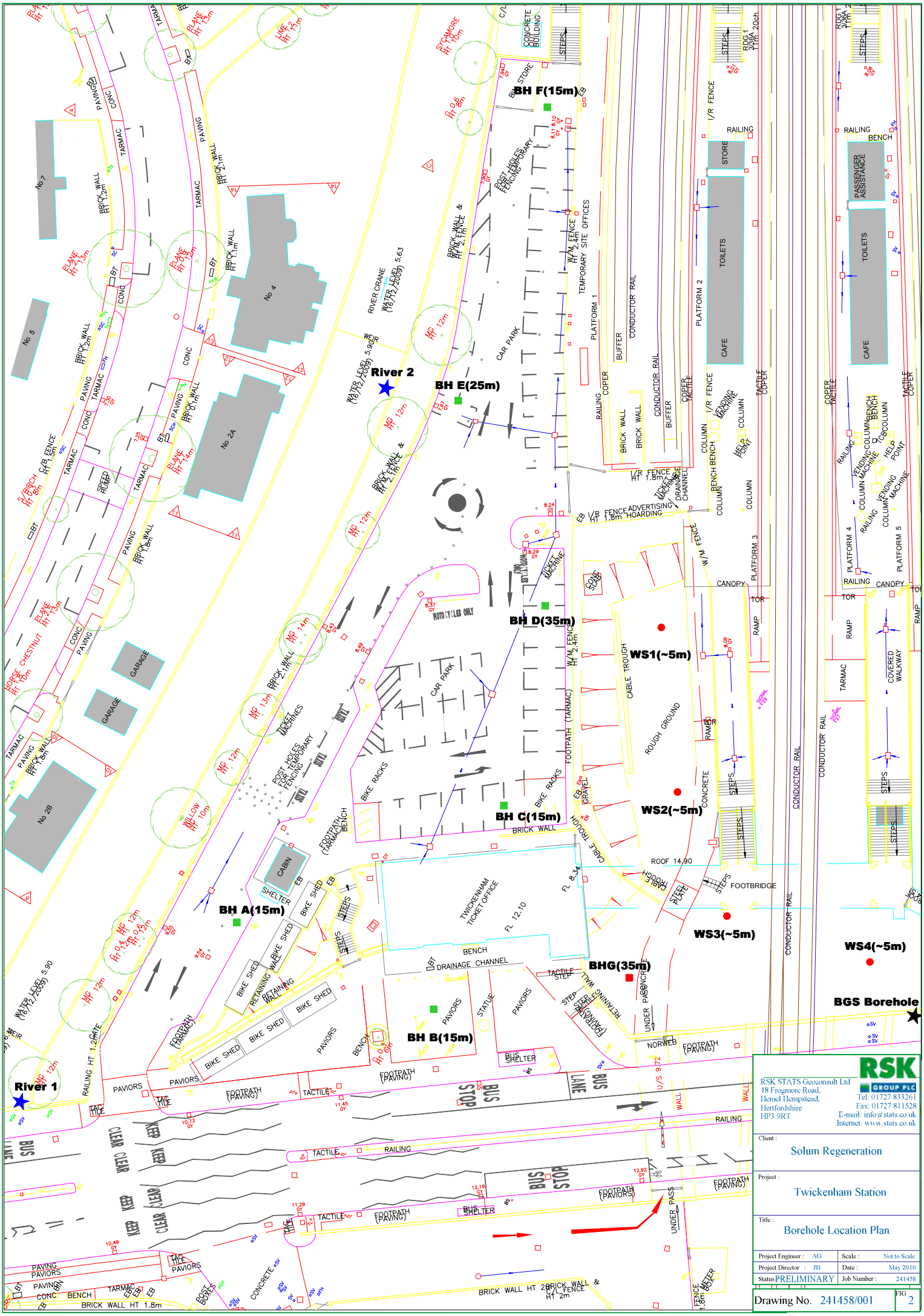
The ground conditions appear suitable from a geotechnical viewpoint for the use of pit soakaways to discharge surface run-off water into the Kempton Park Gravel. However, it is stressed that to-date no infiltration tests have been performed to confirm this preliminary assessment and the actual infiltration characteristics of the sub-soils.

The Environment Agency should be contacted at the design stage in order to obtain a 'consent to discharge'. This may not be forthcoming where soakage will be into or just above the water table, particularly in the Agency's sensitive aquifer protection zones.

FIGURES



RSK GROUP PLC	**SITE LOCATION PLAN**	**Client:** Solum Regeneration	**Figure:** 1
		Site: Twickenham Railway Station, London Road	**Job No:** 241458
		Scale: not to scale	**Source:**



RSK STATS Geoconsult Ltd
18 Frogmore Road,
Hemel Hempstead,
Hertfordshire
HP3 9RT
Tel: 01727 833261
Fax: 01727 811528
E-mail: info@stats.co.uk
Internet: www.stats.co.uk

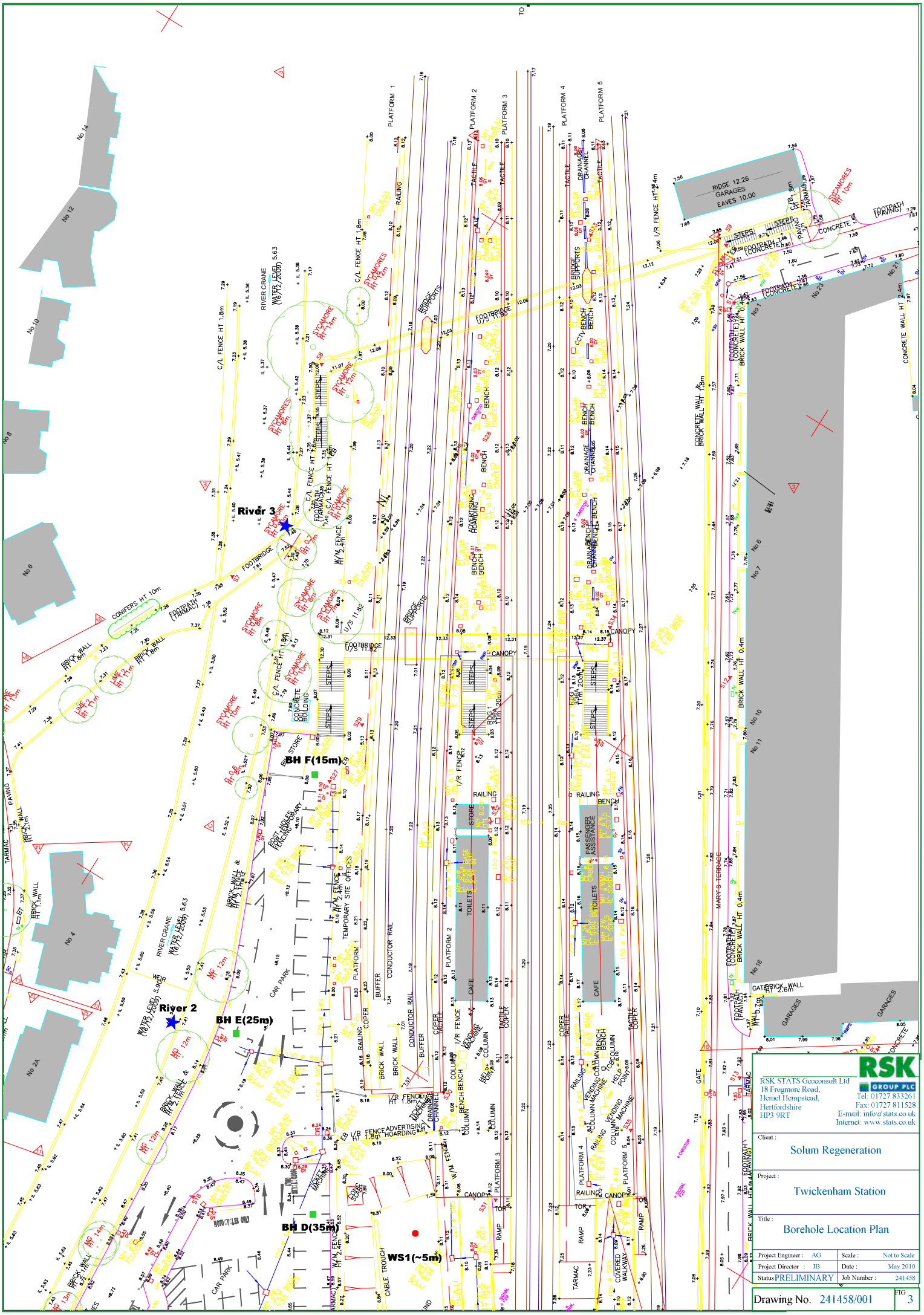
Client : Solum Regeneration

Project : Twickenham Station

Title : Borehole Location Plan

Project Engineer : AG	Scale : Not to Scale
Project Director : JB	Date : May 2010
Status PRELIMINARY	Job Number : 241458

Drawing No. 241458/001 FIG 2


River 3
River 2
BH F(15m)
BH E(25m)
BH D(35m)
WS1(~5m)
PLATFORM 1
PLATFORM 2
PLATFORM 3
PLATFORM 4
PLATFORM 5
FOOTBRIDGE
CANOPY
CAFE
TOILETS
STEPS
RAMP
RIVER CRANE
CAR PARK
No 1
No 2
No 4
No 6
No 7
No 8
No 10
No 11
No 12
No 14
No 16
No 19
No 21
No 23
No 2A
RSK STATS Geoconsult Ltd
18 Frogmore Road,
Hemel Hempstead,
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Tel: 01727 833261
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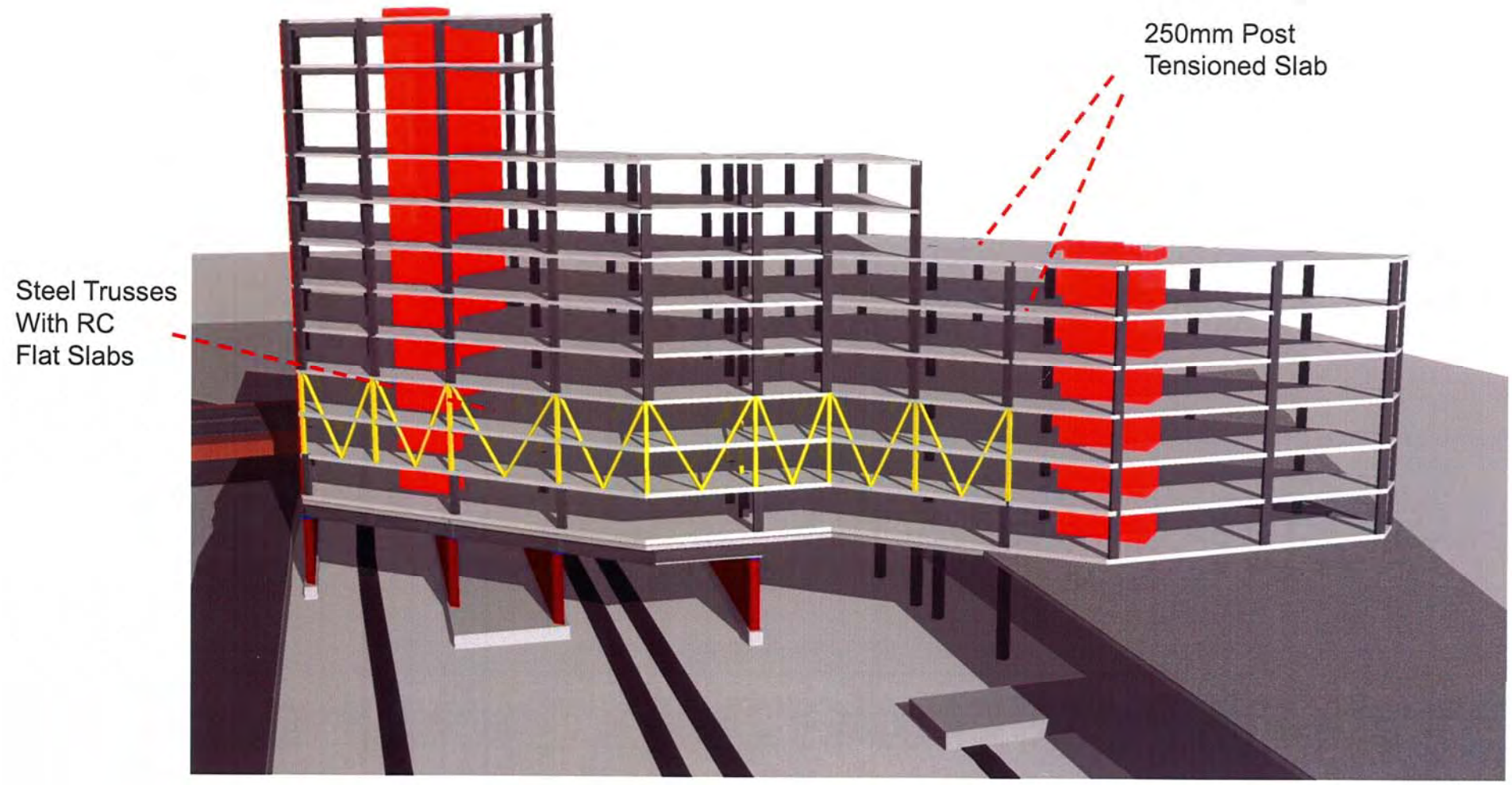
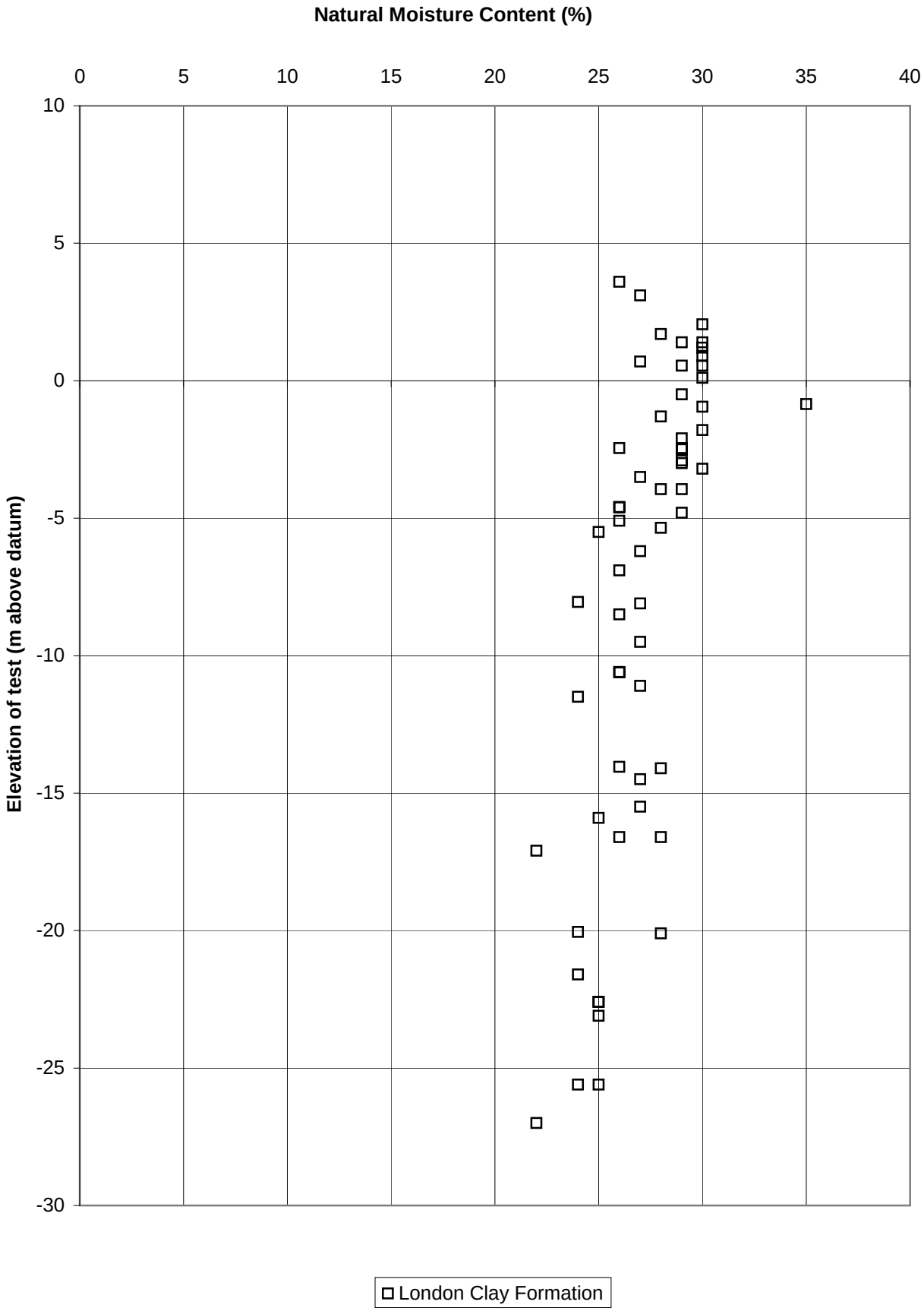
E-mail: info@stats.co.uk
Internet: www.stats.co.uk
Client : Solum Regeneration
Project : Twickenham Station
Title : Borehole Location Plan
Project Engineer : AG
Scale : Not to Scale
Project Director : JB
Date : May 2010
Status PRELIMINARY
Job Number : 241458
Drawing No. 241458/001
FIG 3



RSK GROUP PLC	**PROPOSED DEVELOPMENT PLAN**	**Client:**	Solum Regeneration	**Figure No:**	4
		Site:	Twickenham Railway Station, London Road	**Job No:**	241458
		Scale:	NTS	**Source:**	Waterman

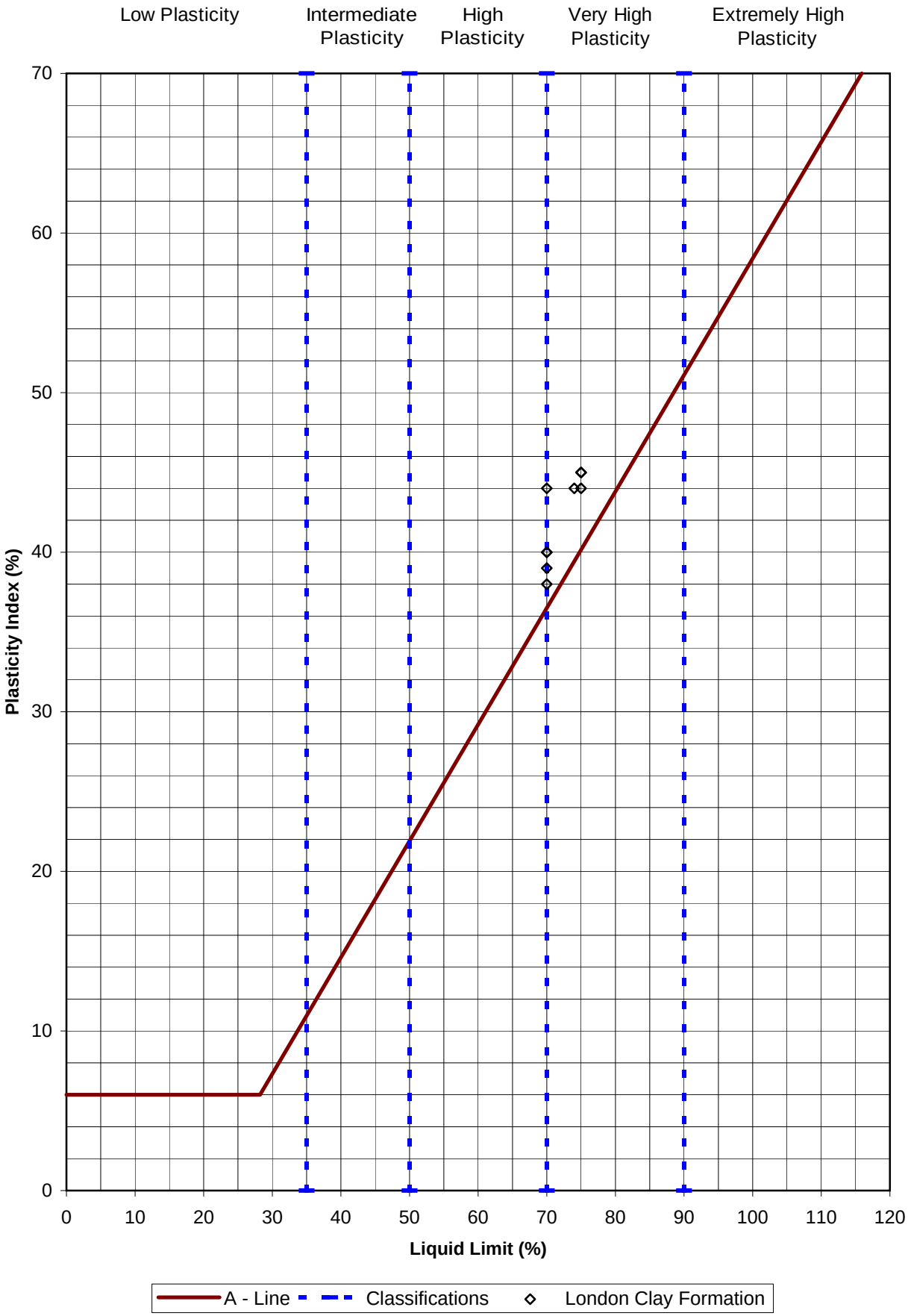
MOISTURE CONTENT vs ELEVATION

Site:	Client:	Job Number:	241458
Twickenham Railway Station	Solum Regeneration	Figure:	5



PLASTICITY CLASSIFICATION CHART

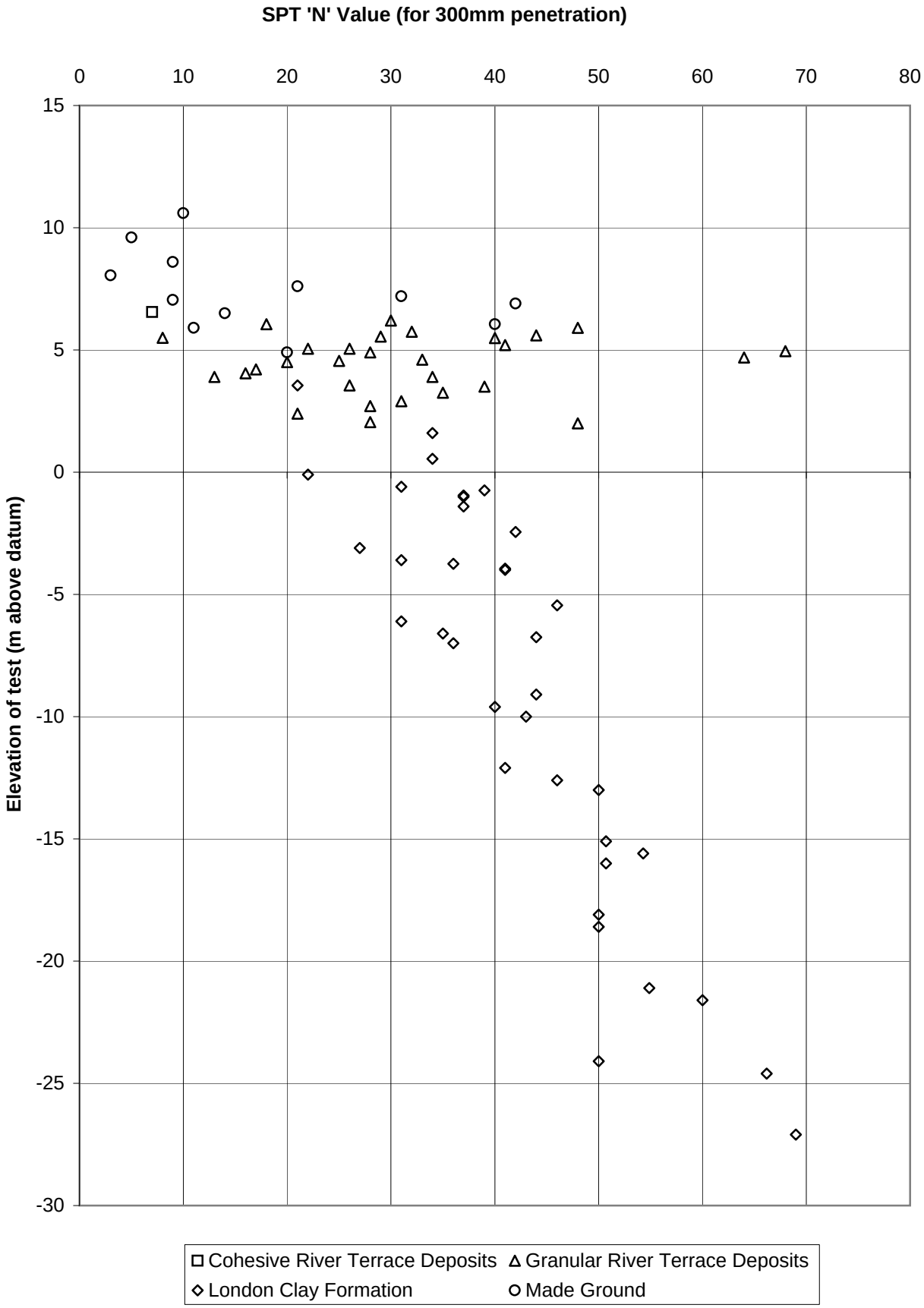
Site:	Client:	Job Number:	241458
Twickenham Railway Station	Solum Regeneration	Figure:	6



RSK GROUP PLC

SPT 'N' VALUES vs Elevation

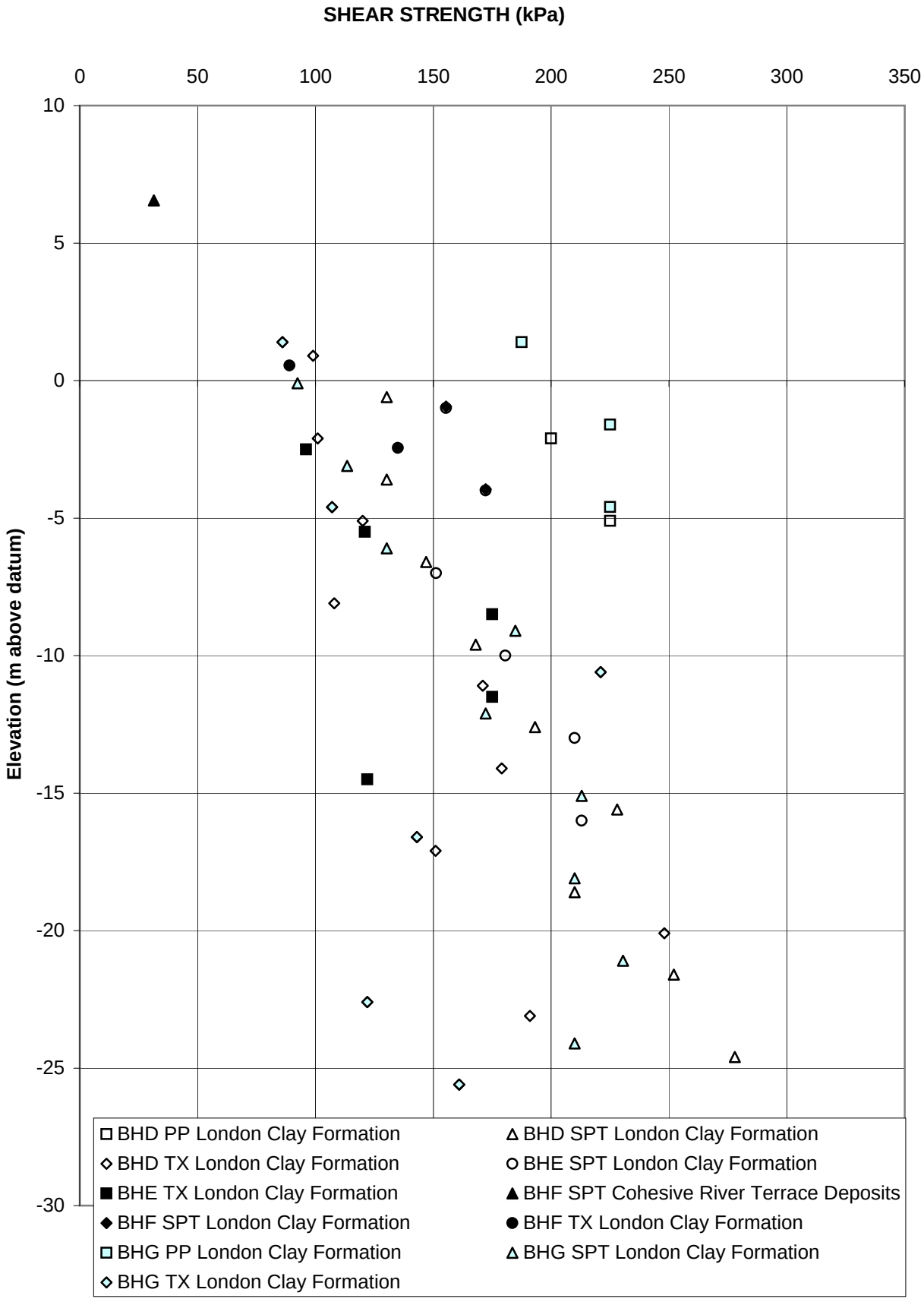
Site:	Client:	Job Number:	241458
Twickenham Railway Station	Solum Regeneration	Figure:	7



RSK GROUP PLC

SHEAR STRENGTH vs ELEVATION

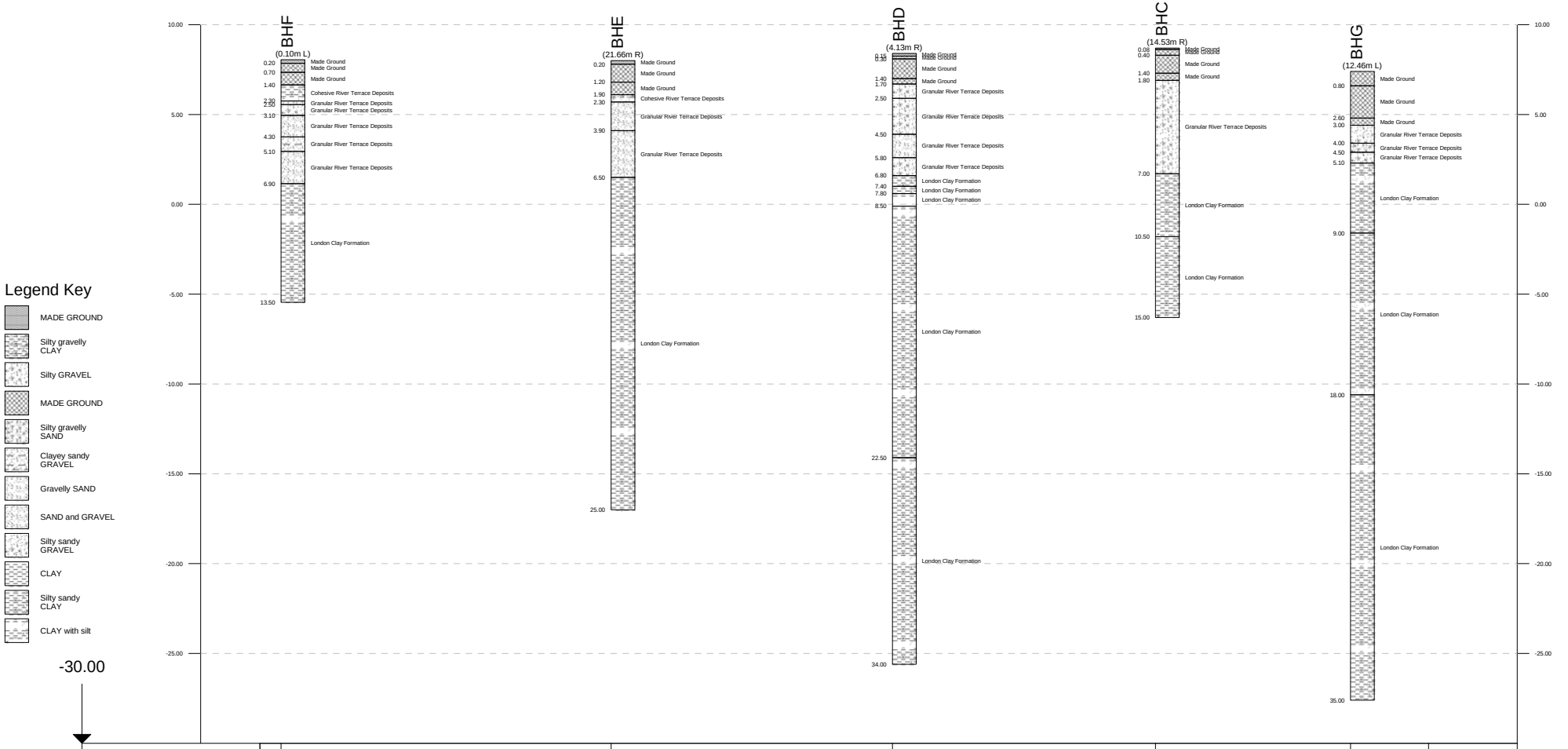
Site:	Client:	Job Number:	241458
Twickenham Railway Station	Solum Regeneration	Figure:	8



PROJECT REF: 241458
LOCATION: Twickenham Railway Station (Section: Section 1)
CLIENT: Solum Regeneration

TITLE: Twickenham Railway Station

ENGINEER:



Legend Key

- MADE GROUND
- Silty gravelly CLAY
- Silty GRAVEL
- MADE GROUND
- Silty gravelly SAND
- Clayey sandy GRAVEL
- Gravelly SAND
- SAND and GRAVEL
- Silty sandy GRAVEL
- CLAY
- Silty sandy CLAY
- CLAY with silt

-30.00

Chainage (m)	0.00	3.36	55.66	100.27	141.94	172.86	185.23	
Elev. (mAOD)	8.05		8.00	8.40	8.70	7.40		

SCALE: Horizontal 1:940 Vertical 1:330
(Plotted to Scale for paper size A4)

Created 11 August 2010 at 15:49 from HoleBASE 3.1

APPENDIX A

Existing Information

TQ17SE BJ 172
16 1 7364

TERRESEARCH LIMITED

BOREHOLE SECTION SHEET

Date May 1959

CONTRACT NAME: Twickenham Bridge. REPORT NO. S.144/9

Bored for: Middlesex County Council.

Address: 20, Vauxhall Bridge Road, S.W.1.

Address of Site: London Road Bridge. County: Middlesex.

District or Town: Twickenham.

Standing Water Level: 20' 0" below surface Dia. of Borehole: 6 Inches.

Water Struck (1) (2) (3)

Ground Level: Boring Commenced: 28.4.59. Boring Completed: 5.5.59.

Special Remarks: Water level was observed after withdrawal of casing. The actual water table is probably at the level of the clay.

Jar Samples: 5819: 2' 0"; [illegible]"; 5821: 6' 0"; 5823: 10' 0"; 5825: 13' 6" 5827: 16' 0"; 5829: 22' 0"; 5831: 27' 0"; 5833: 31' 0"; 5835: 37' 0"; 5837: 41' 0" 5839: 44' 0"; 5841: 51' 6"; 5843: 56' 0"; 5845: 20' 0" (water)

Core Samples: 5826: 13' 6" - 15' 0"; 5828: 18' 6" - 20' 0"; 5830: 23' 6" - 25' 0"; 5832: 28' 8" - 30' 0"; 5834: 33' 6" - 35' 0"; 5836: 38' 6" - 40' 0"; 5838: 43' 6" - 45' 0"; 5840: 48' 6" - 50' 0"; 5842: 53' 6" - 55' 0"; 5844: 58' 6" - 60' 0";

Bulk Samples: 5822: 8' 0"; 5824: 12' 0";

DESCRIPTION OF STRATA	Thickness Feet	Thickness Inches	Depth Below Surface Feet	Depth Below Surface Inches
The descriptions are given in accordance with the Civil Engineering Code of Practice No. 1 "Site Investigations." No responsibility is accepted for these descriptions and clients should examine the samples submitted.				
No. 5 Boring				
Made ground	1	0	1	0
Gravel and sand	12	0	13	0
Blue clay.	47	0	60	0
TOTAL FROM SURFACE ...	60	0	60	0

Institute of Geological Sciences

Name and Number of Shaft or Borehole :

Brewery, Twickenham.

6-in or 1:10 000 Map Registration No.

TQ 17 SE 3

National Grid Reference

1603 7369

Page

Geological Classification	Description of Strata	Thickness *metres*	Depth *metres*
	Brought Forward		
	From London Memoir, VOL II, p170		

TWICKENHAM. Brewery, N. of Railway, near Station. 1881.

Communicated by MR. G. F. COLE.

30 feet above Ordnance Datum. Shaft 35 feet, the rest bored. OD + 8m Survey

Water-level about 30 feet down (? higher. Water pumped direct from bore-hole). Good supply.

		THICKNESS.	DEPTH.
Made ground		7	7 2.13
[River] Gravel		8	15 4.57
Blue [London] Clay		159	174 53.04
[Woolwich and Reading Beds, 80 feet.]	Mottled clay	34	208 63.40
	Sand	12	220 67.06
	Light-red clay	8	228 69.49
	Yellow sand	6	234 71.32
	Light [-coloured] fine sand	1½	235½ 71.78
	Grey clay	½	236 71.93
	Dark grey clay	2	238 72.54
	Clay and sand, with flints	2	240 73.15
	Green sand, with flints	6	246 74.98
	Green sand [? may be Thanet sand]	8	254 77.42
[Thanet Sand, 8 feet.]	Dark-grey sand	6	260 79.25
	Light-grey sand	1	261 79.55
	Flints	1	262 79.86
Chalk		138	400 121.92

A somewhat different version of this section has been communicated by MESSRS. LEGRAND and SUTCLIFF, as follows:—

		THICKNESS.	DEPTH.
Dug well		—	39
Blue [London Clay		135	174 ✓
[Woolwich and Reading Beds, 74 feet.]	Mottled clay	34	208
	Brown sand	4	212
	Brown clay	8	220
	Sand	14	234
	Light-blue clay	3½	237½
	Dark blue clay	½	238
	Blue clay and pebbles	2	240
	Sand and pebbles	2	242
	Green sand [? Thanet]	6	248
[Thanet Sand, 17 ft.]	Grey sand	8	256
	Dead sand and clay	9	265 ✓
Chalk and flints		137	402 (given as 400)

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1. Geological observations are made according to the prevailing understanding of the subject at the time. The quality of such observations may be affected by subsequent advances in knowledge or improved methods of interpretation.
2. Raw data may have been transcribed from analogue to digital format, or may have been acquired by means of automated measuring techniques. Although such processes are subjected to quality control to ensure reliability where possible, some raw data may have been processed without human intervention and may in consequence contain undetected errors.

3. Although records are maintained with all reasonable care, there may be some deterioration in the long term.
4. The most appropriate techniques for copying original records are used, but there may be some loss of detail and dimensional distortion when such records are copied.
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6. Data, information and related records that have been donated to BGS have been produced for a specific purpose, and that may affect the type and completeness of the data recorded and any interpretation. The nature and purpose of data collection, and the age of the resultant material may render it unsuitable for certain applications/uses. Customers/recipients of such material are advised that it is their responsibility to verify the suitability of the material for their intended usage.
7. The data, information and related records supplied by the BGS should not be taken as a substitute for specialist interpretations, professional advice and/or detailed site investigations. Professional advice should be sought before making technical interpretations on the basis of the materials provided.

Availability of goods

The maps provided on this website show where the various records are available. However, if for some reason, after you have paid for a record, the BGS is unable to provide it (for example, due to data or computing problems), we will inform you and offer an alternative record or a full refund.

Some of the records held in the National Geoscience Data Centre (NGDC) were donated under conditions of confidentiality. For most of these confidential records, the BGS is able to tell you that the records exist, and their location will, therefore, be displayed on the index maps on this website but we will not be able to provide you with a copy immediately. You will, however, be able to place a request to obtain details about the owners of the records who you can then contact to request release of the data. Once this is obtained you will then have to supply the BGS with written confirmation of release, and we will then be able provide you with a copy of the records concerned.

Prices, payment and VAT

Prices quoted in printed leaflets and internet pages are liable to change without prior notice.

Payment can currently only be accepted in Sterling, but may be made by credit or debit card (not by charge card, e.g. Amex), International Money Order, or Bankers' Draft. Electronic Fund Transfers, such as BACS (Bank Automated Clearing System) are also possible, please contact us for details.

The BGS reserve the right not to supply goods to purchasers who have previously defaulted on payment, or where there is reasonable evidence that a fraudulent credit card payment may be involved.

Value Added Tax (VAT) will be charged in accordance with current regulations.

The charges for obtaining copies of records are detailed on this website. There is a minimum charge of £26+VAT on all orders to reflect our minimum administration costs.

Delivery

Records ordered through this website will be dispatched using your requested method, options being: prints/photocopies by standard post/special delivery/faxing, or digital files (secure PDF format) by e-mail (if file size allows) or on CD by post. Records will normally be dispatched within 10 working days from receipt of the order. However, a special 24 hour

Premium delivery can be requested at an additional charge, details of which can be found on this website.

On top of these quoted dispatch times, please allow five days for postage in the UK, seven days in the EU and up to 30 days elsewhere. If your order is delayed beyond this time, please contact the Central Enquiries Desk immediately (contact details below). Standard Postal Delivery charges are included in the price of the records. You will only be charged the amount quoted. If you require special delivery arrangements to be made, please contact us before placing your order.

Lost, damaged or incorrectly supplied goods

The BGS will take all reasonable steps to replace items damaged in transit or those that have been supplied in error. Where this is not possible, a full refund will be made (please see Availability above).

If goods are lost or damaged in transit, or have been incorrectly supplied, you should retain them together with all packaging and documents, and notify the BGS immediately. You should do this by letter, fax or email within 7 days of receiving the goods: beyond this period we cannot guarantee that replacements will be available. You then have the choice of having a replacement item or a full refund. Please ensure you quote any customer order numbers and include your full name and address in any communications.

Please do not return any faulty or incorrect goods unless asked to do so. We will give you instructions on how, or whether, to return these items, and may ask you to supply appropriate documents.

Complaints

We would hope that the vast majority of potential problems can be resolved by simply contacting the BGS through the Central Enquiries Desk. If, however, you are not satisfied that the problem has been resolved or handled to your satisfaction, you may wish to make a formal complaint. Your complaint can be sent to the BGS by post, fax or e-mail. In all cases you should aim to provide as much relevant information as possible so that we can deal with your complaint as promptly as possible. Please also include your contact details in case we need to obtain more details from you.

All complaints should be sent to the Central Enquiries Desk (contact details below).

You will receive an acknowledgement within five working days that your complaint has been received. If you do not receive an acknowledgement, please contact the Head of Enquiry Service at the same address.

When acknowledging receipt of your complaint, we will give an indication of how long it will take to send you a detailed response. In most cases, we would aim to provide a detailed response within ten working days. However, this may not always prove possible, especially if we need to obtain further information. In these cases, we will keep you fully informed on the progress of your complaint, and endeavour to provide you with as full a response as possible as soon as we can.

Legal issues

In the event of a dispute over the description or supply of goods, payment, or ownership, the contract will be deemed to have been made within England and will therefore be subject to the laws of England and Wales.

The BGS regret that we are only able to handle enquiries and conduct business matters in English.

Data protection

Please see our 'Privacy policy'.

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Contact details for all enquiries

Central Enquiries Desk
British Geological Survey
Keyworth
Nottingham
NG12 5GG

Tel: +44 (0)115 936 3143
Fax: +44 (0)115 936 3276
Email: Enquiries@bgs.ac.uk

GROUND INVESTIGATION & PILING LTD
Cable Percussion Borehole Log

Borehole No. BH1
Sheet 1 of 3

Level (mAD): -
Date: 20/04/2010 to 21/04/2010
Coordinates E:- N:-
Cased (m): 8.80
Diameter (mm): 150

Location: Regal House, Twickenham (Proposed Travelodge Hotel)
Client: Anglo Holt
Engineer:

DESCRIPTION OF STRATA	Legend	Depth (m bgl)	Level (m AOD)	Water Level (m bgl)	Samples/Tests Type	Samples/Tests Depth (m bgl)	SPT 'N' Value	U100 Blows	Piezo /Gas Pipe
MADE GROUND - Tarmac onto roadstone.		0.10			D	0.10			
MADE GROUND - Firm dark brown slightly sandy slightly gravelly CLAY. Gravel is brick and siltstone.		0.20			B	0.20			
MADE GROUND - Loose (from 1.20m) dark brown and in parts black slightly clayey to clayey sandy GRAVEL with occasional clay pockets and cobbles. Gravel is brick, concrete, hardcore, tarmac, glass and siltstone. Cobbles are concrete.					D	1.00			
					S	1.20	N=6		
					B	1.50			
Very dense (from 2.00m) brown and yellow brown sandy GRAVEL. Gravel is chert, flint and siltstone. (Superficial Deposits)		1.90			D	1.90			
					S	2.00	50 for 190mm		
					B	2.50			
Very dense (at 3.00m) becoming dense (from 4.00m) brown and yellow brown SAND and GRAVEL. Gravel is chert, flint and sandstone. (Superficial Deposits)		3.00			S	3.00	50 for 145mm		
					B	3.50			
					S	4.00	N=39		
					B	4.50			
					S	5.00	N=48		
					B	5.50			
					S	6.00	N=35		
					B	6.50			
Brown clayey gravelly SAND with many clay pockets. Gravel is chert. (Superficial Deposits)		7.50			S	7.50	N=28		
Very stiff grey slightly gravelly CLAY. Gravel is siltstone and quartz. (Superficial Deposits)		7.80			B	7.80			
Very stiff grey and in parts dark greenish brown silty CLAY. (London Clay)		8.50			D	8.50			
					U	9.00		80	
Very stiff dark grey silty CLAY. (London Clay)		9.45			D	9.45			

[Continued on next sheet]

SAMPLES / TESTS

U	Undisturbed Sample
D	Disturbed
B	Bulk
W	Water
S/C	SPT/CPT
▽	Water strike
▼	Water level
NR	No Sample Recovery

OTHER INFORMATION

1. Hand excavated service avoidance pit to 1.20m - 1.00hr.
2. Water added to assist drilling from 1.90m to 7.80m.
3. Chiselling from 3.20m to 3.60m - 1.00hr.
4. 63mm OD HDPE gas / groundwater monitoring standpipe installed to 8.00m in a gravel filter medium, bentonite seal from 1.00m to 0.30m, concrete from 0.30m and a security cover fitted at surface.
5. Reinstating borehole position - 1.00hr.

Logged by	ATP
Checked by	AJM

Project No. 17636

Ground Investigation & Piling Limited,Devonshire House, Ettingshall Road, Wolverhampton,WV2 2JT. Tel. 01902 459558 Fax 01902 459085

GROUND INVESTIGATION & PILING LTD
Cable Percussion Borehole Log

Borehole No. BH1
Sheet 2 of 3

Level (mAD): -
Date: 20/04/2010 to 21/04/2010
Coordinates E:- N:-
Cased (m): 8.80
Diameter (mm): 150

Location: Regal House, Twickenham (Proposed Travelodge Hotel)
Client: Anglo Holt
Engineer:

DESCRIPTION OF STRATA	Legend	Depth (m bgl)	Level (m AOD)	Water Level (m bgl)	Samples/Tests Type	Samples/Tests Depth (m bgl)	SPT 'N' Value	U100 Blows	Piezo /Gas Pipe
Very stiff dark grey silty CLAY. (London Clay)					D	10.00			
					S	10.50	N=33		
					B	11.00			
					D	11.50			
					U	12.00		85	
					D	12.45			
					D	13.50			
					S	14.00	N=34		
					B	14.50			
					D	15.50			
					S	16.00	N=31		
					B	16.50			
					D	17.50			
					S	18.00	N=38		
					B	18.50			
					D	19.50			

[Continued on next sheet]

SAMPLES / TESTS

U	Undisturbed Sample
D	Disturbed
B	Bulk
W	Water
S/C	SPT/CPT
▽	Water strike
▼	Water level
NR	No Sample Recovery

OTHER INFORMATION

1. Hand excavated service avoidance pit to 1.20m - 1.00hr.
2. Water added to assist drilling from 1.90m to 7.80m.
3. Chiselling from 3.20m to 3.60m - 1.00hr.
4. 63mm OD HDPE gas / groundwater monitoring standpipe installed to 8.00m in a gravel filter medium, bentonite seal from 1.00m to 0.30m, concrete from 0.30m and a security cover fitted at surface.
5. Reinstating borehole position - 1.00hr.

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GROUND INVESTIGATION & PILING LTD
Cable Percussion Borehole Log

Borehole No. BH1
Sheet 3 of 3

Level (mAD): -
Date: 20/04/2010 to 21/04/2010
Coordinates E:- N:-
Cased (m): 8.80
Diameter (mm): 150

Location: Regal House, Twickenham (Proposed Travelodge Hotel)
Client: Anglo Holt
Engineer:

DESCRIPTION OF STRATA	Legend	Depth (m bgl)	Level (m AOD)	Water Level (m bgl)	Samples/Tests Type	Samples/Tests Depth (m bgl)	SPT 'N' Value	U100 Blows	Piezo /Gas Pipe
Very stiff dark grey silty CLAY. (London Clay)		20.05			S	20.05	N=46		
Borehole Complete									

SAMPLES / TESTS

U	Undisturbed Sample
D	Disturbed
B	Bulk
W	Water
S/C	SPT/CPT
▽	Water strike
▼	Water level
NR	No Sample Recovery

OTHER INFORMATION

1. Hand excavated service avoidance pit to 1.20m - 1.00hr.
2. Water added to assist drilling from 1.90m to 7.80m.
3. Chiselling from 3.20m to 3.60m - 1.00hr.
4. 63mm OD HDPE gas / groundwater monitoring standpipe installed to 8.00m in a gravel filter medium, bentonite seal from 1.00m to 0.30m, concrete from 0.30m and a security cover fitted at surface.
5. Reinstating borehole position - 1.00hr.

Logged by	ATP
Checked by	AJM

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GROUND INVESTIGATION & PILING LTD
Cable Percussion Borehole Log

Borehole No.BH2
Sheet 1 of 5

Level (mAD): -
Date: 15/04/2010 to 19/04/2010
Coordinates E:- N:-
Cased (m): 9.00
Diameter (mm): 150

Location: Regal House, Twickenham (Proposed Travelodge Hotel)
Client: Anglo Holt
Engineer:

DESCRIPTION OF STRATA	Legend	Depth (m bgl)	Level (m AOD)	Water Level (m bgl)	Samples/Tests Type	Samples/Tests Depth (m bgl)	SPT 'N' Value	U100 Blows	Piezo /Gas Pipe
MADE GROUND: Tarmac (Driller's description)		0.10			B	0.10			
MADE GROUND: Brownish grey SAND and GRAVEL. Gravel is fine to coarse subangular to angular brick, sandstone and tarmac with occasional fine to medium subangular to angular brick and sandstone cobbles.		0.35			B	0.35			
MADE GROUND: Brownish grey slightly clayey gravelly SAND with many soft chalk rich clay pockets. Gravel is fine to coarse subangular to subrounded flint, brick and tarmac.		1.00 1.10			D S	1.00 1.20	N=39 (5,7,8,9,10,12)		
POSSIBLE MADE GROUND: Very stiff brown slightly silty sandy gravelly CLAY. Gravel is fine to coarse subangular to subrounded quartz, chert, flint and rare brick.					B	1.50			
Dense and in parts very dense orange brown gravelly SAND. Gravel is fine to coarse subangular to angular flint and chert with rare quartz and sandstone. (Superficial Deposits)					S	2.00	N=56 (6,8,10,18,15,13)		
					B	2.50			
					S	3.00	N=44 (4,7,8,10,12,14)		
					B	3.50			
					S	4.00	N=45 (5,8,9,10,12,14)		
					B	4.50			
					S	5.00	N=33 (3,4,6,7,9,11)		
					B	5.50			
					S	6.00	N=46 (2,3,5,8,15,18)		
					B	6.50			
					D	7.00			
					S	7.50	N=30 (4,5,6,6,8,10)		
Very stiff with depth becoming hard in parts grey slightly silty CLAY with rare shelly fossils. (London Clay)		8.20			B	8.20			
					S	9.00	N=27 (4,6,6,6,7,8)		
- Between 9.50m and 10.00m - rare subrounded mudstone gravel.					B	9.50			

[Continued on next sheet]

SAMPLES / TESTS

U	Undisturbed Sample
D	Disturbed
B	Bulk
W	Water
S/C	SPT/CPT
▽	Water strike
▼	Water level
NR	No Sample Recovery

OTHER INFORMATION

1. Hand dug service avoidance pit to 1.20m - 1.0 hour.
2. Water added from 1.20m to 8.20m to aid drilling.
3. Chiselling from 2.50m to 2.70m due to cobbles - 0.5 hours.
4. Chiselling from 6.40m to 6.60m due to cobbles 0.5 hours.
5. Chiselling from 18.70m to 18.90m due to siltstone - 0.5 hours.
6. Chiselling from 28.30m to 28.40m due to siltstone - 0.5 hours.
7. Water level at start of shift on 19/04/2010 at 25.00m with 9.00m of casing, borehole 30.00m deep.
8. Unable to move to next borehole due to parked cars - 2.0 hours.

Logged by	SAG
Checked by	ASM

Project No. 17636

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GROUND INVESTIGATION & PILING LTD
Cable Percussion Borehole Log

Borehole No.BH2
Sheet 2 of 5

Level (mAD): -
Date: 15/04/2010 to 19/04/2010
Coordinates E:- N:-
Cased (m): 9.00
Diameter (mm): 150

Location: Regal House, Twickenham (Proposed Travelodge Hotel)
Client: Anglo Holt
Engineer:

DESCRIPTION OF STRATA	Legend	Depth (m bgl)	Level (m AOD)	Water Level (m bgl)	Samples/Tests Type	Samples/Tests Depth (m bgl)	SPT 'N' Value	U100 Blows	Piezo /Gas Pipe
Very stiff with depth becoming hard in parts grey slightly silty CLAY with rare shelly fossils. (London Clay)					D	10.00			
					B U	10.50			
					D	11.50			
					S	12.00	N=35 (5,6,7,8,9,11)		
					B	12.50			
					D	13.50			
					U	14.00		88	
					D	14.45			
					D	15.00			
					S	16.00	N=40 (7,8,9,10,10,11)		
					B	16.50			
					D	17.50			
					S	18.00	N=43 (5,7,9,10,12,12)		
					B	18.50			
					D	19.50			

[Continued on next sheet]

SAMPLES / TESTS

U	Undisturbed Sample
D	Disturbed
B	Bulk
W	Water
S/C	SPT/CPT
▽	Water strike
▼	Water level
NR	No Sample Recovery

OTHER INFORMATION

1. Hand dug service avoidance pit to 1.20m - 1.0 hour.
2. Water added from 1.20m to 8.20m to aid drilling.
3. Chiselling from 2.50m to 2.70m due to cobbles - 0.5 hours.
4. Chiselling from 6.40m to 6.60m due to cobbles 0.5 hours.
5. Chiselling from 18.70m to 18.90m due to siltstone - 0.5 hours.
6. Chiselling from 28.30m to 28.40m due to siltstone - 0.5 hours.
7. Water level at start of shift on 19/04/2010 at 25.00m with 9.00m of casing, borehole 30.00m deep.
8. Unable to move to next borehole due to parked cars - 2.0 hours.

Logged by	SAG
Checked by	ASM

Project No. 17636

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GROUND INVESTIGATION & PILING LTD
Cable Percussion Borehole Log

Borehole No.BH2
Sheet 3 of 5

Level (mAD): -
Date: 15/04/2010 to 19/04/2010
Coordinates E:- N:-
Cased (m): 9.00
Diameter (mm): 150

Location: Regal House, Twickenham (Proposed Travelodge Hotel)
Client: Anglo Holt
Engineer:

DESCRIPTION OF STRATA	Legend	Depth (m bgl)	Level (m AOD)	Water Level (m bgl)	Samples/Tests Type	Samples/Tests Depth (m bgl)	SPT 'N' Value	U100 Blows	Piezo /Gas Pipe
Very stiff with depth becoming hard in parts grey slightly silty CLAY with rare shelly fossils. (London Clay)					S	20.00	N=47 (6,8,10,12,12,13)		
					B	20.50			
					D	21.50			
- Between 22.00m and 22.45m. Rare intact mudstone fragments.					S	22.00	N=44 (4,7,9,10,12,13)		
					B	22.50			
					D	23.50			
					S	24.00	N=49 (6,8,10,12,13,14)		
					B	24.50			
					D	25.50			
					S	26.00	N=50 (5,8,10,12,13,15)		
					B	26.50			
					D	27.50			
					S	28.00	50/115mm (8,10,12,38)		
- Between 28.50m and 29.00m - occasional calcareous pockets.					B	28.50			
					D	29.40			

[Continued on next sheet]

SAMPLES / TESTS

U	Undisturbed Sample
D	Disturbed
B	Bulk
W	Water
S/C	SPT/CPT
▽	Water strike
▼	Water level
NR	No Sample Recovery

OTHER INFORMATION

1. Hand dug service avoidance pit to 1.20m - 1.0 hour.
2. Water added from 1.20m to 8.20m to aid drilling.
3. Chiselling from 2.50m to 2.70m due to cobbles - 0.5 hours.
4. Chiselling from 6.40m to 6.60m due to cobbles 0.5 hours.
5. Chiselling from 18.70m to 18.90m due to siltstone - 0.5 hours.
6. Chiselling from 28.30m to 28.40m due to siltstone - 0.5 hours.
7. Water level at start of shift on 19/04/2010 at 25.00m with 9.00m of casing, borehole 30.00m deep.
8. Unable to move to next borehole due to parked cars - 2.0 hours.

Logged by	SAG
Checked by	ASM

Project No. 17636

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GROUND INVESTIGATION & PILING LTD
Cable Percussion Borehole Log

Borehole No.BH2
Sheet 4 of 5

Level (mAD): -
Date: 15/04/2010 to 19/04/2010
Coordinates E:- N:-
Cased (m): 9.00
Diameter (mm): 150

Location: Regal House, Twickenham (Proposed Travelodge Hotel)
Client: Anglo Holt
Engineer:

DESCRIPTION OF STRATA	Legend	Depth (m bgl)	Level (m AOD)	Water Level (m bgl)	Samples/Tests Type	Samples/Tests Depth (m bgl)	SPT 'N' Value	U100 Blows	Piezo /Gas Pipe
Very stiff with depth becoming hard in parts grey slightly silty CLAY with rare shelly fossils. (London Clay)					S	30.00	50/275mm (6,9,11,14,15,10)		
- Between 30.50m and 31.60m - some sandy pockets.					B	30.50			
					D	31.50			
					S	32.00	50/245mm (7,9,10,13,14,13)		
					B	32.50			
					D	33.50			
					S	34.00	50/235mm (8,11,12,16,17,5)		
					B	34.50			
- Between 35.50m and 37.60m - some sandy pockets.					D	35.50			
					S	36.00	50/245mm (6,9,11,15,17,7)		
- From 36.50m to 37.00m - contains many intact fine sandstone and mudstone fragments.					B	36.50			
					D	37.50			
					S	38.00	50/235mm (9,12,14,14,16,6)		
- From 38.50m to 39.00m - occasional sandy pockets.					B	38.50			
					D	39.50			

[Continued on next sheet]

SAMPLES / TESTS

U	Undisturbed Sample
D	Disturbed
B	Bulk
W	Water
S/C	SPT/CPT
▽	Water strike
▼	Water level
NR	No Sample Recovery

OTHER INFORMATION

1. Hand dug service avoidance pit to 1.20m - 1.0 hour.
2. Water added from 1.20m to 8.20m to aid drilling.
3. Chiselling from 2.50m to 2.70m due to cobbles - 0.5 hours.
4. Chiselling from 6.40m to 6.60m due to cobbles 0.5 hours.
5. Chiselling from 18.70m to 18.90m due to siltstone - 0.5 hours.
6. Chiselling from 28.30m to 28.40m due to siltstone - 0.5 hours.
7. Water level at start of shift on 19/04/2010 at 25.00m with 9.00m of casing, borehole 30.00m deep.
8. Unable to move to next borehole due to parked cars - 2.0 hours.

Logged by	SAG
Checked by	ASM

Project No. 17636

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GROUND INVESTIGATION & PILING LTD
Cable Percussion Borehole Log

Borehole No.BH2
Sheet 5 of 5

Level (mAD): -
Date: 15/04/2010 to 19/04/2010
Coordinates E:- N:-
Cased (m): 9.00
Diameter (mm): 150

Location: Regal House, Twickenham (Proposed Travelodge Hotel)
Client: Anglo Holt
Engineer:

DESCRIPTION OF STRATA	Legend	Depth (m bgl)	Level (m AOD)	Water Level (m bgl)	Samples/Tests Type	Samples/Tests Depth (m bgl)	SPT 'N' Value	U100 Blows	Piezo /Gas Pipe
Very stiff with depth becoming hard in parts grey slightly silty CLAY with rare shelly fossils. (London Clay)		40.40			S	40.00	50/225mm (10,14,15,17,18)		
Borehole Complete									

SAMPLES / TESTS

U	Undisturbed Sample
D	Disturbed
B	Bulk
W	Water
S/C	SPT/CPT
▽	Water strike
▼	Water level
NR	No Sample Recovery

OTHER INFORMATION

1. Hand dug service avoidance pit to 1.20m - 1.0 hour.
2. Water added from 1.20m to 8.20m to aid drilling.
3. Chiselling from 2.50m to 2.70m due to cobbles - 0.5 hours.
4. Chiselling from 6.40m to 6.60m due to cobbles 0.5 hours.
5. Chiselling from 18.70m to 18.90m due to siltstone - 0.5 hours.
6. Chiselling from 28.30m to 28.40m due to siltstone - 0.5 hours.
7. Water level at start of shift on 19/04/2010 at 25.00m with 9.00m of casing, borehole 30.00m deep.
8. Unable to move to next borehole due to parked cars - 2.0 hours.

Logged by	SAG	Project No. 17636
Checked by	ASM	

Ground Investigation & Piling Limited, Devonshire House, Ettingshall Road, Wolverhampton, WV2 2JT. Tel. 01902 459558 Fax 01902 459085

GROUND INVESTIGATION & PILING LTD
Cable Percussion Borehole Log

Borehole No.BH3
Sheet 1 of 1

Level (mAD): -
Date: 21/04/2010 to 21/04/2010
Coordinates E:- N:-
Cased (m): 4.90
Diameter (mm): 150

Location: Regal House, Twickenham (Proposed Travelodge Hotel)
Client: Anglo Holt
Engineer:

DESCRIPTION OF STRATA	Legend	Depth (m bgl)	Level (m AOD)	Water Level (m bgl)	Samples/Tests Type	Samples/Tests Depth (m bgl)	SPT 'N' Value	U100 Blows	Piezo /Gas Pipe
MADE GROUND - Tarmac (driller's description).		0.10			B	0.10			
MADE GROUND - Dark brown gravelly SAND. Gravel is brick, tarmac, hardcore and concrete.		0.30			B	0.30			
MADE GROUND - Dense (from 1.20m) dark brown and reddish brown SAND and GRAVEL with many cobbles. Gravel and cobbles are brick.					D	1.00			
					S	1.20	N=44		
Dense (from 2.00m) brown and yellow brown slightly sandy GRAVEL. Gravel is chert, flint and quartz. (Superficial Deposits)		1.50			B	1.50			
					S	2.00	N=48		
Dense (from 3.00m) becoming very dense yellow brown and brown slightly clayey SAND and GRAVEL with occasional clay pockets. Gravel is chert, flint and quartz. (Superficial Deposits)		2.50			B	2.50			
					S	3.00	N=38		
					B	3.50			
					S	4.00	N=43		
					B	4.50			
					S	5.05	N=53		
Borehole Complete		5.50							

SAMPLES / TESTS

U	Undisturbed Sample
D	Disturbed
B	Bulk
W	Water
S/C	SPT/CPT
▽	Water strike
▼	Water level
NR	No Sample Recovery

OTHER INFORMATION
1. Hand excavated service avoidance pit to 1.20m - 1.00hr.
2. Water added to assist drilling from 1.20m.
3. Hole backfilled with arisings.
4. Reinstating borehole position - 0.50hrs.

Logged by	ATP
Checked by	AJM

Project No. 17636

Ground Investigation & Piling Limited, Devonshire House, Ettingshall Road, Wolverhampton, WV2 2JT. Tel: 01902 459558 Fax 01902 459085

GROUND INVESTIGATION & PILING LTD
Cable Percussion Borehole Log

Borehole No.BH4
Sheet 1 of 1

Level (mAD): -
Date: 22/04/2010 to 22/04/2010
Coordinates E:- N:-
Cased (m): 5.00
Diameter (mm): 150

Location: Regal House, Twickenham (Proposed Travelodge Hotel)
Client: Anglo Holt
Engineer:

DESCRIPTION OF STRATA	Legend	Depth (m bgl)	Level (m AOD)	Water Level (m bgl)	Samples/Tests Type	Samples/Tests Depth (m bgl)	SPT 'N' Value	U100 Blows	Piezo /Gas Pipe
MADE GROUND - Tarmac (driller's description).		0.10			B	0.10			
MADE GROUND - Dark brown and reddish brown SAND and GRAVEL with many cobbles. Gravel and cobbles are brick.		0.50			B	0.50			
MADE GROUND - Dark brown clayey gravelly SAND. Gravel is brick and chert.		1.20			S	1.20	51 for 160mm		
Very dense becoming dense from 4.00m yellow brown and brown SAND and GRAVEL. Gravel is chert, flint and siltstone. (Superficial Deposits)					B	1.50			
					S	2.00	60 for 245mm		
					B	2.50			
					S	3.00	50 for 70mm	NR	
					B	3.50			
					S	4.00	N=44		
Dense (from 5.05m) yellow brown, white and dark grey slightly sandy GRAVEL. Gravel is chert, flint and siltstone. (Superficial Deposits)		4.50			B	4.50			
					S	5.05	N=45		
Borehole Complete		5.50							

SAMPLES / TESTS

U	Undisturbed Sample
D	Disturbed
B	Bulk
W	Water
S/C	SPT/CPT
▽	Water strike
▼	Water level
NR	No Sample Recovery

OTHER INFORMATION

1. Hand excavated service avoidance pit to 1.20m - 1.00hr.
2. Water added to aid drilling from 1.20m.
3. Chiselling from 3.30m to 3.60m - 1.00hr.
4. Hole backfilled with arisings.
5. Reinstating borehole position - 0.50hrs.

Logged by	ATP
Checked by	AJM

Project No. 17636

Ground Investigation & Piling Limited, Devonshire House, Ettingshall Road, Wolverhampton, WV2 2JT. Tel. 01902 459558 Fax 01902 459085

APPENDIX B

LABORATORY REPORT FOR INDEX PROPERTY AND CHEMICAL TESTING

CONTRACT: Regal House, Twickenham (proposed Travelodge)

CLIENT: Anglo Holt

GIP Ltd
Ground Investigation & Piling Limited
Devonshire House, Ettingshall Road,
Wolverhampton. WV2 2JT
Phone 01902 459558, Fax 01902 459085

REF:- 17636 | Page 1 of 1

DATE SCHEDULED:- 26.4.2010 | DATE ISSUED:- 14.5.2010

Sample type		Test abbreviations		Test methods - Unless otherwise stated.	
D	Disturbed	W	Moisture content	W%	BS1377:PART2:1990:3
B	Bulk disturbed	WL	Liquid limit	WL	BS1377:PART2:1990:4.3/4.4
U	Undisturbed	WP	Plastic limit	WP	BS1377:PART2:1990:5.3
S	SPT split spoon	IP	Index property	IP	BS1377:PART2:1990:5.4
W	Ground water	*LOI	Loss on ignition	*LOI	BS1377:PART3:1990:4
		*ORG	Organic content	*ORG	BS1377:PART3:1990:3
		PD	Particle Density	PD	BS1377:PART2:1990:8.2
		*Cl	Soluble chloride	*Cl	BS1377:PART3:1990:7.2/7.3

Total SO4 *BS1377:PART3:1990:5.5 | pH Value BS1377:PART3:1990:9
Soluble SO4 BS1377:PART3:1990:5.5

Approved signatories:-

J.P.Hughes, Director.....

R.I.H.Williamson, Director.....

UKAS TESTING
1897

Opinions and interpretations are outside the scope of UKAS accreditation

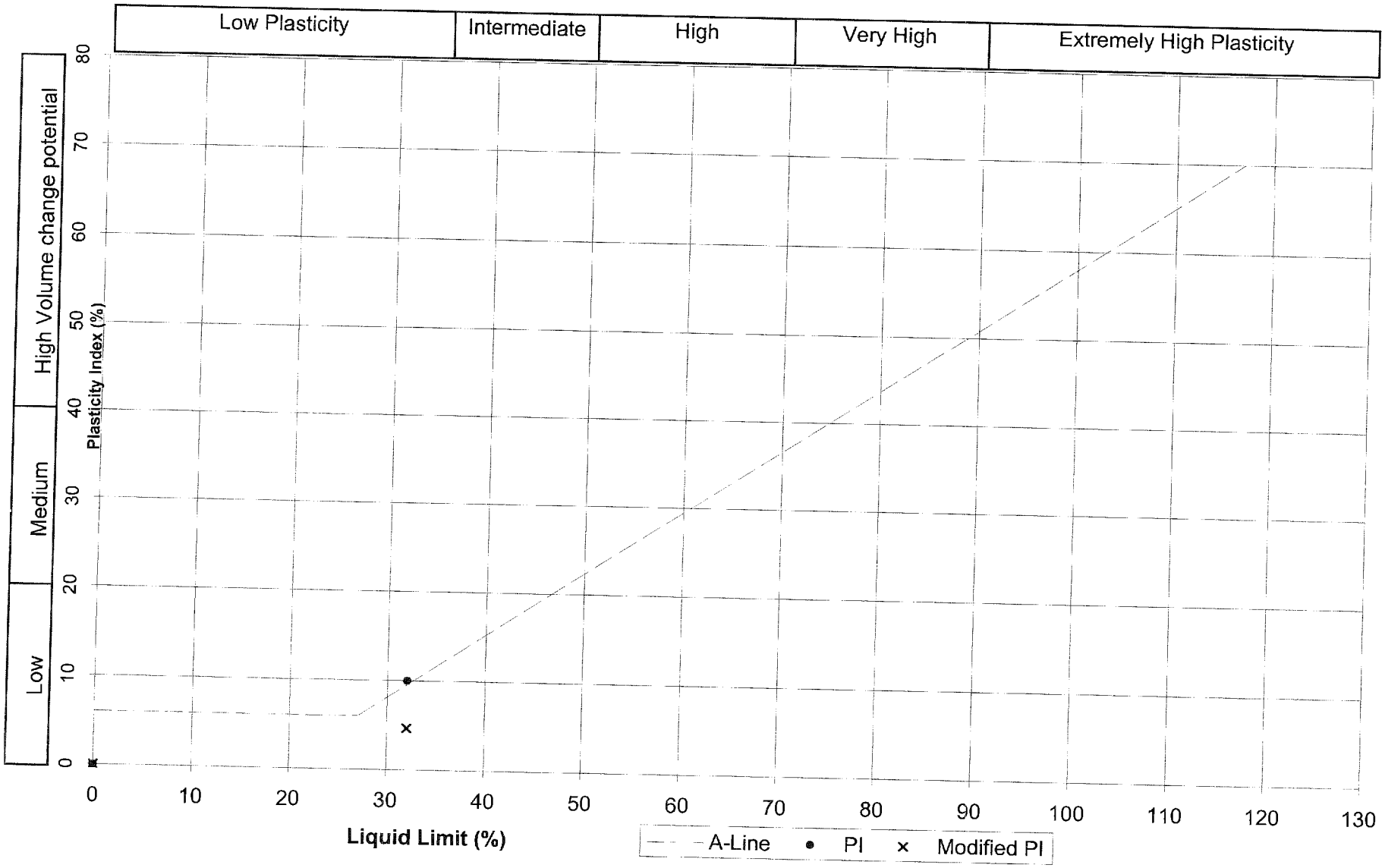
Tests marked * are not UKAS accredited.

The reported results relate only to samples received.

 # = Sample mass smaller than BS1377 requirements

SAMPLE DETAILS			TEST DATE	CLASSIFICATION					CHEMICAL						% PASSING BS SIEVE SIZE		REMARKS
					Index Properties												
BH/TP No.	DEPTH m	SAMPLE TYPE		W %	WL 1pt %	WP %	IP	PD (Gas Jar) Mg/m³	Soluble SO_4 g/l	pH Value	*TOTAL SO_4 %	*LOI %	*ORG %	*Soluble Cl %	2.00 mm	0.425 mm	
BH2	0.35	B	28.4.2010	20	32	22	10									47	See exploratory hole log for sample description

A-Line Plot


Low Plasticity
Intermediate
High
Very High
Extremely High Plasticity
High Volume change potential
Medium
Low
Plasticity Index (%)
0
10
20
30
40
50
60
70
80
90
100
110
120
130
Liquid Limit (%)
A-Line
PI
Modified PI

LABORATORY REPORT FOR STRENGTH TESTING

CONTRACT: Regal House, Twickenham (proposed Travelodge)

CLIENT: Anglo Holt

REF:- 17636

Page 1 of 1

DATE SCHEDULED:- 26.4.2010

DATE ISSUED:- 14.5.2010

GIP Ltd. Ground Investigation & Piling Limited
Devonshire House, Ettingshall Road,
Wolverhampton. WV2 2JT
Phone 01902 459558, Fax 01902 459085

Sample type		Test abbreviations		Test methods - Unless otherwise stated.	
D	Disturbed	W	Moisture content	W	BS1377:PART2:1990:3
B	Bulk disturbed	Q	Quick undrained	QS	BS1377:PART7:1990:8
U	Undisturbed	S	Single stage	QM	BS1377:PART7:1990:9
S	SPT split spoon	M	Multi stage	HV	Pilcon hand vane test.
W	Ground water	HV	Hand vane test	Corrected to obtain BS1377 values	

Other abbreviations

$\frac{\sigma_1-\sigma_3}{2}$ Deviator stress; σ_3 Cell pressure; Cu Cohesion value; ϕu Angle of shear resistance

Approved signatories:-

J.P.Hughes, Director R.I.H.Williamson, Director

Julian Hughes

UKAS TESTING 1897

Opinions and interpretations are outside the scope of UKAS accreditation

Tests marked * are not UKAS accredited.

The reported results relate only to samples received.

SAMPLE DETAILS			TEST DATE	MOISTURE CONTENT	*DENSITIES		*TRIAXIAL STRENGTH						*HAND VANE STRENGTH		REMARKS
BH No.	DEPTH m	SAMPLE TYPE		W %	BULK Mg/m³	DRY Mg/m³	TEST TYPE	DIAMETER mm	σ_3 kPa	$\frac{\sigma_1-\sigma_3}{2}$ kPa	Cu kPa	ϕu	Position	Cu kPa	
BH1	9.00	U	11.5.2010	28	1.90	1.48	QM	100	90	132			Top	>167	See exploratory hole log for sample description
									180	137	135		Base	>167	
	12.00	U	11.5.2010	27	1.93	1.52	QS	100	90	185	185		Top	>167	
													Base	>167	
BH2	14.00	U	11.5.2010	28	2.01	1.57	QM	100	90	103			Top	>167	
BH2	0.35	B							180	109	109		Base	>167	
									360	115					

GROUND INVESTIGATION & PILING LIMITED
TEST REPORT FOR PARTICLE SIZE DISTRIBUTION

Job No:- 17636
Received:- 26.04.10
Tested:- 28.04.10
Report:- 07.05.10

Site:- Regal House, Twickenham (proposed Travelodge).
Customer:- Anglo Holt Construction Limited.

BH:- 1
Depth:- 2.50m

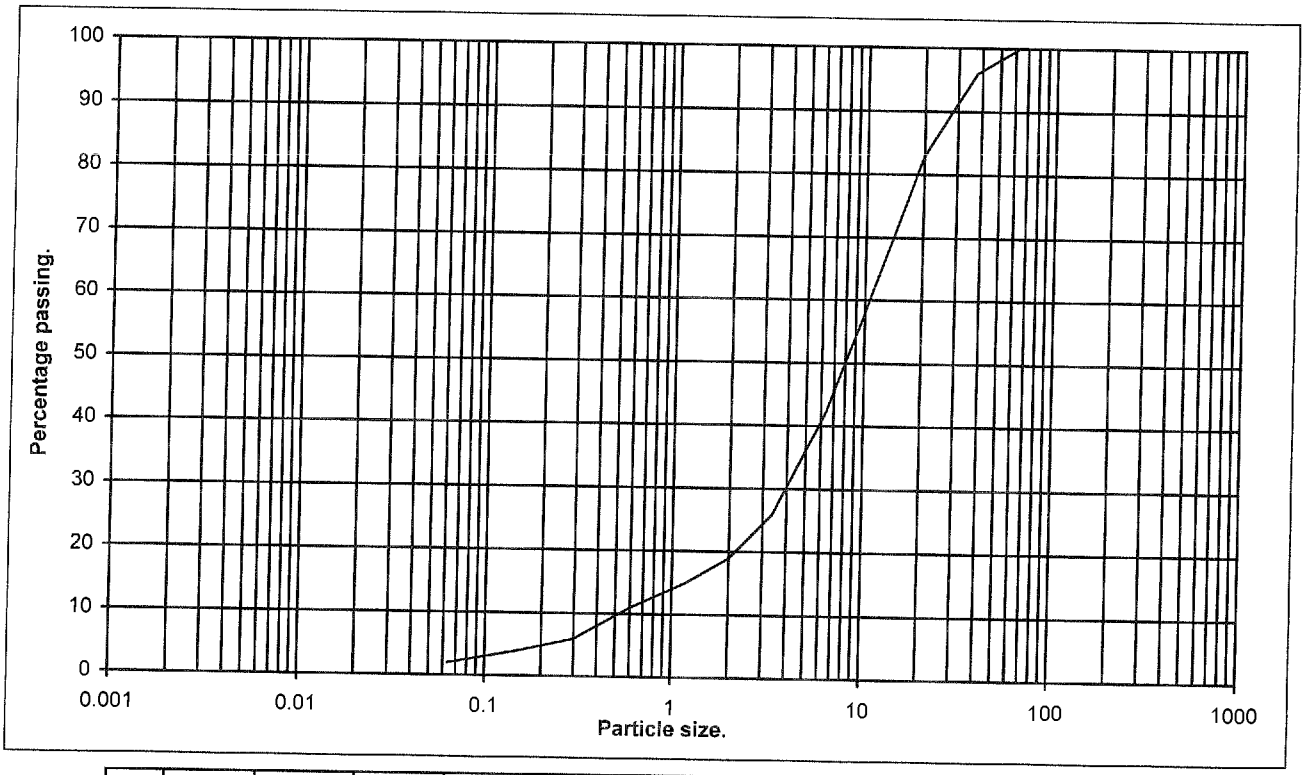
TEST METHODS:-
Particle Size Distribution:-
BS 1377: Part 2: 1990
Clause 9.2 & 9.3

Sedimentation:-
BS 1377: Part 2: 1990
Clause 9.4

Sample Description: See Exploratory Log.

TEST METHODS:-
Sample Preparation:
BS1377:Part1:1990:
Clause 7.3.4, 7.3.5, 7.4.5

Authorized by P.R.Smart
Laboratory Manager



CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieve Size mm	% Passing
200	100
150	100
125	100
90	100
75	100
63	100
37.5	96
20	83
10	58
6.3	42

Sieve Size mm	% Passing
3.35	26
2	19
1.18	15
0.6	11
0.3	6
0.15	4
0.063	2

% Clay & Silt	2
% Sand	17
% Gravel	81
% Cobbles	0

Sample mass < BS1377 requirements

UKAS TESTING
1897

The reported results relate only to samples received

GROUND INVESTIGATION & PILING LIMITED
TEST REPORT FOR PARTICLE SIZE DISTRIBUTION

Job No:- 17636
Received:- 26.04.10
Tested:- 29.04.10
Report:- 07.05.10

Site:- Regal House, Twickenham (proposed Travelodge).
Customer:- Anglo Holt Construction Limited.

BH:- 2
Depth:- 1.50m

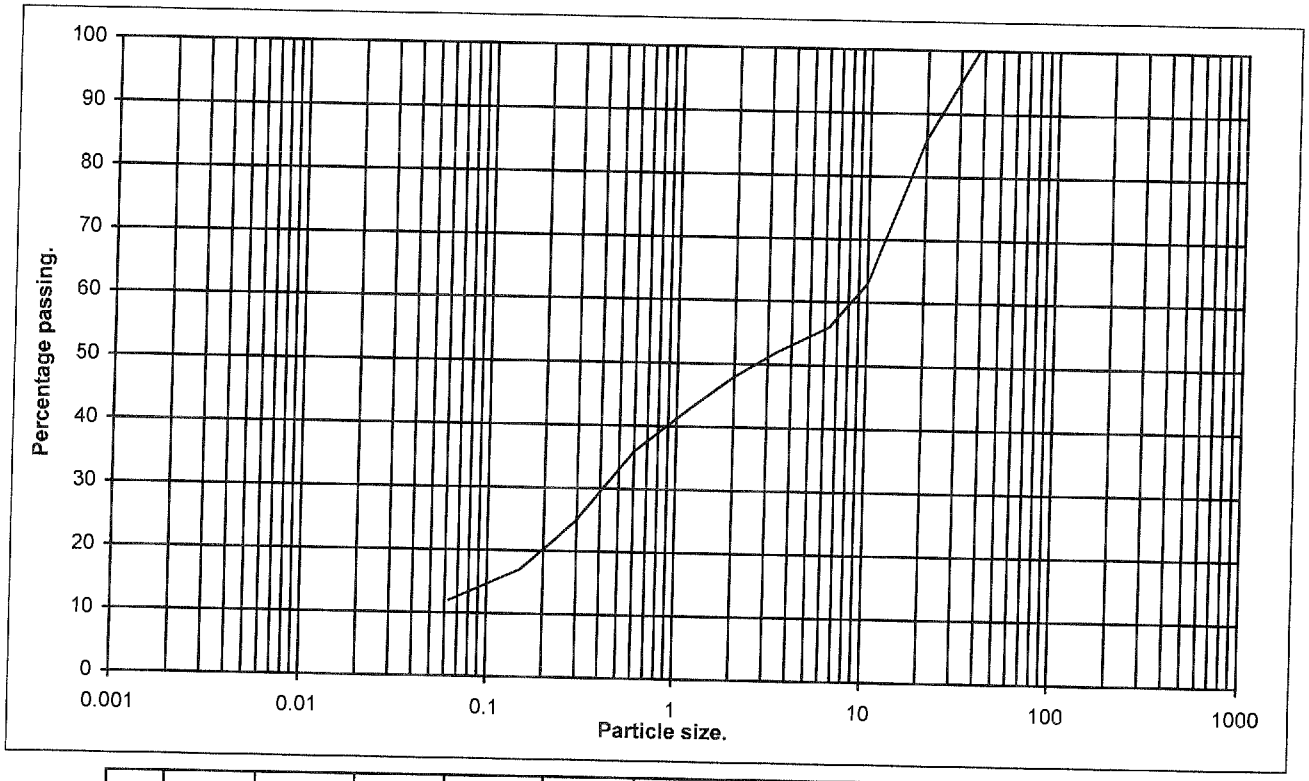
TEST METHODS:-
Particle Size Distribution:-
BS 1377: Part 2: 1990
Clause 9.2 & 9.3

Sedimentation:-
BS 1377: Part 2: 1990
Clause 9.4

Sample Description: See Exploratory Log.

TEST METHODS:-
Sample Preparation:
BS1377:Part1:1990:
Clause 7.3.4, 7.3.5, 7.4.5

Authorized by P.R.Smart
Laboratory Manager



CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieve Size mm	% Passing	Sieve Size mm	% Passing
200	100	3.35	52
150	100	2	48
125	100	1.18	43
90	100	0.6	36
75	100	0.3	25
63	100	0.15	17
37.5	100	0.063	12
20	86		
10	63		
6.3	56		

% Clay & Silt	12
% Sand	36
% Gravel	52
% Cobbles	0

Sample mass < BS1377 requirements

UKAS TESTING
1897

The reported results relate only to samples received

GROUND INVESTIGATION & PILING LIMITED
CONSOLIDATION TEST REPORT

Job No:- 17636
Received:- 26.04.10
Tested:- 28.04.10
Report:- 11.05.10

Site:- Regal House, Twickenham. (Proposed Travelodge)
Customer:- Anglo Holt.

BH 1
Depth:- 9.00m

TEST METHODS:-

One-Dimensional Consolidation Test BS1377:Part 5:1990 Clause 3

Particle Density: BS1377:Part2:1990: Clause 8.3

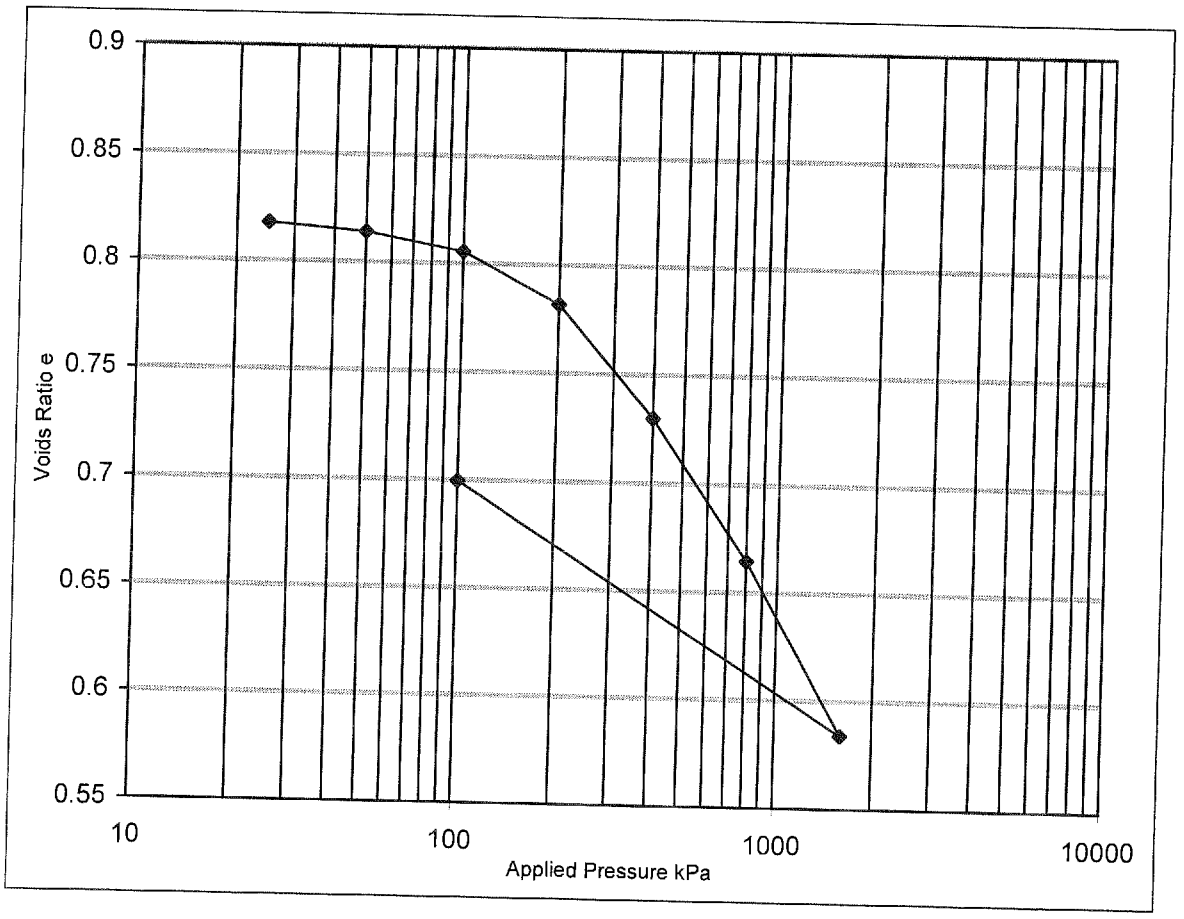
Sample Preparations: BS1377:Part1:1990: Clause 8.6

Initial Diameter:	**76 mm**
Initial Height:	**19 mm**
Initial Moisture Content:	**30 %**
Initial Bulk Density:	**1.89 Mg/m³**
Initial Voids Ratio:	**0.8229**
Assumed particle density	**2.65 Mg/m³**

Pressure Stage kPa	Compressibility m²/MN (mv)	Consolidation m²/ year (Cv)
0 -25	Sample	Swelled
25 -50	Sample	Swelled
50 -100	Sample	Swelled
100 -200	0.13	1.62
200 -400	0.15	0.93
400 -800	0.09	0.58
800 -1600	0.06	0.69
1600 -100		

Duration of Test (Days): 5

Sample description: See Exploratory Log.



GROUND INVESTIGATION & PILING LIMITED
CONSOLIDATION TEST REPORT

Job No:- 17636
Received:- 26.04.10
Tested:- 28.04.10
Report:- 12.05.10

Site:- Regal House, Twickenham. (Proposed Travelodge)
Customer:- Anglo Holt.

BH 2
Depth:- 14.00m

TEST METHODS:-

One-Dimensional Consolidation Test BS1377:Part 5:1990 Clause 3

Particle Density: BS1377:Part2:1990: Clause 8.3

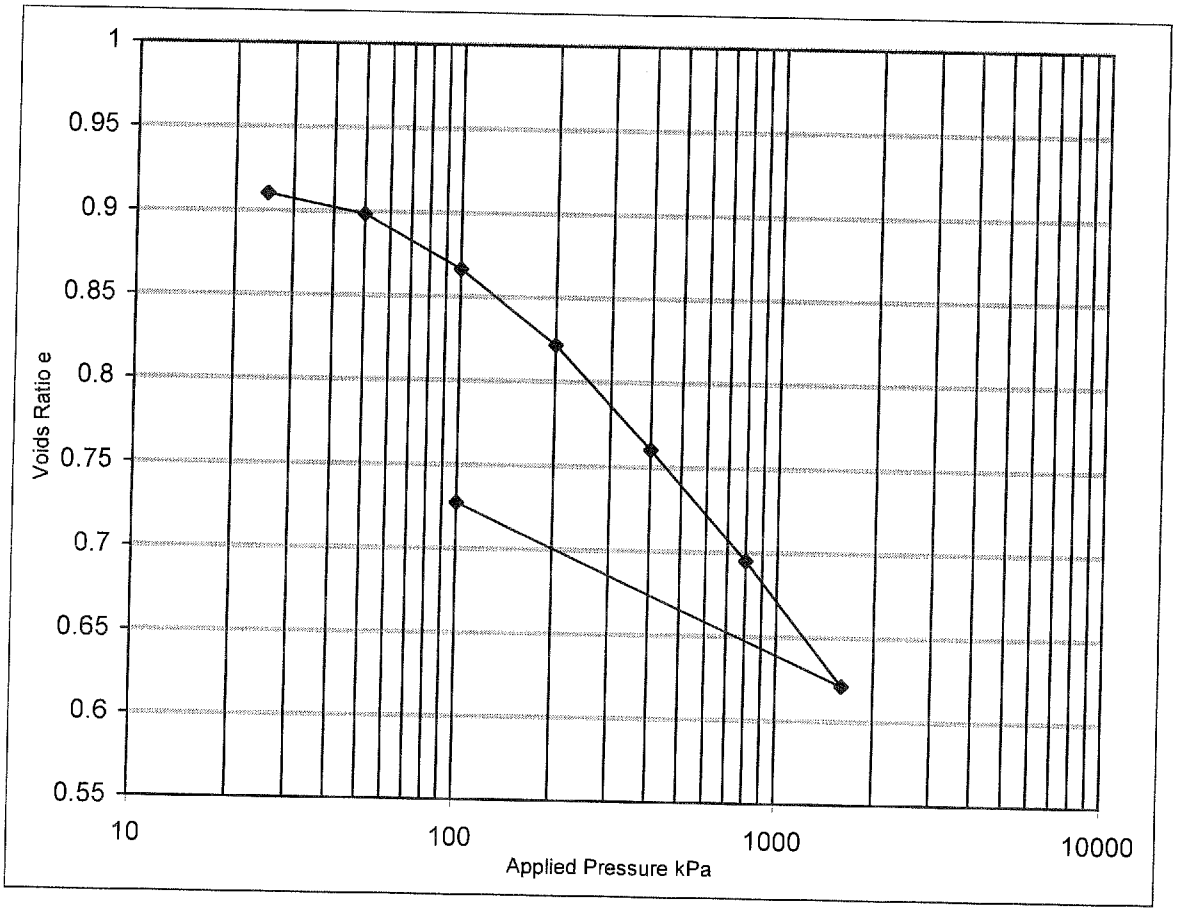
Sample Preparations: BS1377:Part1:1990: Clause 8.6

Initial Diameter:	**76 mm**
Initial Height:	**19 mm**
Initial Moisture Content:	**29 %**
Initial Bulk Density:	**1.79 Mg/m³**
Initial Voids Ratio:	**0.9158**
Assumed particle density	**2.65 Mg/m³**

Pressure Stage kPa	Compressibility m²/MN (mv)	Consolidation m²/ year (Cv)
0 -25	Sample	Swelled
25 -50	Sample	Swelled
50 -100	0.34	2.29
100 -200	0.24	1.86
200 -400	0.17	1.37
400 -800	0.09	0.89
800 -1600	0.05	0.77
1600 -100		

Duration of Test (Days): 6

Sample description: See Exploratory Log.



APPENDIX B

Field Records

RSK GROUP PLC STATS

BOREHOLE RECORD (Percussive)

Borehole Number: BHA

Site: Twickenham Railway Station

Location: Twickenham Railway Station

Client: Solum Regeneration

Ground Level: 9.55mAOD

Date: 11 Jun 10

Job No: 241458

GROUND WATER | SAMPLES/TESTS | STRATA RECORD | Sheet 1 of 2

Strike	Well	Depth (m)	Depth/Type (m)	SPT 'N' or U Blows	Depth (m)	Level (mAOD)		Key	Description
					0.08	9.47	0.08		MADE GROUND: Black bituminous paving.
					0.20	9.35	0.12		MADE GROUND: Concrete
			0.50 J 1 0.60 TB 1 D 1						MADE GROUND: Dark brown slightly silty sandy GRAVEL. Sand is fine to coarse. Gravel is sub-rounded to angular fine to coarse with occasional cobbles of flint. Contains frequent red brick, crushed stone and concrete and occasional ash and clinker.
		1	1.00 D 2 J 2 TB 2				1.80		… from 1.60m depth, becoming clayey and loose.
			1.40 D 3 1.50-1.95 B 1 1.50 J 3 1.50-1.95 TB 3 D 4	S N=3 [1,0](1,1,1,0)					
		2	2.00 J 4 TB 4		2.00	7.55			MADE GROUND: Soft, dark brown slightly silty sandy gravelly CLAY. Sand is fine to coarse. Gravel is sub-rounded to angular fine to coarse with rare cobbles of flint and frequent concrete, crushed stone and red brick and occasional ash.
			2.40 D 5 2.50-2.95 B 2 2.50 J 5 2.50-2.95 TB 5 D 6	S N=9 [1,2](2,2,3,2)			1.00		
		3	3.00 J 6 TB 6		3.00	6.55	0.50		MADE GROUND: Soft to firm, brown/orange mottled slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel is sub-rounded to angular fine to coarse flint with occasional fine red brick fragments and ash.
			3.40 D 7 3.50-3.95 B 3 3.50 J 7 3.50-3.95 TB 7 D 8	S N=18 [3,4](5,5,4,4)	3.50	6.05			
		4					1.10		Medium dense brown clayey sandy GRAVEL. Sand is fine to coarse. Gravel is sub-rounded to angular fine to coarse with rare cobbles of flint. (KEMPTON PARK GRAVEL).
			4.40 D 9 4.50-4.95 D 10 4.50 B 4 J 8 TB 8	S N=26 [4,4](5,7,7,7)	4.60	4.95			… between 4.0m to 4.60m depth, gravelly sand.
		5					1.00		Medium dense orange/brown sandy GRAVEL. Sand is fine to coarse. Gravel is sub-rounded to angular fine to coarse flint with occasional partings and lenses of clayey sand. (KEMPTON PARK GRAVEL).
			5.50 J 9 5.60 TB 9 D 11		5.60	3.95			
		6	5.90 D 12 6.00-6.45 D 13 B 5	S N=21 [4,5](5,6,5,5)					Stiff thinly laminated dark grey/orange mottled slightly silty fine sandy CLAY. Contains occasional sub-angular to angular fine flint gravel within the upper surface of the stratum. (LONDON CLAY FORMATION).
		7					3.40		
			7.40 D 14 7.50-7.95 UT 1	U37					
		8	7.95-8.05 D 15						
			8.90 D 16 9.00-9.45 D 17 B 6	S N=34 [7,8](8,8,10,8)	9.00	0.55			Stiff fissured thinly laminated dark grey fine slightly sandy CLAY. Contains occasional thin partings of grey silt and gleying. (LONDON CLAY FORMATION).
		9							***Continued next sheet***

Remarks and Water Observations

Hand pit excuvated to 1.20mbgl prior to commencement of drilling. CBR determinations were carried out in the hand pit at depths of 0.25m, 0.50m, 0.75m and 1.0mbgl. Casing from ground level to 5.80mbgl. Upon completion the borehole was installed with a ground gas and ground water monitoring standpipe to a depth of 6.0mbgl.

Scale: 1:50

Logged by: AG

Figure: B

RSK GROUP PLC STATS

BOREHOLE RECORD (Percussive)

Borehole Number: BHA

Site: Twickenham Railway Station

Location: Twickenham Railway Station

Client: Solum Regeneration

Ground Level: 9.55mAOD

Date: 11 Jun 10

Job No: 241458

GROUND WATER | SAMPLES/TESTS | STRATA RECORD

Strike	Well	Depth (m)	Depth/Type (m)	SPT 'N' or U Blows	Depth (m)	Level (mAOD)	Key	Description
			10.40 D 18 10.50-10.95 UT 2	U53				
		11	10.95-11.05 D 19					
			11.90 D 20 12.00-12.45 D 21 B 7	S N=42 [8,8](10,10,11,11)				…from 12.00m depth, very stiff.
		12				4.00		
		13			13.00	-3.45		Very stiff fissured thinly laminated dark grey CLAY. Contains occasional thin partings of grey silt. (LONDON CLAY FORMATION).
			13.40 D 22 13.50-13.95 UT 3	U59				
		14	13.95-14.05 D 23					… from 14.0m depth, silt partings becoming frequent.
						2.00		
		15	14.90 D 24	S N=46 [11,10](12,12,11,11)	15.00	-5.45		***End of Borehole at 15.00 m***
		16						
		17						
		18						
		19						

Remarks and Water Observations

Hand pit excuvated to 1.20mbgl prior to commencement of drilling. CBR determinations were carried out in the hand pit at depths of 0.25m, 0.50m, 0.75m and 1.0mbgl. Casing from ground level to 5.80mbgl. Upon completion the borehole was installed with a ground gas and ground water monitoring standpipe to a depth of 6.0mbgl.

Scale:	1:50
Logged by:	AG
Figure:	B

RSK GROUP PLC STATS

BOREHOLE RECORD (Percussive)

Borehole Number: BHB

Site: Twickenham Railway Station

Location: Twickenham Railway Station

Client: Solum Regeneration

Ground Level: 12.10mAOD

Date: 10 Jun 10

Job No: 241458

GROUND WATER | **SAMPLES/TESTS** | **STRATA RECORD** | Sheet 1 of 2

Strike	Well	Depth (m)	Depth/Type (m)	SPT 'N' or U Blows	Depth (m)	Level (mAOD)		Key	Description
					0.08	12.02	0.08		MADE GROUND: Brick paving
			0.50 J 1 0.60 TB 1 D 1				0.92		MADE GROUND: Brown slightly silty sandy GRAVEL. Sand is fine to coarse. Gravel is sub-rounded to angular fine to coarse flint , crushed stone, red brick and concrete with occasional ash and clinker and rare broken tile and crockery. Localised pockets of clayey fine to medium sand.
	1		1.00 D 2 J 2 TB 2		1.00	11.10	0.40		
			1.40 D 3 1.50-1.95 B 1 1.50 J 3 1.50-1.95 TB 3 D 4	S N=10 [1,2](3,3,2,2)	1.40	10.70			MADE GROUND: Orange/brown slightly silty sandy GRAVEL. Sand is fine to coarse. Gravel is sub-angular to sub-rounded fine to medium occasionally coarse flint with rare red brick fragments.
	2		2.00 J 4 TB 4				1.60		
			2.40 D 5 2.50 J 5 2.50-2.95 TB 5 D 6	S N=5 [2,2](1,1,2,1)					MADE GROUND: Medium dense becoming loose, dark brown slightly silty slightly clayey fine to coarse sandy GRAVEL. Gravel is sub-rounded to sub-angular fine to coarse flint, brick and crushed stone with rare ash and concrete. Localised small pockets of sandy clay. … from 2.0m depth, occasional sub-angular fine to medium chalk gravel.
	3		3.00 J 6 TB 6		3.00	9.10			
			3.40 D 7 3.50 J 7 3.50-3.95 TB 7 D 8	S N=9 [1,2](3,2,2,2)			1.80		
	4		4.00 J 8 TB 8						MADE GROUND: Loose dark brown/black slightly silty slightly clayey sandy GRAVEL. Sand is fine to coarse. Gravel is sub-rounded to angular fine to medium flint, red brick, crushed stone and occasional concrete, ash and clinker. Rare chalk gravel. Slight hydrocarbon odour.
			4.40 D 9 4.50-4.95 D 10 4.50 J 9 TB 9	S N=21 [3,3](4,6,6,5)	4.80	7.30			
	5		5.00 D 11						Dense orange/brown very sandy GRAVEL. Sand is fine to coarse. Gravel is sub-rounded to angular fine to coarse with occasional cobbles flint. (KEMPTON PARK GRAVEL).
			5.50 J 10 TB 10						
			5.90 D 12 6.00-6.45 D 13 B 2				2.70		
	6		6.50 J 11 TB 11	C N=44 [8,10](11,12,10,11)					
	7								
			7.40 D 14 7.50 J 12 7.50-7.95 TB 12 D 15 B 3	C N=33 [6,6](10,11,6,6)	7.50	4.60			Dense orange/brown silty very sandy GRAVEL. Sand is fine to coarse. Gravel is sub-rounded to angular fine to medium occasionally coarse flint. Localised pockets and partings of clayey fine to medium sand. (KEMPTON PARK GRAVEL).
	8						1.00		
			8.50 D 16		8.50	3.60			Stiff, dark grey fine slightly sandy slightly silty CLAY. Contains thin laminations of silt and rare partings of fine to medium sand. (LONDON CLAY FORMATION).
			8.90 D 17						
	9		9.00-9.45 UT 1	U32			1.90		
									Continued next sheet

Remarks and Water Observations

Hand pit excuvated to 1.20mbgl prior to commencement of drilling.Casing from ground level to 8.80mbgl. Upon completion the borehole was backfilled with arisings to 2.0mbgl, and bentonite to groundlevel.

Scale:	1:50
Logged by:	AG
Figure:	B

RSK GROUP PLC STATS

BOREHOLE RECORD (Percussive)

Borehole Number: BHB

Site: Twickenham Railway Station

Location: Twickenham Railway Station

Client: Solum Regeneration

Ground Level: 12.10mAOD

Date: 10 Jun 10

Job No: 241458

GROUND WATER | **SAMPLES/TESTS** | **STRATA RECORD**

Strike	Well	Depth (m)	Depth/Type (m)	SPT 'N' or U Blows	Depth (m)	Level (mAOD)	Key	Description
			10.40 D 18 10.50-10.95 D 19 S B 4	N=34 [5,5](7,9,9,9)	10.40	1.70		Stiff thinly laminated fissured dark grey slightly silty slightly sandy CLAY. Contains rare partings of grey silt. (LONDON CLAY FORMATION).
		11			11.00	1.10		Stiff thinly laminated fissured dark grey slightly silty CLAY. Contains rare partings of grey silt. (LONDON CLAY FORMATION).
		12	11.90 D 20 12.00-12.45 UT 2	U37				
			12.45-12.55 D 21					
		13						… from 13.00m depth, occasional sub-angular to angular fine to medium claystone nodules.
		14	13.40 D 22 13.50-13.95 D 23 S B 5	N=37 [7,8](8,10,10,9)				
		15	14.90 D 24 15.00-15.45 UT 3	U41				
			15.45-15.55 D 25		15.50	-3.40		***End of Borehole at 15.50 m***
		16						
		17						
		18						
		19						

0.60

4.50

Remarks and Water Observations

Hand pit excuvated to 1.20mbgl prior to commencement of drilling.Casing from ground level to 8.80mbgl. Upon completion the borehole was backfilled with arisings to 2.0mbgl, and bentonite to groundlevel.

Scale: 1:50

Logged by: AG

Figure: B

RSK GROUP PLC STATS

BOREHOLE RECORD (Percussive)

Borehole Number: BHC

Site: Twickenham Railway Station

Location: Twickenham Railway Station

Client: Solum Regeneration

Ground Level: 8.70mAOD

Date: 14 Jun 10

Job No: 241458

GROUND WATER | **SAMPLES/TESTS** | **STRATA RECORD** | Sheet 1 of 2

Strike	Well	Depth (m)	Depth/Type (m)	SPT 'N' or U Blows	Depth (m)	Level (mAOD)	Key	Description
					0.08	8.62		MADE GROUND: Bituminous paving at the surface.
			0.50 J 1 0.60 TB 1 D 1		0.40	8.30		MADE GROUND: Brown slightly silty sandy GRAVEL. Sand is fine to coarse. Gravel is sub-rounded to sub-angular fine to coarse flint with frequent red brick, concrete and crushed stone and occasional ash and clinker. Rare pockets of clayey sand.
		1	1.00 D 2 J 2 TB 2					
			1.40 D 3 1.50-1.95 B 1 S 1.50 J 3 TB 3	N=31 [3,4](4,7,10,10)	1.40	7.30		MADE GROUND: Dark brown/grey silty fine to medium SAND. Contains frequent sub-angular to angular medium to coarse flint gravel and occasional fragments of red brick and concrete.
		2	2.00 J 4 TB 4		1.80	6.90		MADE GROUND: Dense brown slightly clayey sandy GRAVEL. Sand is fine to coarse. Gravel is subrounded to angular fine to coarse to frequent cobbles of flint with occasional red brick fragments and occasional concrete. Rare ash present.
			2.40 D 4 2.50-2.95 B 2 S 2.50 J 5 TB 5	N=30 [4,5](7,7,9,7)				
		3						Dense orange/brown sandy GRAVEL. Sand is medium to coarse. Gravel is sub-angular to angular fine to predominantly coarse flint with occasional sub-angular cobbles of flint. Rare pockets of clayey sand. (KEMPTON PARK GRAVEL).
			3.40 D 5 3.50-3.95 B 3 S 3.50 J 6 TB 6	N=41 [9,10](10,11,10,10)				…from 2.50m depth, mostly coarse flint and frequent cobbles.
		4						…from 4.0m depth, medium dense.
			4.40 D 6 4.50-4.95 B 4 S	N=17 [4,4](4,5,4,4)				
		5						
			5.90 D 7 6.00-6.45 B 5 S	N=28 [4,5](5,6,8,9)				…from 6.00m depth, very sandy.
		6						
		7	7.00 D 8		7.00	1.70		Stiff dark grey slightly silty fine sandy CLAY. Contains occasional thin partings of fine to medium sand. (LONDON CLAY FORMATION).
			7.40 D 9 7.50-7.95 UT 1	U37				
		8	7.95-8.05 D 10					
			8.90 D 11 9.00-9.45 B 6					
		9		S N=39 [7,7](10,10,10,9)				

Continued next sheet

Remarks and Water Observations

Hand pit excuvated to 1.20mbgl prior to commencement of drilling.CBR determinations were carried out in the hand pit at depths of 0.25m, 0.50m, 0.75m and 1.0mbgl. Casing from ground level to 7.20mbgl. Upon completion the borehole was backfilled with arisings to 2.0mbgl, and bentonite to groundlevel.

Scale: 1:50

Logged by: AG

Figure: B

RSK GROUP PLC STATS

BOREHOLE RECORD (Percussive)

Borehole Number: BHC

Site: Twickenham Railway Station

Location: Twickenham Railway Station

Client: Solum Regeneration

Ground Level: 8.70mAOD

Date: 14 Jun 10

Job No: 241458

GROUND WATER | **SAMPLES/TESTS** | **STRATA RECORD**

Strike	Well	Depth (m)	Depth/Type (m)	SPT 'N' or U Blows	Depth (m)	Level (mAOD)	Key	Description
			10.40 D 12 10.50-10.95 UT 2	U51	10.50	-1.80		…from 10.00m depth, thinly laminated only slightly sandy.
		11	10.95-11.05 D 13					Stiff fissured thinly laminated dark grey slightly silty CLAY. Contains occasional thin laminations of light grey silt. (LONDON CLAY FORMATION).
		12	11.90 D 14 12.00-12.45 B 7	S N=36 [6,8](8,8,10,10)		4.50		…from 12.00m depth, occasional to rare root marking visible.
		13						
			13.40 D 15 13.50-13.95 UT 3	U56				
		14	13.95-14.05 D 16					
		15	14.90 D 17	S N=44 [8,10](10,10,12,12)	15.00	-6.30		***End of Borehole at 15.00 m***
		16						
		17						
		18						
		19						

Remarks and Water Observations

Hand pit excuvated to 1.20mbgl prior to commencement of drilling.CBR determinations were carried out in the hand pit at depths of 0.25m, 0.50m, 0.75m and 1.0mbgl. Casing from ground level to 7.20mbgl. Upon completion the borehole was backfilled with arisings to 2.0mbgl, and bentonite to groundlevel.

Scale: 1:50

Logged by: AG

Figure: B

RSK GROUP PLC STATS

BOREHOLE RECORD (Percussive)

Borehole Number: BHD

Site: Twickenham Railway Station

Location: Twickenham Railway Station

Client: Solum Regeneration

Ground Level: 8.40mAOD

Date: 7 Jun 10

Job No: 241458

GROUND WATER | SAMPLES/TESTS | STRATA RECORD

Strike	Well	Depth (m)	Depth/Type (m)	SPT 'N' or U Blows	Depth (m)	Level (mAOD)	Key	Description
					0.15	8.25		MADE GROUND: Black bituminous paving.
			0.50 J 1 0.60 TB 1 D 1		0.30	8.10		MADE GROUND: Dark brown/red sandy GRAVEL. Sand is medium to coarse. Gravel is rounded to sub-rounded angular fine to predominately coarse flint with frequent fragments of red brick, concrete, crushed stone and occasional ash, bitumen and rare clinker.
		1	1.00 D 2 J 2 TB 2					
			1.40 D 3 1.50-1.95 B 1 S 1.50 J 3 TB 3	N=42 [3,5](10,12,10,10)	1.40 1.70	7.00 6.70		MADE GROUND: Dark brown slightly gravelly slightly clayey silty CLAY. Sand is medium. Gravel is sub-rounded to angular fine to coarse to occasional cobbles of flint. Occasional red brick fragments and rare clinker. Localised pockets of orange clayey fine sand.
		2	2.00 J 4 TB 4					
			2.40 D 4 2.50-2.95 B 2 C 2.50 J 5 TB 5	N=48 [8,8](10,11,15,12)	2.50	5.90		MADE GROUND: Dense brown sandy GRAVEL. Sand is fine to medium. Gravel is sub-rounded to sub-angular fine to medium occasionally coarse flint with fragments of red brick and rare ash and clinker. Localised lenses of clayey sand.
		3						
			3.40 D 5 3.50-3.95 B 3 C 3.50 J 6 TB 6	N=28 [5,5](6,5,9,8)				Dense orange slightly silty sandy GRAVEL. Gravel is sub-rounded to angular fine to medium occasionally coarse flint. Rare lenses of clayey sand. (KEMPTON PARK GRAVEL).
		4						
			4.40 D 6 4.50-4.95 B 4 C 4.50 J 7 TB 7	N=13 [3,3](2,3,4,4)	4.50	3.90		Dense to medium dense orange silty sandy GRAVEL. Gravel is rounded to sub-rounded fine to coarse flint. Occasional lenses of silty coarse sand. (KEMPTON PARK GRAVEL). … from 3.50m depth, medium dense, becoming sandy gravel.
		5						
			5.90 D 7 6.00-6.45 B 5 C	N=21 [5,5](5,6,5,5)	5.80	2.60		Medium dense orange gravelly SAND. Sand is fine to medium. Gravel is sub-rounded to angular fine to medium flint. (KEMPTON PARK GRAVEL).
		6						
					6.80	1.60		Medium dense orange / brown silty sandy GRAVEL with occasional pockets/lenses of clayey fine sand. Sand is generally fine to medium. Gravel is sub-rounded to angular predominantly fine to medium flint. (KEMPTON PARK GRAVEL).
		7	7.00 D 8					
			7.40 D 9 7.50-7.95 UT 1	U37	7.40	1.00		Stiff laminated brown/grey silty CLAY. Contains thin laminations of fine to medium sand. (LONDON CLAY FORMATION).
					7.80	0.60		Stiff fissured brown/grey slightly sandy silty CLAY with thin laminations of fine sand and silt. (LONDON CLAY FORMATION).
		8	7.95-8.05 D 10					
					8.50	-0.10		Stiff brown/grey CLAY with rare sand and silt laminations. (LONDON CLAY FORMATION).
			8.90 D 11 9.00-9.45 B 6 S	N=31 [8,8](7,8,8,8)				Stiff fissured grey slightly silty CLAY with gleying. (LONDON CLAY FORMATION).
		9						

Continued next sheet

Remarks and Water Observations

Hand pit excuvated to 1.20mbgl prior to commencement of drilling.CBR determinations were carried out in the hand pit at depths of 0.25m, 0.50m, 0.75m and 1.0mbgl. Casing from ground level to 7.30mbgl. Upon completion the borehole was installed with a ground gas and ground water monitoring standpipe to 7.0mbgl.

Scale: 1:50

Logged by: AG

Figure: B

RSK GROUP PLC STATS

BOREHOLE RECORD (Percussive)

Borehole Number: BHD

Site: Twickenham Railway Station

Location: Twickenham Railway Station

Client: Solum Regeneration

Ground Level: 8.40mAOD

Date: 7 Jun 10

Job No: 241458

GROUND WATER | **SAMPLES/TESTS** | **STRATA RECORD**

Strike	Well	Depth (m)	Depth/Type (m)	SPT 'N' or U Blows	Depth (m)	Level (mAOD)	Key	Description
			10.40 D 12 10.50-10.95 UT 2	U40				
		11	10.95-11.05 D 13					
		12	11.90 D 14 12.00-12.45 B 7	S N=31 [6,6](8,8,7,8)				
		13	13.40 D 15 13.50-13.95 UT 3	U36				
		14	13.95-14.05 D 16					
		15	14.90 D 17 15.00-15.45 B 8	S N=35 [7,8](8,9,8,10)		14.00		… from 15.50m depth, sub rounded fine to medium claystone nodules.
		16	16.40 D 18 16.50-16.95 UT 4	U43				
		17	16.95-17.05 D 19					
		18	17.90 D 20 18.00-18.45 B 9	S N=40 [7,8](8,11,10,11)				…from 18.00m depth, very stiff.
		19	19.40 D 21 19.50-19.95 UT 5	U56				
			19.95-20.05 D 22					

Continued next sheet

Remarks and Water Observations

Hand pit excuvated to 1.20mbgl prior to commencement of drilling.CBR determinations were carried out in the hand pit at depths of 0.25m, 0.50m, 0.75m and 1.0mbgl. Casing from ground level to 7.30mbgl. Upon completion the borehole was installed with a ground gas and ground water monitoring standpipe to 7.0mbgl.

Scale: 1:50

Logged by: AG

Figure: B

RSK GROUP PLC STATS

BOREHOLE RECORD (Percussive)

Borehole Number: BHD

Site: Twickenham Railway Station

Location: Twickenham Railway Station

Client: Solum Regeneration

Ground Level: 8.40mAOD

Date: 7 Jun 10

Job No: 241458

GROUND WATER | **SAMPLES/TESTS** | **STRATA RECORD**

Strike	Well	Depth (m)	Depth/Type (m)	SPT 'N' or U Blows	Depth (m)	Level (mAOD)	Key	Description
		21	20.90 D 23 21.00-21.45 B 10 S	N=46 [9,12](12,10,12,12)				
		22	22.40 D 24 22.50-22.95 UT 6	U73	22.50	-14.1		Very stiff fissured grey silty CLAY with gleying. (LONDON CLAY FORMATION).
		23	22.95-23.05 D 25					
		24	23.90 D 26 24.00-24.45 B 11 S	50/270mm (54) [26/150](50/270)				
		25	25.40 D 27 25.50-25.95 UT 7	U100				
		26	25.95-26.05 D 28					… from 26.0m depth, rare thin laminations of light grey silt.
		27	26.90 D 29 27.00-27.45 B 12 S					
		28	28.40 D 30 28.50-28.95 UT 8	U100		11.50		
		29	28.95-29.05 D 31					
			29.90 D 32					***Continued next sheet***

Remarks and Water Observations

Hand pit excuvated to 1.20mbgl prior to commencement of drilling.CBR determinations were carried out in the hand pit at depths of 0.25m, 0.50m, 0.75m and 1.0mbgl. Casing from ground level to 7.30mbgl. Upon completion the borehole was installed with a ground gas and ground water monitoring standpipe to 7.0mbgl.

Scale:	1:50
Logged by:	AG
Figure:	B

RSK GROUP PLC STATS

BOREHOLE RECORD (Percussive)

Borehole Number: BHD

Site: Twickenham Railway Station

Location: Twickenham Railway Station

Client: Solum Regeneration

Ground Level: 8.40mAOD

Date: 7 Jun 10

Job No: 241458

GROUND WATER | **SAMPLES/TESTS** | **STRATA RECORD**

Strike	Well	Depth (m)	Depth/Type (m)	SPT 'N' or U Blows	Depth (m)	Level (mAOD)	Key	Description
		31	30.00-30.45 B 13	S 50/220mm (60) [24/150][50/220]				
			31.40 D 33					
			31.50-31.95 UT 9	U100				
		32	31.95-32.05 D 34					
		33	32.90 D 35	S 50/200mm (66) [25/140][50/200]				
		34			34.00	-25.6		*End of Borehole at 34.00 m*
		35						
		36						
		37						
		38						
		39						

Remarks and Water Observations

Hand pit excuvated to 1.20mbgl prior to commencement of drilling.CBR determinations were carried out in the hand pit at depths of 0.25m, 0.50m, 0.75m and 1.0mbgl. Casing from ground level to 7.30mbgl. Upon completion the borehole was installed with a ground gas and ground water monitoring standpipe to 7.0mbgl.

Scale: 1:50

Logged by: AG

Figure: B

RSK GROUP PLC STATS

BOREHOLE RECORD (Percussive)

Borehole Number: BHE

Site: Twickenham Railway Station

Location: Twickenham Railway Station

Client: Solum Regeneration

Ground Level: 8.00mAOD

Date: 2 Jun 10

Job No: 241458

GROUND WATER | SAMPLES/TESTS | STRATA RECORD

Strike	Well	Depth (m)	Depth/Type (m)	SPT 'N' or U Blows	Depth (m)	Level (mAOD)	Key	Description
					0.20	7.80		MADE GROUND: Black bituminous paving.
			0.50 J 1 0.60 TB 1 D 1					MADE GROUND: Brown / grey gravelly SAND. Gravel comprises broken brick, mortar and concrete, ash, clinker, bituminous gravels and flint.
		1	1.00 D 2 J 2 TB 2		1.20	6.80		MADE GROUND: Firm orange / brown slightly sandy gravelly CLAY. Gravel comprises broken brick and concrete and occasional flint, ash, clinker and slag.
			1.40 D 3 1.50-1.95 B 1 S 1.50 J 3 TB 3	N=14 [3,4](3,3,4,4)				
		2	2.00 D 4 J 4 TB 4		1.90	6.10		Firm, orange / brown slightly sandy slightly gravelly CLAY. Gravel comprises rounded to sub-angular fine to medium flint. (KEMPTON PARK GRAVEL).
			2.40 D 5 2.50-2.95 B 2 C	N=8 [2,2](1,2,2,3)	2.30	5.70		Initially loose, becoming medium dense, orange / brown very sandy GRAVEL, locally gravelly SAND. Gravel is rounded to sub-angular fine to medium occasionally coarse flint. (KEMPTON PARK GRAVEL).
		3	3.00 J 5 TB 5					
			3.40 D 6 3.50-3.95 B 3 C	N=20 [2,2](3,4,7,6)				
		4	4.00 J 6 TB 6		3.90	4.10		Dense brown / grey slightly sandy GRAVEL, locally gravelly SAND. Gravel is rounded to sub-angular fine to medium occasionally coarse flint. (KEMPTON PARK GRAVEL).
			4.40 D 7 4.50-4.95 B 4 C	N=39 [7,10](10,10,9,10)				
		5						
		6	5.90 D 8 6.00-6.45 B 5 C	N=48 [10,14](15,9,12,12)				
					6.50	1.50		Stiff slightly fissured grey / brown silty CLAY. Contains discrete pyrite veins. (LONDON CLAY FORMATION).
		7						
			7.30 D 9 7.40 D 10 7.50-7.95 B 6					
		8						
		9	8.90 D 11 9.00-9.45 B 7 S	N=37 [7,10](8,10,10,9)				

0.20 | 1.00 | 0.70 | 0.40 | 1.60 | 2.60

Continued next sheet

Remarks and Water Observations

Hand pit excuvated to 1.20mbgl prior to commencement of drilling.Casing from ground level to 10.50mbgl. Casing failed to seal off groundwater entering the borehole and therefore 200m casing was used from groundlevel to 7.50. Upon completion the borehole was backfilled with arisings to 2.0mbgl, and bentonite to groundlevel.

Scale: 1:50

Logged by: AK

Figure: B

RSK GROUP PLC STATS

BOREHOLE RECORD (Percussive)

Borehole Number: BHE

Site: Twickenham Railway Station

Location: Twickenham Railway Station

Client: Solum Regeneration

Ground Level: 8.00mAOD

Date: 2 Jun 10

Job No: 241458

GROUND WATER | SAMPLES/TESTS | STRATA RECORD

Strike	Well	Depth (m)	Depth/Type (m)	SPT 'N' or U Blows	Depth (m)	Level (mAOD)	Key	Description
			10.40 D 12 10.50-10.95 U 1	U39				
		11	10.95 D 13					
		12	11.90 D 14 12.00-12.45 B 8	S N=41 [7,6](8,11,11,11)				
		13						
			13.40 D 15 13.50-13.95 U 2	U51				
		14	13.95-14.05 D 16					
			14.90 D 17 15.00-15.45 B 9	S N=36 [6,7](7,10,10,9)				
						18.50		
		16						
			16.40 D 18 16.50-16.95 U 3	U57				
		17	16.95 D 19 17.05 D 20					
		18	17.90 D 21 18.00-18.45 B 10	S N=43 [10,10](9,10,12,12)				
		19						
			19.40 D 22 19.50-19.95 U 4	U74				

Continued next sheet

Remarks and Water Observations

Hand pit excuvated to 1.20mbgl prior to commencement of drilling.Casing from ground level to 10.50mbgl. Casing failed to seal off groundwater entering the borehole and therefore 200m casing was used from groundlevel to 7.50. Upon completion the borehole was backfilled with arisings to 2.0mbgl, and bentonite to groundlevel.

Scale: 1:50

Logged by: AK

Figure: B

RSK GROUP PLC STATS

BOREHOLE RECORD (Percussive)

Borehole Number: BHE

Site: Twickenham Railway Station

Location: Twickenham Railway Station

Client: Solum Regeneration

Ground Level: 8.00mAOD

Date: 2 Jun 10

Job No: 241458

GROUND WATER | **SAMPLES/TESTS** | **STRATA RECORD**

Strike	Well	Depth (m)	Depth/Type (m)	SPT 'N' or U Blows	Depth (m)	Level (mAOD)	Key	Description
		21	20.90 D 23 21.00-21.45 B 11 S	N=50 [12,12](12,12,12,14)				
		22	22.40 D 24 22.50-22.95 U 5	U100				
		23	22.95-23.05 D 25					
		24	23.90 D 26 24.00-24.42 B 12 S	50/270mm (50) [21/150](50/270)				…at 24.00m depth, possible claystone nodules.
		25			25.00	-17.0		***End of Borehole at 25.00 m***
		26						
		27						
		28						
		29						

Remarks and Water Observations

Hand pit excuvated to 1.20mbgl prior to commencement of drilling.Casing from ground level to 10.50mbgl. Casing failed to seal off groundwater entering the borehole and therefore 200m casing was used from groundlevel to 7.50. Upon completion the borehole was backfilled with arisings to 2.0mbgl, and bentonite to groundlevel.

Scale:	1:50
Logged by:	AK
Figure:	B

RSK GROUP PLC | STATS

BOREHOLE RECORD (Percussive)

Borehole Number: BHF

Site: Twickenham Railway Station

Location: Twickenham Railway Station

Client: Solum Regeneration

Ground Level: 8.05mAOD

Date: 1 Jun 10

Job No: 241458

GROUND WATER | SAMPLES/TESTS | STRATA RECORD

Strike	Well	Depth (m)	Depth/Type (m)	SPT 'N' or U Blows	Depth (m)	Level (mAOD)	Key	Description
					0.20	7.85		MADE GROUND: Black bituminous paving.
			0.50 J 1 0.60 TB 1 D 1		0.70	7.35		MADE GROUND: Brown locally slightly orange gravelly SAND. Gravel is rounded to sub-angular fine to coarse flint with frequent inclusions of broken brick and concrete, ash, clinker and crushed stone.
		1	1.00 D 2 J 2 TB 2					
			1.40 D 3 1.50-1.95 B 1 S 1.50 J 3 TB 3	N=7 [1,2](2,1,2,2)	1.40	6.65		MADE GROUND: Brown slightly gravelly clayey SAND. Gravel comprises rounded to sub-angular fine to medium flint and rare broken brick and concrete.
		2	2.00 D 4 J 4 TB 4					Firm range / brown mottled silty CLAY. Contains rare gravels rounded to sub-angular fine to medium flint and localised sandy clay lenses. (KEMPTON PARK GRAVEL).
			2.40 D 5 2.50-2.95 B 2 S	N=29 [7,6](6,7,8,8)	2.30 2.50	5.75 5.55		
		3	3.00 J 5 TB 5		3.10	4.95		Orange / yellow gravelly fine to medium SAND. Gravel comprises rounded to sub-angular fine to medium flint and localised clayey sand lenses. (KEMPTON PARK GRAVEL).
			3.40 D 6 3.50-3.95 B 3 S	N=25 [10,12](7,7,5,6)				Medium dense orange / yellow sandy GRAVEL. Gravel comprises rounded to sub-angular fine to medium flint. (KEMPTON PARK GRAVEL).
		4			4.30	3.75		Medium dense orange / brown slightly sandy GRAVEL, locally gravelly SAND. Gravel is rounded to sub-angular fine to medium occasionally coarse flint. (KEMPTON PARK GRAVEL).
			4.40 D 7 4.50-4.95 B 4 S	N=26 [7,10](10,6,5,5)				
		5			5.10	2.95		Medium dense brown slightly clayey slightly sandy GRAVEL. Gravel comprises rounded to sub-rounded fine to medium flint. (KEMPTON PARK GRAVEL).
			5.90 D 8 6.00-6.45 B 5 C	N=28 [6,6](5,6,9,8)				Medium dense orange brown slightly sandy GRAVEL, locally gravelly SAND. Gravel is rounded to sub-angular fine to medium occasionally coarse flint. (KEMPTON PARK GRAVEL).
		6						
		7	7.00 D 9		6.90	1.15		stiff slightly fissured grey / brown silty CLAY. Contains discrete pyrite veins. (LONDON CLAY FORMATION).
			7.40 D 11 7.50-7.95 UT 1	U37				
		8	7.95 D 12					
			8.90 D 13 9.00-9.45 B 6 S	N=37 [6,6](8,10,10,9)				
		9						

Continued next sheet

Remarks and Water Observations

Hand pit excuvated to 1.20mbgl prior to commencement of drilling.CBR determinations were carried out in the hand pit at depths of 0.25m, 0.50m, 0.75m and 1.0mbgl. Casing from ground level to 7.40mbgl.Upon completion the borehole was installed with a ground gas and ground water monitoring standpipe to 6.20mbgl.

Scale: 1:50

Logged by: AK

Figure: B

RSK GROUP PLC STATS

BOREHOLE RECORD (Percussive)

Borehole Number: BHF

Site: Twickenham Railway Station

Location: Twickenham Railway Station

Client: Solum Regeneration

Ground Level: 8.05mAOD

Date: 1 Jun 10

Job No: 241458

GROUND WATER | SAMPLES/TESTS | STRATA RECORD

Strike	Well	Depth (m)	Depth/Type (m)	SPT 'N' or U Blows	Depth (m)	Level (mAOD)	Key	Description
			10.40 D 14 10.50-10.95 UT 2	U49		6.60		
		11						
		12	11.90 D 15 12.00-12.45 B 7	S N=41 [7,10](10,11,10,10)				…from 12.0m depth, very stiff.
		13	13.40 D 16		13.50	-5.45		*End of Borehole at 13.50 m*
		14						
		15						
		16						
		17						
		18						
		19						

Remarks and Water Observations

Hand pit excuvated to 1.20mbgl prior to commencement of drilling.CBR determinations were carried out in the hand pit at depths of 0.25m, 0.50m, 0.75m and 1.0mbgl. Casing from ground level to 7.40mbgl.Upon completion the borehole was installed with a ground gas and ground water monitoring standpipe to 6.20mbgl.

Scale: 1:50

Logged by: AK

Figure: B

RSK GROUP PLC STATS

BOREHOLE RECORD (Percussive)

Borehole Number: BHG

Site: Twickenham Railway Station

Location: Twickenham Railway Station

Client: Solum Regeneration

Ground Level: 7.40mAOD

Date: 14 Jun 10

Job No: 241458

GROUND WATER | **SAMPLES/TESTS** | **STRATA RECORD**

Strike	Well	Depth (m)	Depth/Type (m)	SPT 'N' or U Blows	Depth (m)	Level (mAOD)		Key	Description
			0.30 D 1				0.80		MADE GROUND: Vegetation at surface, including Japanese Knotweed, overlying brown fine to medium sandy GRAVEL. Gravel is subangular to angular fine to coarse flint, concrete and red brick. Occasional ash and clinker present.
		1	1.00 D 2		0.80	6.60			MADE GROUND: Medium dense black to dark brown silty sandy GRAVEL. Sand is fine to coarse. Gravel is subrounded to angular fine to coarse PFA, crushed stone, red brick, flint, clinker and ash. Occasional concrete.
			1.40 D 3 1.50 D 4	S N=11 [2,2](3,2,3,3)			1.80		
		2							
			2.50-2.95 B 1	S N=20 [4,5](5,5,4,6)	2.60	4.80	0.40		MADE GROUND: Medium dense brown slightly clayey sandy GRAVEL. Sand is fine to coarse. Gravel is sub-rounded to angular fine to coarse flint with occasional red brick and ash present. Rare cobbles of flint.
		3			3.00	4.40	1.00		Dense orange brown slightly silty fine to coarse very sandy GRAVEL. Gravel is subangular to angular fine to coarse to occasional cobbles of flint with rare pockets/partings of clayey sand.(KEMPTON PARK GRAVEL).
			3.40 D 5 3.50-3.95 B 2	S N=34 [5,5](8,8,8,10)					
		4			4.00	3.40	0.50		Orange brown slightly silty gravelly fine to coarse SAND. Gravel is subrounded to angular fine to coarse to cobbles of flint. (KEMPTON PARK GRAVEL).
			4.40 D 6 4.50-4.95 B 3	S N=31 [7,7](7,9,7,8)	4.50	2.90	0.60		Dense orange brown slightly silty fine to coarse sandy GRAVEL. Gravel is subangular to angular fine to predominately coarse to frequent cobbles of flint.(KEMPTON PARK GRAVEL).
		5	5.10 D 7		5.10	2.30			Stiff dark grey brown slightly silty fine sandy CLAY with occasional thin partings of fine sand. (LONDON CLAY FORMATION).
			5.90 D 8						
		6	6.00-6.45 UT 1	U23					
			6.45 D 9				3.90		
		7							
			7.40 D 10 7.50-7.95 B 4	S N=22 [5,5](4,5,6,7)					
		8							
			8.90 D 11						
		9	9.00-9.45 UT 2	U57	9.00	-1.60			Stiff fissured thinly laminated dark grey slightly silty slightly fine sandy CLAY with with gleying and thin laminations of grey silt. (LONDON CLAY FORMATION).

Continued next sheet

Remarks and Water Observations

Hand pit excuvated to 1.20mbgl prior to commencement of drilling.Casing from ground level to 5.60mbgl. Upon completion the borehole was backfilled with arisings to 2.0mbgl, and bentonite to groundlevel.

Scale:	1:50
Logged by:	AS
Figure:	B

RSK GROUP PLC STATS

BOREHOLE RECORD (Percussive)

Borehole Number: BHG

Site: Twickenham Railway Station

Location: Twickenham Railway Station

Client: Solum Regeneration

Ground Level: 7.40mAOD

Date: 14 Jun 10

Job No: 241458

GROUND WATER | SAMPLES/TESTS | STRATA RECORD

Strike	Well	Depth (m)	Depth/Type (m)	SPT 'N' or U Blows	Depth (m)	Level (mAOD)	Key	Description
			10.40 D 12 10.50-10.95 B 5	S N=27 [4,6](6,7,7,7)				
		11						
			11.90 D 13 12.00-12.45 UT 3	U39				
		12	12.45 D 14					
		13						
			13.40 D 15 13.50-13.95 B 6	S N=31 [5,5](6,7,9,9)		9.00		
		14	13.90 D 25					
			14.90 D 16 15.00-15.45 UT 4	U48				
		15	15.45 D 17					
		16						
			16.40 D 18 16.50-16.95 B 7	S N=44 [7,8](10,10,12,12)				…from 16.50m depth, Very stiff.
		17						
			17.90 D 19 18.00-18.45 UT 5	U72	18.00	-10.6		Very stiff fissured thinly laminated dark grey slightly silty CLAY with gleying and thin laminations of grey silt. Occasional subrounded to subangular fine to medium claystone nodules present. (LONDON CLAY FORMATION).
		18						
		19	18.96 D 20					
			19.40 D 21 19.50-19.95 B 8	S N=41 [6,9](9,11,10,11)				

Continued next sheet

Remarks and Water Observations

Hand pit excavated to 1.20mbgl prior to commencement of drilling.Casing from ground level to 5.60mbgl. Upon completion the borehole was backfilled with arisings to 2.0mbgl, and bentonite to groundlevel.

Scale:	1:50
Logged by:	AS
Figure:	B

RSK GROUP PLC STATS

BOREHOLE RECORD (Percussive)

Borehole Number: BHG

Site: Twickenham Railway Station

Location: Twickenham Railway Station

Client: Solum Regeneration

Ground Level: 7.40mAOD

Date: 14 Jun 10

Job No: 241458

GROUND WATER | **SAMPLES/TESTS** | **STRATA RECORD**

Strike	Well	Depth (m)	Depth/Type (m)	SPT 'N' or U Blows	Depth (m)	Level (mAOD)	Key	Description
		21	20.90 D 22 21.00-21.45 UT 6	U69				…from 20.50m depth, regular thin bands of subrounded to angular fine to coarse gravel and occasional cobbles of moderately strong grey claystone gravel.
			21.45 D 23					
		22	22.40 D 24 22.50-22.95 B 9	S 50/270mm (50) [21/150](50/270)				
		23						
		24	24.00-24.45 UT 7	U100				
			24.46 D 26					
		25	25.40 D 27 25.50-25.89 B 10	S 35/250mm (50) [25/140](35/250)				
		26				17.00		
		27	26.90 D 28 27.00-27.45 UT 8	U100				
			27.45 D 29					
		28	28.40 D 30 28.50-28.91 B 11	S 50/280mm (54) [25/130](50/280)				
		29						
			29.90 D 31					***Continued next sheet***

Remarks and Water Observations

Hand pit excuvated to 1.20mbgl prior to commencement of drilling.Casing from ground level to 5.60mbgl. Upon completion the borehole was backfilled with arisings to 2.0mbgl, and bentonite to groundlevel.

Scale:	1:50
Logged by:	AS
Figure:	B

RSK GROUP PLC STATS

BOREHOLE RECORD (Percussive)

Borehole Number: BHG

Site: Twickenham Railway Station

Location: Twickenham Railway Station

Client: Solum Regeneration

Ground Level: 7.40mAOD

Date: 14 Jun 10

Job No: 241458

GROUND WATER | **SAMPLES/TESTS** | **STRATA RECORD**

Strike	Well	Depth (m)	Depth/Type (m)	SPT 'N' or U Blows	Depth (m)	Level (mAOD)	Key	Description
			30.00-30.45 UT 9	U100				
			30.45 D 32					
		31						
			31.50-31.92 B 12	S N=50 [11,14](14,13,14,9)				
		32						
			32.90 D 33					
		33	33.00-33.45 UT 10	U100				
		34						
			34.40 D 34					
			34.50-34.88 B 13	S N=69 [12,13](16,16,16,21)				
		35			35.00	-27.6		*End of Borehole at 35.00 m*
		36						
		37						
		38						
		39						

Remarks and Water Observations

Hand pit excuvated to 1.20mbgl prior to commencement of drilling.Casing from ground level to 5.60mbgl. Upon completion the borehole was backfilled with arisings to 2.0mbgl, and bentonite to groundlevel.

Scale: 1:50

Logged by: AS

Figure: B

RSK GROUP PLC STATS

BOREHOLE RECORD (Window Sampler)

Borehole Number: WS1

Site: Twickenham Railway Station

Location: Twickenham Railway Station

Client: Solum Regeneration

Ground Level: 6.95mAOD

Dates: 16 Jun 10

Job No.: 241458

GROUND WATER | SAMPLES/TESTS | STRATA RECORD | Sheet 1 of 2

Strike	Well	Depth (m)	Type/Depth (m)	In-situ Tests	Depth (m)	Level (mAOD)	Key	Description
			ES1 0.25					MADE GROUND: Vegetation at surface over dark brown silty gravelly SAND. Sand is fine to medium. Gravel is subrounded to subangular fine to medium to occasionally coarse flint with frequent concrete, red brick and crushed stone.
			ES2 0.50					
			ES3 0.75					…from 0.75m depth, rare brick and concrete present.
		1	TB1 1.00-1.20 ES4 1.00		1.10	5.85		
			ES5 1.20	S N=32 (4,10)(9,8,8,7)				Dense orange brown slightly silty sandy GRAVEL. Sand is fine to coarse. Gravel is subangular to angular fine to coarse to occasional cobbles of flint. (KEMPTON PARK GRAVEL).
		2	TB2 2.00-2.20	S N=68 (9,18)(19,18,16,15)				…between 1.80m to 2.00m depth, clayey.
			TB3 2.50	@ 2.50= 13 @ 2.60= 11 @ 2.70= 8 @ 2.80= 5 @ 2.90= 2				…from 2.50m depth, hole continued by dynamic probing.
		3		@ 3.00= 2 @ 3.10= 6 @ 3.20= 4 @ 3.30= 2 @ 3.40= 3 @ 3.50= 5 @ 3.60= 6 @ 3.70= 5 @ 3.80= 7 @ 3.90= 6				
		4		@ 4.00= 9 @ 4.10= 8 @ 4.20= 9 @ 4.30= 7 @ 4.40= 5 @ 4.50= 3 @ 4.60= 8 @ 4.70= 10 @ 4.80= 10 @ 4.90= 9				

Continued next sheet

Remarks and Water Observations

Hand pit excuvated to 1.20mbgl prior to commencement of drilling.Window sampling commenced in the base of the hand pit and terminated at 2.5mbgl due to density of the gravels. Dynamic Probing continued from the base of the window sampler borehole to terminated depth, once interface between Kempton Park Gravel Deposits and London Clay Formation had been identified.

Key for Insitu tests
HV-Hand Vane (kN/m2)
PP-Pocket Penotometer (kN/m2)
MP-Mackintosh Probe (N150)

Scale: 1:25

Logged by: AS

Figure: B

RSK GROUP PLC STATS

BOREHOLE RECORD (Window Sampler)

Borehole Number: WS1

Site: Twickenham Railway Station

Location: Twickenham Railway Station

Client: Solum Regeneration

Ground Level: 6.95mAOD

Dates: 16 Jun 10

Job No.: 241458

GROUND WATER | SAMPLES/TESTS | STRATA RECORD | Sheet 2 of 2

Strike	Well	Depth (m)	Type/Depth (m)	In-situ Tests	Depth (m)	Level (mAOD)		Key	Description
				@ 5.00= 10 @ 5.10= 6 @ 5.20= 2 @ 5.30= 2 @ 5.40= 2 @ 5.50= 2 @ 5.60= 2 @ 5.70= 2 @ 5.80= 2 @ 5.90= 2	5.20 5.90	1.75 1.05	4.10 0.70		LONDON CLAY: inferred from dynamic probing. ***End of Borehole at 5.90 m***

6 7 8 9

Remarks and Water Observations

Hand pit excuvated to 1.20mbgl prior to commencement of drilling.Window sampling commenced in the base of the hand pit and terminated at 2.5mbgl due to density of the gravels. Dynamic Probing continued from the base of the window sampler borehole to terminated depth, once interface between Kempton Park Gravel Deposits and London Clay Formation had been identified.

Key for Insitu tests
HV-Hand Vane (kN/m2)
PP-Pocket Penotometer (kN/m2)
MP-Mackintosh Probe (N150)

Scale: 1:25

Logged by: AS

Figure: B

RSK GROUP PLC STATS

BOREHOLE RECORD (Window Sampler)

Borehole Number: WS2

Site: Twickenham Railway Station

Location: Twickenham Railway Station

Client: Solum Regeneration

Ground Level: 7.25mAOD

Dates: 16 Jun 10

Job No.: 241458

GROUND WATER | **SAMPLES/TESTS** | **STRATA RECORD** | Sheet 1 of 2

Strike	Well	Depth (m)	Type/Depth (m)	In-situ Tests	Depth (m)	Level (mAOD)		Key	Description
			ES1 0.25 J1						MADE GROUND: Vegetation at the surface covering dark brown slightly gravelly silty SAND. Sand is fine to medium. Gravel is subangular to subrounded fine to coarse gravel and occasional cobbles of flint, brick and concrete. Occasional cobbles of concrete and red brick. Rare fragments of glass. Occasional ash and clinker.
			ES2 0.50 J2						
			ES3 0.75 J3						
		1	ES4 1.00 J4	S					
					1.40	5.85	1.40		Dense orange brown slightly silty sandy GRAVEL. Sand is fine to coarse. Gravel is subangular to angular fine to coarse to occasional cobbles of flint. (KEMPTON PARK GRAVEL).
			TB1 1.50-1.70 ES5 1.50 J5	N=40 [1,4](8,9,12,11)					…between 1.80m and 2.00m depth, clayey.
		2			2.00	5.25	0.60		Orange brown slightly silty slightly gravelly fine to medium SAND. Gravel is subangular to angular fine to medium flint. (KEMPTON PARK GRAVEL).
			TB2 2.20-2.50	S	2.20	5.05	0.20		Medium dense orange brown slightly silty fine to medium SAND.(KEMPTON PARK GRAVEL).
				N=22 [2,5](5,6,6,5)					
		3							…@ 3.00m depth, water strike.
				S					
			TB3 3.50-4.00		3.50	3.75	1.30		…between 3.40m and 3.50m depth, band of clayey silty fine sand.
				N=16 [0,0](2,2,6,6)					Dense orange brown slightly silty fine to coarse sandy GRAVEL. Gravel is subangular to angular fine to medium to frequent coarse flint with rare localised clayey sand pockets.(KEMPTON PARK GRAVEL).
		4		S					
				N=35 [2,9](11,11,9,4)					

Continued next sheet

Remarks and Water Observations

Hand pit excuvated to 1.20mbgl prior to commencement of drilling. Window sampling commenced in the base of the hand pit and terminated at 5.0mbgl due to density of the gravels. Dynamic Probing continued from the base of the window sampler borehole to terminated depth, once interface between Kempton Park Gravel Deposits and London Clay Formation had been identified. Groundwater was encountered at 3.0mbgl.

Key for Insitu tests
HV-Hand Vane (kN/m2)
PP-Pocket Penotometer (kN/m2)
MP-Mackintosh Probe (N150)

Scale: 1:25

Logged by: AS

Figure: B

RSK GROUP PLC STATS

BOREHOLE RECORD (Window Sampler)

Borehole Number: WS2

Site: Twickenham Railway Station

Location: Twickenham Railway Station

Client: Solum Regeneration

Ground Level: 7.25mAOD

Dates: 16 Jun 10

Job No.: 241458

GROUND WATER | **SAMPLES/TESTS** | **STRATA RECORD** | Sheet 2 of 2

Strike	Well	Depth (m)	Type/Depth (m)	In-situ Tests	Depth (m)	Level (mAOD)		Key	Description
				@ 5.00= 2					…from 5.0m, hole continued by dynamic probing.
				@ 5.10= 6					
				@ 5.20= 10					
				@ 5.30= 11					
				@ 5.40= 9					
				@ 5.50= 13					
				@ 5.60= 13					
				@ 5.70= 13					
				@ 5.80= 14					
				@ 5.90= 14					
		6		@ 6.00= 11					
				@ 6.10= 10					
				@ 6.20= 7					
				@ 6.30= 4					
				@ 6.40= 3	6.40	0.85	2.90		LONDON CLAY: inferred from dynamic probing
				@ 6.50= 3					
				@ 6.60= 3					
				@ 6.70= 2					
				@ 6.80= 3					
				@ 6.90= 2	6.90	0.35	0.50		***End of Borehole at 6.90 m***
		7							
		8							
		9							

Remarks and Water Observations

Hand pit excuvated to 1.20mbgl prior to commencement of drilling. Window sampling commenced in the base of the hand pit and terminated at 5.0mbgl due to density of the gravels. Dynamic Probing continued from the base of the window sampler borehole to terminated depth, once interface between Kempton Park Gravel Deposits and London Clay Formation had been identified. Groundwater was encountered at 3.0mbgl.

Key for Insitu tests
HV-Hand Vane (kN/m2)
PP-Pocket Penotometer (kN/m2)
MP-Mackintosh Probe (N150)

Scale: 1:25

Logged by: AS

Figure: B

RSK GROUP PLC | STATS

BOREHOLE RECORD (Window Sampler)

Borehole Number: WS3

Site: Twickenham Railway Station

Location: Twickenham Railway Station

Client: Solum Regeneration

Ground Level: 6.70mAOD

Dates: 16 Jun 10

Job No.: 241458

Sheet 1 of 1

GROUND WATER		SAMPLES/TESTS			STRATA RECORD			
Strike	Well	Depth (m)	Type/Depth (m)	In-situ Tests	Depth (m)	Level (mAOD)	Key	Description
			ES1 0.25					MADE GROUND: Vegetation and brick rubble at the surface over dark brown gravelly silty fine to medium SAND. Gravel is subrounded to angular fine to coarse gravel and occasional cobbles of flint, red brick and concrete with frequent glass and metal fragments. Occasional ash, clinker and rare possible asbestos fragments present.
			ES2 0.50					
			ES3 0.75		0.80	5.90		Orange and brown slightly silty sandy GRAVEL. Sand is fine to coarse. Gravel is subangular to angular fine to coarse flint with rare localised pockets of fine clay. (KEMPTON PARK GRAVEL).
		1	ES4 1.00		1.20	5.50		***End of Borehole at 1.20 m***
		2						
		3						
		4						

Remarks and Water Observations

Hand pit excuvated to 1.20mbgl prior to commencement of drilling. Window sampling was not continued past the depth of the hand pit, due to not being able to get the rig on location.

Key for Insitu tests
HV-Hand Vane (kN/m2)
PP-Pocket Penotometer (kN/m2)
MP-Mackintosh Probe (N150)

Scale: 1:25

Logged by: AS

Figure: B

RSK GROUP PLC STATS

BOREHOLE RECORD (Window Sampler)

Borehole Number: WS4

Site: Twickenham Railway Station

Location: Twickenham Railway Station

Client: Solum Regeneration

Ground Level: 6.69mAOD

Dates: 7 Jun 10

Job No.: 241458

GROUND WATER | **SAMPLES/TESTS** | **STRATA RECORD** | Sheet 1 of 2

Strike	Well	Depth (m)	Type/Depth (m)	In-situ Tests	Depth (m)	Level (mAOD)		Key	Description
			J1 0.25 TB1						MADE GROUND: Vegetation and crushed stone at surface over brown, silty, fine sand GRAVEL. Gravel is subrounded to angular, fine to predominately coarse gravel and frequent cobbles of flint, with occasional red brick and rare wood, tile, glass and concrete.
			J2 0.50 TB2						
			J3 0.75 TB3		0.80	5.89	0.80		
		1	D1 1.00 J4 TB4	c D3 1.50-2.00 N=40 [0,0](9,13,10,8)					Orange brown very gravelly fine to medium SAND. Gravel is subrounded to subangular flint, with occasional subrounded cobbles of flint and pockets of silty fine sand. (KEMPTON PARK GRAVEL). … at 1.20m depth, water seepage into pit, presumably from unknown pipe struck 1m to the southeast.
		2	D2 2.00 J5 TB5 D4 2.20 TB6	@ 1.90= 4 @ 2.00= 10 c @ 2.10= 17 @ 2.20= 17 @ 2.30= 17 N=64 [3,10](14,17,17,16) @ 2.40= 14 @ 2.50= 10 @ 2.60= 5 @ 2.70= 2 @ 2.80= 1 @ 2.90= 5					…from 2.2m, hole continued by dynamic probing.
		3		@ 3.00= 9 @ 3.10= 10 @ 3.20= 12 @ 3.30= 16 @ 3.40= 18 @ 3.50= 18 @ 3.60= 18 @ 3.70= 15 @ 3.80= 13 @ 3.90= 11					
		4		@ 4.00= 12 @ 4.10= 15 @ 4.20= 15 @ 4.30= 18 @ 4.40= 19 @ 4.50= 19 @ 4.60= 17 @ 4.70= 14 @ 4.80= 13 @ 4.90= 12					

Continued next sheet

Remarks and Water Observations

Hand pit excuvated to 1.20mbgl prior to commencement of drilling. Original hand pit located an unknown service (waste water pipe) at 0.80mbgl. Location of the WS hole was moved northwest by 1.0m. Window sampling commenced in the base of the hand pit and terminated at 2.20mbgl due to density of the gravels. Dynamic Probing continued from the base of the window sampler borehole to terminated depth, once interface between Kempton Park Gravel Deposits and

Key for Insitu tests
HV-Hand Vane (kN/m2)
PP-Pocket Penotometer (kN/m2)
MP-Mackintosh Probe (N150)

Scale: 1:25

Logged by: AS

Figure: B

RSK GROUP PLC STATS

BOREHOLE RECORD (Window Sampler)

Borehole Number: WS4

Site: Twickenham Railway Station

Location: Twickenham Railway Station

Client: Solum Regeneration

Ground Level: 6.69mAOD

Dates: 7 Jun 10

Job No.: 241458

GROUND WATER		SAMPLES/TESTS			STRATA RECORD				
Strike	Well	Depth (m)	Type/Depth (m)	In-situ Tests	Depth (m)	Level (mAOD)		Key	Description
				@ 5.00= 6 @ 5.10= 3 @ 5.20= 2	5.20	1.49	4.40		LONDON CLAY inferred by dynamic probing.
				@ 5.30= 2 @ 5.40= 3 @ 5.50= 3 @ 5.60= 2 @ 5.70= 1 @ 5.80= 2 @ 5.90= 2					
		6		@ 6.00= 2 @ 6.10= 2 @ 6.20= 2 @ 6.30= 2 @ 6.40= 2 @ 6.50= 2 @ 6.60= 2 @ 6.70= 1 @ 6.80= 2					
		7		@ 6.90= 1	6.90	-0.21	1.70		***End of Borehole at 6.90 m***
		8							
		9							

Remarks and Water Observations

Hand pit excuvated to 1.20mbgl prior to commencement of drilling. Original hand pit located an unknown service (waste water pipe) at 0.80mbgl. Location of the WS hole was moved northwest by 1.0m. Window sampling commenced in the base of the hand pit and terminated at 2.20mbgl due to density of the gravels. Dynamic Probing continued from the base of the window sampler borehole to terminated depth, once interface between Kempton Park Gravel Deposits and

Key for Insitu tests
HV-Hand Vane (kN/m2)
PP-Pocket Penotometer (kN/m2)
MP-Mackintosh Probe (N150)

Scale: 1:25

Logged by: AS

Figure: B

Hole No	Depth of Headspace Test Sample	Test Number	Test Date	Details of PID Used and Method Description	Result of PID Analysis
BHA	0.5	1	14-Jun-10		1.8
BHA	1	2	14-Jun-10		0.1
BHA	1.5	3	14-Jun-10		2
BHA	2	4	14-Jun-10		3.5
BHA	2.5	5	14-Jun-10		2.8
BHA	3	6	14-Jun-10		3.5
BHA	3.5	7	14-Jun-10		2.6
BHA	4.5	8	14-Jun-10		1.6
BHA	5.5	9	14-Jun-10		0.3
BHB	0.5	1	14-Jun-10		0
BHB	1	2	14-Jun-10		0
BHB	1.5	3	14-Jun-10		0
BHB	2	4	14-Jun-10		0
BHB	2.5	5	14-Jun-10		0
BHB	3	6	14-Jun-10		7.5
BHB	3.5	7	14-Jun-10		4.3
BHB	4	8	14-Jun-10		5.70
BHB	4.50	9	14-Jun-10		3.7
BHB	5.00	10	14-Jun-10		2.8
BHB	6.00	11	14-Jun-10		3.3
BHB	7.00	12	14-Jun-10		4.1
BHC	0.50	1	14-Jun-10		4.2
BHC	1.00	2	14-Jun-10		2.1
BHC	1.50	3	14-Jun-10		1.2
BHC	2.00	4	14-Jun-10		6.4
BHC	2.50	5	14-Jun-10		6.5
BHC	3.50	6	14-Jun-10		5.2
BHC	4.50	7	14-Jun-10		3.2
BHD	0.50	1	14-Jun-10		7.3

Hole No	Depth of Headspace Test Sample	Test Number	Test Date	Details of PID Used and Method Description	Result of PID Analysis
BHD	1.00	2	14-Jun-10		4.1
BHD	1.50	3	14-Jun-10		6.4
BHD	2.00	4	14-Jun-10		5.8
BHD	2.50	5	14-Jun-10		4.1
BHD	3.50	6	14-Jun-10		2.2
BHD	4.50	7	14-Jun-10		1.4
BHG	0.00	1	14-Jun-10		0.8
BHG	1.00	2	14-Jun-10		2.1
BHG	1.50	3	14-Jun-10		2.3
BHG	2.00	4	14-Jun-10		4.2
BHG	2.50	5	14-Jun-10		1.7
BHG	3.00	6	14-Jun-10		0.2
BHG	4.00	7	14-Jun-10		3.2
BHE	0.50	1	14-Jun-10		2.8
BHE	1.00	2	14-Jun-10		4.6
BHE	1.50	3	14-Jun-10		3.9
BHE	2.00	4	14-Jun-10		2.5
BHE	3.00	5	14-Jun-10		2.7
BHE	4.00	6	14-Jun-10		1.8
BHF	0.50	1	14-Jun-10		4.7
BHF	1.00	2	14-Jun-10		5.1
BHF	1.50	3	14-Jun-10		3.9
BHF	2.00	4	14-Jun-10		5.5
BHF	3.00	5	14-Jun-10		2.3
BHF	4.00	6	14-Jun-10		1.2

Hole No.	Depth (m) to Top of Test	CBR Test Type	Test Number	In-situ CBR Remarks	Clegg Hammer Impact Value	In-situ CBR (%) Value
BHA	0.25	Clegg Hammer	1			12
BHA	0.5	Clegg Hammer	2			13
BHA	0.75	Clegg Hammer	3			7
BHA	1	Clegg Hammer	4			8
BHC	0.25	Clegg Hammer	1			12
BHC	0.5	Clegg Hammer	2			12
BHC	0.75	Clegg Hammer	3			8
BHC	1	Clegg Hammer	4			8
BHD	0.2	Clegg Hammer	1			15
BHD	0.5	Clegg Hammer	2			12
BHD	0.75	Clegg Hammer	3			6
BHD	1	Clegg Hammer	4			6
BHF	0.2	Clegg Hammer	1			10
BHF	0.5	Clegg Hammer	2			13
BHF	0.75	Clegg Hammer	3			9
BHF	1	Clegg Hammer	4			9

Gas Summary Sheet

Location	Date	Baro Pressure (m.bar)	Rel Pressure (m.bar)	Flow Rate (l/hr)	CH4 (% vol)		CO2 (% vol)		O2 (% vol)		Water Level (m.bgl)	Base of Borehole (m.bgl)	Comments
					peak	steady	peak	steady	peak	steady			
BHA	1st JULY10	1009	0.84	0.2		<0.1		6.8		10.2	5.100	5.60	
	15th JULY 10	1006	0.08	0.1		<0.1		3.5		15.8	5.060	5.57	
	5th AUG 10	1010	-0.12	0		<0.1		6.2		12.9	5.100	5.57	
	19th AUG 10												
	2nd SEPT 10												
	16th SEPT 10												
BHD	1st JULY10	1009	0.57	0.2		<0.1		6		12	4.180	7.00	
	15th JULY 10	1006	0.08	0.1		<0.1		10.5		6.7	3.900	6.11	
	5th AUG 10	1010	-0.12	0		<0.1		7.3		9.9	4.230	6.94	
	19th AUG 10												
	2nd SEPT 10												
	16th SEPT 10												
BHF	1st JULY10	1009	0.57	0.2		<0.1		10.7		5	3.880	6.12	
	15th JULY 10	1006	0.08	0.1		<0.1		6.8		11.2	4.190	6.93	
	5th AUG 10	1010	-0.12	0.1		<0.1		14.3		4	4.940	6.09	
	19th AUG 10												
	2nd SEPT 10												
	16th SEPT 10												

Twickenham Railway Station, London Road

Water Monitoring Record

Location	Date *(am/pm)*	Conductivity uS/cm *(at 25 degrees)*	Total Dissolved Soilds *(ppm)*	Dissolved Oxygen *(ppm)*	pH	Temperature *(deg C)*	Sampling Method	Water Level (m.bgl)	Base of Borehole (m.bgl)	Comments
BHA	1st JULY10 (pm)	950	665	17.19	6.29	15.23	Bailer	5.100	5.60	light brown, cloudy-medium solid content, no odour, no sheen, no floating product
	19th AUGUST 10									
BHD	1st JULY10 (pm)	354	248	45.74	5.22	15.96	Bailer	4.180	7.00	light brown, cloudy-medium solid content, no odour, no sheen, no floating product
	19th AUGUST 10									
BHF	1st JULY10 (pm)	610	428	24.34	6.27	14.96	Bailer	3.880	6.12	light brown/orange, cloudy-medium solid content, no odour, no sheen, no floating product
	19th AUGUST 10									
River 1	1st JULY10 (pm)	616	431	14.84	7.74	22.1	Bucket	n/a	n/a	Clear, no odour, no sheen
	19th AUGUST 10							n/a	n/a	
River 2	1st JULY10 (pm)	659	463	8.15	7.95	24.1	Bucket	n/a	n/a	Clear, no odour, no sheen
	19th AUGUST 10							n/a	n/a	
River 3	1st JULY10 (pm)	631	442	8.59	8.11	23.2	Bucket	n/a	n/a	Clear, no odour, no sheen
	19th AUGUST 10							n/a	n/a	

APPENDIX C

Geotechnical Laboratory Test results

UKAS TESTING
No 2652

STRUCTURAL SOILS LTD

SITE INVESTIGATION

SOIL, ROCK & MATERIAL TESTING

GEOTECHNICAL CONSULTANCY

CONTAMINATED LAND ASSESSMENT

Andrew Kent
RSK STATS Geoconsult Limited
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

7th July 2010

TESTING REPORT

YOUR REF: 241458

SITE: TWICKENHAM STATION

CERTIFICATE NUMBER: 581177

DATE SAMPLES RECEIVED: 16th June 2010
DATE TESTING COMMENCED: 16th June 2010

DATE OF SAMPLE DISPOSAL: 7th August 2010

INSTRUCTIONS: Please carry out Moisture Content, Atterberg Limit, Oedometer and Quick Undrained Triaxial tests on the samples provided.

Dear Mr Kent,

I have pleasure in enclosing the test report for the above project that you submitted to us for testing.

Yours sincerely

Paul Kent
Laboratory Manager

Enc.

18 FROGMORE ROAD
HEMEL HEMPSTEAD
HERTS
HP3 9RT
TEL: 01442 416660
FAX: 01442 437550
hemel@soils.co.uk
www.soils.co.uk

HEAD OFFICE:
Bristol

BRANCH OFFICE:
Castleford
West Yorkshire

UKAS TESTING
2652

Date: 06/07/2010
Drawn by: SC
Filename: 581177 / 01_SD.XLS
Template Issue: 4

Borehole	Depth (m)	Moisture Content (%)	Sample Description
BHA	7.50-7.95	30	Dark brownish grey CLAY
BHA	10.50-10.95	30	Dark brownish grey CLAY
BHA	13.50-13.95	28	Dark brownish grey CLAY
BHB	9.00-9.45	27	Dark grey CLAY
BHB	12.00-12.45	30	Dark grey CLAY
BHB	15.00-15.45	29	Dark grey CLAY
BHC	7.50-7.95	30	Dark grey CLAY
BHC	10.50-10.95	30	Dark grey CLAY
BHC	13.50-13.95	29	Dark brownish grey CLAY
BHD	7.50-7.95	30	Dark brownish grey CLAY

Moisture contents tested in accordance with BS 1377: Part 2: 1990: Clause 3

Key to Gravel Sizes:

fine	-	2 to 6mm
medium	-	6 to 20mm
coarse	-	20 to 60mm

SUMMARY OF SAMPLE DESCRIPTIONS AND MOISTURE CONTENT

UKAS TESTING
2652

Date: 06/07/2010
Drawn by: SC
Filename: 581177 / 02_SD.XLS
Template Issue: 4

Borehole	Depth (m)	Moisture Content (%)	Sample Description
BHD	10.50-10.95	29	Dark brownish grey CLAY
BHD	13.50-13.95	26	Dark brownish grey CLAY
BHD	16.50-16.95	27	Dark brownish grey CLAY
BHD	19.50-19.95	27	Dark brownish grey CLAY
BHD	22.50-22.95	28	Dark brownish grey CLAY
BHD	25.50-25.95	22	Dark brownish grey CLAY
BHD	28.50-28.95	28	Dark brownish grey CLAY
BHD	31.50-31.95	25	Dark brownish grey CLAY
BHE	10.50-10.95	29	Dark brownish grey CLAY
BHE	13.50-13.95	25	Dark brownish grey CLAY

Moisture contents tested in accordance with BS 1377: Part 2: 1990: Clause 3

Key to Gravel Sizes:
fine - 2 to 6mm
medium - 6 to 20mm
coarse - 20 to 60mm

SUMMARY OF SAMPLE DESCRIPTIONS AND MOISTURE CONTENT

UKAS TESTING
2652

Date: 06/07/2010
Drawn by: SC
Filename: 581177 / 03_SD.XLS
Template Issue: 4

Borehole	Depth (m)	Moisture Content (%)	Sample Description
BHE	16.50-16.95	26	Dark brownish grey CLAY
BHE	19.50-19.95	24	Dark brownish grey CLAY
BHE	22.50-22.95	27	Dark brownish grey CLAY
BHF	7.50-7.95	30	Dark brownish grey CLAY
BHF	10.50-10.95	26	Dark brownish grey CLAY

Moisture contents tested in accordance with BS 1377: Part 2: 1990: Clause 3

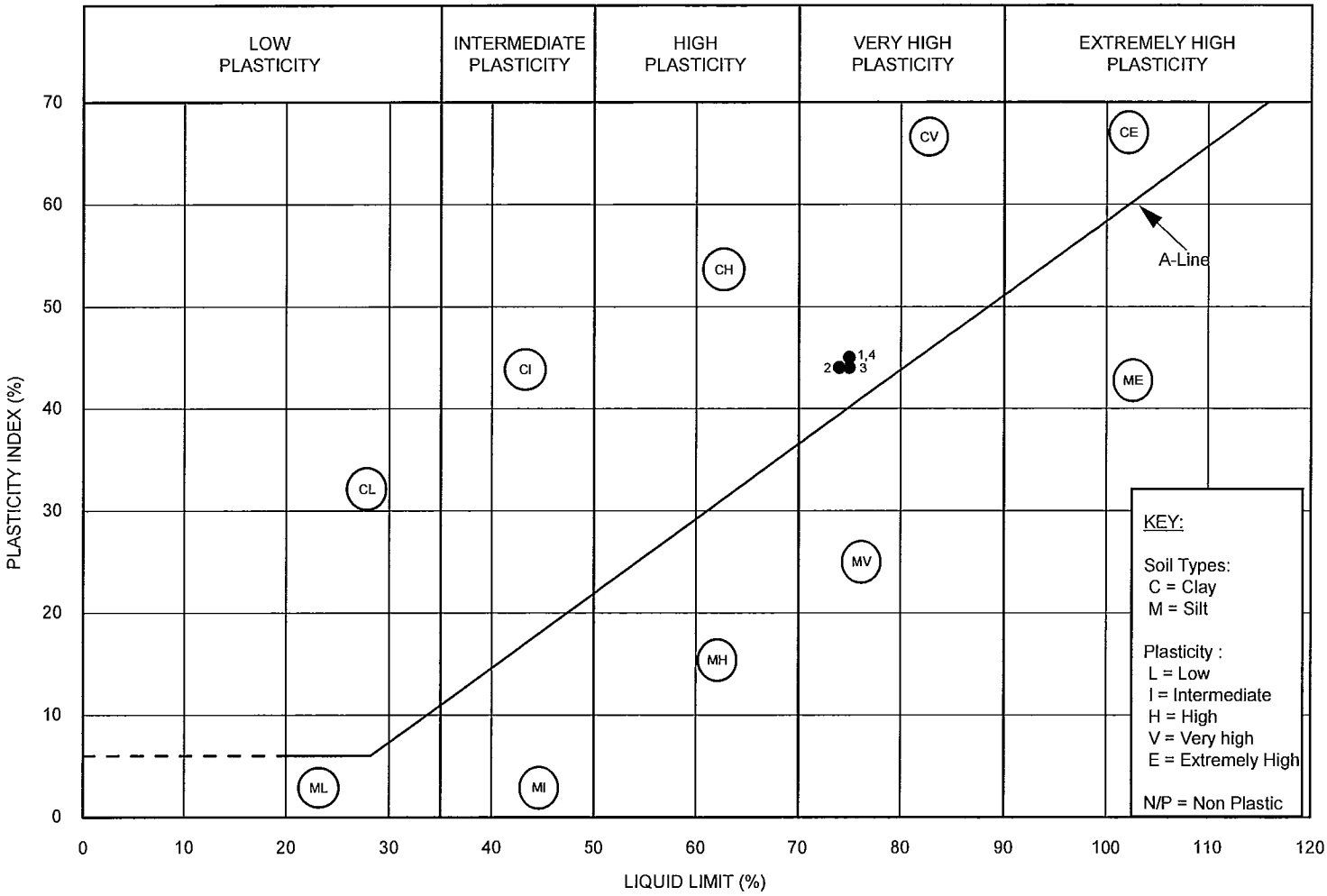
Key to Gravel Sizes:
fine - 2 to 6mm
medium - 6 to 20mm
coarse - 20 to 60mm

SUMMARY OF SAMPLE DESCRIPTIONS AND MOISTURE CONTENT

UKAS TESTING
2652

Date : 6/07/10

Drawn by: SC



Plot Number	Borehole	Sample	Depth (m)	BS Test Method*	Preparation Method †	% Passing 425 micron Sieve	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)
1	BHD	-	7.50	4.4/5.3/5.4	4.2.3	100	75	30	45
2	BHD	-	16.50	4.4/5.3/5.4	4.2.3	100	74	30	44
3	BHD	-	25.50	4.4/5.3/5.4	4.2.3	100	75	31	44
4	BHD	-	31.50	4.4/5.3/5.4	4.2.3	100	75	30	45

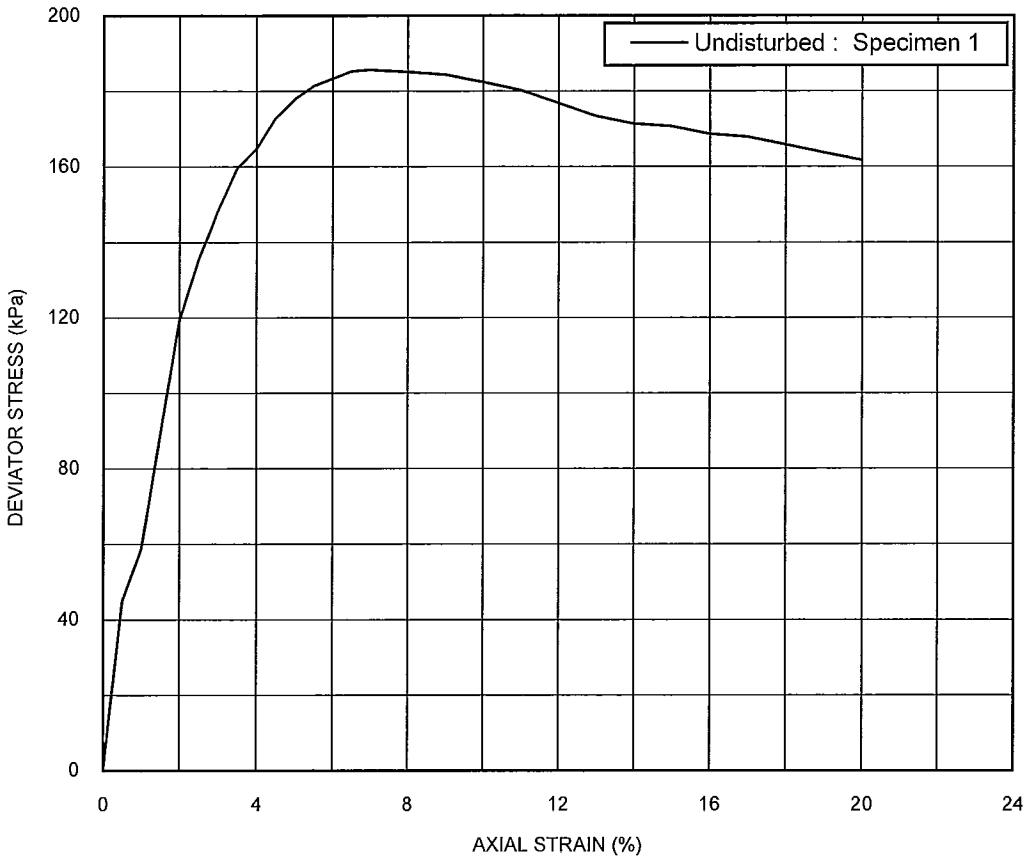
*Tested in accordance with the following clauses of BS 1377:Part 2:1990:
4.3 - Cone Penetrometer Method
4.4 - One point Cone Penetrometer Method
4.5 - Casagrande Method
4.6 - One point Casagrande Method
5.3 - Plastic Limit Method
5.4 - Plasticity Index

†Tested in accordance with the following clauses of BS 1377:Part 2:1990:
4.2.3 - Natural Soil
4.2.4 - Sieved Specimen

ATTERBERG LIMITS TEST RESULTS

2652

Drawn by: SC Date: 07/07/2010



Initial Conditions	Units	Specimen 1
Sample length	mm	210.3
Sample diameter	mm	103.3
Membrane thickness	mm	0.24
Rate of strain	%/min	1.0
Bulk density	Mg/m^3	1.98
Dry density	Mg/m^3	1.53
Moisture content	%	29
Failure Conditions		
Cell pressure	kPa	150
Membrane correction	kPa	0.39
Corrected deviator stress	kPa	186
Strain at failure	%	7.0
Undrained shear strength	kPa	93

Sample Details

Borehole : BHA
Sample : -
Depth (m) : 7.50

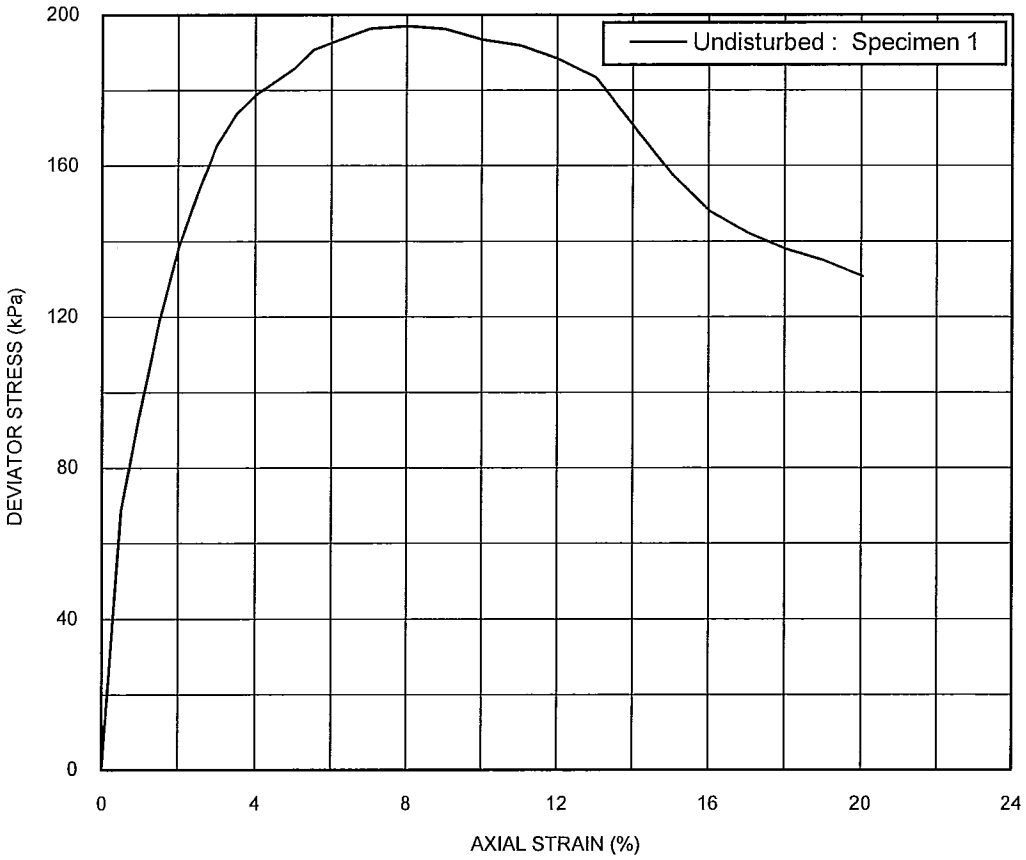
Failure shape

Tested in accordance with BS 1377: Part 7: 1990: Clause 8

UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TEST

2652

Drawn by: SC Date: 07/07/2010

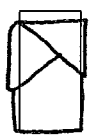


Initial Conditions	Units	Specimen 1
Sample length	mm	209.6
Sample diameter	mm	103.2
Membrane thickness	mm	0.24
Rate of strain	%/min	1.0
Bulk density	Mg/m^3	1.93
Dry density	Mg/m^3	1.49
Moisture content	%	29
Failure Conditions		
Cell pressure	kPa	210
Membrane correction	kPa	0.44
Corrected deviator stress	kPa	197
Strain at failure	%	8.0
Undrained shear strength	kPa	99

Sample Details

Borehole : BHA
Sample : -
Depth (m) : 10.50

Failure shape

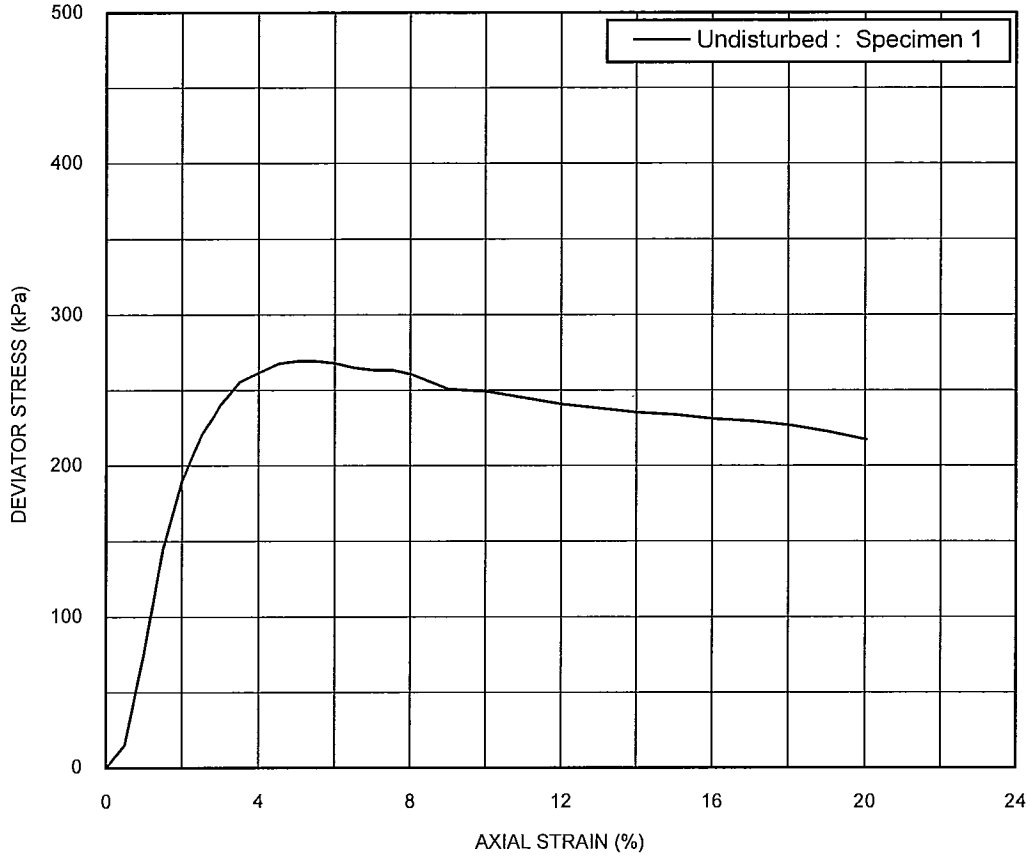


Tested in accordance with BS 1377: Part 7: 1990: Clause 8

UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TEST

2652

Drawn by: SC Date: 07/07/2010



Initial Conditions	Units	Specimen 1
Sample length	mm	209.6
Sample diameter	mm	103.5
Membrane thickness	mm	0.24
Rate of strain	%/min	1.0
Bulk density	Mg/m^3	1.97
Dry density	Mg/m^3	1.54
Moisture content	%	28
Failure Conditions		
Cell pressure	kPa	270
Membrane correction	kPa	0
Corrected deviator stress	kPa	269
Strain at failure	%	5.5
Undrained shear strength	kPa	135

Sample Details

Borehole : BHA
Sample : -
Depth (m) : 13.50

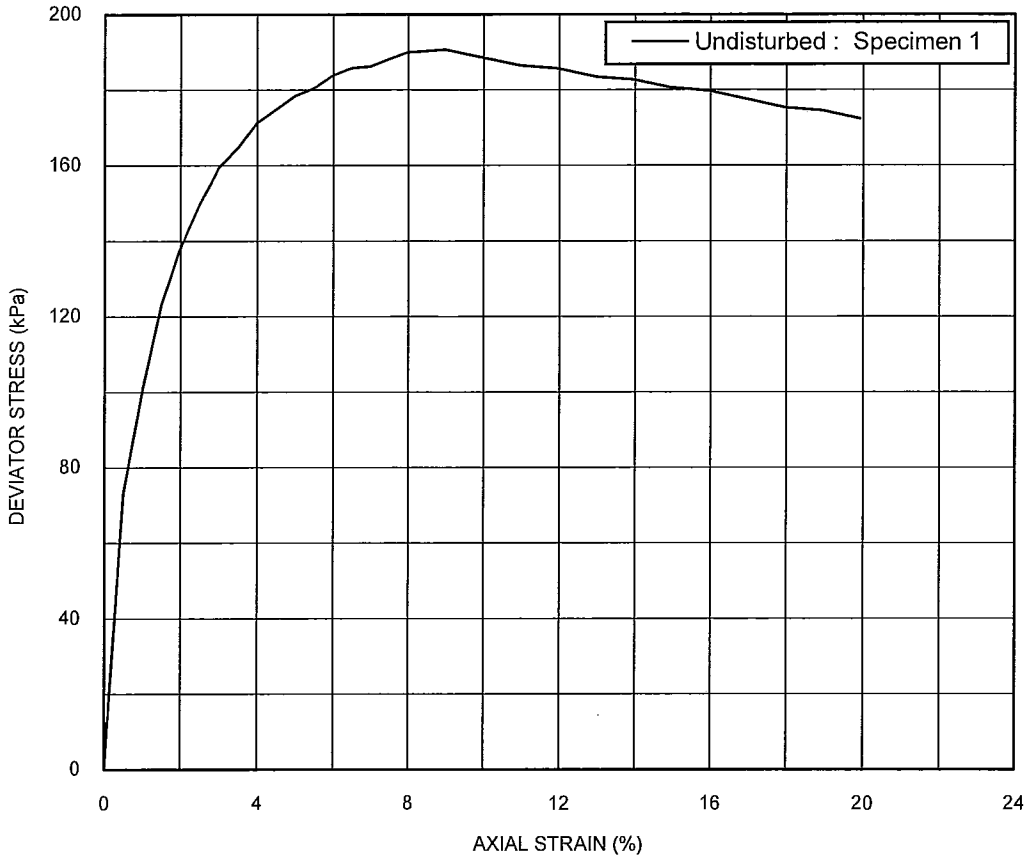
Failure shape

Tested in accordance with BS 1377: Part 7: 1990: Clause 8

UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TEST

2652

Drawn by: SC Date: 07/07/2010

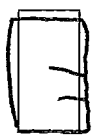


Initial Conditions	Units	Specimen 1
Sample length	mm	208.8
Sample diameter	mm	103.2
Membrane thickness	mm	0.24
Rate of strain	%/min	1.0
Bulk density	Mg/m^3	2.00
Dry density	Mg/m^3	1.57
Moisture content	%	27
Failure Conditions		
Cell pressure	kPa	180
Membrane correction	kPa	0.49
Corrected deviator stress	kPa	191
Strain at failure	%	9.0
Undrained shear strength	kPa	95

Sample Details

Borehole : BHB
Sample : -
Depth (m) : 9.00

Failure shape

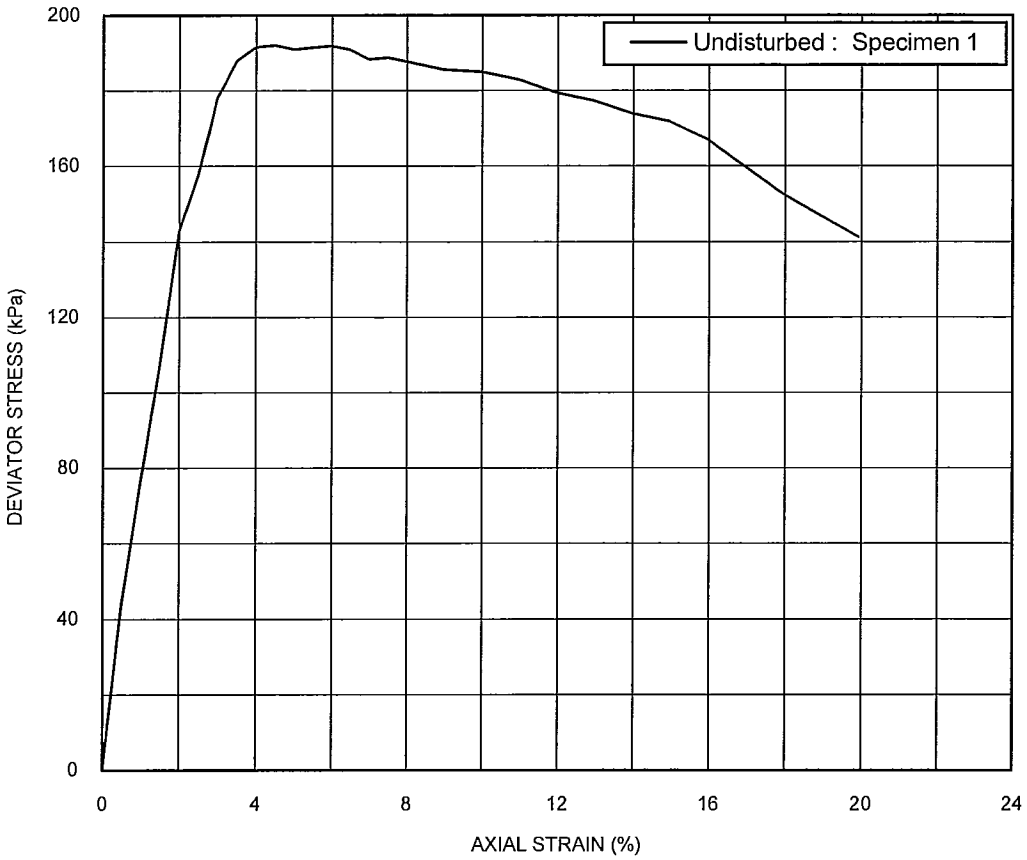


Tested in accordance with BS 1377: Part 7: 1990: Clause 8

UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TEST

2652

Drawn by: SC Date: 07/07/2010

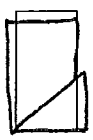


Initial Conditions	Units	Specimen 1
Sample length	mm	208.8
Sample diameter	mm	102.6
Membrane thickness	mm	0.24
Rate of strain	%/min	1.0
Bulk density	Mg/m^3	1.97
Dry density	Mg/m^3	1.53
Moisture content	%	29
Failure Conditions		
Cell pressure	kPa	240
Membrane correction	kPa	0.27
Corrected deviator stress	kPa	192
Strain at failure	%	4.5
Undrained shear strength	kPa	96

Sample Details

Borehole : BHB
Sample : -
Depth (m) : 12.00

Failure shape

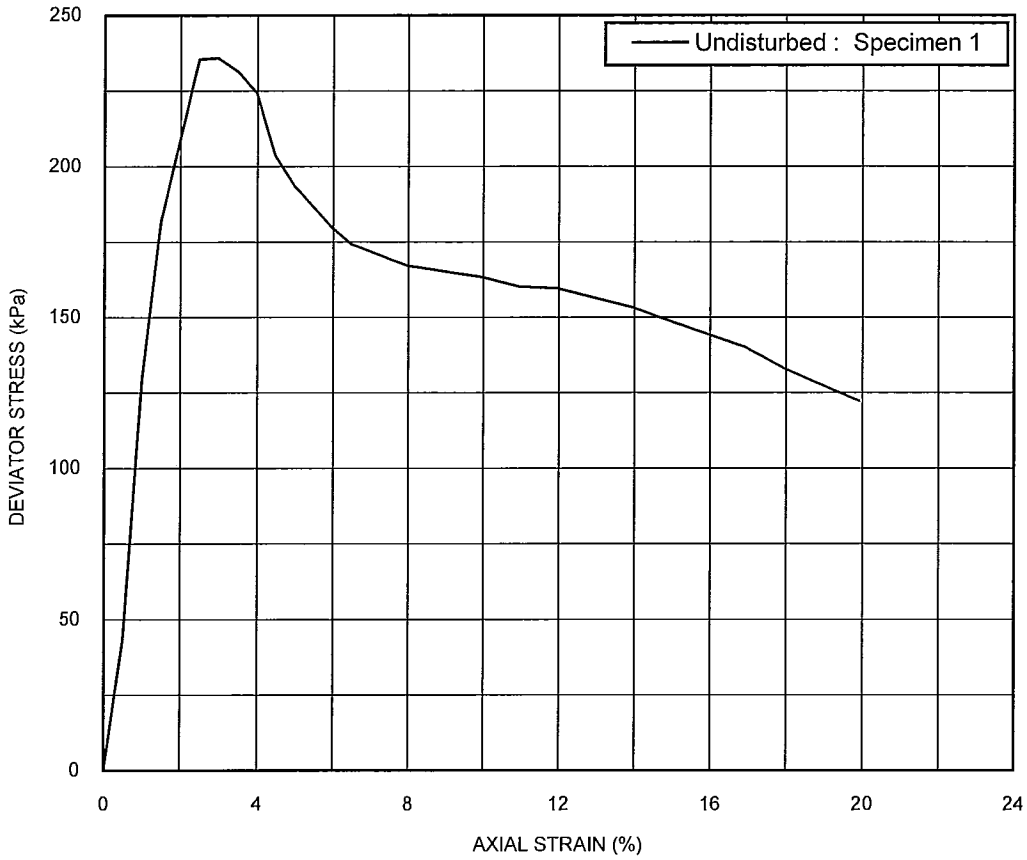


Tested in accordance with BS 1377: Part 7: 1990: Clause 8

UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TEST

UKAS TESTING
2652

Drawn by: SC Date: 07/07/2010

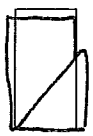


Initial Conditions	Units	Specimen 1
Sample length	mm	208.8
Sample diameter	mm	103.1
Membrane thickness	mm	0.24
Rate of strain	%/min	1.0
Bulk density	Mg/m^3	1.98
Dry density	Mg/m^3	1.54
Moisture content	%	29
Failure Conditions		
Cell pressure	kPa	300
Membrane correction	kPa	0.18
Corrected deviator stress	kPa	236
Strain at failure	%	3.0
Undrained shear strength	kPa	118

Sample Details

Borehole : BHB
Sample : -
Depth (m) : 15.00

Failure shape

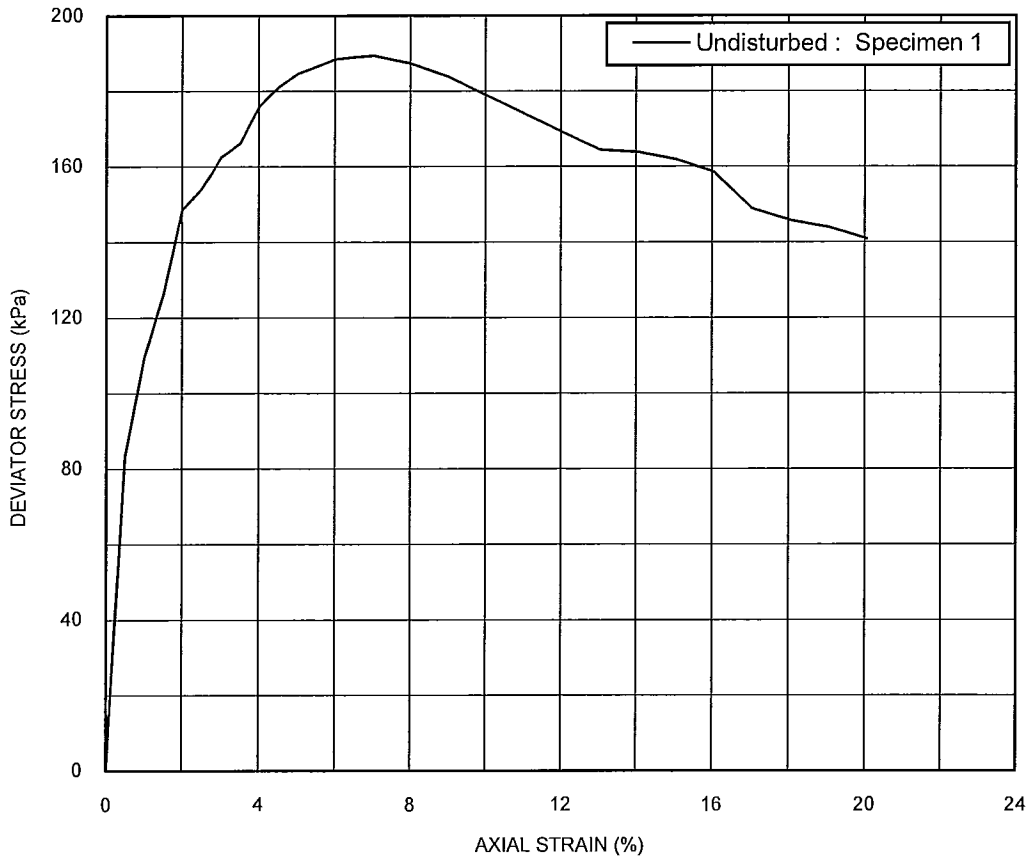


Tested in accordance with BS 1377: Part 7: 1990: Clause 8

UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TEST

UKAS TESTING
2652

Drawn by: SC Date: 07/07/2010

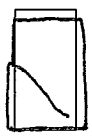


Initial Conditions	Units	Specimen 1
Sample length	mm	187.4
Sample diameter	mm	102.7
Membrane thickness	mm	0.24
Rate of strain	%/min	1.0
Bulk density	Mg/m^3	2.00
Dry density	Mg/m^3	1.55
Moisture content	%	29
Failure Conditions		
Cell pressure	kPa	150
Membrane correction	kPa	0.40
Corrected deviator stress	kPa	189
Strain at failure	%	7.0
Undrained shear strength	kPa	95

Sample Details

Borehole : BHC
Sample : -
Depth (m) : 7.50

Failure shape

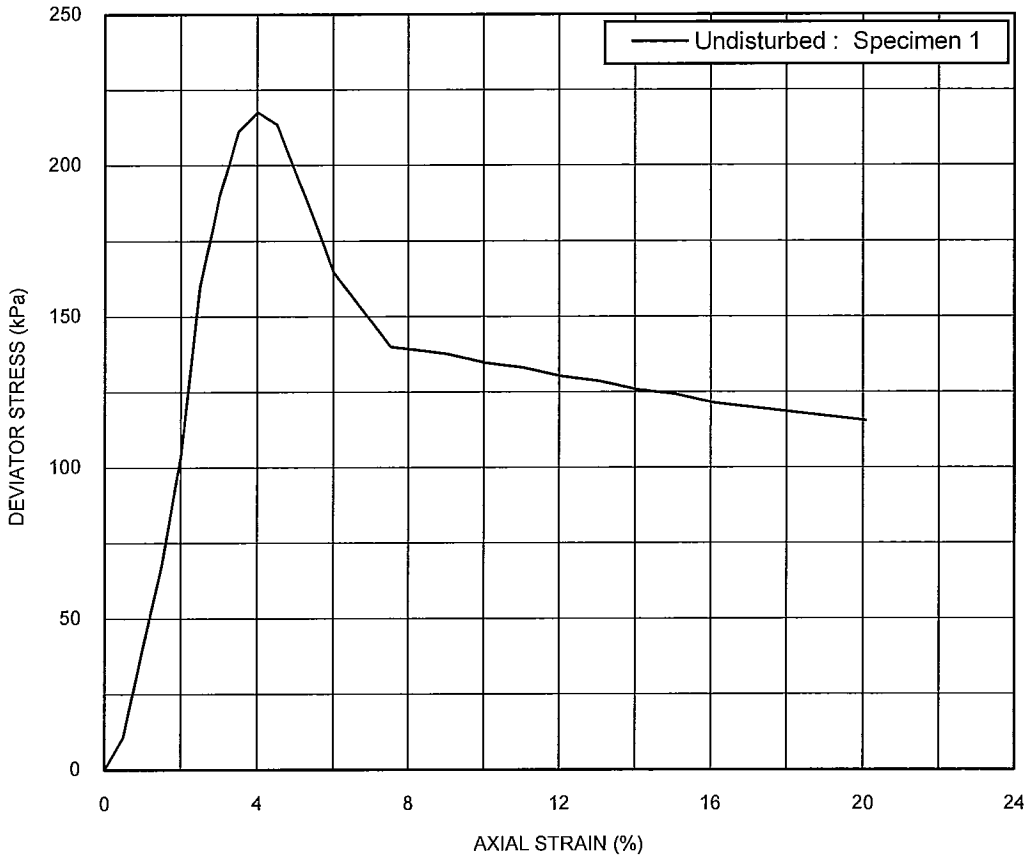


Tested in accordance with BS 1377: Part 7: 1990: Clause 8

UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TEST

2652

Drawn by: SC Date: 07/07/2010

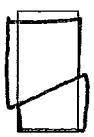


Initial Conditions	Units	Specimen 1
Sample length	mm	209.2
Sample diameter	mm	103.3
Membrane thickness	mm	0.24
Rate of strain	%/min	1.0
Bulk density	Mg/m^3	1.97
Dry density	Mg/m^3	1.52
Moisture content	%	30
Failure Conditions		
Cell pressure	kPa	210
Membrane correction	kPa	0
Corrected deviator stress	kPa	218
Strain at failure	%	4.0
Undrained shear strength	kPa	109

Sample Details

Borehole : BHC
Sample : -
Depth (m) : 10.50

Failure shape



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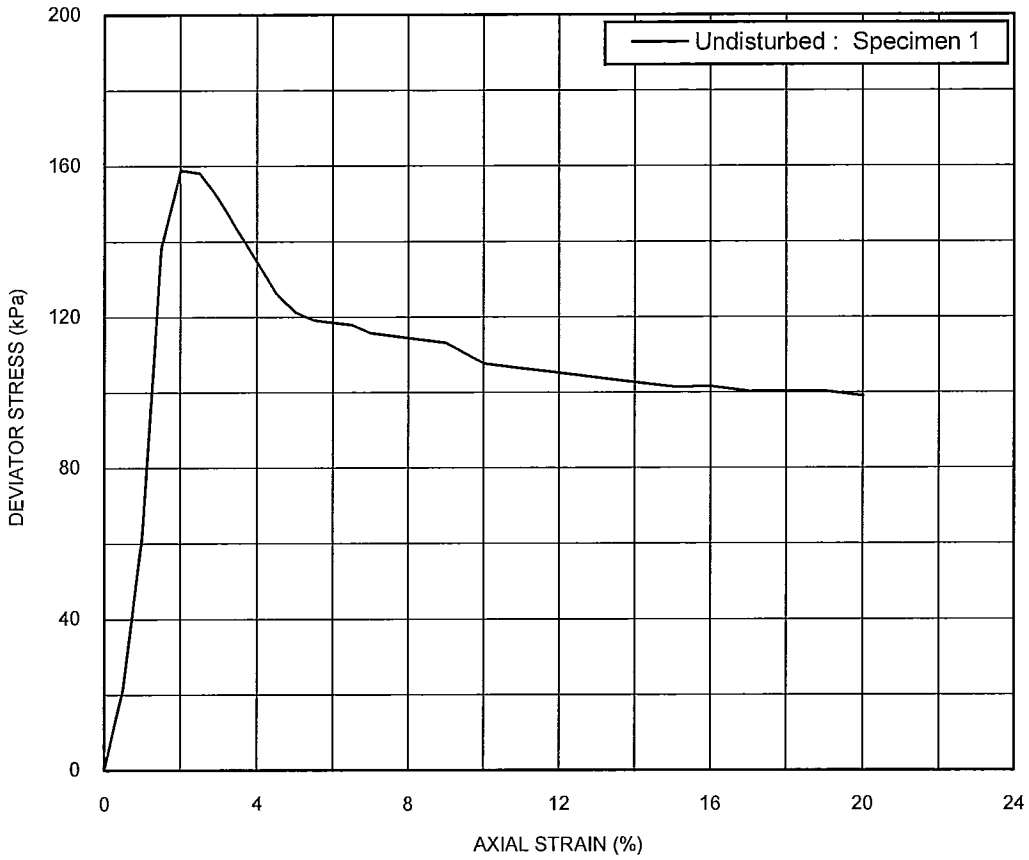
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TEST

UKAS TESTING
2652

Drawn by: SC Date: 07/07/2010

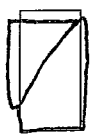


Initial Conditions	Units	Specimen 1
Sample length	mm	209.8
Sample diameter	mm	103.4
Membrane thickness	mm	0.24
Rate of strain	%/min	1.0
Bulk density	Mg/m^3	1.99
Dry density	Mg/m^3	1.55
Moisture content	%	28
Failure Conditions		
Cell pressure	kPa	270
Membrane correction	kPa	0
Corrected deviator stress	kPa	159
Strain at failure	%	2.0
Undrained shear strength	kPa	79

Sample Details

Borehole : BHC
Sample : -
Depth (m) : 13.50

Failure shape



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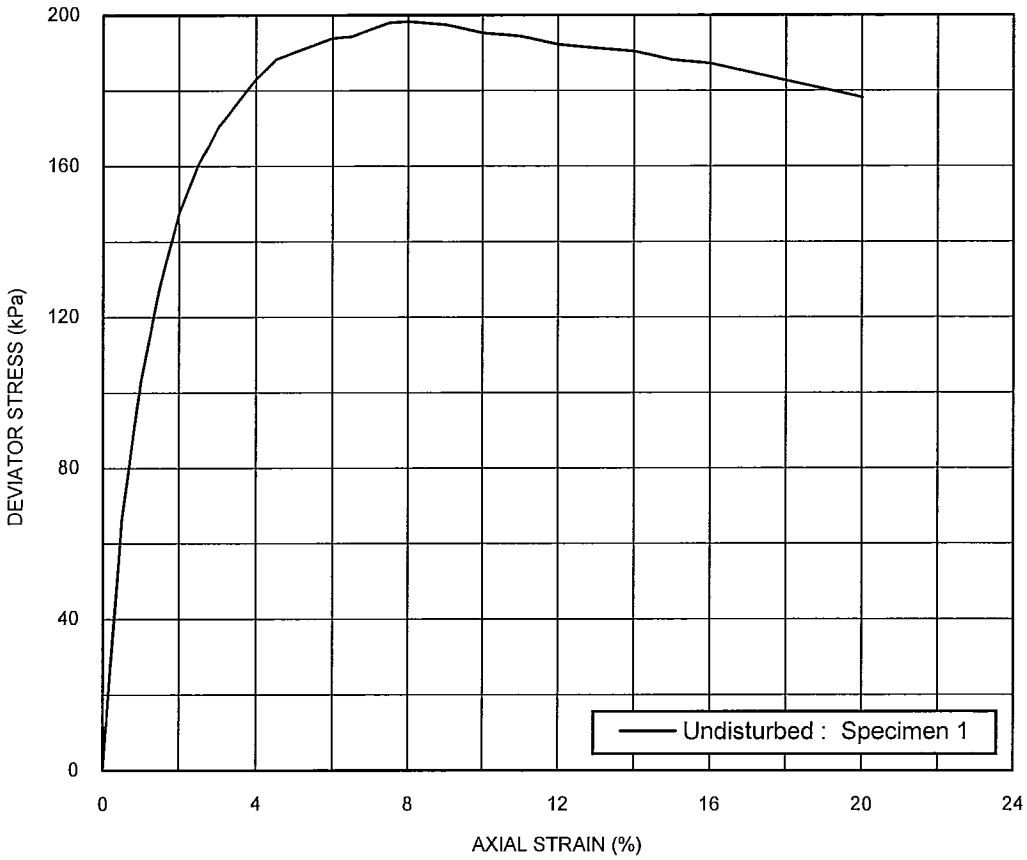
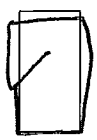
Drawn by: SC Date: 07/07/2010



Initial Conditions	Units	Specimen 1
Sample length	mm	209.9
Sample diameter	mm	103.6
Membrane thickness	mm	0.24
Rate of strain	%/min	1.0
Bulk density	Mg/m^3	1.98
Dry density	Mg/m^3	1.53
Moisture content	%	30
Failure Conditions		
Cell pressure	kPa	150
Membrane correction	kPa	0.44
Corrected deviator stress	kPa	198
Strain at failure	%	8.0
Undrained shear strength	kPa	99
Sample Details		
Borehole	: BHD	
Sample	: -	
Depth (m)	: 7.50	

Failure shape



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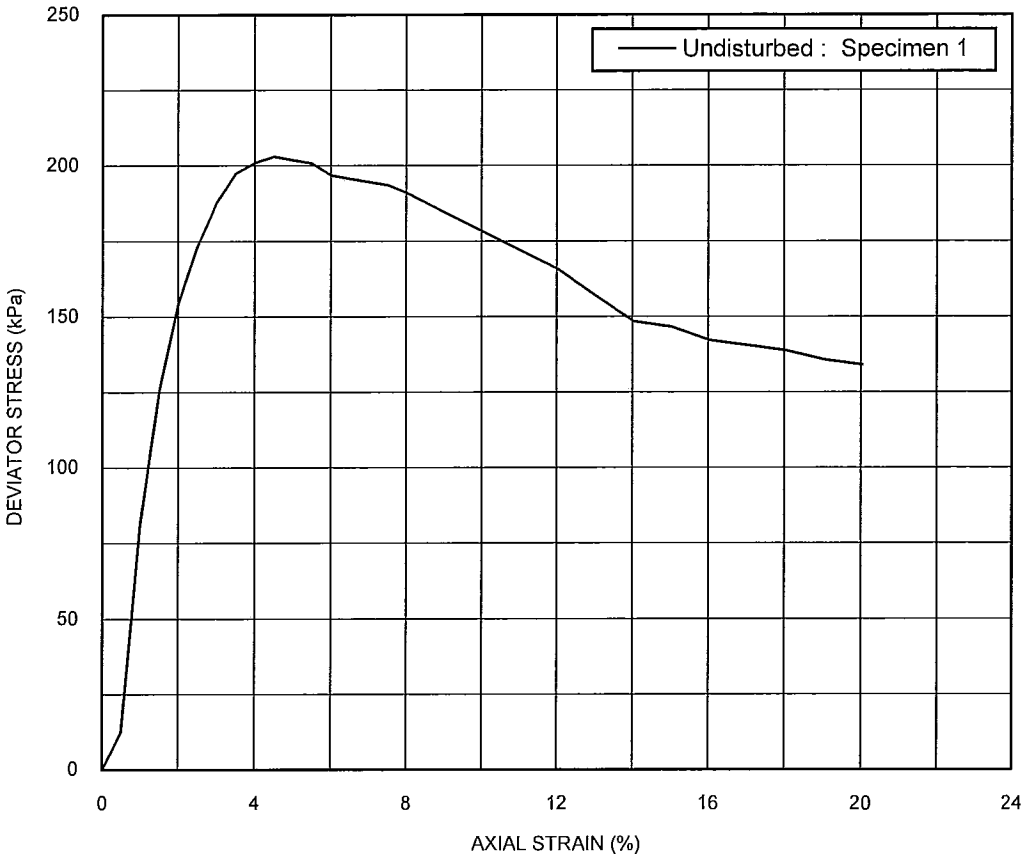
2652

Drawn by: SC Date: 07/07/2010

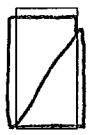


Initial Conditions	Units	Specimen 1
Sample length	mm	209.5
Sample diameter	mm	102.9
Membrane thickness	mm	0.24
Rate of strain	%/min	1.0
Bulk density	Mg/m^3	1.98
Dry density	Mg/m^3	1.54
Moisture content	%	29
Failure Conditions		
Cell pressure	kPa	210
Membrane correction	kPa	0
Corrected deviator stress	kPa	203
Strain at failure	%	4.5
Undrained shear strength	kPa	101

Sample Details

Borehole : BHD
Sample : -
Depth (m) : 10.50

Failure shape



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UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TEST

UKAS TESTING
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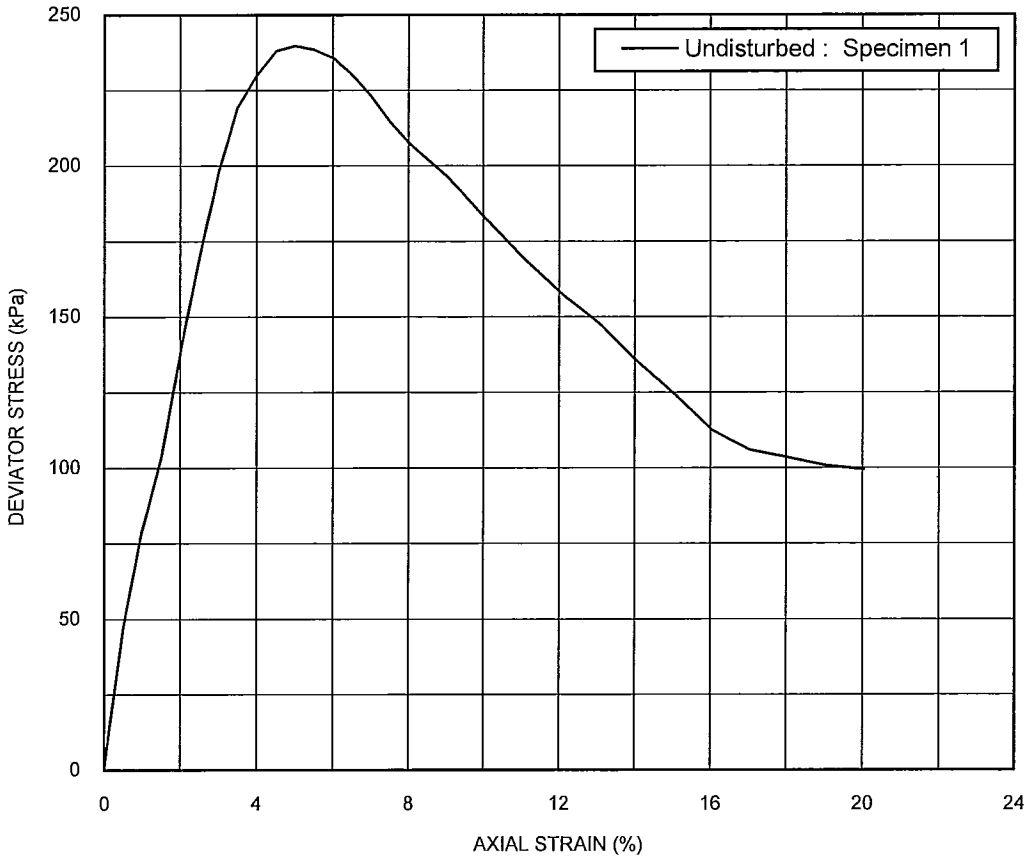
Drawn by: SC Date: 07/07/2010

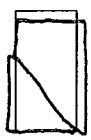


Initial Conditions	Units	Specimen 1
Sample length	mm	209.5
Sample diameter	mm	103.1
Membrane thickness	mm	0.24
Rate of strain	%/min	1.0
Bulk density	Mg/m^3	2.02
Dry density	Mg/m^3	1.60
Moisture content	%	26
Failure Conditions		
Cell pressure	kPa	270
Membrane correction	kPa	0.29
Corrected deviator stress	kPa	240
Strain at failure	%	5.0
Undrained shear strength	kPa	120

Sample Details

Borehole : BHD
Sample : -
Depth (m) : 13.50

Failure shape



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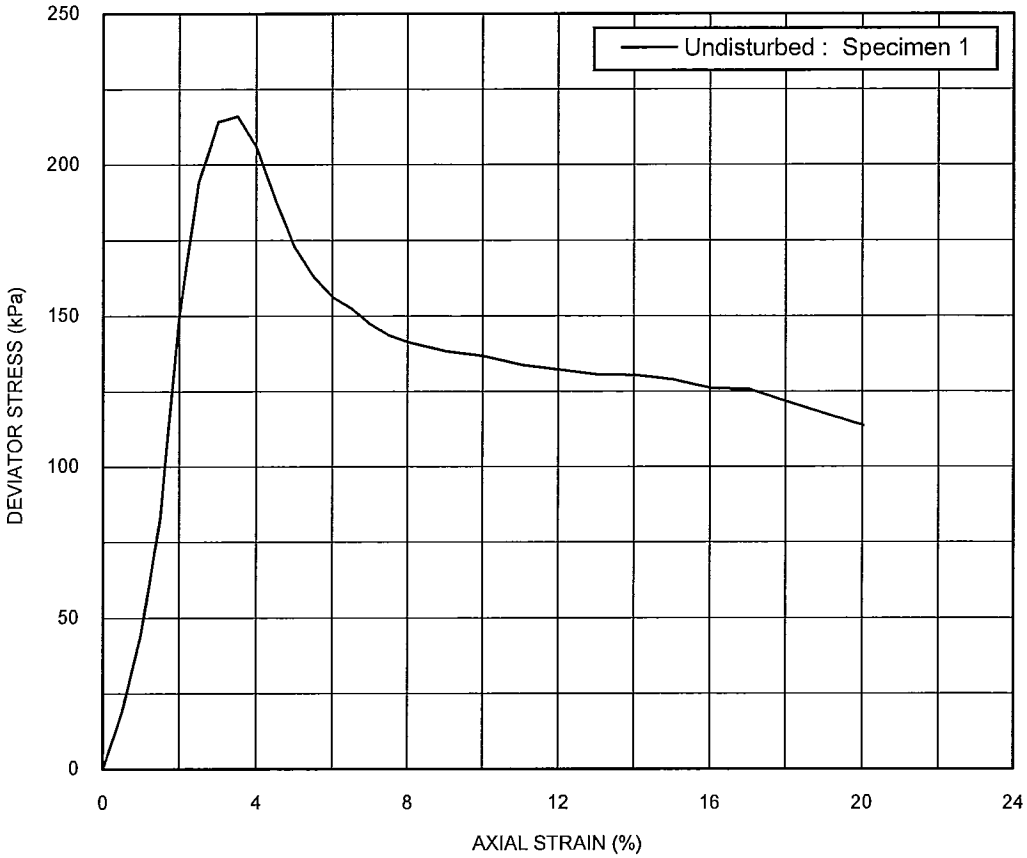
Drawn by: SC Date: 07/07/2010

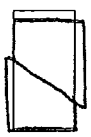


Initial Conditions	Units	Specimen 1
Sample length	mm	209.6
Sample diameter	mm	103.6
Membrane thickness	mm	0.24
Rate of strain	%/min	1.0
Bulk density	Mg/m^3	1.97
Dry density	Mg/m^3	1.55
Moisture content	%	27
Failure Conditions		
Cell pressure	kPa	330
Membrane correction	kPa	0
Corrected deviator stress	kPa	216
Strain at failure	%	3.5
Undrained shear strength	kPa	108

Sample Details

Borehole : BHD
Sample : -
Depth (m) : 16.50

Failure shape



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UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TEST

UKAS TESTING
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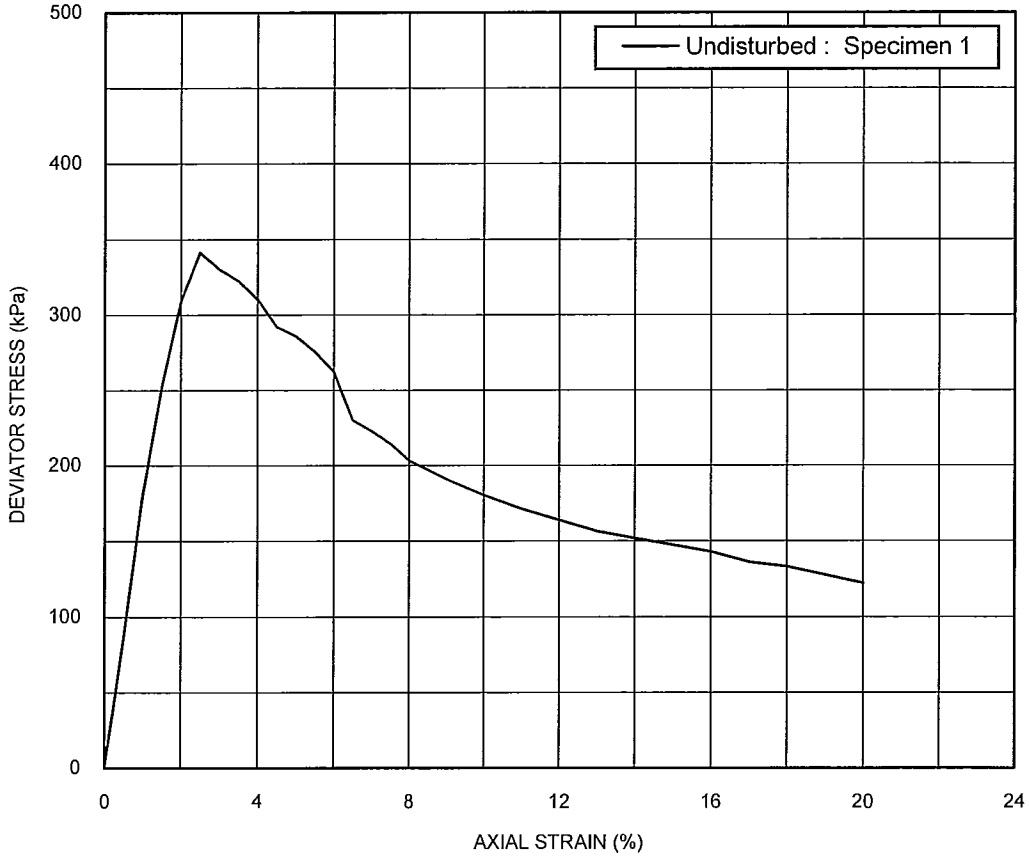
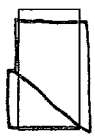
Drawn by: SC Date: 07/07/2010



Initial Conditions	Units	Specimen 1
Sample length	mm	209.9
Sample diameter	mm	103.1
Membrane thickness	mm	0.24
Rate of strain	%/min	1.0
Bulk density	Mg/m^3	2.05
Dry density	Mg/m^3	1.63
Moisture content	%	26
Failure Conditions		
Cell pressure	kPa	390
Membrane correction	kPa	0.15
Corrected deviator stress	kPa	341
Strain at failure	%	2.5
Undrained shear strength	kPa	171

Sample Details
Borehole : BHD
Sample : -
Depth (m) : 19.50

Failure shape



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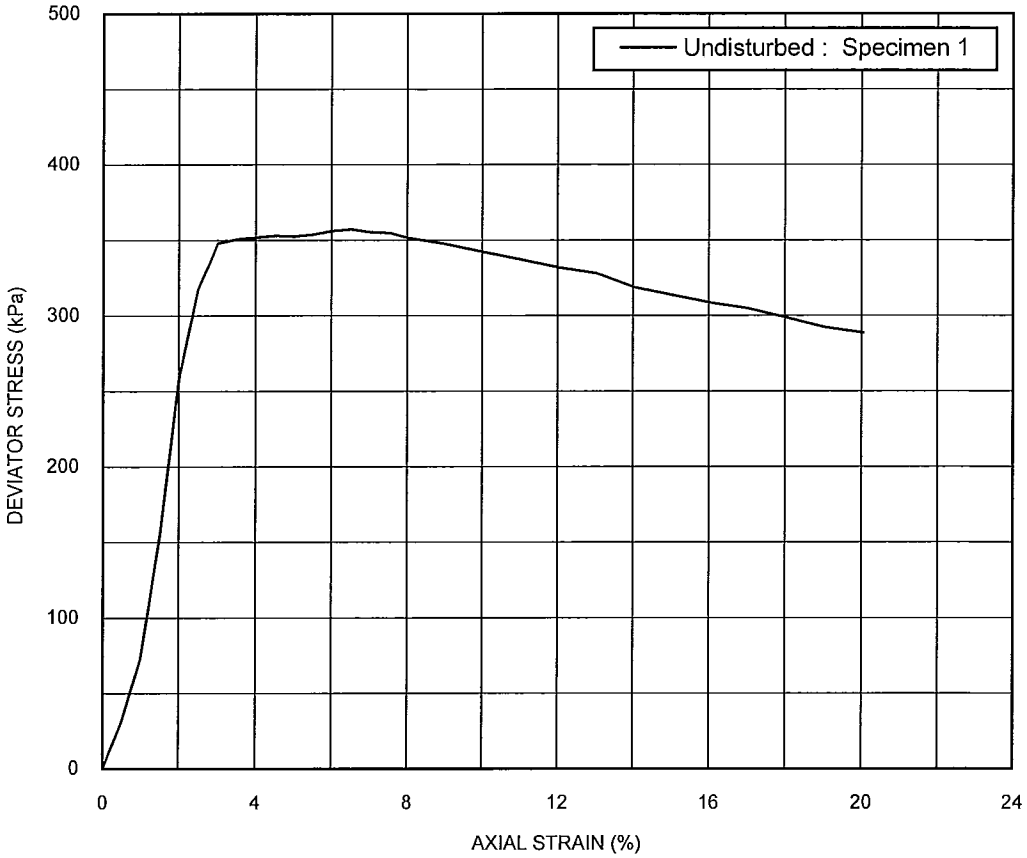
Drawn by: SC Date: 07/07/2010

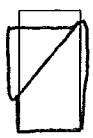


Initial Conditions	Units	Specimen 1
Sample length	mm	209.4
Sample diameter	mm	103.0
Membrane thickness	mm	0.24
Rate of strain	%/min	1.0
Bulk density	Mg/m^3	2.01
Dry density	Mg/m^3	1.58
Moisture content	%	28
Failure Conditions		
Cell pressure	kPa	450
Membrane correction	kPa	0.37
Corrected deviator stress	kPa	357
Strain at failure	%	6.5
Undrained shear strength	kPa	179

Sample Details

Borehole : BHD
Sample : -
Depth (m) : 22.50

Failure shape



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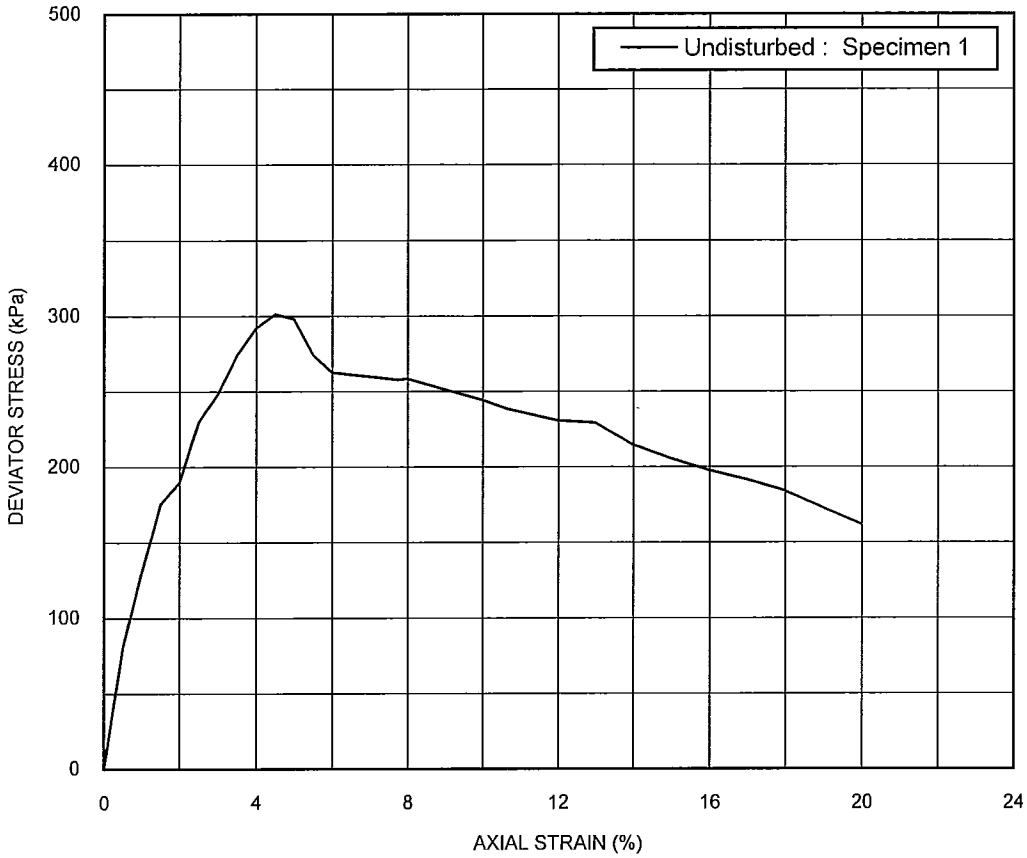
2652

Drawn by: SC Date: 07/07/2010

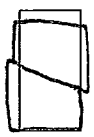


Initial Conditions	Units	Specimen 1
Sample length	mm	162.3
Sample diameter	mm	103.6
Membrane thickness	mm	0.24
Rate of strain	%/min	1.0
Bulk density	Mg/m^3	1.99
Dry density	Mg/m^3	1.58
Moisture content	%	26
Failure Conditions		
Cell pressure	kPa	510
Membrane correction	kPa	0.26
Corrected deviator stress	kPa	301
Strain at failure	%	4.5
Undrained shear strength	kPa	151

Sample Details

Borehole : BHD
Sample : -
Depth (m) : 25.50

Failure shape



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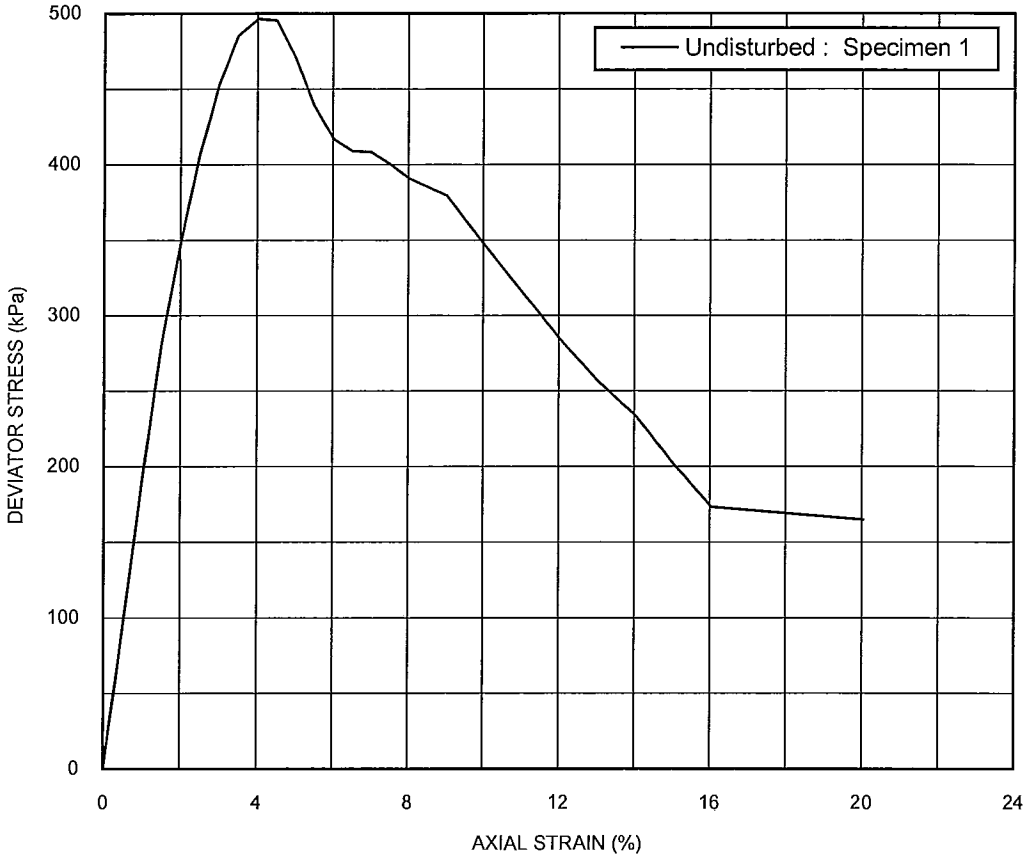
2652

Drawn by: SC Date: 07/07/2010

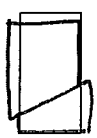


Initial Conditions	Units	Specimen 1
Sample length	mm	209.5
Sample diameter	mm	103.5
Membrane thickness	mm	0.24
Rate of strain	%/min	1.0
Bulk density	Mg/m^3	2.07
Dry density	Mg/m^3	1.61
Moisture content	%	29
Failure Conditions		
Cell pressure	kPa	570
Membrane correction	kPa	0.24
Corrected deviator stress	kPa	496
Strain at failure	%	4.0
Undrained shear strength	kPa	248

Sample Details

Borehole : BHD
Sample : -
Depth (m) : 28.50

Failure shape



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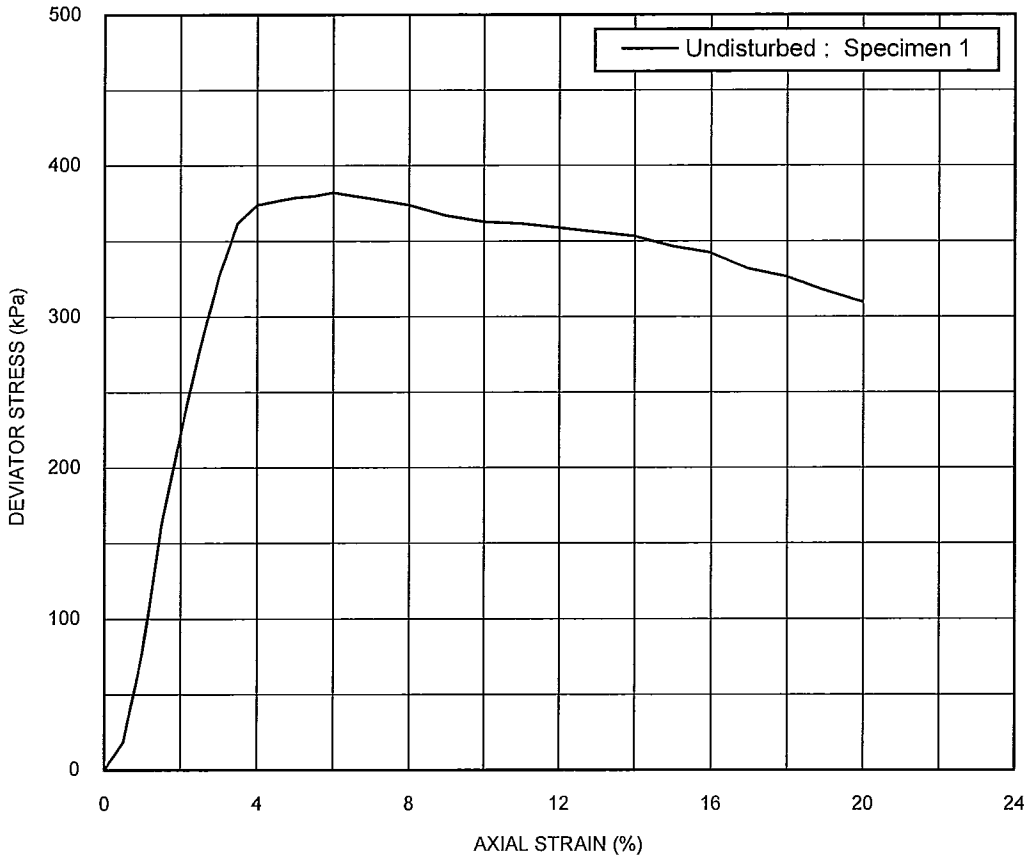
Drawn by: SC Date: 07/07/2010

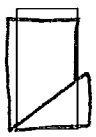


Initial Conditions	Units	Specimen 1
Sample length	mm	158.3
Sample diameter	mm	103.3
Membrane thickness	mm	0.24
Rate of strain	%/min	1.0
Bulk density	Mg/m^3	2.02
Dry density	Mg/m^3	1.62
Moisture content	%	25
Failure Conditions		
Cell pressure	kPa	630
Membrane correction	kPa	0.34
Corrected deviator stress	kPa	382
Strain at failure	%	6.0
Undrained shear strength	kPa	191

Sample Details

Borehole : BHD
Sample : -
Depth (m) : 31.50

Failure shape



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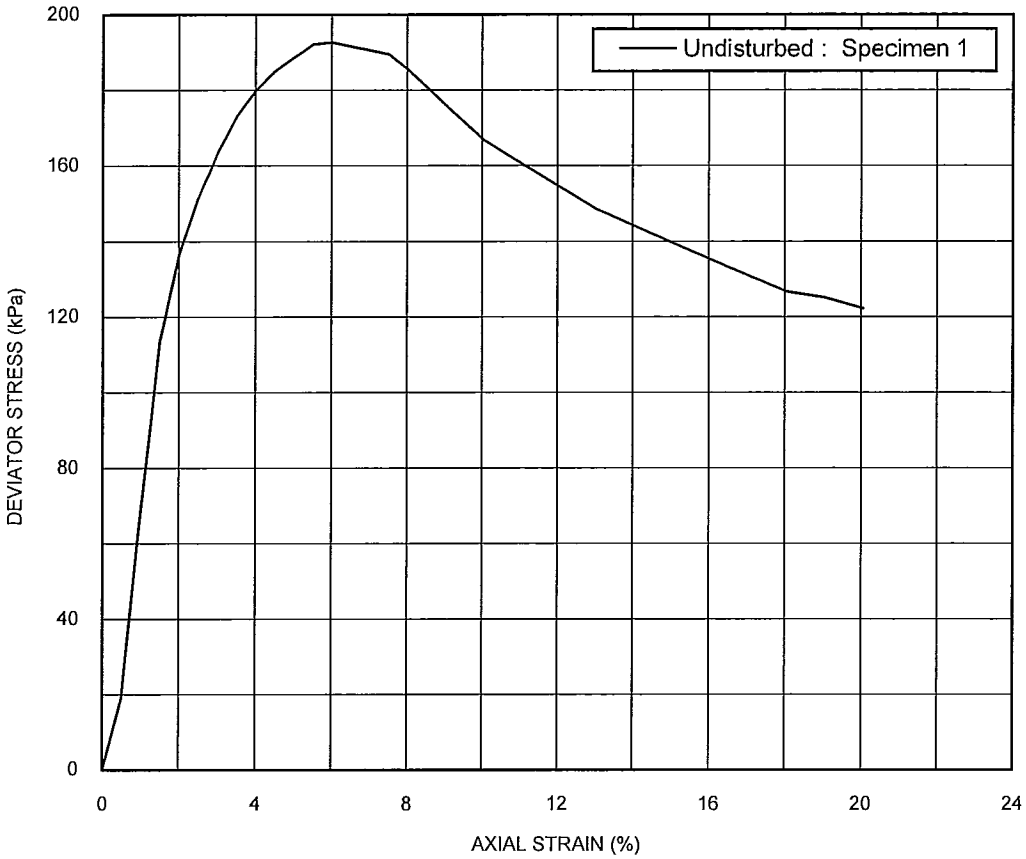
Drawn by: SC Date: 07/07/2010

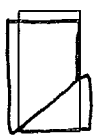


Initial Conditions	Units	Specimen 1
Sample length	mm	209.4
Sample diameter	mm	102.0
Membrane thickness	mm	0.24
Rate of strain	%/min	1.0
Bulk density	Mg/m^3	1.99
Dry density	Mg/m^3	1.54
Moisture content	%	29
Failure Conditions		
Cell pressure	kPa	210
Membrane correction	kPa	0.35
Corrected deviator stress	kPa	193
Strain at failure	%	6.0
Undrained shear strength	kPa	96

Sample Details

Borehole : BHE
Sample : -
Depth (m) : 10.50

Failure shape



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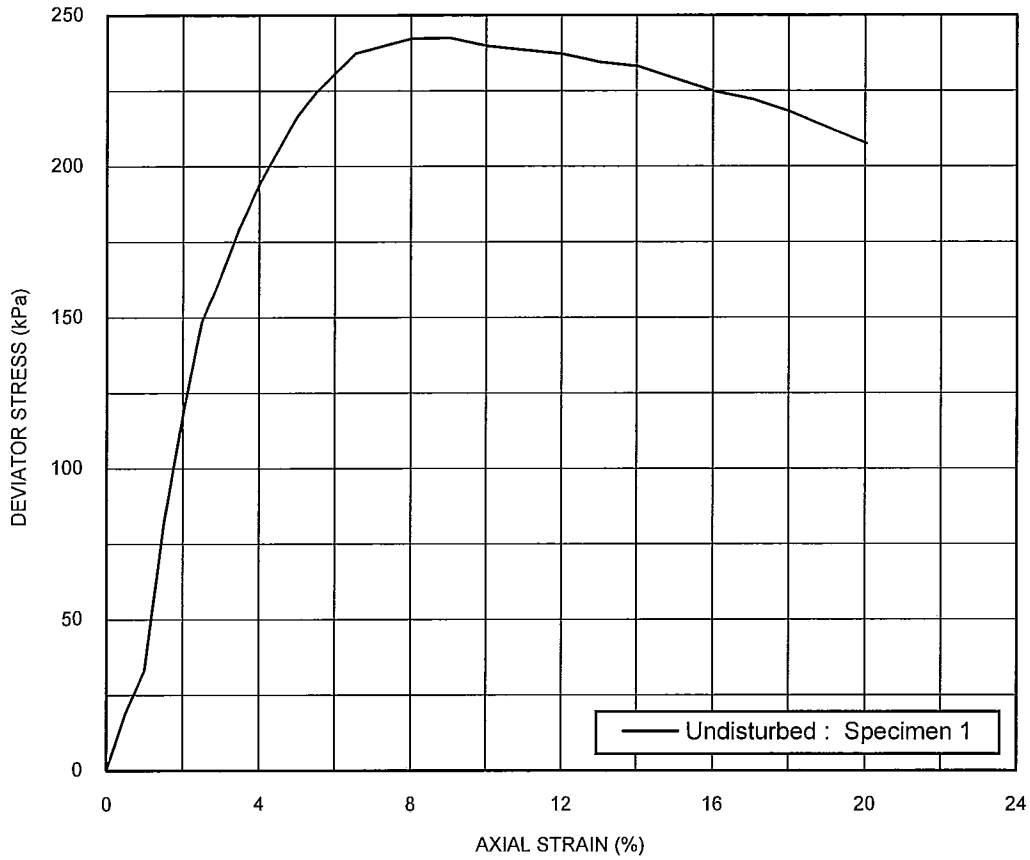
2652

Drawn by: SC Date: 07/07/2010

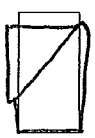


Initial Conditions	Units	Specimen 1
Sample length	mm	209.5
Sample diameter	mm	101.9
Membrane thickness	mm	0.24
Rate of strain	%/min	1.0
Bulk density	Mg/m^3	2.03
Dry density	Mg/m^3	1.62
Moisture content	%	25
Failure Conditions		
Cell pressure	kPa	270
Membrane correction	kPa	0.50
Corrected deviator stress	kPa	243
Strain at failure	%	9.0
Undrained shear strength	kPa	121

Sample Details

Borehole : BHE
Sample : -
Depth (m) : 13.50

Failure shape



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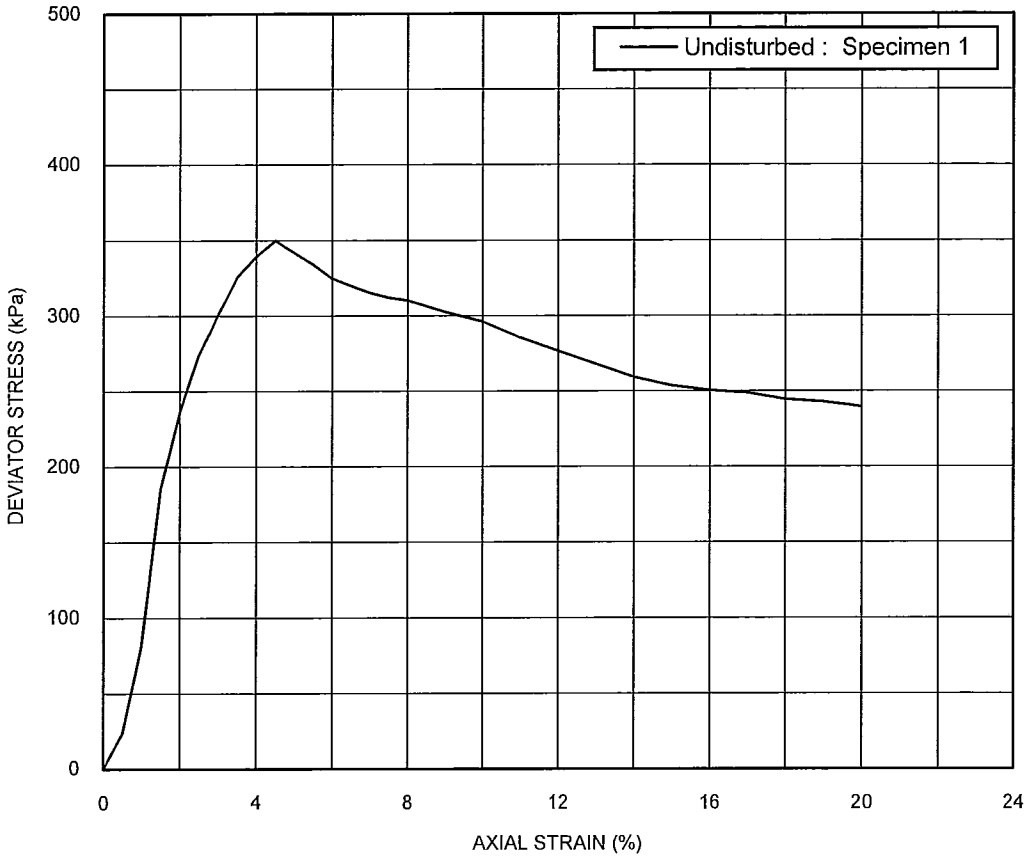
Drawn by: SC Date: 07/07/2010

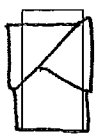


Initial Conditions	Units	Specimen 1
Sample length	mm	210.2
Sample diameter	mm	101.9
Membrane thickness	mm	0.24
Rate of strain	%/min	1.0
Bulk density	Mg/m^3	2.02
Dry density	Mg/m^3	1.59
Moisture content	%	27
Failure Conditions		
Cell pressure	kPa	330
Membrane correction	kPa	0.27
Corrected deviator stress	kPa	350
Strain at failure	%	4.5
Undrained shear strength	kPa	175

Sample Details

Borehole : BHE
Sample : -
Depth (m) : 16.50

Failure shape



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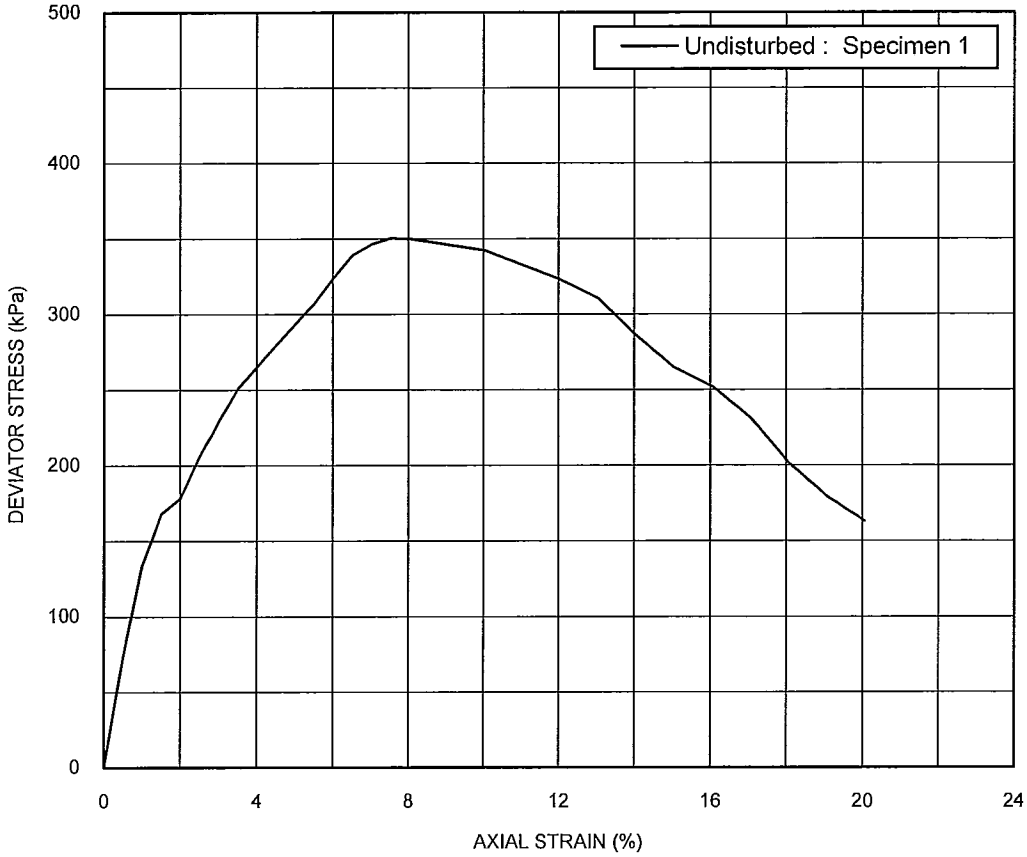
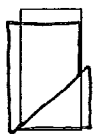


Initial Conditions	Units	Specimen 1
Sample length	mm	209.4
Sample diameter	mm	101.3
Membrane thickness	mm	0.24
Rate of strain	%/min	1.0
Bulk density	Mg/m^3	2.04
Dry density	Mg/m^3	1.64
Moisture content	%	24
Failure Conditions		
Cell pressure	kPa	390
Membrane correction	kPa	0.43
Corrected deviator stress	kPa	350
Strain at failure	%	7.5
Undrained shear strength	kPa	175

Sample Details

Borehole : BHE
Sample : -
Depth (m) : 19.50

Failure shape



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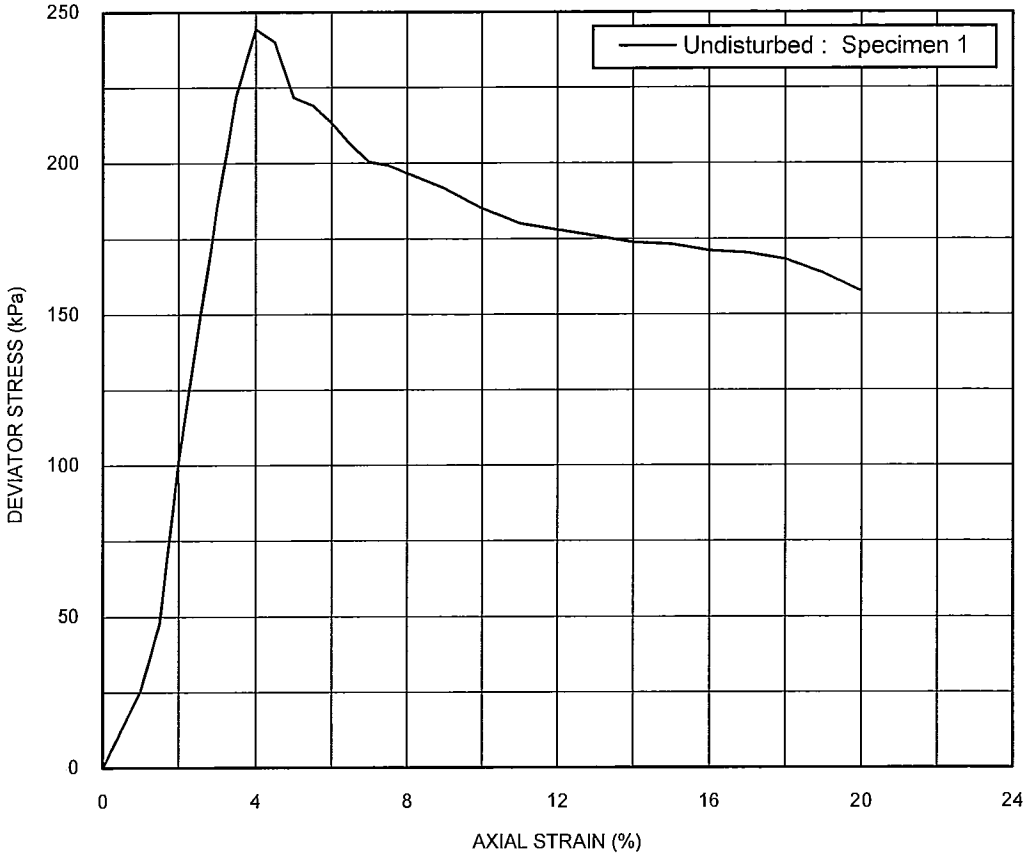
Drawn by: SC Date: 07/07/2010

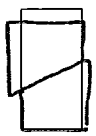


Initial Conditions	Units	Specimen 1
Sample length	mm	208.0
Sample diameter	mm	101.4
Membrane thickness	mm	0.24
Rate of strain	%/min	1.0
Bulk density	Mg/m^3	1.97
Dry density	Mg/m^3	1.55
Moisture content	%	27
Failure Conditions		
Cell pressure	kPa	450
Membrane correction	kPa	0.24
Corrected deviator stress	kPa	244
Strain at failure	%	4.0
Undrained shear strength	kPa	122

Sample Details

Borehole : BHE
Sample : -
Depth (m) : 22.50

Failure shape



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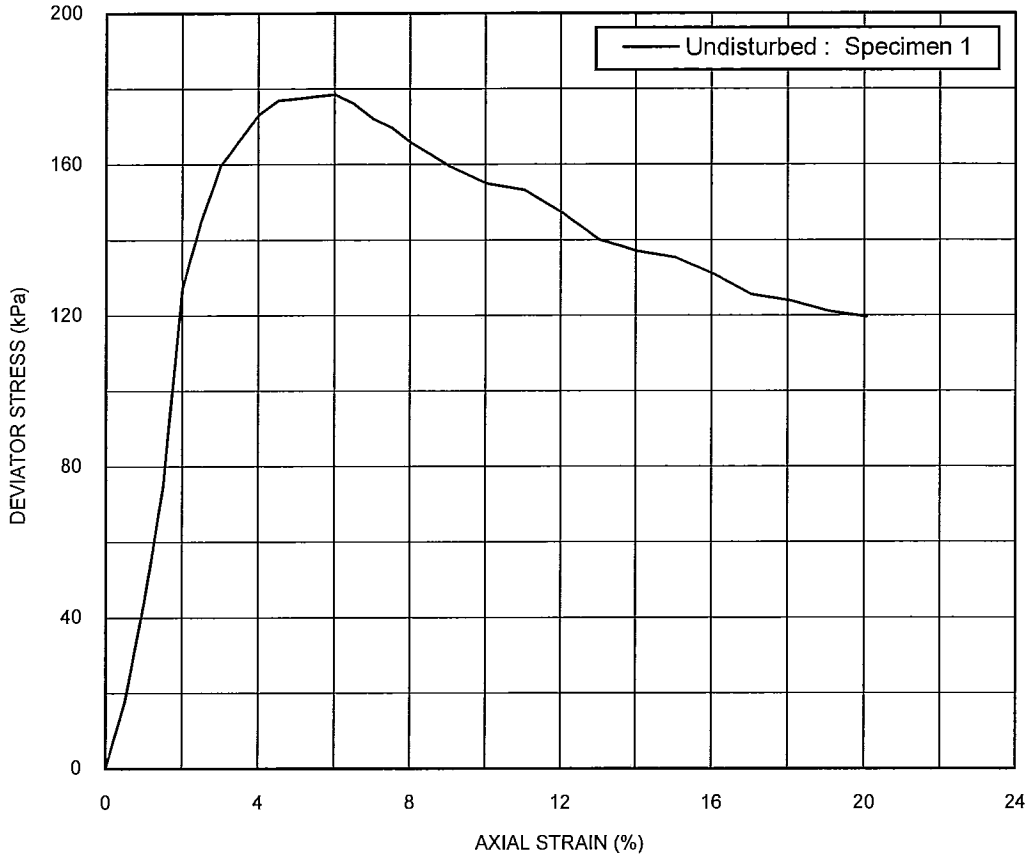
2652

Drawn by: SC Date: 07/07/2010

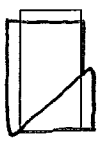


Initial Conditions	Units	Specimen 1
Sample length	mm	209.3
Sample diameter	mm	102.6
Membrane thickness	mm	0.24
Rate of strain	%/min	1.0
Bulk density	Mg/m^3	1.98
Dry density	Mg/m^3	1.53
Moisture content	%	30
Failure Conditions		
Cell pressure	kPa	150
Membrane correction	kPa	0.35
Corrected deviator stress	kPa	178
Strain at failure	%	6.0
Undrained shear strength	kPa	89

Sample Details

Borehole : BHF
Sample : -
Depth (m) : 7.50

Failure shape

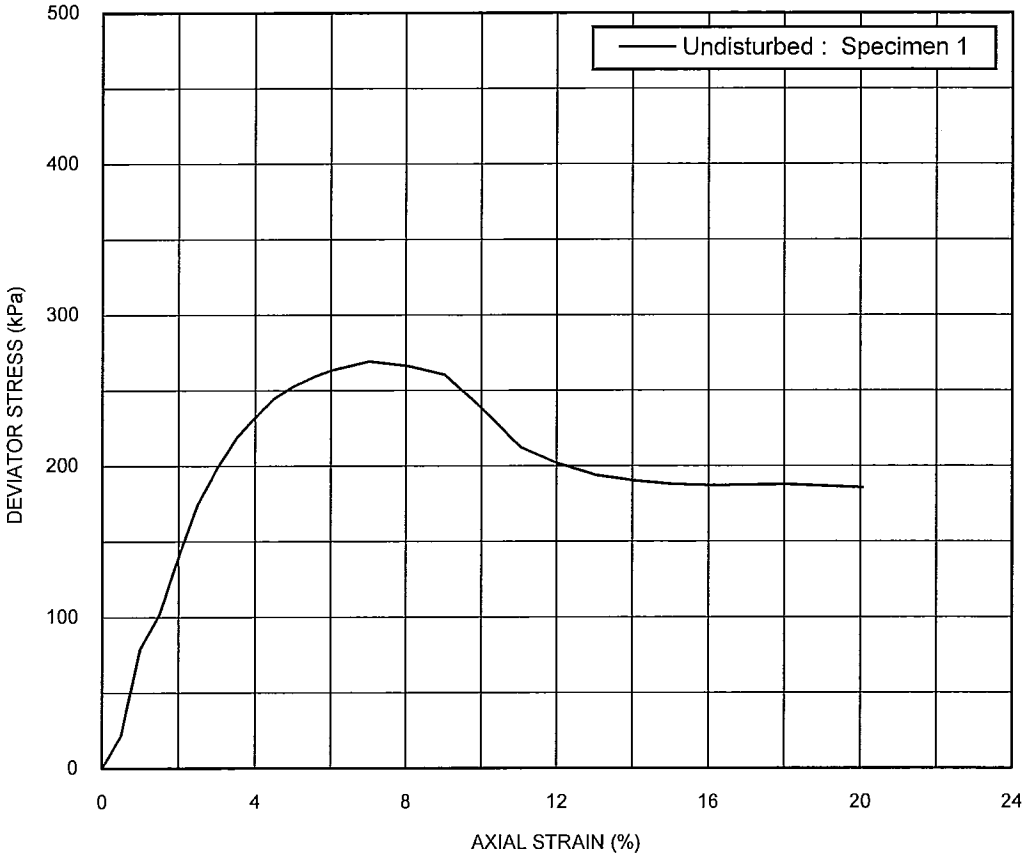


Tested in accordance with BS 1377: Part 7: 1990: Clause 8

UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TEST

2652

Drawn by: SC Date: 07/07/2010

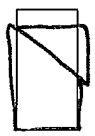


Initial Conditions	Units	Specimen 1
Sample length	mm	209.4
Sample diameter	mm	102.9
Membrane thickness	mm	0.24
Rate of strain	%/min	1.0
Bulk density	Mg/m^3	2.00
Dry density	Mg/m^3	1.59
Moisture content	%	26
Failure Conditions		
Cell pressure	kPa	210
Membrane correction	kPa	0.40
Corrected deviator stress	kPa	269
Strain at failure	%	7.0
Undrained shear strength	kPa	135

Sample Details

Borehole : BHF
Sample : -
Depth (m) : 10.50

Failure shape



Tested in accordance with BS 1377: Part 7: 1990: Clause 8

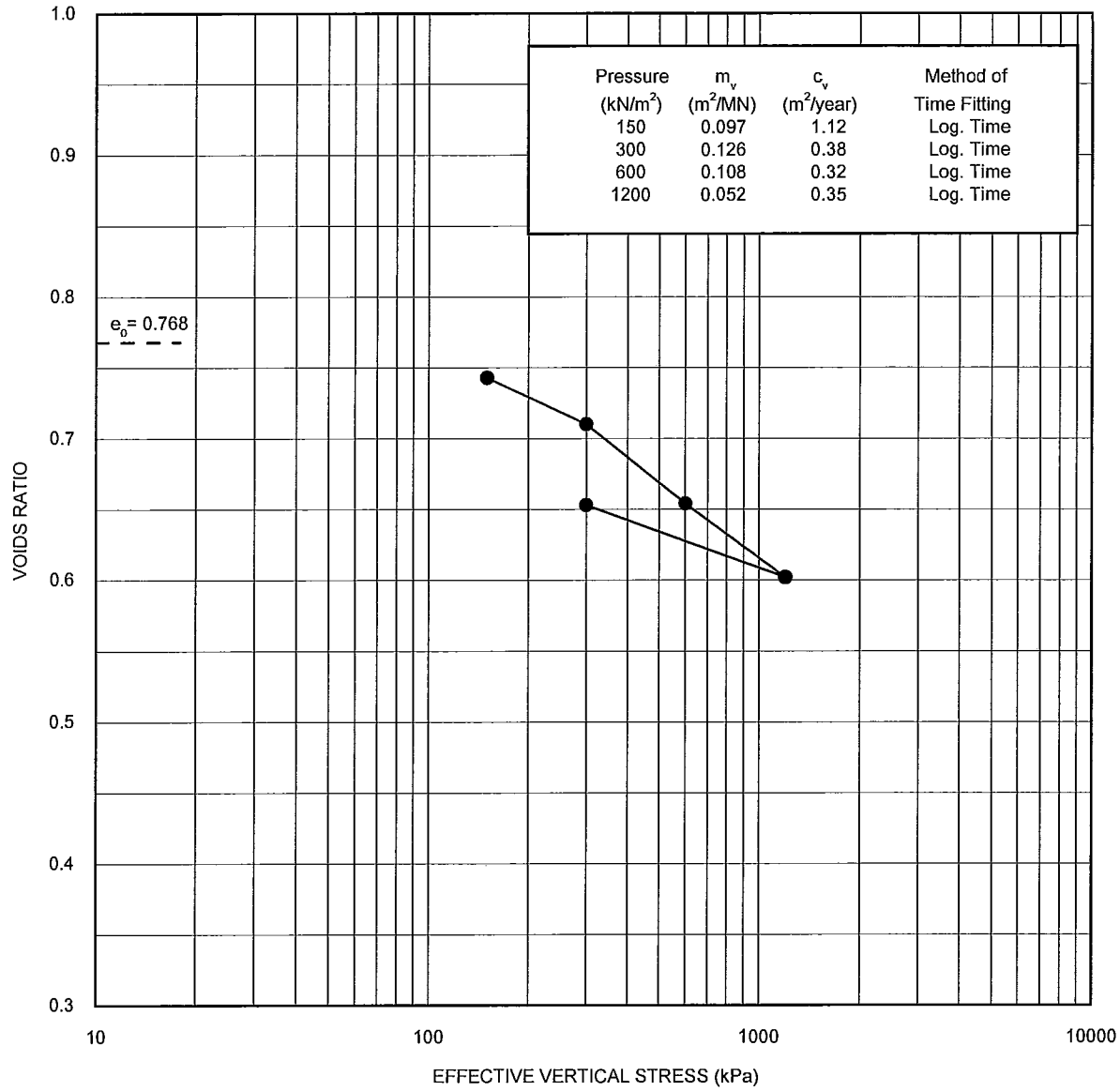
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TEST

2652

Drawn by: SC Date: 07/07/2010

Filename: 581177 \ COMPRESS \ BHD_7.50_OD.OPJ

Template Issue:



Initial Conditions					
Specimen height	: 20.0 mm	Bulk density	: 1.97 Mg/m³	Borehole	: BHD
Specimen diameter	: 75.0 mm	Dry density	: 1.53 Mg/m³	Sample	: -
Degree of saturation	: 100 %	Moisture content	: 29 %	Depth (m)	: 7.50
Particle density	: 2.70 Mg/m³ (Assumed)	Lab. temperature	: 20 °C	Specimen Depth (m)	: 7.55
Specimen condition	: Undisturbed	Swelling pressure	: N/A kPa		

Tested in accordance with BS1377: Part 5: 1990: Clause 3

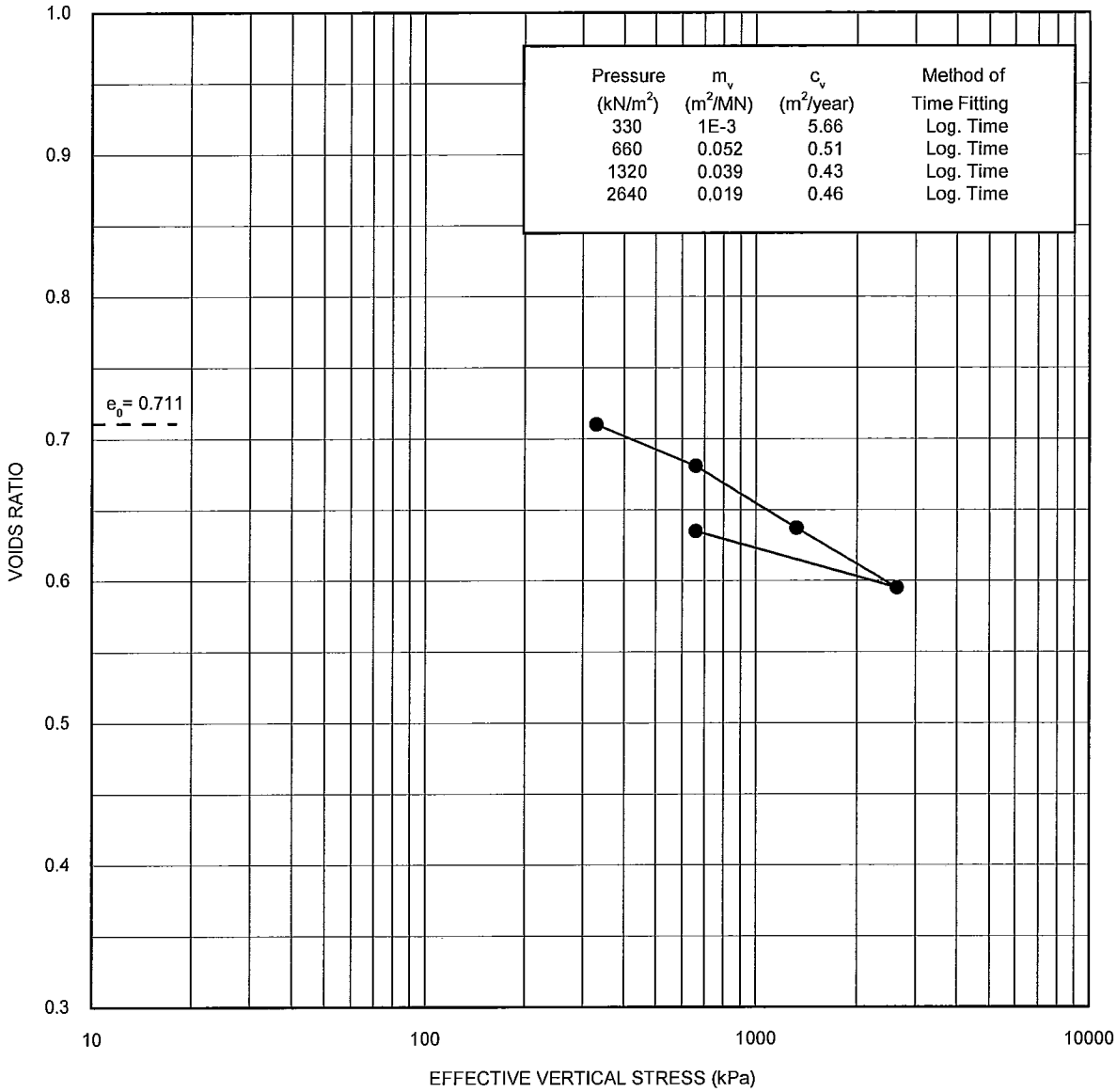
ONE - DIMENSIONAL CONSOLIDATION TEST (OEDOMETER)

2652

Drawn by: SC Date: 07/07/2010

Template Issue:

Filename: 581177 \ COMPRESS \ BHD_16.50_OD.OPJ



Initial Conditions					
Specimen height	: 20.0 mm	Bulk density	: 2.00 Mg/m³	Borehole	: BHD
Specimen diameter	: 75.0 mm	Dry density	: 1.58 Mg/m³	Sample	: -
Degree of saturation	: 100 %	Moisture content	: 26 %	Depth (m)	: 16.50
Particle density	: 2.70 Mg/m³ (Assumed)	Lab. temperature	: 20 °C	Specimen Depth (m)	: 16.55
Specimen condition	: Undisturbed	Swelling pressure	: N/A kPa		

Tested in accordance with BS1377: Part 5: 1990: Clause 3

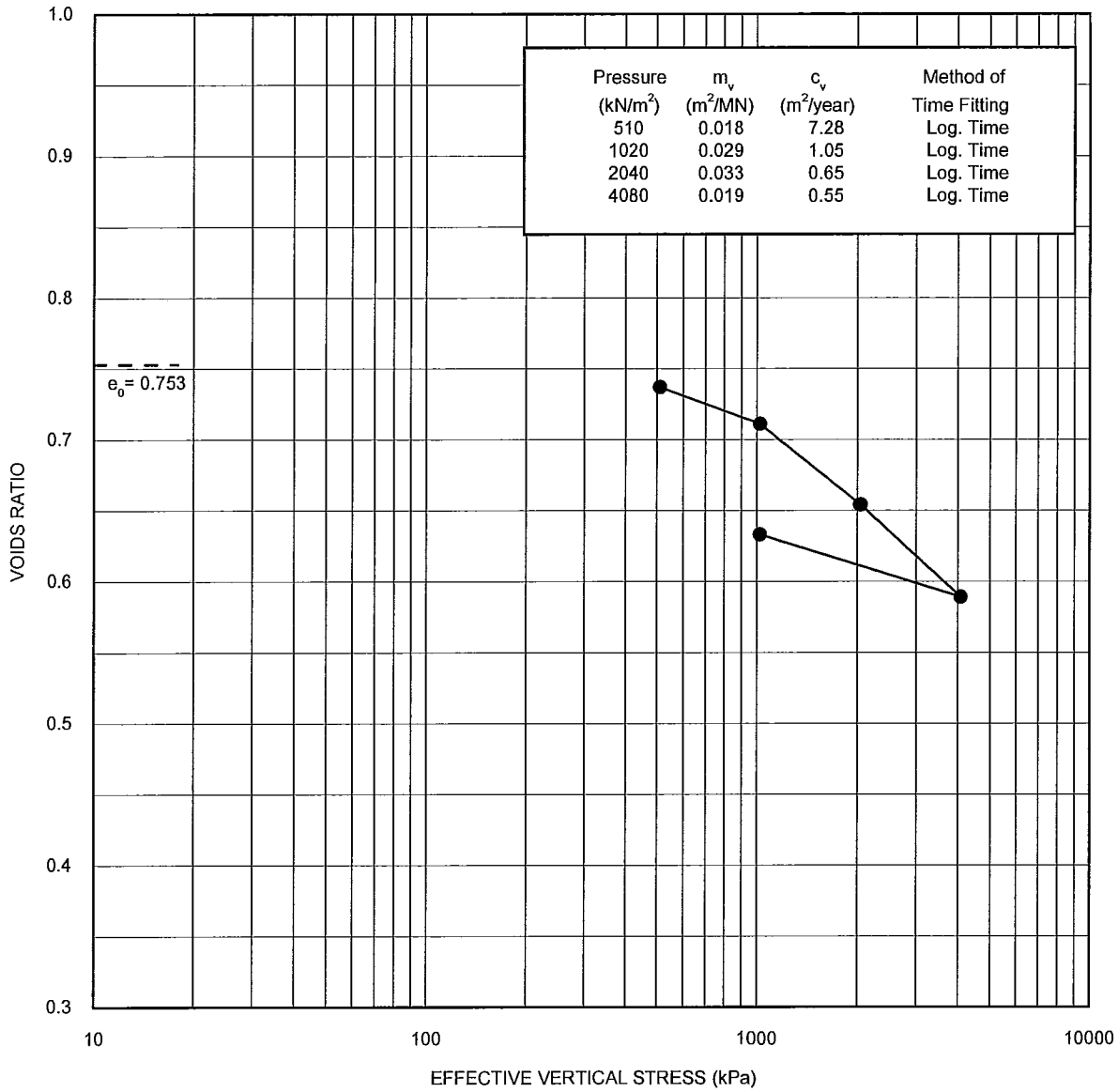
ONE - DIMENSIONAL CONSOLIDATION TEST (OEDOMETER)

2652

Drawn by: SC Date: 07/07/2010

Template Issue:

Filename: 581177 \ COMPRESS \ BHD_25.50_OD.OPJ



Initial Conditions					
Specimen height	: 20.0 mm	Bulk density	: 1.95 Mg/m³	Borehole	: BHD
Specimen diameter	: 50.0 mm	Dry density	: 1.54 Mg/m³	Sample	: -
Degree of saturation	: 96 %	Moisture content	: 27 %	Depth (m)	: 25.50
Particle density	: 2.70 Mg/m³ (Assumed)	Lab. temperature	: 20 °C	Specimen Depth (m)	: 25.55
Specimen condition	: Undisturbed	Swelling pressure	: N/A kPa		

Tested in accordance with BS1377: Part 5: 1990: Clause 3

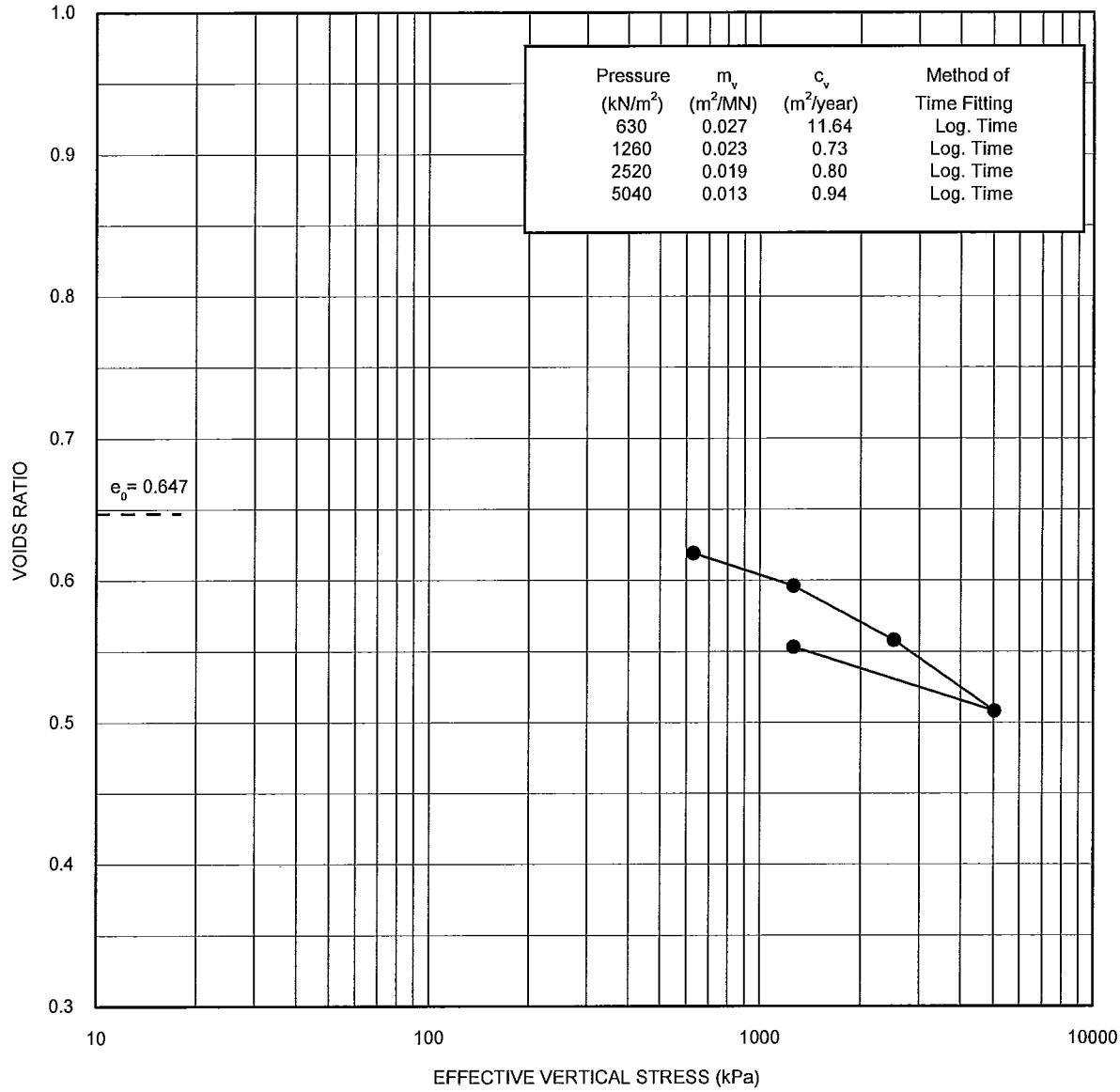
ONE - DIMENSIONAL CONSOLIDATION TEST (OEDOMETER)

2652

Drawn by: SC Date: 07/07/2010

Filename: 581177 \ COMPRESS \ BHD_31.50_OD.OPJ

Template Issue:



Initial Conditions					
Specimen height	: 20.0 mm	Bulk density	: 2.04 Mg/m³	Borehole	: BHD
Specimen diameter	: 50.0 mm	Dry density	: 1.64 Mg/m³	Sample	: -
Degree of saturation	: 100 %	Moisture content	: 24 %	Depth (m)	: 31.50
Particle density	: 2.70 Mg/m³ (Assumed)	Lab. temperature	: 20 °C	Specimen Depth (m)	: 31.55
Specimen condition	: Undisturbed	Swelling pressure	: N/A kPa		

Tested in accordance with BS1377: Part 5: 1990: Clause 3

ONE - DIMENSIONAL CONSOLIDATION TEST (OEDOMETER)

UKAS TESTING
No 2652

STRUCTURAL SOILS LTD

SITE INVESTIGATION

SOIL, ROCK & MATERIAL TESTING

GEOTECHNICAL CONSULTANCY

CONTAMINATED LAND ASSESSMENT

Andrew Kent
RSK STATS Geoconsult Limited
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

16th July 2010

TESTING REPORT

YOUR REF: 241458

SITE: TWICKENHAM STATION

CERTIFICATE NUMBER: 581203

DATE SAMPLES RECEIVED: 2nd July 2010
DATE TESTING COMMENCED: 2nd July 2010

DATE OF SAMPLE DISPOSAL: 16th August 2010

INSTRUCTIONS: Please carry out Moisture Content, Atterberg Limit, Particle Size Distribution and Quick Undrained Triaxial tests on the samples provided.

Dear Mr Kent,

I have pleasure in enclosing the test report for the above project that you submitted to us for testing.

Yours sincerely

Paul Kent
Laboratory Manager

Enc.

18 FROGMORE ROAD
HEMEL HEMPSTEAD
HERTS
HP3 9RT
TEL: 01442 416660
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HEAD OFFICE:
Bristol

BRANCH OFFICE:
Castleford
West Yorkshire

SUMMARY OF MOISTURE CONTENT TESTING

Exploratory Position ID	Depth (m)	Sample Ref	Sample Type	Moisture Content (%)
BHA	9.00		D	29
BHA	12.00		D	29
BHA	14.90		D	28
BHB	8.50		D	26
BHB	13.40		D	28
BHC	7.00		D	28
BHC	11.90		D	30
BHC	14.90		D	27
BHD	8.90		D	29
BHD	11.90		D	27
BHD	17.90		D	27
BHD	23.90		D	27
BHD	30.00		D	24
BHE	7.00		D	27
BHE	14.90		D	26
BHE	23.90		D	25
BHF	8.90		D	35
BHF	12.00		D	29
BHG	6.00		U	29
BHG	10.40		D	29
BHG	12.00		U	27
BHG	15.45		D	24
BHG	18.00		U	26
BHG	21.45		D	26
BHG	24.00		U	28
BHG	27.45		D	24
BHG	30.00		U	25
BHG	33.00		U	24
BHG	34.40		D	22

STRUCTURAL SOILS
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

Compiled By	Date	Checked By	Date
SC	21/07/10		

Contract: **Twickenham Station 241458**

Contract Ref: **581203**

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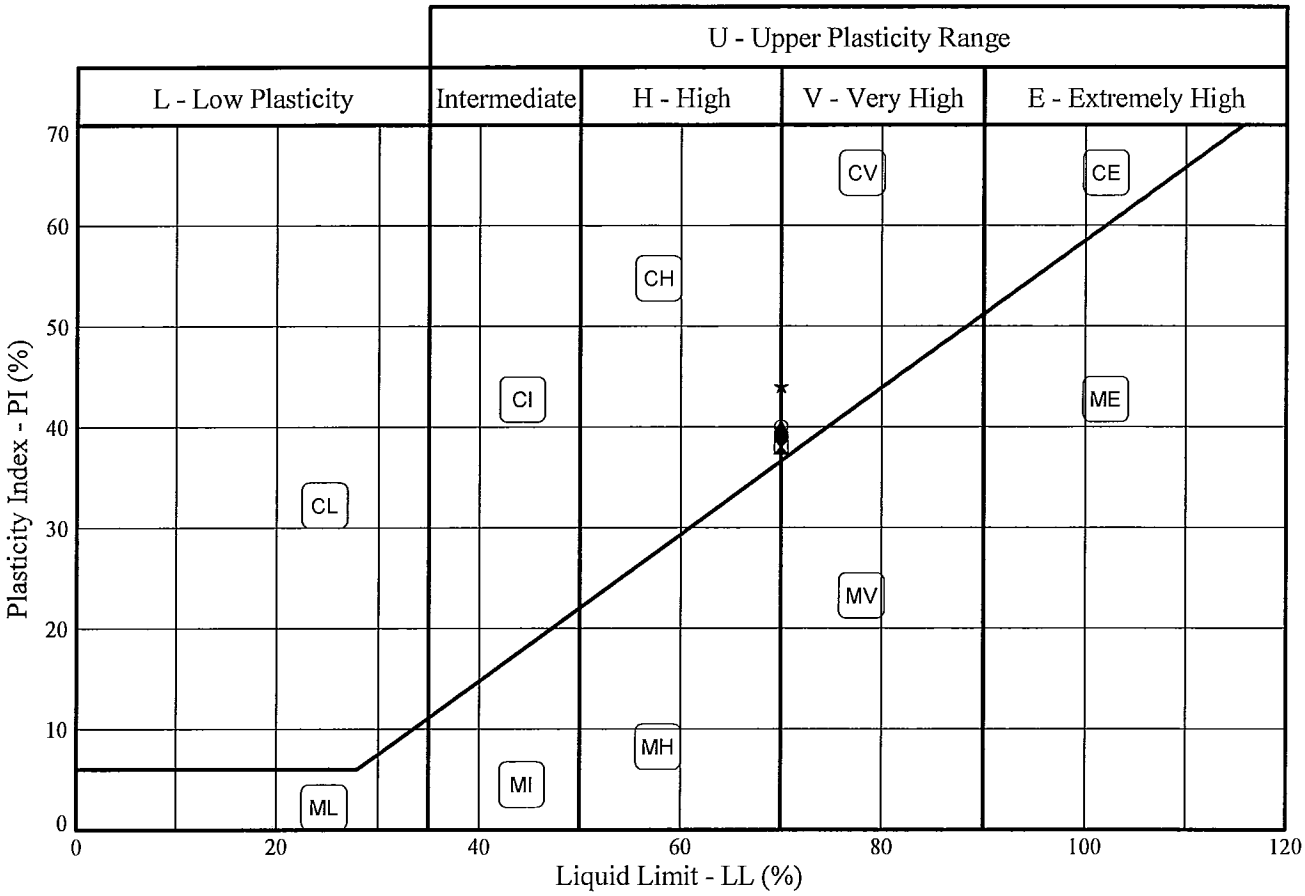
PLASTICITY CHART - PI Vs LL

In accordance with clause 42.3 of BS5930:1981
Testing in accordance with BS1377-2:1990



Sample Identification				BS Test Method #	Preparation Method +	MC %	LL %	PL %	PI %	<425um %
Exploratory Position ID		Sample	Depth (m)							
●	BHG	D	10.40	3.2/4.4/5.3/5.4	4.2.3	29	70	31	39	100
⊠	BHG	D	15.45	3.2/4.4/5.3/5.4	4.2.3	24	70	32	38	100
▲	BHG	D	21.45	3.2/4.4/5.3/5.4	4.2.3	26	70	30	40	100
★	BHG	D	27.45	3.2/4.4/5.3/5.4	4.2.3	24	70	26	44	100
⊙	BHG	D	34.40	3.2/4.4/5.3/5.4	4.2.3	22	70	30	40	100

Tested in accordance with the following clauses of BS1377-2:1990.

3.2 - Moisture Content
4.3 - Cone Penetrometer Method
4.4 - One Point Cone Penetrometer Method
4.6 - One Point Casagrande Method
5.3 - Plastic Limit Method
5.4 - Plasticity Index

+ Tested in accordance with the following clauses of BS1377-2:1990.

4.2.3 - Natural State
4.2.4 - Wet Sieved

Key: * = Non standard test, NP = Non plastic.

STRUCTURAL SOILS
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

Compiled By		Date
SC	SHARON CAIRNS	16/07/10

Contract: **Twickenham Station 241458**

Job No: **581203**

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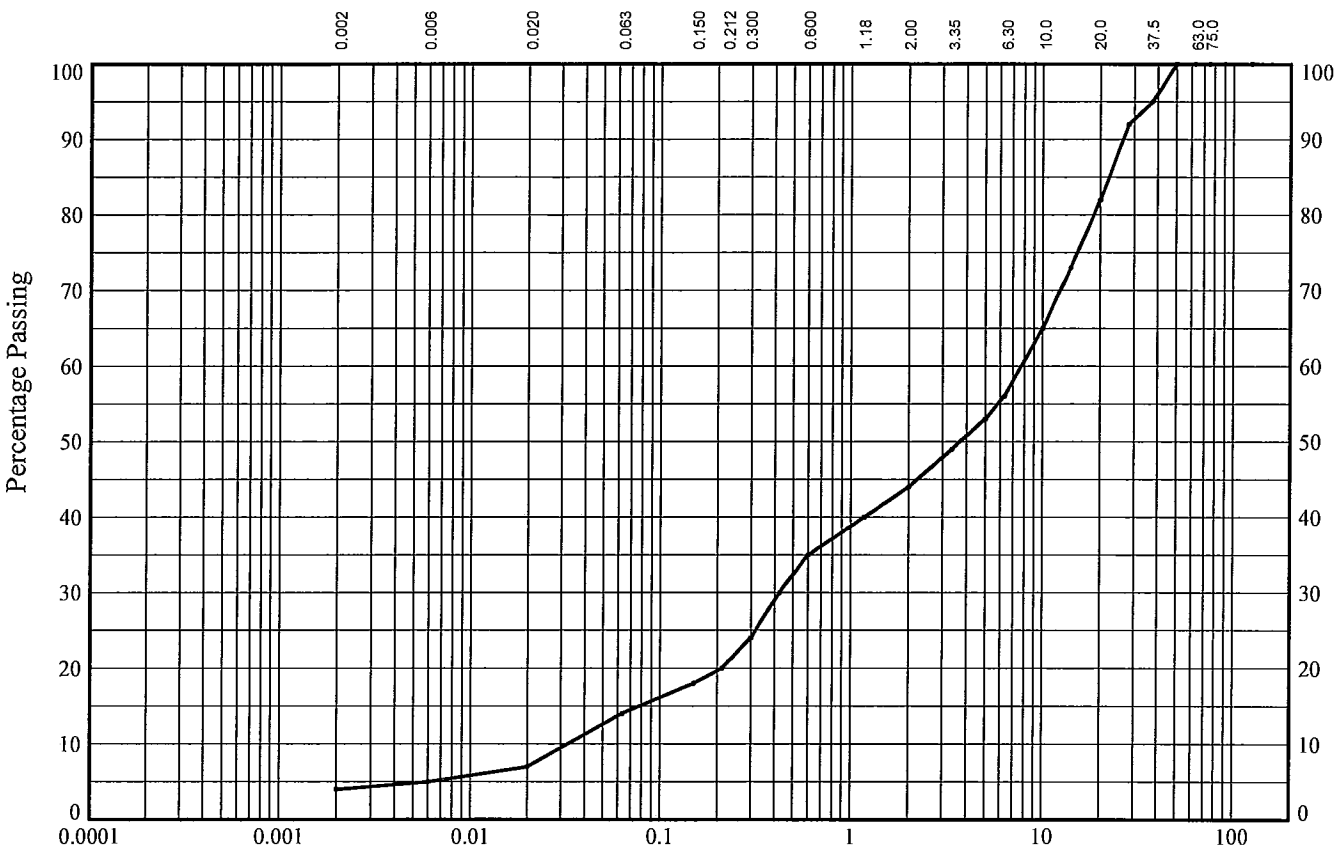
PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 9.2,9.4 of BS1377:Part 2:1990

Borehole : **BHA** Sample Ref: Sample Type: **B** Depth (m): **3.50**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	SILT			SAND			GRAVEL			

BS Test Sieve (mm)	Percentage Passing
125	100
90	100
75	100
63	100
50	100
37.5	95
28	92
20	82
14	73
10	65
6.3	56
5	53
3.35	49
2	44
1.18	40
0.6	35
0.425	30
0.3	24
0.212	20
0.15	18
0.063	14

Particle Diameter	Percentage Passing
0.02	**7**
0.006	**5**
0.002	**4**

Soil Fraction	Sieve Percentage
GRAVEL	**56**
SAND	**30**
SILT	**10**
CLAY	**4**

Soil Description:

STRUCTURAL SOILS
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

Compiled By		Date
SC	SHARON CAIRNS	16/07/10

Contract: **Twickenham Station 241458**

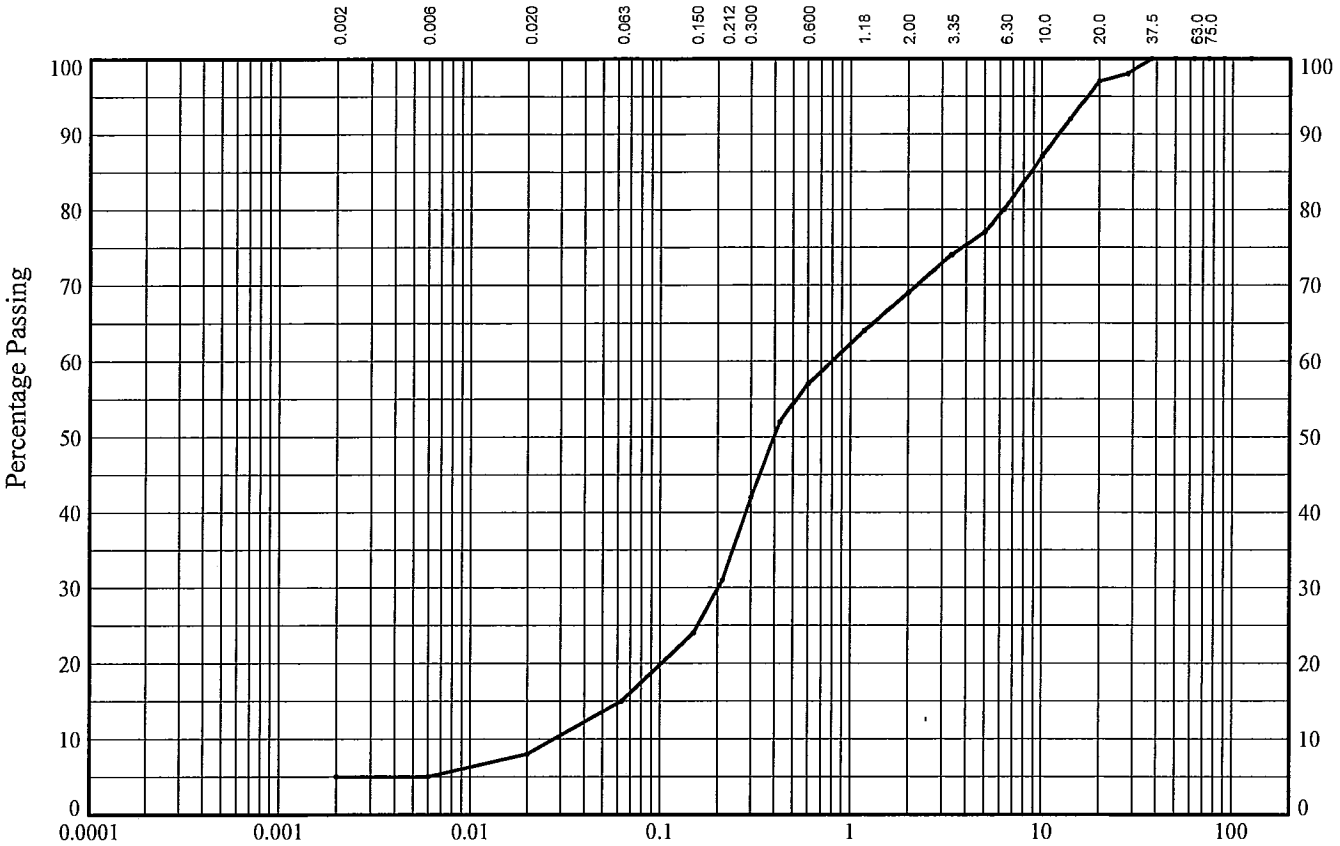
Job No: **581203**

AGS

PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 9.2,9.4 of BS1377:Part 2:1990

Borehole : **BHA** Sample Ref: Sample Type: **B** Depth (m): **4.50**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	SILT			SAND			GRAVEL			

BS Test Sieve (mm)	Percentage Passing
125	100
90	100
75	100
63	100
50	100
37.5	100
28	98
20	97
14	92
10	87
6.3	80
5	77
3.35	74
2	69
1.18	64
0.6	57
0.425	52
0.3	42
0.212	31
0.15	24
0.063	15

Particle Diameter	Percentage Passing
0.02	**8**
0.006	**5**
0.002	**5**

Soil Fraction	Sieve Percentage
GRAVEL	**31**
SAND	**54**
SILT	**10**
CLAY	**5**

Soil Description:

STRUCTURAL SOILS
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

Compiled By		Date
SC	SHARON CAIRNS	16/07/10

Contract: **Twickenham Station 241458**

Job No: **581203**

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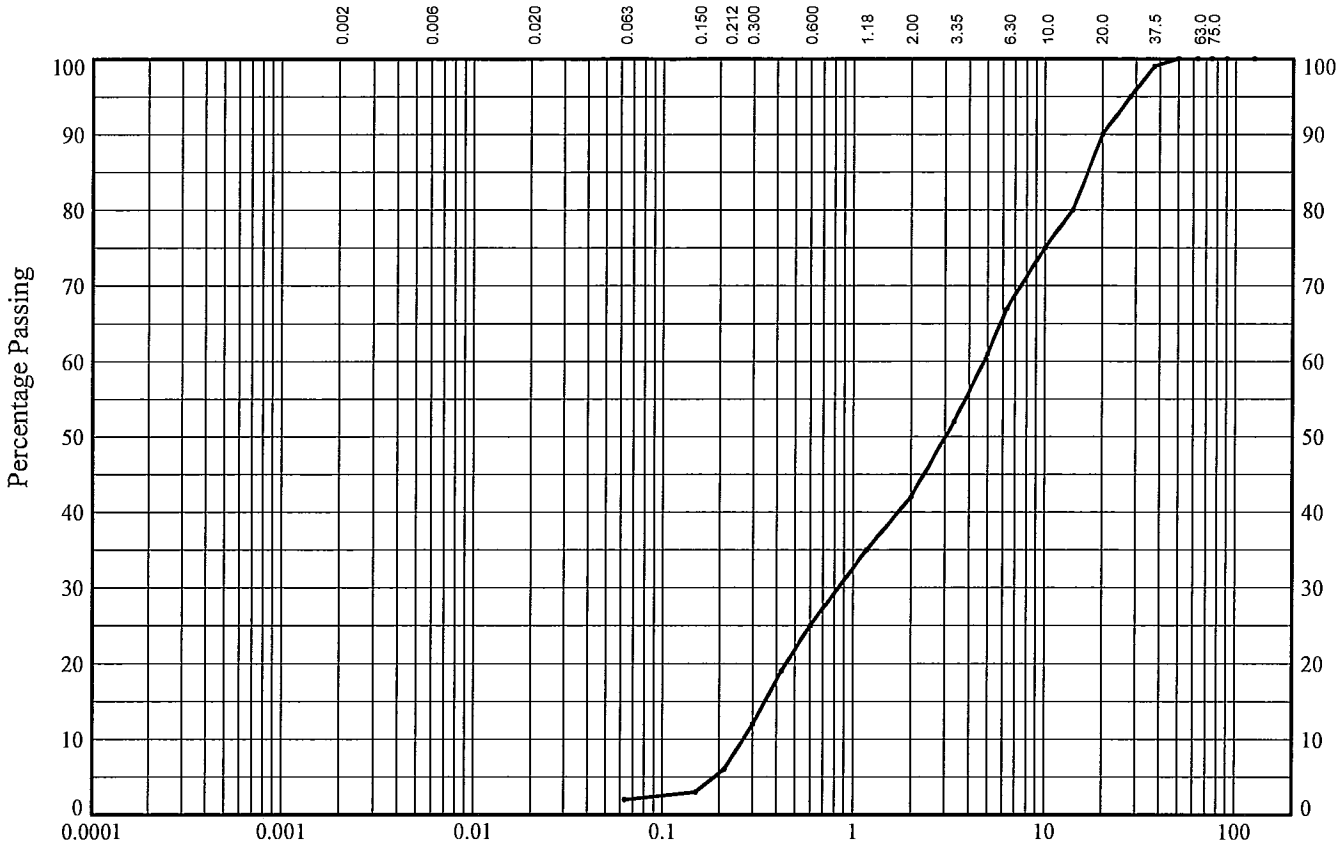
PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 9.2,9.5 of BS1377:Part 2:1990

Borehole : **BHB** Sample Ref: Sample Type: **B** Depth (m): **6.00**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	SILT			SAND			GRAVEL			

BS Test Sieve (mm)	Percentage Passing
125	100
90	100
75	100
63	100
50	100
37.5	99
28	95
20	90
14	80
10	75
6.3	67
5	61
3.35	52
2	42
1.18	35
0.6	25
0.425	19
0.3	12
0.212	6
0.15	3
0.063	2

Particle Diameter	Percentage Passing

Soil Fraction	Sieve Percentage
GRAVEL	**58**
SAND	**40**
SILT/CLAY	**2**

Soil Description:

STRUCTURAL SOILS
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

Compiled By		Date
SC	SHARON CAIRNS	16/07/10

Contract: **Twickenham Station 241458**

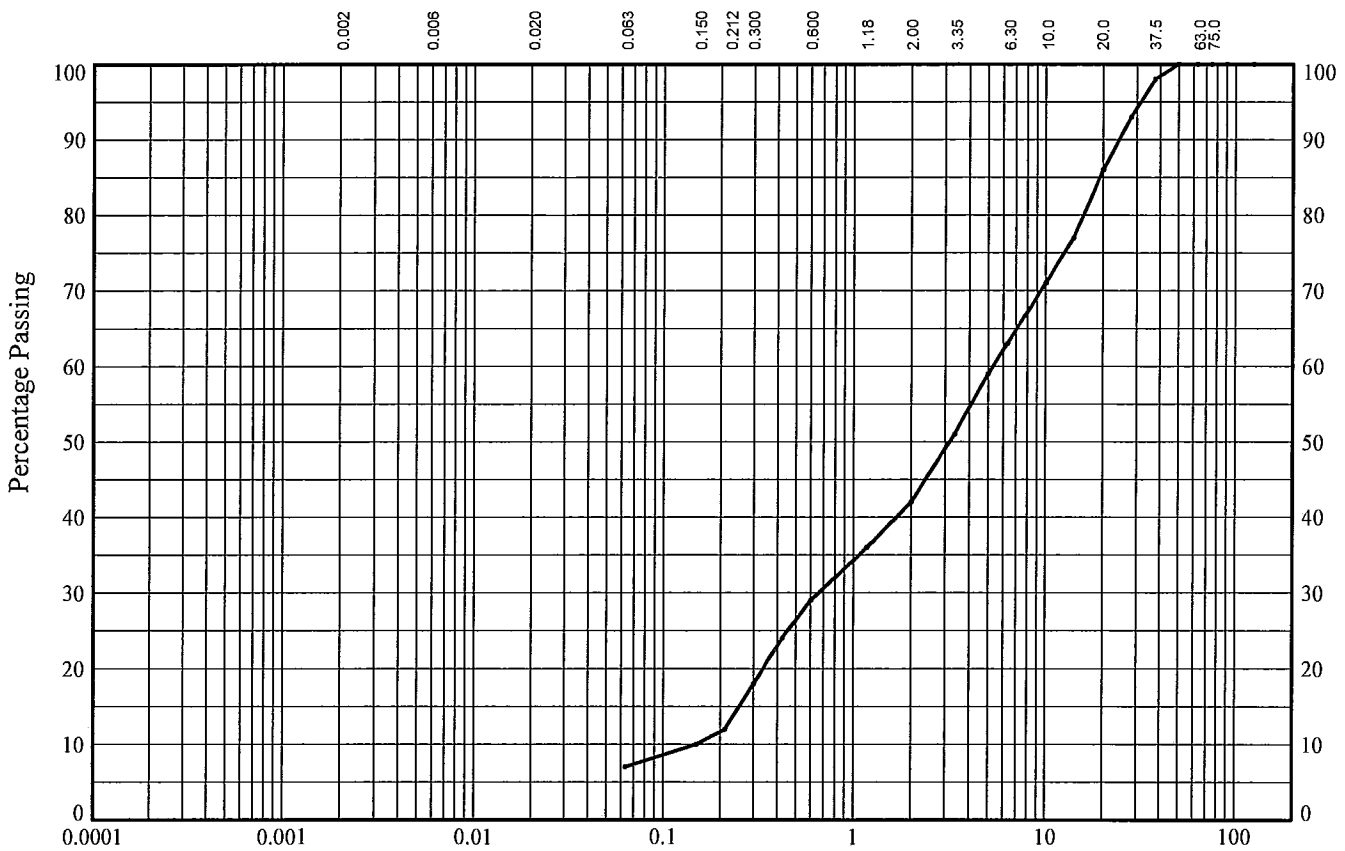
Job No: **581203**

AGS

PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 9.2,9.5 of BS1377:Part 2:1990

Borehole : **BHB** Sample Ref: Sample Type: **B** Depth (m): **7.50**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	SILT			SAND			GRAVEL			

BS Test Sieve (mm)	Percentage Passing
125	100
90	100
75	100
63	100
50	100
37.5	98
28	93
20	86
14	77
10	71
6.3	63
5	59
3.35	51
2	42
1.18	36
0.6	29
0.425	24
0.3	18
0.212	12
0.15	10
0.063	7

Particle Diameter	Percentage Passing

Soil Fraction	Sieve Percentage
GRAVEL	**58**
SAND	**35**
SILT/CLAY	7

Soil Description:

STRUCTURAL SOILS
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

Compiled By		Date
SC	SHARON CAIRNS	16/07/10

Contract: **Twickenham Station 241458**

Job No: **581203**

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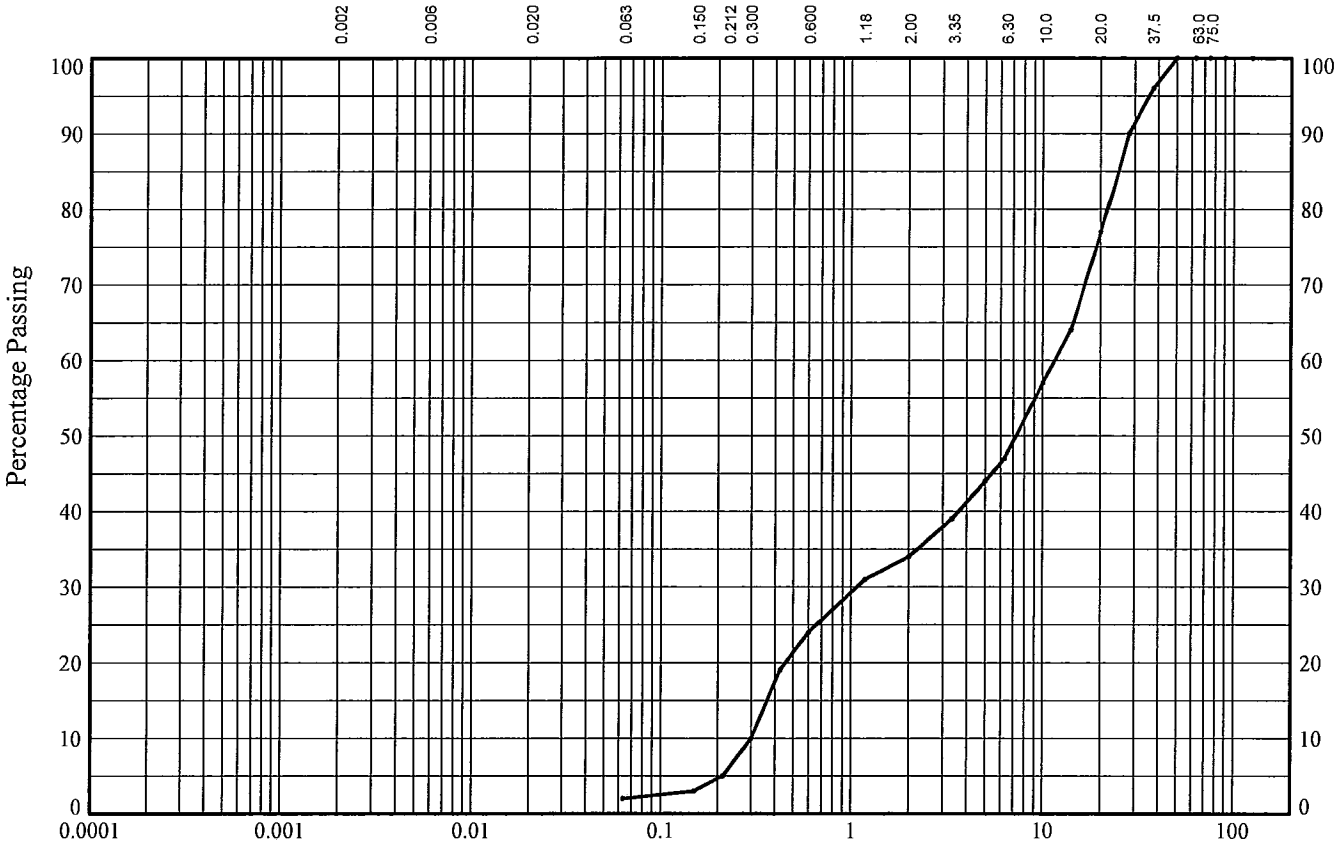
AGS

PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 9.2,9.5 of BS1377:Part 2:1990

Borehole : **BHC** Sample Ref: Sample Type: **B** Depth (m): **4.50**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	SILT			SAND			GRAVEL			

BS Test Sieve (mm)	Percentage Passing
125	100
90	100
75	100
63	100
50	100
37.5	96
28	90
20	77
14	64
10	57
6.3	47
5	44
3.35	39
2	34
1.18	31
0.6	24
0.425	19
0.3	10
0.212	5
0.15	3
0.063	2

Particle Diameter	Percentage Passing

Soil Fraction	Sieve Percentage
GRAVEL	**66**
SAND	**32**
SILT/CLAY	**2**

Soil Description:

STRUCTURAL SOILS
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

Compiled By		Date
SC	SHARON CAIRNS	16/07/10

Contract: **Twickenham Station 241458**

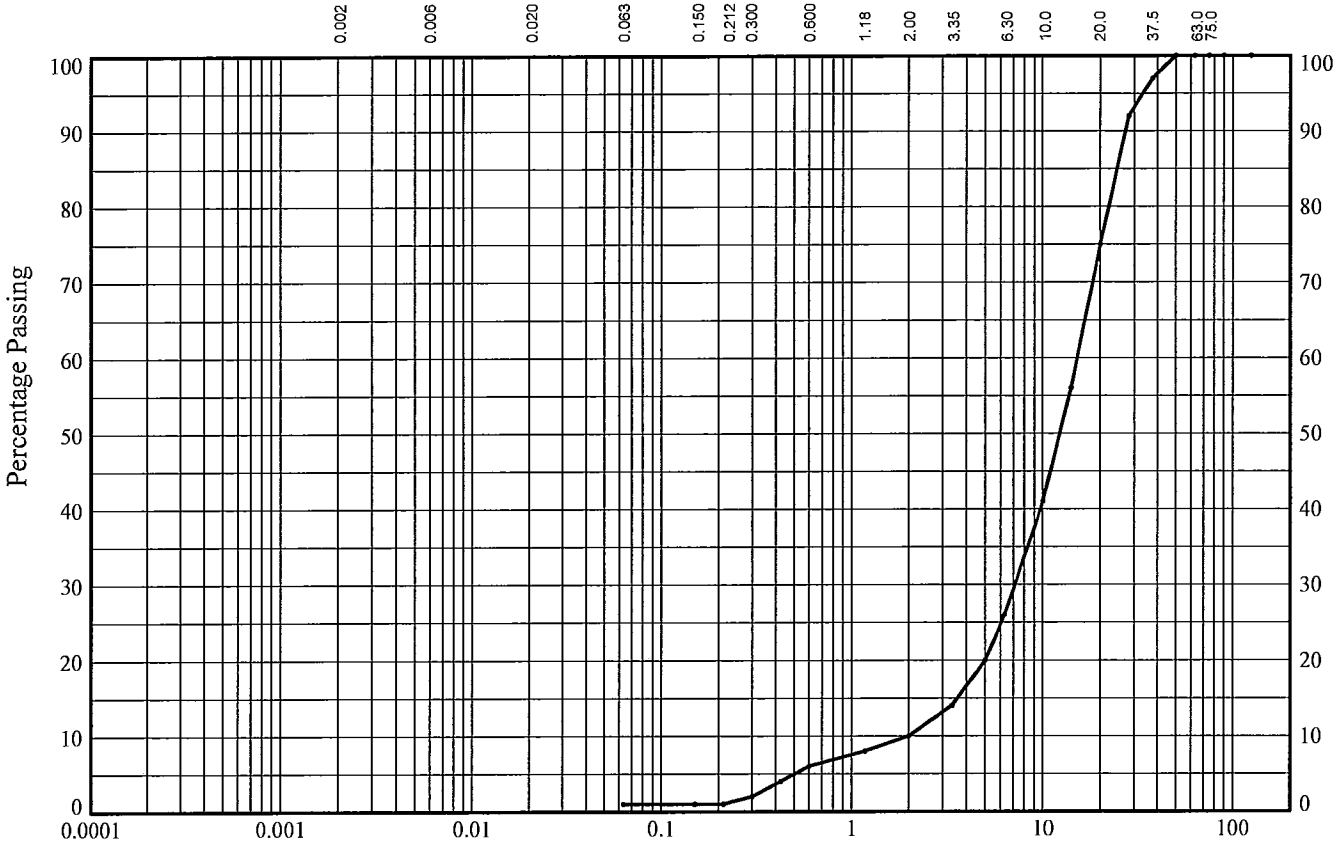
Job No: **581203**

AGS

PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 9.2,9.5 of BS1377:Part 2:1990

Borehole : **BHD** Sample Ref: Sample Type: **B** Depth (m): **2.50**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	SILT			SAND			GRAVEL			

BS Test Sieve (mm)	Percentage Passing
125	100
90	100
75	100
63	100
50	100
37.5	97
28	92
20	75
14	56
10	41
6.3	26
5	20
3.35	14
2	10
1.18	8
0.6	6
0.425	4
0.3	2
0.212	1
0.15	1
0.063	1

Particle Diameter	Percentage Passing

Soil Fraction	Sieve Percentage
GRAVEL	**90**
SAND	**9**
SILT/CLAY	**1**

Soil Description:

STRUCTURAL SOILS
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

Compiled By		Date
SC	SHARON CAIRNS	16/07/10

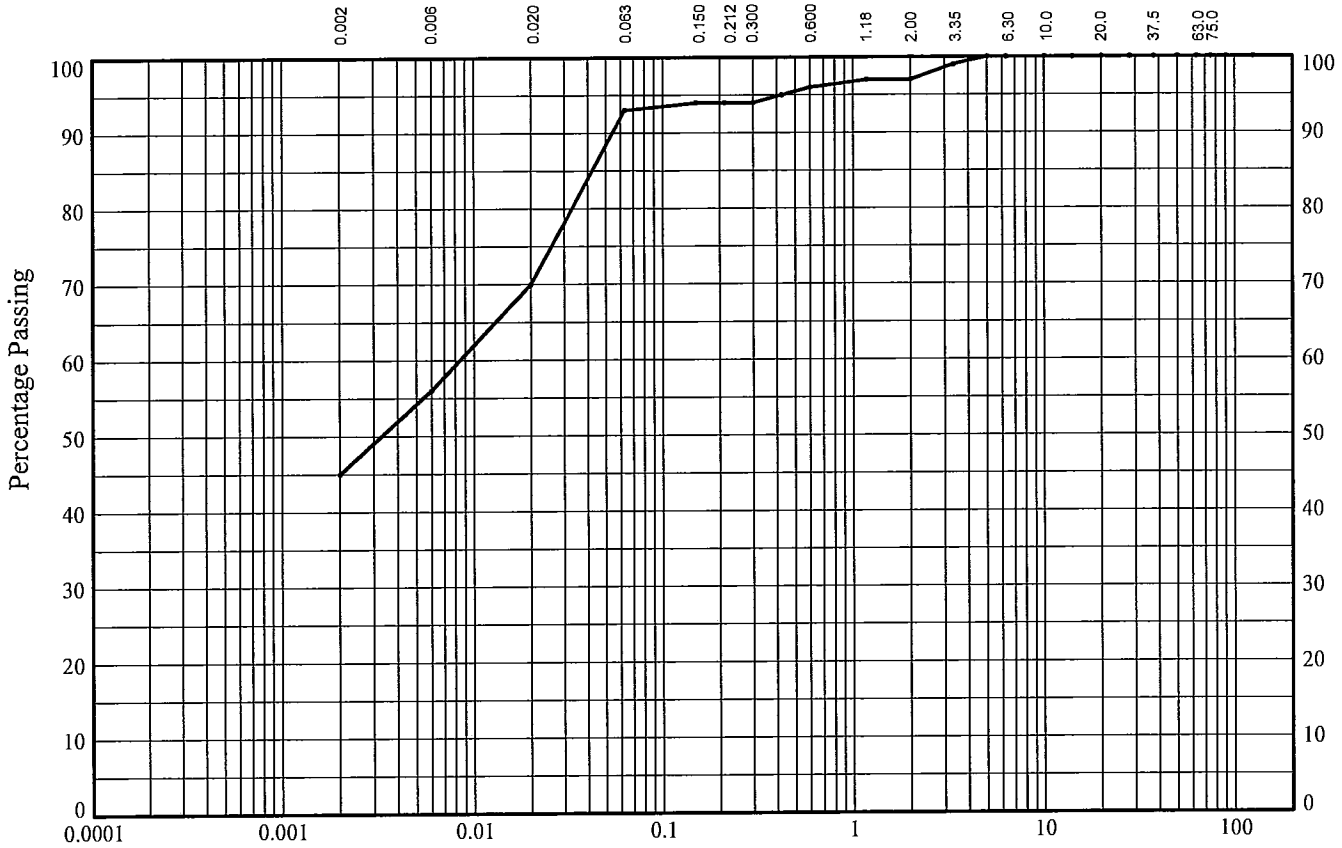
Contract: **Twickenham Station 241458**

Job No: **581203**

PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 9.2,9.4 of BS1377:Part 2:1990

Borehole : **BHD** Sample Ref: Sample Type: **B** Depth (m): **7.00**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	SILT			SAND			GRAVEL			

BS Test Sieve (mm)	Percentage Passing
125	100
90	100
75	100
63	100
50	100
37.5	100
28	100
20	100
14	100
10	100
6.3	100
5	100
3.35	99
2	97
1.18	97
0.6	96
0.425	95
0.3	94
0.212	94
0.15	94
0.063	93

Particle Diameter	Percentage Passing
0.02	**70**
0.006	**56**
0.002	**45**

Soil Fraction	Sieve Percentage
GRAVEL	**3**
SAND	**4**
SILT	**48**
CLAY	**45**

Soil Description:

STRUCTURAL SOILS
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

Compiled By	Date
SC — SHARON CAIRNS	16/07/10

Contract: **Twickenham Station 241458**

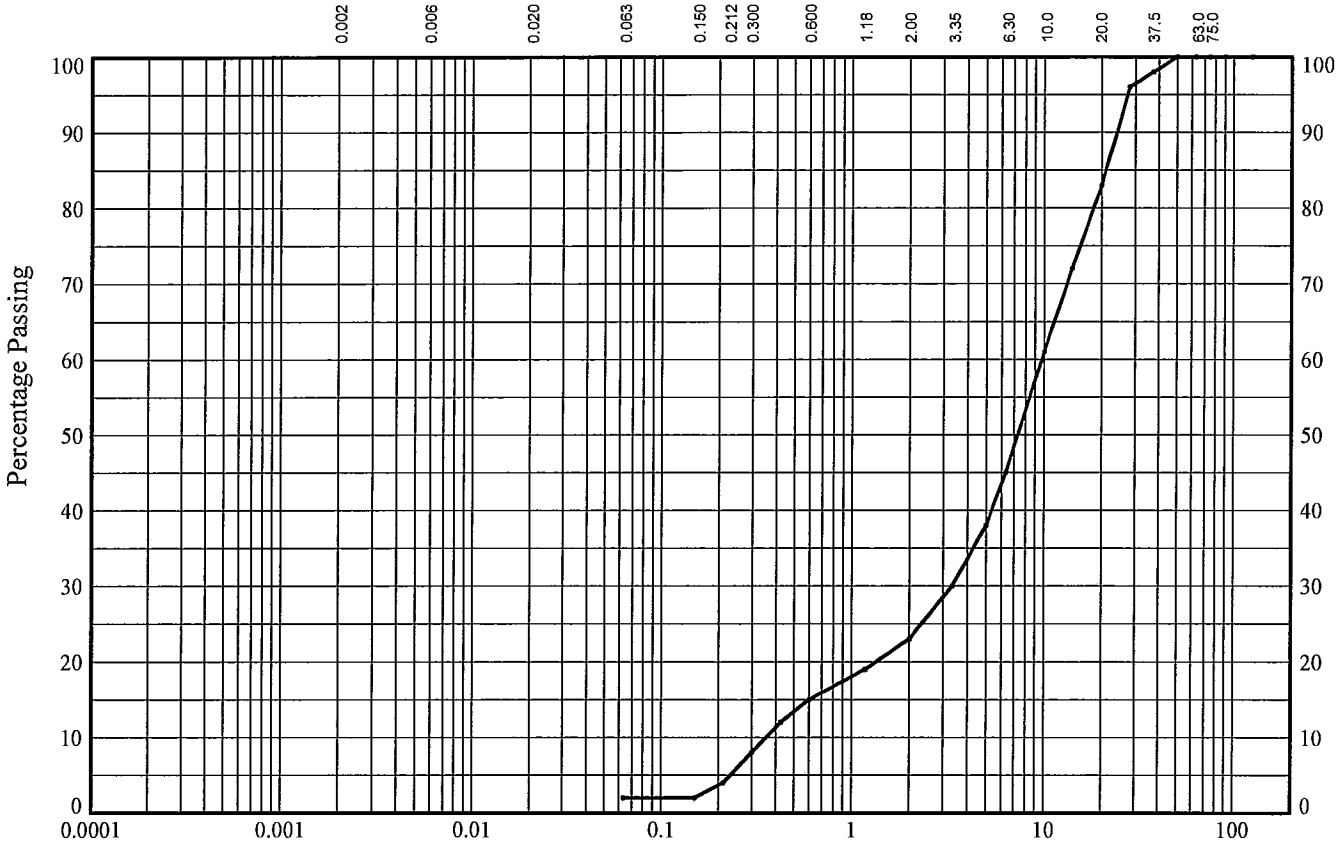
Job No: **581203**

AGS

PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 9.2,9.5 of BS1377:Part 2:1990

Borehole : **BHE** Sample Ref: Sample Type: **B** Depth (m): **3.50**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	SILT			SAND			GRAVEL			

BS Test Sieve (mm)	Percentage Passing
125	100
90	100
75	100
63	100
50	100
37.5	98
28	96
20	83
14	72
10	61
6.3	45
5	38
3.35	30
2	23
1.18	19
0.6	15
0.425	12
0.3	8
0.212	4
0.15	2
0.063	2

Particle Diameter	Percentage Passing

Soil Fraction	Sieve Percentage
GRAVEL	**77**
SAND	**21**
SILT/CLAY	**2**

Soil Description:

STRUCTURAL SOILS
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

Compiled By		Date
SC	SHARON CAIRNS	16/07/10

Contract: **Twickenham Station 241458**

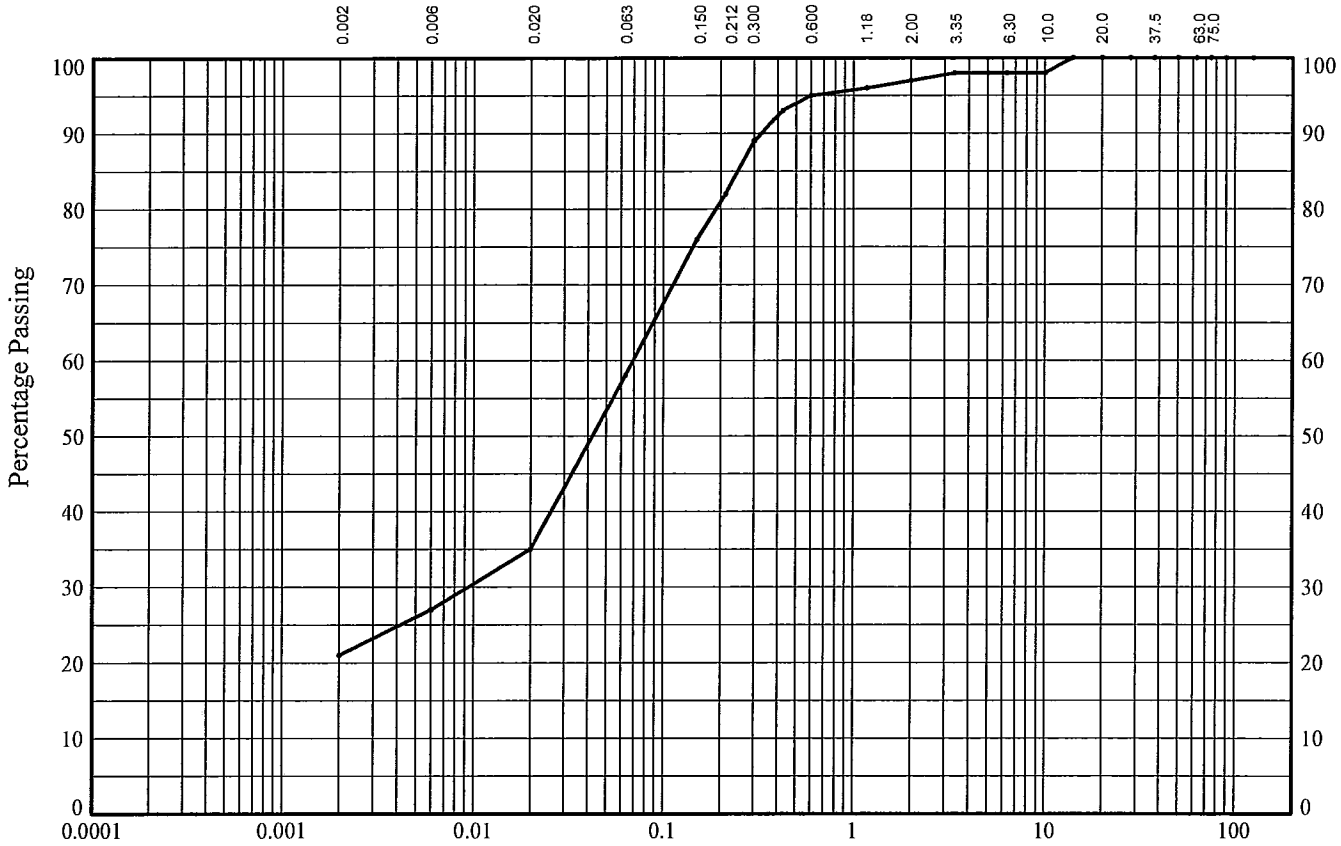
Job No: **581203**

AGS

PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 9.2,9.4 of BS1377:Part 2:1990

Borehole : **BHF** Sample Ref: Sample Type: **B** Depth (m): **1.40**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	SILT			SAND			GRAVEL			

BS Test Sieve (mm)	Percentage Passing
125	100
90	100
75	100
63	100
50	100
37.5	100
28	100
20	100
14	100
10	98
6.3	98
5	98
3.35	98
2	97
1.18	96
0.6	95
0.425	93
0.3	89
0.212	82
0.15	76
0.063	58

Particle Diameter	Percentage Passing
0.02	**35**
0.006	**27**
0.002	**21**

Soil Fraction	Sieve Percentage
GRAVEL	**3**
SAND	**39**
SILT	**37**
CLAY	**21**

Soil Description:

STRUCTURAL SOILS
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

Compiled By		Date
SC	SHARON CAIRNS	16/07/10

Contract: **Twickenham Station 241458**

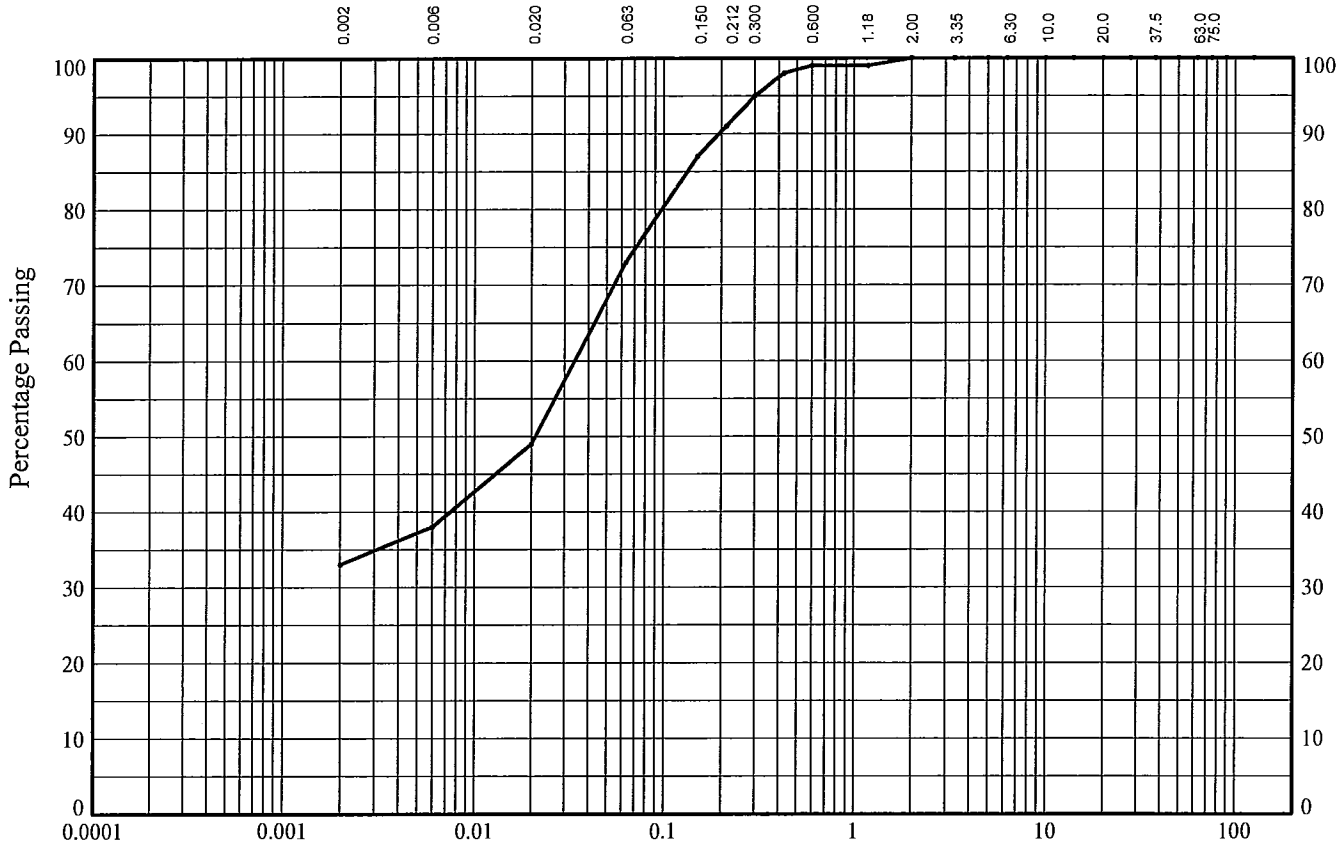
Job No: **581203**

AGS

PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 9.2,9.4 of BS1377:Part 2:1990

Borehole : **BHF** Sample Ref: Sample Type: **B** Depth (m): **1.50**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	SILT			SAND			GRAVEL			

BS Test Sieve (mm)	Percentage Passing
125	100
90	100
75	100
63	100
50	100
37.5	100
28	100
20	100
14	100
10	100
6.3	100
5	100
3.35	100
2	100
1.18	99
0.6	99
0.425	98
0.3	95
0.212	91
0.15	87
0.063	73

Particle Diameter	Percentage Passing
0.02	**49**
0.006	**38**
0.002	**33**

Soil Fraction	Sieve Percentage
GRAVEL	**0**
SAND	**27**
SILT	**40**
CLAY	**33**

Soil Description:

STRUCTURAL SOILS
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

Compiled By		Date
SC	SHARON CAIRNS	16/07/10

Contract: **Twickenham Station 241458**

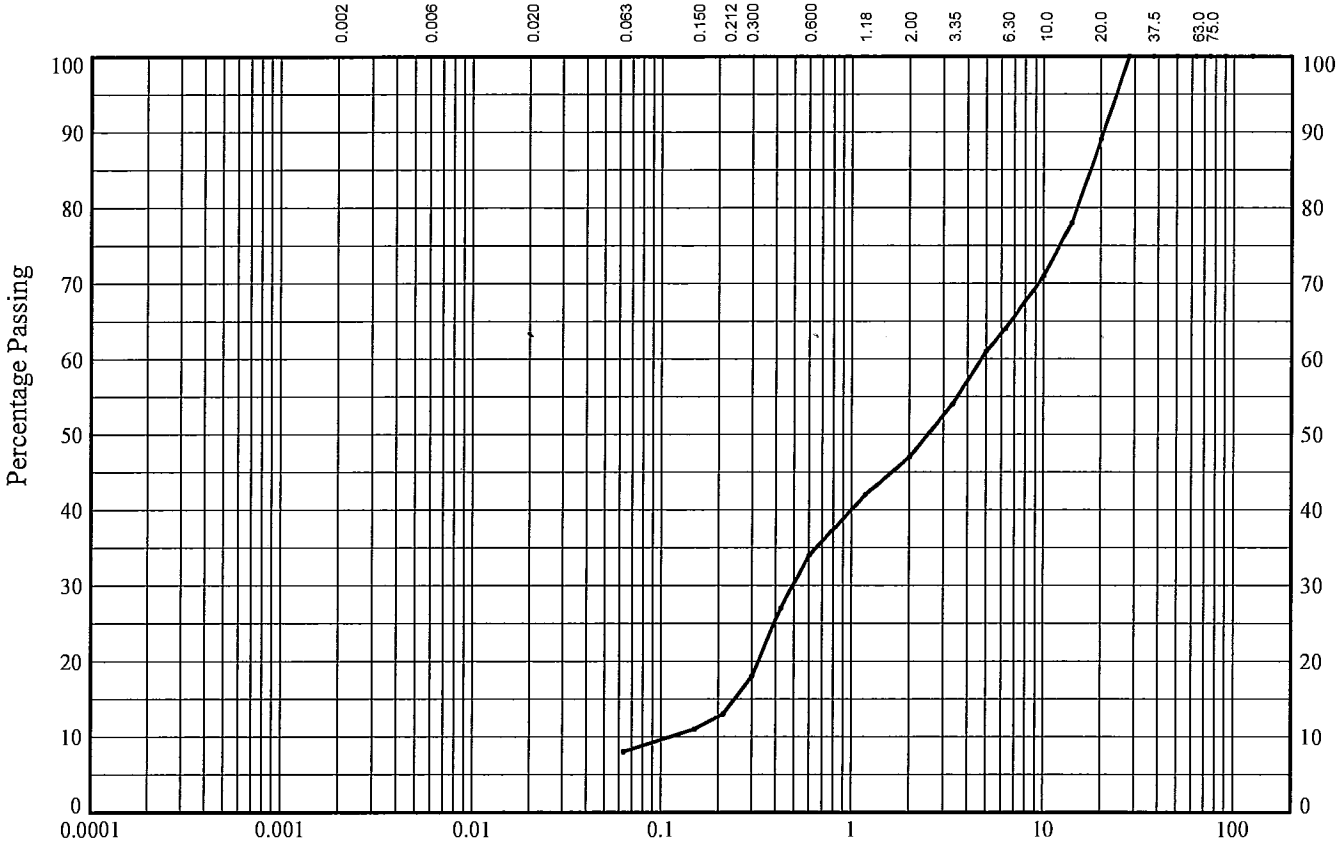
Job No: **581203**

AGS

PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 9.2,9.5 of BS1377:Part 2:1990

Borehole : **BHF** Sample Ref: Sample Type: **B** Depth (m): **4.50**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	SILT			SAND			GRAVEL			

BS Test Sieve (mm)	Percentage Passing
125	100
90	100
75	100
63	100
50	100
37.5	100
28	100
20	89
14	78
10	71
6.3	64
5	61
3.35	54
2	47
1.18	42
0.6	34
0.425	27
0.3	18
0.212	13
0.15	11
0.063	8

Particle Diameter	Percentage Passing

Soil Fraction	Sieve Percentage
GRAVEL	**53**
SAND	**39**
SILT/CLAY	**8**

Soil Description:

STRUCTURAL SOILS
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

Compiled By		Date
SC	SHARON CAIRNS	16/07/10

Contract: **Twickenham Station 241458**

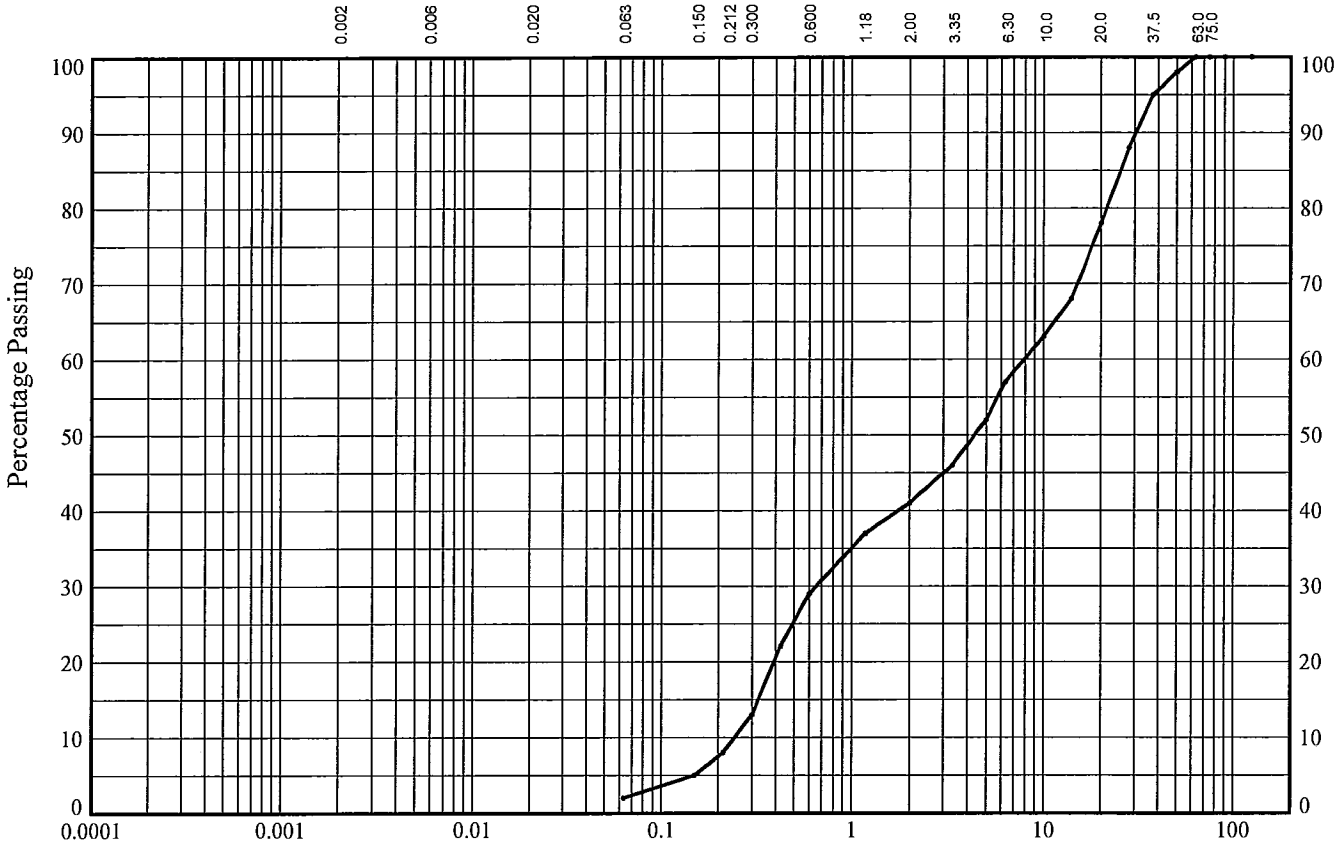
Job No: **581203**

AGS

PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 9.2,9.5 of BS1377:Part 2:1990

Borehole : **BHG** Sample Ref: Sample Type: **B** Depth (m): **3.50**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	SILT			SAND			GRAVEL			

BS Test Sieve (mm)	Percentage Passing
125	100
90	100
75	100
63	100
50	98
37.5	95
28	88
20	78
14	68
10	63
6.3	57
5	52
3.35	46
2	41
1.18	37
0.6	29
0.425	22
0.3	13
0.212	8
0.15	5
0.063	2

Particle Diameter	Percentage Passing

Soil Fraction	Sieve Percentage
GRAVEL	**59**
SAND	**39**
SILT/CLAY	**2**

Soil Description:

STRUCTURAL SOILS
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

Compiled By		Date
SC	SHARON CAIRNS	16/07/10

Contract	Job No
Twickenham Station 241458	**581203**

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AGS

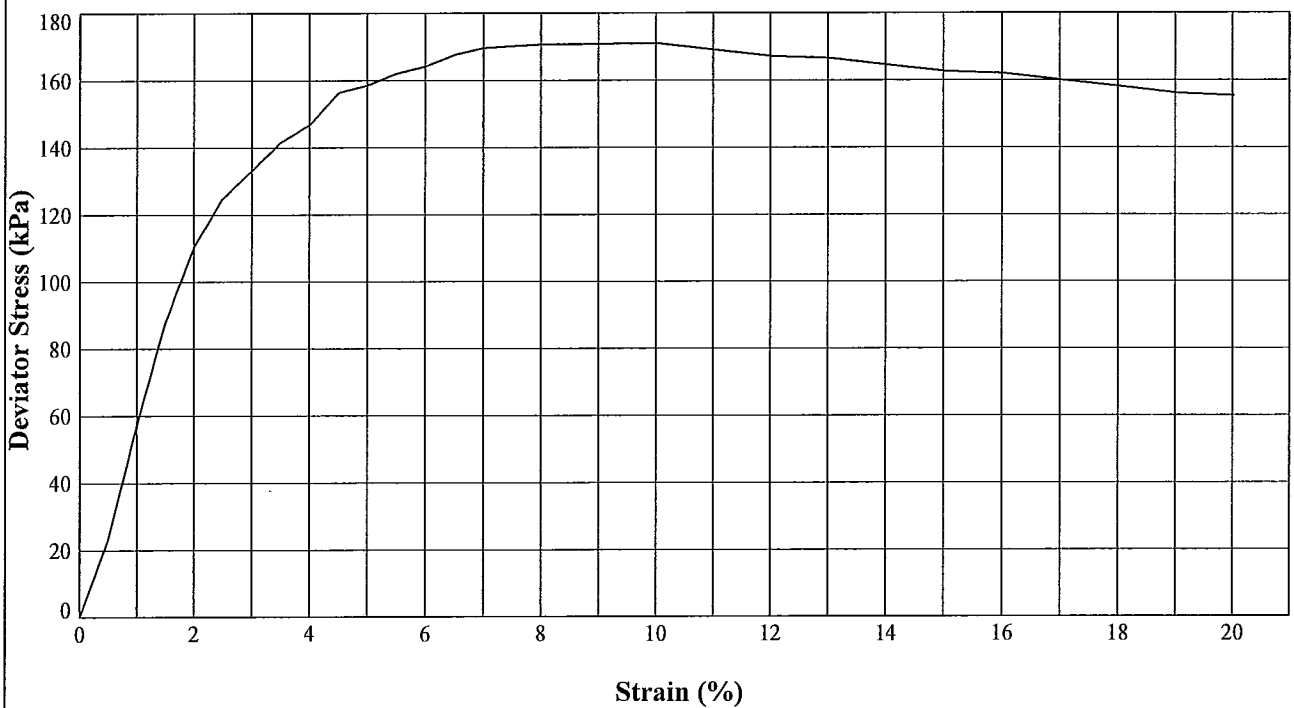
UNCONSOLIDATED QUICK UNDRAINED (SINGLE STAGE) TRIAXIAL COMPRESSION TEST

In accordance with BS1377:Part 7:1990, Clause 8

Borehole : **BHG** Sample Ref: Sample Type: **U** Depth (m): **6.00**

Description : **Very dark brown CLAY with a trace of fine to medium pyrites.**

STAGE NUMBER			1	2	3
SAMPLE DETAILS	Sample Condition		Undisturbed		
	Orientation of sample		Vertical		
	Diameter	(mm)	103.34		
	Height	(mm)	209.65		
	Moisture Content	(%)	30		
	Bulk Density	(Mg/m^3)	1.98		
	Dry Density	(Mg/m^3)	1.52		
TEST DETAILS	Membrane Thickness	(mm)	0.24		
	Rate of Axial Displacement	(%/min)	2.00		
	Cell Pressure	(kPa)	120		
	Membrane Correction	(kPa)	0.54		
	Corrected Deviator Stress	(kPa)	171		
	Undrained Shear Strength	(kPa)	86		
	Strain at Failure	(%)	10.0		
	Mode of Failure		Brittle		



STRUCTURAL SOILS
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

Compiled By		Date
SC	SHARON CAIRNS	16/07/10

Contract: **Twickenham Station 241458**

Job No: **581203**

AGS

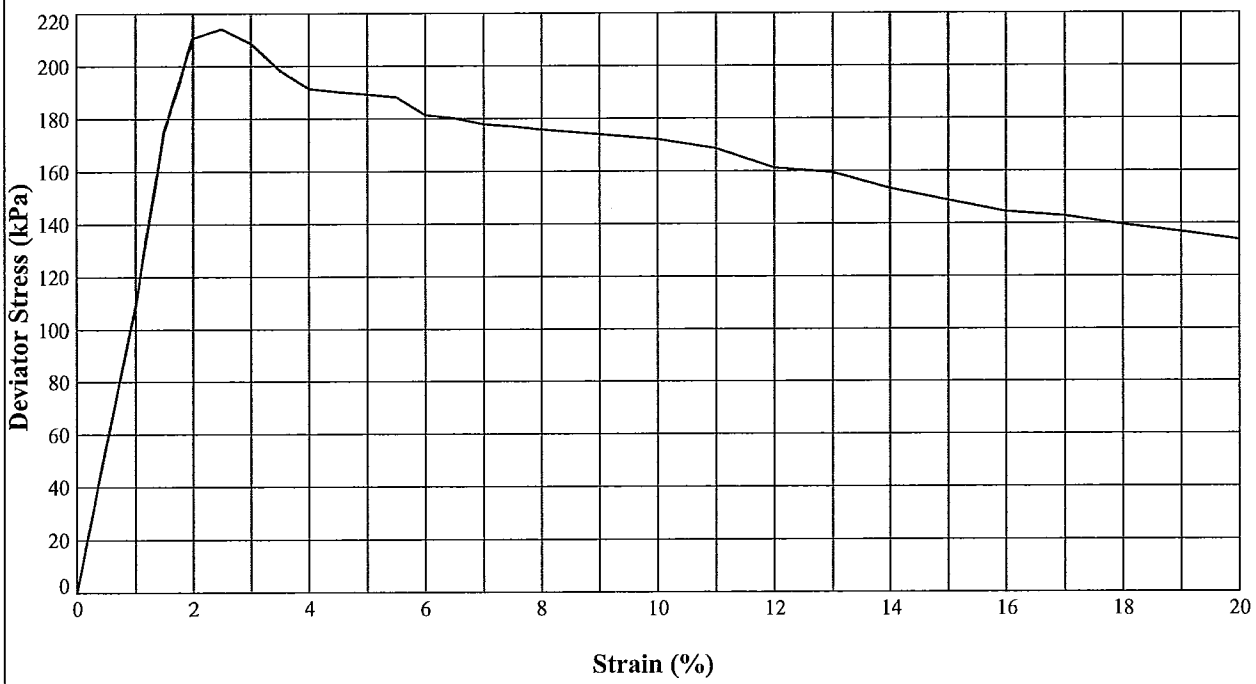
UNCONSOLIDATED QUICK UNDRAINED (SINGLE STAGE) TRIAXIAL COMPRESSION TEST

In accordance with BS1377:Part 7:1990, Clause 8

Borehole : **BHG** Sample Ref: Sample Type: **U** Depth (m): **12.00**

Description : **Very dark brown CLAY.**

STAGE NUMBER			1	2	3
SAMPLE DETAILS	Sample Condition		Undisturbed		
	Orientation of sample		Vertical		
	Diameter	(mm)	103.08		
	Height	(mm)	210.07		
	Moisture Content	(%)	27		
	Bulk Density	(Mg/m^3)	1.99		
	Dry Density	(Mg/m^3)	1.56		
TEST DETAILS	Membrane Thickness	(mm)	0.24		
	Rate of Axial Displacement	(%/min)	2.00		
	Cell Pressure	(kPa)	240		
	Membrane Correction	(kPa)	0.16		
	Corrected Deviator Stress	(kPa)	214		
	Undrained Shear Strength	(kPa)	107		
	Strain at Failure	(%)	2.5		
	Mode of Failure		Brittle		



STRUCTURAL SOILS
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

Compiled By		Date
SC	SHARON CAIRNS	21/07/10
Contract: Twickenham Station 241458	Job No: 581203	
	Page: of	

AGS

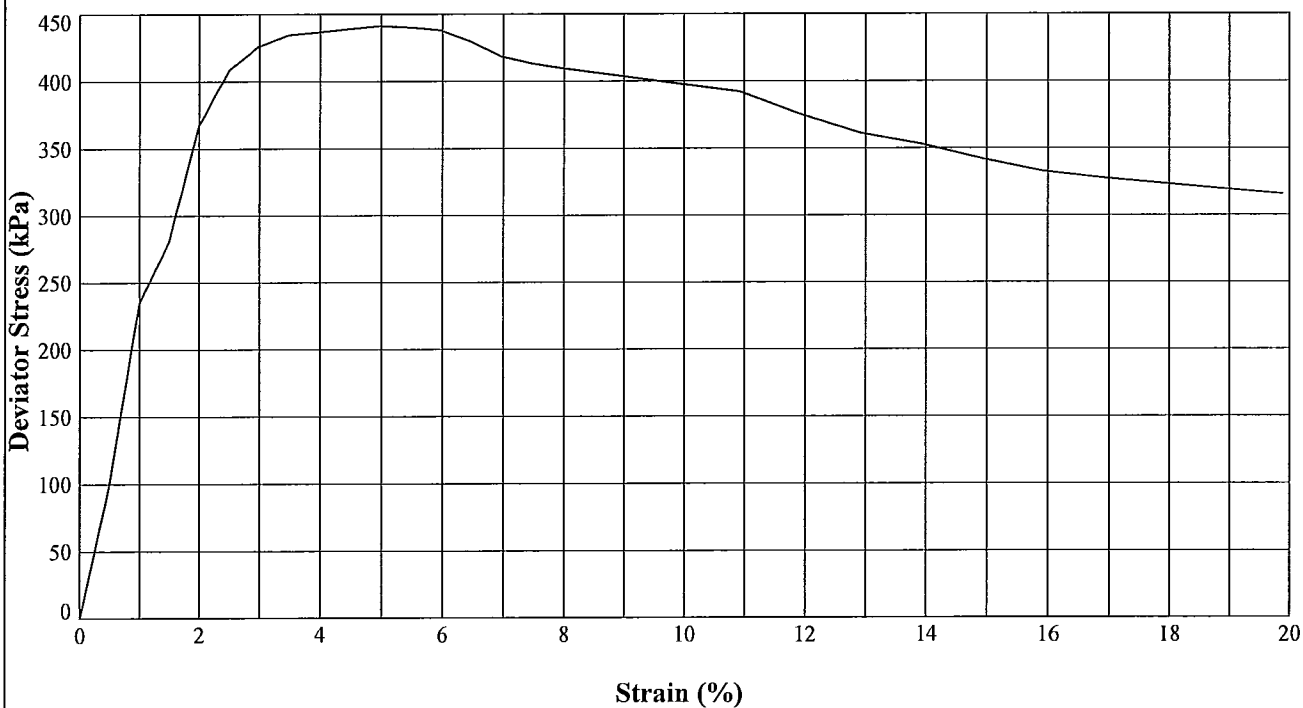
UNCONSOLIDATED QUICK UNDRAINED (SINGLE STAGE) TRIAXIAL COMPRESSION TEST

In accordance with BS1377:Part 7:1990, Clause 8

Borehole : **BHG** Sample Ref: Sample Type: **U** Depth (m): **18.00**

Description : **Very dark brown CLAY.**

STAGE NUMBER			1	2	3
SAMPLE DETAILS	Sample Condition		Undisturbed		
	Orientation of sample		Vertical		
	Diameter	(mm)	102.77		
	Height	(mm)	209.24		
	Moisture Content	(%)	26		
	Bulk Density	(Mg/m^3)	1.87		
	Dry Density	(Mg/m^3)	1.48		
TEST DETAILS	Membrane Thickness	(mm)	0.24		
	Rate of Axial Displacement	(%/min)	2.00		
	Cell Pressure	(kPa)	360		
	Membrane Correction	(kPa)	0.32		
	Corrected Deviator Stress	(kPa)	441		
	Undrained Shear Strength	(kPa)	221		
	Strain at Failure	(%)	5.0		
	Mode of Failure		Brittle		



STRUCTURAL SOILS
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Hertfordshire
HP3 9RT

Compiled By		Date
SC	SHARON CAIRNS	16/07/10

Contract: **Twickenham Station 241458**

Job No: **581203**

AGS

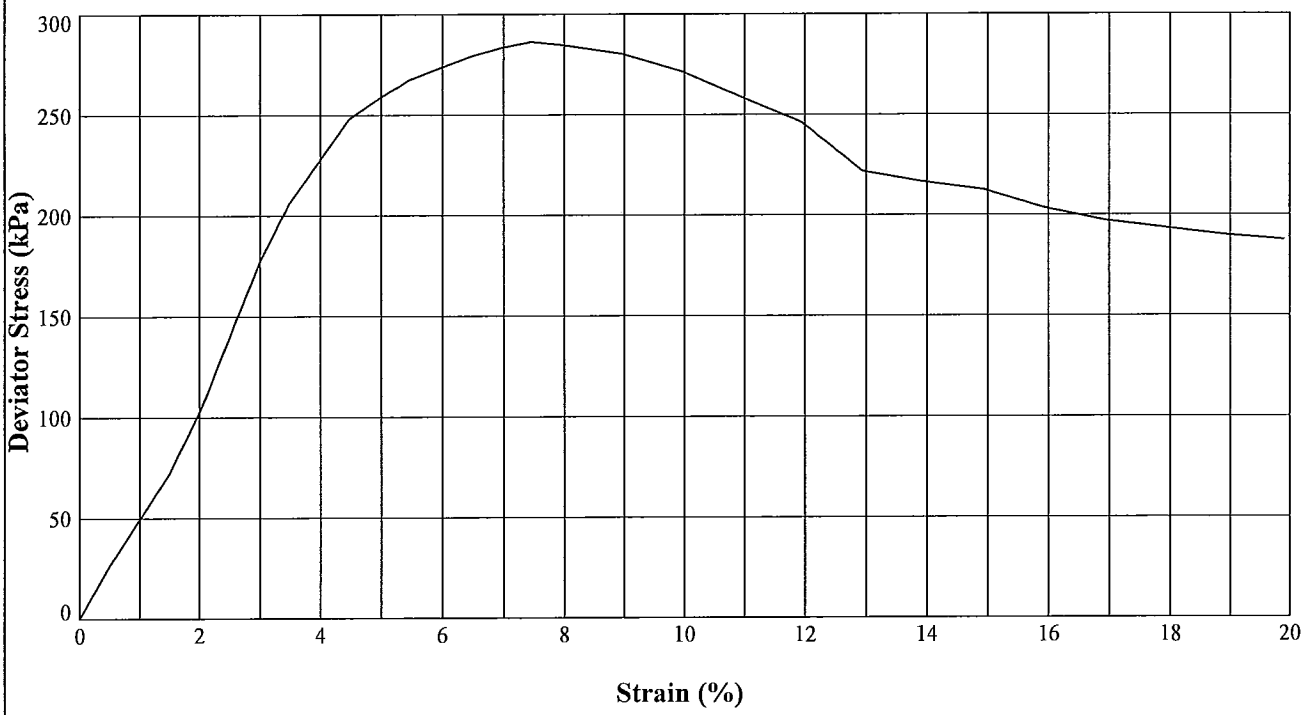
UNCONSOLIDATED QUICK UNDRAINED (SINGLE STAGE) TRIAXIAL COMPRESSION TEST

In accordance with BS1377:Part 7:1990, Clause 8

Borehole : **BHG** Sample Ref: Sample Type: **U** Depth (m): **24.00**

Description : **Very dark brown CLAY with a traces if fine pyrites.**

STAGE NUMBER			1	2	3
SAMPLE DETAILS	Sample Condition		Undisturbed		
	Orientation of sample		Vertical		
	Diameter	(mm)	103.52		
	Height	(mm)	190.95		
	Moisture Content	(%)	28		
	Bulk Density	(Mg/m^3)	1.99		
	Dry Density	(Mg/m^3)	1.56		
TEST DETAILS	Membrane Thickness	(mm)	0.24		
	Rate of Axial Displacement	(%/min)	2.00		
	Cell Pressure	(kPa)	480		
	Membrane Correction	(kPa)	0.42		
	Corrected Deviator Stress	(kPa)	286		
	Undrained Shear Strength	(kPa)	143		
	Strain at Failure	(%)	7.5		
	Mode of Failure		Brittle		



STRUCTURAL SOILS
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

Compiled By		Date
SC	SHARON CAIRNS	21/07/10
Contract: **Twickenham Station 241458**	Job No: **581203**	
	Page: of	AGS

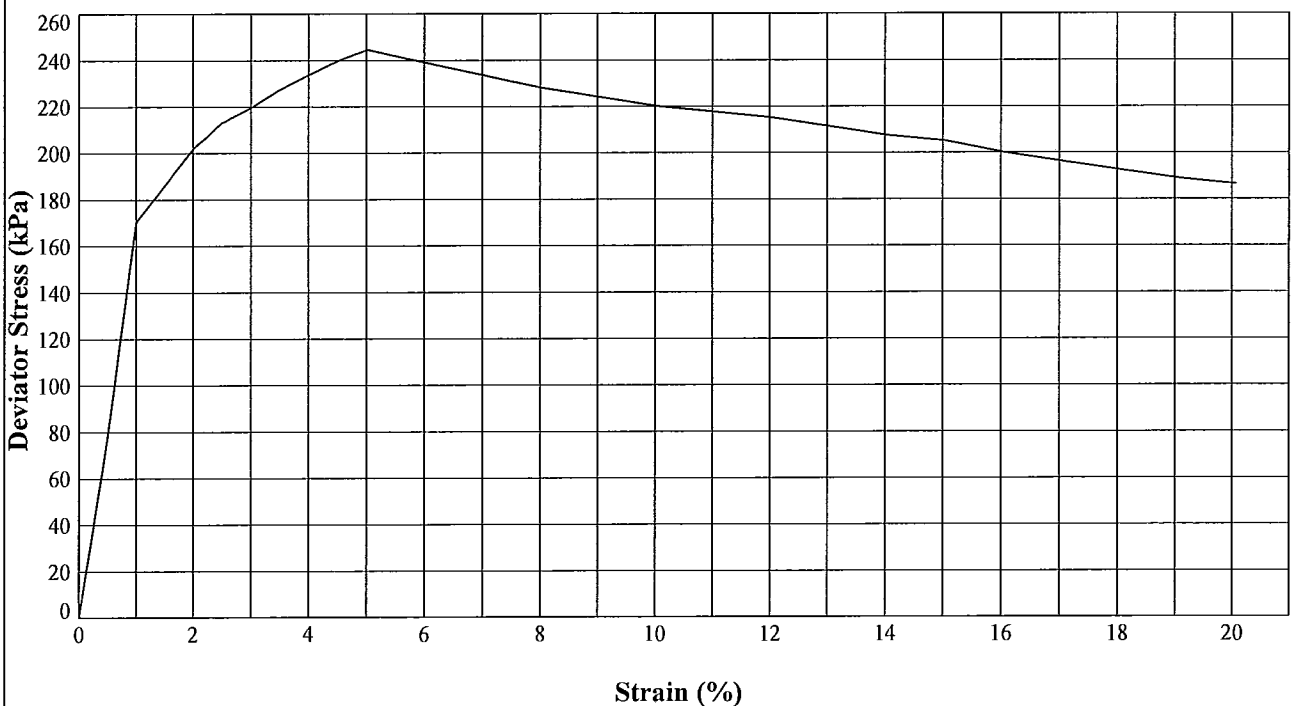
UNCONSOLIDATED QUICK UNDRAINED (SINGLE STAGE) TRIAXIAL COMPRESSION TEST

In accordance with BS1377:Part 7:1990, Clause 8

Borehole : **BHG** Sample Ref: Sample Type: **U** Depth (m): **30.00**

Description : **Very dark brown CLAY.**

STAGE NUMBER			1	2	3
SAMPLE DETAILS	Sample Condition		Undisturbed		
	Orientation of sample		Vertical		
	Diameter	(mm)	103.35		
	Height	(mm)	209.24		
	Moisture Content	(%)	25		
	Bulk Density	(Mg/m^3)	2.05		
	Dry Density	(Mg/m^3)	1.65		
TEST DETAILS	Membrane Thickness	(mm)	0.24		
	Rate of Axial Displacement	(%/min)	2.00		
	Cell Pressure	(kPa)	600		
	Membrane Correction	(kPa)	0.32		
	Corrected Deviator Stress	(kPa)	245		
	Undrained Shear Strength	(kPa)	122		
	Strain at Failure	(%)	5.0		
	Mode of Failure		Brittle		



STRUCTURAL SOILS
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

Compiled By		Date
SC	SHARON CAIRNS	16/07/10

Contract: **Twickenham Station 241458**

Job No: **581203**

AGS

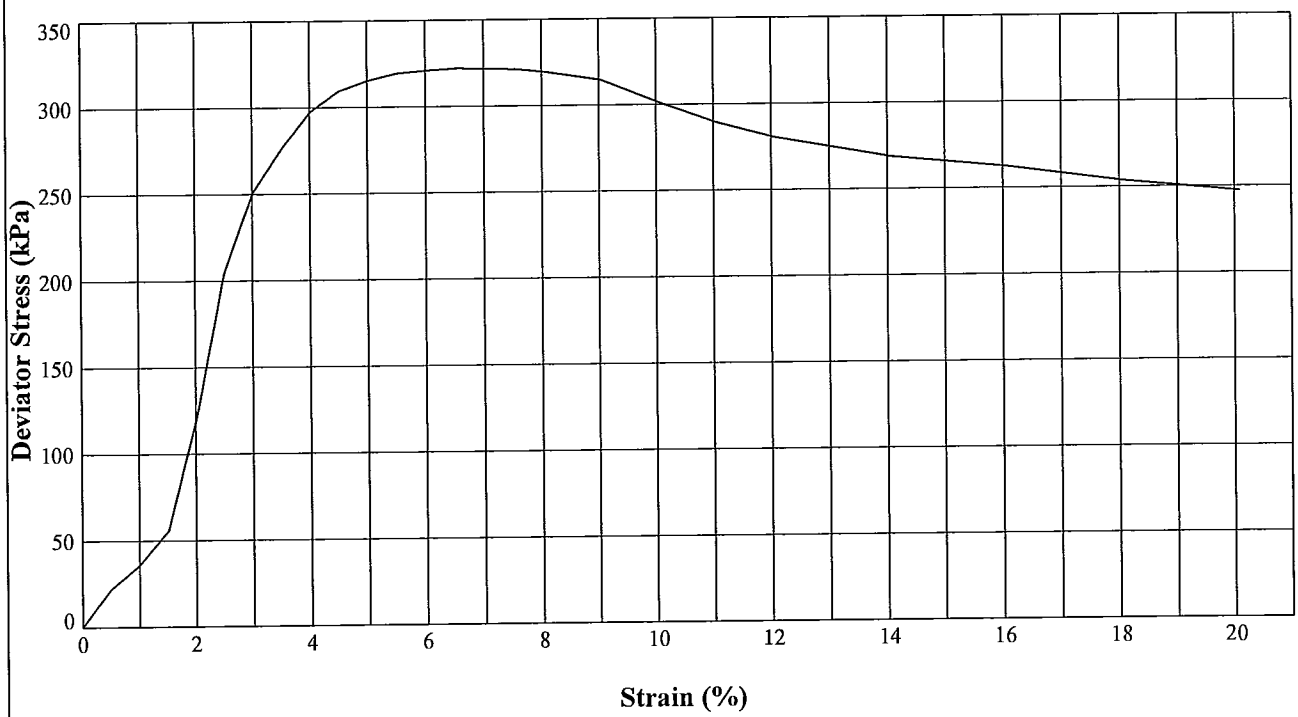
UNCONSOLIDATED QUICK UNDRAINED (SINGLE STAGE) TRIAXIAL COMPRESSION TEST

In accordance with BS1377:Part 7:1990, Clause 8

Borehole : **BHG** Sample Ref: Sample Type: **U** Depth (m): **33.00**

Description : **Very dark brown CLAY.**

STAGE NUMBER			1	2	3
SAMPLE DETAILS	Sample Condition		Undisturbed		
	Orientation of sample		Vertical		
	Diameter	(mm)	103.18		
	Height	(mm)	209.05		
	Moisture Content	(%)	25		
	Bulk Density	(Mg/m^3)	2.01		
	Dry Density	(Mg/m^3)	1.61		
TEST DETAILS	Membrane Thickness	(mm)	0.24		
	Rate of Axial Displacement	(%/min)	2.00		
	Cell Pressure	(kPa)	660		
	Membrane Correction	(kPa)	0.38		
	Corrected Deviator Stress	(kPa)	322		
	Undrained Shear Strength	(kPa)	161		
	Strain at Failure	(%)	6.5		
	Mode of Failure		Brittle		



STRUCTURAL SOILS
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Hertfordshire
HP3 9RT

Compiled By	Date
SHARON CAIRNS	16/07/10

Contract: **Twickenham Station 241458**

Job No: **581203**

APPENDIX D

Chemical Laboratory Test Records

RSK STATS Geoconsult Ltd
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

FAO Andrea Grossey

LABORATORY TEST REPORT

Results of analysis of 30 samples
received 02 July 2010

241458 - Twickenham Railway Station

Chemtest
The right chemistry to deliver results

Report Date
09 July 2010

Login Batch No					89511							
Chemtest LIMS ID					AF09639	AF09640	AF09641	AF09642	AF09643	AF09644	AF09645	AF09646
Sample ID					BHA	BHA	BHA	BHB	BHB	BHB	BHB	BHC
Sample No												
Sampling Date					14/06/2010	14/06/2010	14/06/2010	10/06/2010	10/06/2010	10/06/2010	10/06/2010	14/06/2010
Depth					0.5m	1.5m	3.5m	1m	2m	3m	4.5m	0.5m
Matrix					*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
SOP↓	Determinand↓	CAS No↓	Units↓	*								
2180	Sulfur (elemental)	7704349	mg kg⁻¹	M	24	9.4	10	<1.0	42	16	36	25
2300	Cyanide (free)	57125	mg kg⁻¹	M	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	Cyanide (total)	57125	mg kg⁻¹	M	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	Thiocyanate	302045	mg kg⁻¹	M	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2325	Sulfide	18496258	mg kg⁻¹	M	2.7	0.99	1.1	1.6	1.3	3.1	1.6	1.3
2625	Total Organic Carbon		%	M	4.6	3.7	0.55	0.32	1.2	6.8	4.7	1.0
2220	Nitrate (extractable)	14797558	g l⁻¹	N	0.019	0.047	0.034	<0.010	0.097	0.14	0.18	0.011
2120	Boron (hot water soluble)	7440428	mg kg⁻¹	M	0.8	1.4	0.8	0.9	1.0	2.2	2.7	1.0
	Sulfate (2:1 water soluble) as SO4	14808798	g l⁻¹	M	0.19	0.08	0.12	0.55	0.99	1.2	0.71	0.05
2425	Ammonium (extractable)	7664417	mg kg⁻¹	M	< 0.5	2.4	2.8	< 0.5	2.3	< 0.5	< 0.5	< 0.5
2450	Arsenic	7440382	mg kg⁻¹	M	30	19	6.8	7.9	13	18	18	12
	Barium	7440393	mg kg⁻¹	M	270	160	47	35	140	210	200	84
	Beryllium	7440417	mg kg⁻¹	U	1.3	1.2	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
	Cadmium	7440439	mg kg⁻¹	M	0.44	0.16	<0.10	<0.10	0.15	0.32	0.26	0.13
	Chromium	7440473	mg kg⁻¹	M	38	21	15	8.0	12	34	23	13
	Copper	7440508	mg kg⁻¹	M	93	93	12	6.3	26	67	73	18
	Mercury	7439976	mg kg⁻¹	M	1.8	1.1	0.18	0.12	0.57	2.4	1.9	0.34
	Nickel	7440020	mg kg⁻¹	M	35	25	12	9.7	14	22	24	16
	Lead	7439921	mg kg⁻¹	M	380	410	33	29	570	360	490	160
	Antimony	7440364	mg kg⁻¹	N	3.7	3.9	<2.0	<2.0	<2.0	3.1	4.9	<2.0
	Selenium	7782492	mg kg⁻¹	M	<0.20	0.23	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
	Vanadium	7440622	mg kg⁻¹	M	51	42	22	18	28	31	33	28
	Zinc	7440666	mg kg⁻¹	M	180	120	35	25	110	180	190	69
2670	TPH >C6-C10		mg kg⁻¹	N	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
	TPH >C10-C25		mg kg⁻¹	N	43	22	< 1	4	190	52	190	200
	TPH >C25-C40		mg kg⁻¹	N	33	21	< 1	1	59	22	120	92
	Total Petroleum Hydrocarbons		mg kg⁻¹	M	76	43	< 10	< 10	250	74	310	300
2675	TPH aliphatic >C5-C6		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C6-C8		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

All tests undertaken between 01-Jul-2010 and 9-Jul-2010

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

RSK STATS Geoconsult Ltd
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

FAO Andrea Grossey

LABORATORY TEST REPORT

Results of analysis of 30 samples
received 02 July 2010

241458 - Twickenham Railway Station

Chemtest
The right chemistry to deliver results

Report Date
09 July 2010

Login Batch No					**89511**								
Chemtest LIMS ID					AF09647	AF09648	AF09649	AF09650	AF09651	AF09652	AF09653	AF09654
Sample ID					BHC	BHC	BHD	BHD	BHD	BHE	BHE	BHE
Sample No												
Sampling Date					14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010
Depth					1m	2m	0.5m	1.5m	2m	1m	2m	3m
Matrix					*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
SOP↓	Determinand↓	CAS No↓	Units↓	*								
2180	Sulfur (elemental)	7704349	mg kg-¹	M	4.2	<1.0	9.0	<1.0	<1.0	9.5	2.0	2.1
2300	Cyanide (free)	57125	mg kg-¹	M	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	Cyanide (total)	57125	mg kg-¹	M	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	Thiocyanate	302045	mg kg-¹	M	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2325	Sulfide	18496258	mg kg-¹	M	1.1	1.5	1.3	1.4	1.2	2.5	1.0	1.6
2625	Total Organic Carbon		%	M	2.0	< 0.20	1.4	0.78	< 0.20	1.9	0.47	0.32
2220	Nitrate (extractable)	14797558	g l-¹	N	0.013	<0.010	0.012	0.018	<0.010	0.018	<0.010	<0.010
2120	Boron (hot water soluble)	7440428	mg kg-¹	M	2.3	<0.4	0.7	0.5	<0.4	0.9	0.5	<0.4
	Sulfate (2:1 water soluble) as SO4	14808798	g l-¹	M	0.03	0.07	0.08	0.23	0.14	0.12	0.08	0.29
2425	Ammonium (extractable)	7664417	mg kg-¹	M	2.7	< 0.5	2.3	4.7	< 0.5	< 0.5	3.5	< 0.5
2450	Arsenic	7440382	mg kg-¹	M	13	7.2	12	17	5.3	19	4.2	7.3
	Barium	7440393	mg kg-¹	M	100	14	65	61	<10	170	66	13
	Beryllium	7440417	mg kg-¹	U	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
	Cadmium	7440439	mg kg-¹	M	0.18	<0.10	0.32	0.20	<0.10	0.24	<0.10	0.16
	Chromium	7440473	mg kg-¹	M	13	16	17	51	24	15	12	24
	Copper	7440508	mg kg-¹	M	46	6.7	31	35	<5.0	30	8.7	38
	Mercury	7439976	mg kg-¹	M	0.76	<0.10	0.36	0.22	<0.10	0.74	0.12	<0.10
	Nickel	7440020	mg kg-¹	M	18	17	22	51	20	21	8.2	27
	Lead	7439921	mg kg-¹	M	310	18	98	65	<5.0	540	26	13
	Antimony	7440364	mg kg-¹	N	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
	Selenium	7782492	mg kg-¹	M	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
	Vanadium	7440622	mg kg-¹	M	31	16	28	44	15	36	21	16
	Zinc	7440666	mg kg-¹	M	94	18	200	68	<10	230	35	29
2670	TPH >C6-C10		mg kg-¹	N	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
	TPH >C10-C25		mg kg-¹	N	11	< 1	11	< 1	< 1	30	< 1	< 1
	TPH >C25-C40		mg kg-¹	N	11	< 1	7	< 1	< 1	18	< 1	< 1
	Total Petroleum Hydrocarbons		mg kg-¹	M	22	< 10	19	< 10	< 10	48	< 10	< 10
2675	TPH aliphatic >C5-C6		mg kg-¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C6-C8		mg kg-¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

All tests undertaken between 01-Jul-2010 and 9-Jul-2010

* Accreditation status

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RSK STATS Geoconsult Ltd
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

FAO Andrea Grossey

LABORATORY TEST REPORT

Results of analysis of 30 samples
received 02 July 2010

241458 - Twickenham Railway Station

Chemtest
The right chemistry to deliver results

Report Date
09 July 2010

Login Batch No					**89511**										
Chemtest LIMS ID					AF09655	AF09656	AF09657	AF09658	AF09659	AF09660	AF09661	AF09662			
Sample ID					BHF	BHF	BHF	BHG	BHG	BHG	BHG	BHG			
Sample No															
Sampling Date					14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010			
Depth					0.5m	1.5m	3m	0.5m	1m	1.5m	2.5m	4m			
Matrix					*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*			
SOP↓	Determinand↓	CAS No↓	Units↓	*											
2180	Sulfur (elemental)	7704349	mg kg-¹	M	37	7.8	4.1	56	66	55	1.4	<1.0			
2300	Cyanide (free)	57125	mg kg-¹	M	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50			
	Cyanide (total)	57125	mg kg-¹	M	<0.50	<0.50	<0.50	<0.50	0.70	<0.50	<0.50	<0.50			
	Thiocyanate	302045	mg kg-¹	M	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0			
2325	Sulfide	18496258	mg kg-¹	M	1.8	3.1	1.5	36	3.4	15	2.3	1.4			
2625	Total Organic Carbon		%	M	2.2	1.0	0.55	0.75	14	4.5	0.68	< 0.20			
2220	Nitrate (extractable)	14797558	g l-¹	N	<0.010	0.037	0.041	<0.010	0.024	0.014	<0.010	<0.010			
2120	Boron (hot water soluble)	7440428	mg kg-¹	M	1.5	1.8	0.9	0.9	3.3	1.9	1.3	<0.4			
	Sulfate (2:1 water soluble) as SO4	14808798	g l-¹	M	0.29	0.19	0.22	0.19	0.17	0.17	0.17	0.07			
2425	Ammonium (extractable)	7664417	mg kg-¹	M	2.7	2.7	2.6	4.4	3.7	< 0.5	< 0.5	< 0.5			
2450	Arsenic	7440382	mg kg-¹	M	9.3	15	4.4	16	75	24	11	9.7			
	Barium	7440393	mg kg-¹	M	100	99	43	160	680	140	31	<10			
	Beryllium	7440417	mg kg-¹	U	<1.00	1.1	<1.00	1.1	5.2	1.6	<1.00	<1.00			
	Cadmium	7440439	mg kg-¹	M	0.19	0.24	<0.10	0.11	<0.10	0.20	<0.10	<0.10			
	Chromium	7440473	mg kg-¹	M	12	26	13	14	26	20	17	19			
	Copper	7440508	mg kg-¹	M	35	37	9.2	18	250	70	17	<5.0			
	Mercury	7439976	mg kg-¹	M	3.3	1.1	0.25	0.20	1.6	1.00	0.20	<0.10			
	Nickel	7440020	mg kg-¹	M	14	27	9.0	11	72	31	19	19			
	Lead	7439921	mg kg-¹	M	260	130	47	200	1500	370	31	<5.0			
	Antimony	7440364	mg kg-¹	N	2.1	<2.0	<2.0	4.5	16	3.0	<2.0	<2.0			
	Selenium	7782492	mg kg-¹	M	<0.20	0.46	<0.20	<0.20	1.00	<0.20	<0.20	<0.20			
	Vanadium	7440622	mg kg-¹	M	24	45	17	31	94	41	22	20			
	Zinc	7440666	mg kg-¹	M	88	69	26	120	1600	210	35	15			
2670	TPH >C6-C10		mg kg-¹	N	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1			
	TPH >C10-C25		mg kg-¹	N	22	3	7	68	320	110	9	< 1			
	TPH >C25-C40		mg kg-¹	N	18	3	4	40	230	77	10	< 1			
	Total Petroleum Hydrocarbons		mg kg-¹	M	40	< 10	11	110	560	190	19	< 10			
2675	TPH aliphatic >C5-C6		mg kg-¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1			
	TPH aliphatic >C6-C8		mg kg-¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1			

All tests undertaken between 01-Jul-2010 and 9-Jul-2010

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Hertfordshire
HP3 9RT

FAO Andrea Grossey

LABORATORY TEST REPORT

Results of analysis of 30 samples
received 02 July 2010

241458 - Twickenham Railway Station

Chemtest
The right chemistry to deliver results

Report Date
09 July 2010

Login Batch No					**89511**						
Chemtest LIMS ID					AF09663	AF09664	AF09665	AF09666	AF09667	AF09668	
Sample ID					WS1	WS1	WS2	WS2	WS3	WS3	
Sample No											
Sampling Date					14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	
Depth					0.25m	1m	0.5m	1m	0.25m	0.75m	
Matrix					*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	
SOP↓	Determinand↓	CAS No↓	Units↓	*							
2180	Sulfur (elemental)	7704349	mg kg⁻¹	M	32	24	44	85	42	2.6	
2300	Cyanide (free)	57125	mg kg⁻¹	M	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
	Cyanide (total)	57125	mg kg⁻¹	M	<0.50	<0.50	1.6	0.70	3.0	<0.50	
	Thiocyanate	302045	mg kg⁻¹	M	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
2325	Sulfide	18496258	mg kg⁻¹	M	10	2.4	13	3.2	14	3.4	
2625	Total Organic Carbon		%	M	3.8	7.4	8.5	7.9	6.9	0.51	
2220	Nitrate (extractable)	14797558	g l⁻¹	N	<0.010	<0.010	0.063	0.042	0.41	0.062	
2120	Boron (hot water soluble)	7440428	mg kg⁻¹	M	2.3	1.8	1.7	1.3	1.9	<0.4	
	Sulfate (2:1 water soluble) as SO4	14808798	g l⁻¹	M	0.06	0.05	0.03	0.03	0.17	0.04	
2425	Ammonium (extractable)	7664417	mg kg⁻¹	M	18	2.7	4.7	4.2	120	3.8	
2450	Arsenic	7440382	mg kg⁻¹	M	16	25	26	20	26	13	
	Barium	7440393	mg kg⁻¹	M	110	200	370	210	310	160	
	Beryllium	7440417	mg kg⁻¹	U	<1.00	1.6	1.3	<1.00	<1.00	<1.00	
	Cadmium	7440439	mg kg⁻¹	M	0.53	0.42	0.58	0.26	<0.10	0.15	
	Chromium	7440473	mg kg⁻¹	M	23	48	24	21	45	16	
	Copper	7440508	mg kg⁻¹	M	31	88	270	170	100	17	
	Mercury	7439976	mg kg⁻¹	M	0.49	2.3	2.3	2.2	0.58	0.10	
	Nickel	7440020	mg kg⁻¹	M	20	37	32	22	43	19	
	Lead	7439921	mg kg⁻¹	M	170	340	890	480	640	110	
	Antimony	7440364	mg kg⁻¹	N	2.4	6.2	10	6.5	14	<2.0	
	Selenium	7782492	mg kg⁻¹	M	<0.20	0.37	0.51	0.22	0.37	<0.20	
	Vanadium	7440622	mg kg⁻¹	M	36	51	44	31	50	28	
	Zinc	7440666	mg kg⁻¹	M	350	280	480	270	430	70	
2670	TPH >C6-C10		mg kg⁻¹	N	< 1	< 1	< 1	< 1	< 1	< 1	
	TPH >C10-C25		mg kg⁻¹	N	71	68	260	400	150	28	
	TPH >C25-C40		mg kg⁻¹	N	48	32	180	250	110	17	
	Total Petroleum Hydrocarbons		mg kg⁻¹	M	120	100	440	650	260	46	
2675	TPH aliphatic >C5-C6		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
	TPH aliphatic >C6-C8		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	

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09 July 2010

					89511							
					AF09639	AF09640	AF09641	AF09642	AF09643	AF09644	AF09645	AF09646
					BHA	BHA	BHA	BHB	BHB	BHB	BHB	BHC
					14/06/2010	14/06/2010	14/06/2010	10/06/2010	10/06/2010	10/06/2010	10/06/2010	14/06/2010
					0.5m	1.5m	3.5m	1m	2m	3m	4.5m	0.5m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2675	TPH aliphatic >C8-C10		mg kg-1	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C10-C12		mg kg-1	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C12-C16		mg kg-1	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C16-C21		mg kg-1	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C21-C35		mg kg-1	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C35-C44		mg kg-1	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aromatic >C5-C7		mg kg-1	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aromatic >C7-C8		mg kg-1	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aromatic >C8-C10		mg kg-1	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aromatic >C10-C12		mg kg-1	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.5
	TPH aromatic >C12-C16		mg kg-1	N	2.7	1.8	< 0.1	< 0.1	9.3	3.2	8.6	16
	TPH aromatic >C16-C21		mg kg-1	N	21	9.8	< 0.1	1.7	99	31	85	76
	TPH aromatic >C21-C35		mg kg-1	N	60	31	< 0.1	5.4	140	45	190	120
	TPH aromatic >C35-C44		mg kg-1	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	Total Petroleum Hydrocarbons		mg kg-1	N	83	43	< 2	7	250	80	290	210
2700	Naphthalene	91203	mg kg-1	M	0.2	<0.1	<0.1	<0.1	0.6	0.2	1.6	0.6
	Acenaphthylene	208968	mg kg-1	M	0.2	0.1	<0.1	<0.1	2.6	<0.1	1.4	0.9
	Acenaphthene	83329	mg kg-1	M	0.7	0.2	<0.1	<0.1	1.8	0.2	1	0.3
	Fluorene	86737	mg kg-1	M	0.7	0.2	<0.1	<0.1	3	0.2	1	0.6
	Phenanthrene	85018	mg kg-1	M	4.4	2.3	0.1	0.7	46	5.7	13	8.7
	Anthracene	120127	mg kg-1	M	1.3	0.4	<0.1	0.1	11	1.3	3.4	2.5
	Fluoranthene	206440	mg kg-1	M	5.2	3.6	0.2	0.7	46	8.1	22	15
	Pyrene	129000	mg kg-1	M	4.5	3.3	0.3	0.7	37	7	18	13
	Benzo[a]anthracene	56553	mg kg-1	M	2.4	1.6	<0.1	0.3	15	3.1	9.3	6.5
	Chrysene	218019	mg kg-1	M	2.7	2.1	0.1	0.3	16	3.2	11	7.1
	Benzo[b]fluoranthene	205992	mg kg-1	M	2.7	2	0.1	0.3	16	3.2	10	7.8
	Benzo[k]fluoranthene	207089	mg kg-1	M	1.9	1.5	0.1	0.2	8.9	2.5	7.5	3.9
	Benzo[a]pyrene	50328	mg kg-1	M	3.1	2.2	0.2	0.2	16	3.6	13	9.3
	Dibenzo[a,h]anthracene	53703	mg kg-1	M	1.9	1.4	0.2	0.3	10	2.3	7.6	5.6
	Indeno[1,2,3-cd]pyrene	193395	mg kg-1	M	0.4	0.2	<0.1	<0.1	2.4	0.3	1.5	1.2

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Report Date
09 July 2010

					89511							
					AF09647	AF09648	AF09649	AF09650	AF09651	AF09652	AF09653	AF09654
					BHC	BHC	BHD	BHD	BHD	BHE	BHE	BHE
					14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010
					1m	2m	0.5m	1.5m	2m	1m	2m	3m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2675	TPH aliphatic >C8-C10		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C10-C12		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C12-C16		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C16-C21		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C21-C35		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C35-C44		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aromatic >C5-C7		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aromatic >C7-C8		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aromatic >C8-C10		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aromatic >C10-C12		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aromatic >C12-C16		mg kg⁻¹	N	1.5	< 0.1	0.9	< 0.1	< 0.1	3.0	0.5	< 0.1
	TPH aromatic >C16-C21		mg kg⁻¹	N	4.0	< 0.1	6.0	< 0.1	< 0.1	12	1.7	< 0.1
	TPH aromatic >C21-C35		mg kg⁻¹	N	17	< 0.1	13	< 0.1	< 0.1	26	2.8	< 0.1
	TPH aromatic >C35-C44		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	Total Petroleum Hydrocarbons		mg kg⁻¹	N	23	< 2	20	< 2	< 2	41	5	< 2
2700	Naphthalene	91203	mg kg⁻¹	M	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1
	Acenaphthylene	208968	mg kg⁻¹	M	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1
	Acenaphthene	83329	mg kg⁻¹	M	0.1	<0.1	0.1	<0.1	<0.1	0.2	<0.1	<0.1
	Fluorene	86737	mg kg⁻¹	M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Phenanthrene	85018	mg kg⁻¹	M	1.1	<0.1	0.8	0.2	<0.1	1.9	0.2	<0.1
	Anthracene	120127	mg kg⁻¹	M	0.3	<0.1	0.3	<0.1	<0.1	0.4	<0.1	<0.1
	Fluoranthene	206440	mg kg⁻¹	M	1.9	0.2	2.5	0.2	<0.1	3.4	0.6	0.4
	Pyrene	129000	mg kg⁻¹	M	1.6	0.2	2.3	0.3	0.1	2.8	0.5	0.3
	Benzo[a]anthracene	56553	mg kg⁻¹	M	0.9	0.1	1.2	0.2	<0.1	1.5	0.3	0.2
	Chrysene	218019	mg kg⁻¹	M	1.2	<0.1	1.5	0.2	<0.1	1.7	0.4	0.2
	Benzo[b]fluoranthene	205992	mg kg⁻¹	M	1.3	0.2	1.9	0.2	<0.1	1.8	0.5	0.3
	Benzo[k]fluoranthene	207089	mg kg⁻¹	M	0.8	0.2	1	0.2	<0.1	1.4	0.3	0.3
	Benzo[a]pyrene	50328	mg kg⁻¹	M	1.4	0.3	1.7	<0.1	<0.1	0.7	0.3	<0.1
	Dibenzo[a,h]anthracene	53703	mg kg⁻¹	M	0.9	0.2	1.1	0.3	<0.1	1.4	0.4	0.4
	Indeno[1,2,3-cd]pyrene	193395	mg kg⁻¹	M	0.5	0.2	0.2	0.3	<0.1	0.3	<0.1	<0.1

All tests undertaken between 01-Jul-2010 and 9-Jul-2010

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

RSK STATS Geoconsult Ltd
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

FAO Andrea Grossey

LABORATORY TEST REPORT

Results of analysis of 30 samples
received 02 July 2010

241458 - Twickenham Railway Station

Chemtest
The right chemistry to deliver results

Report Date
09 July 2010

					89511							
					AF09655	AF09656	AF09657	AF09658	AF09659	AF09660	AF09661	AF09662
					BHF	BHF	BHF	BHG	BHG	BHG	BHG	BHG
					14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010
					0.5m	1.5m	3m	0.5m	1m	1.5m	2.5m	4m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2675	TPH aliphatic >C8-C10		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C10-C12		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C12-C16		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C16-C21		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C21-C35		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C35-C44		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aromatic >C5-C7		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aromatic >C7-C8		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aromatic >C8-C10		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aromatic >C10-C12		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2	< 0.1	< 0.1
	TPH aromatic >C12-C16		mg kg⁻¹	N	1.1	0.4	0.3	2.4	7.9	4.4	1.0	< 0.1
	TPH aromatic >C16-C21		mg kg⁻¹	N	8.9	1.1	2.3	25	140	52	3.2	< 0.1
	TPH aromatic >C21-C35		mg kg⁻¹	N	30	4.3	5.5	74	450	140	9.5	< 0.1
	TPH aromatic >C35-C44		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	Total Petroleum Hydrocarbons		mg kg⁻¹	N	40	6	8	100	600	200	14	< 2
2700	Naphthalene	91203	mg kg⁻¹	M	0.2	<0.1	<0.1	<0.1	3.1	1.6	<0.1	<0.1
	Acenaphthylene	208968	mg kg⁻¹	M	0.2	<0.1	<0.1	0.3	0.7	0.3	<0.1	<0.1
	Acenaphthene	83329	mg kg⁻¹	M	0.2	<0.1	<0.1	0.4	0.9	0.6	<0.1	<0.1
	Fluorene	86737	mg kg⁻¹	M	0.3	<0.1	<0.1	0.5	1.1	0.6	<0.1	<0.1
	Phenanthrene	85018	mg kg⁻¹	M	3	0.7	0.8	5.1	19	9.2	0.4	<0.1
	Anthracene	120127	mg kg⁻¹	M	0.7	0.2	0.2	2.1	4.9	2.1	<0.1	<0.1
	Fluoranthene	206440	mg kg⁻¹	M	4.7	1.4	1.2	14	40	18	0.9	<0.1
	Pyrene	129000	mg kg⁻¹	M	4.1	1.3	1.1	13	35	15	0.8	<0.1
	Benzo[a]anthracene	56553	mg kg⁻¹	M	2.2	0.6	0.8	7.1	20	9	0.7	<0.1
	Chrysene	218019	mg kg⁻¹	M	2.4	0.7	0.6	7.8	23	11	0.5	<0.1
	Benzo[b]fluoranthene	205992	mg kg⁻¹	M	2	0.9	0.5	8.1	27	11	0.7	<0.1
	Benzo[k]fluoranthene	207089	mg kg⁻¹	M	1.2	0.4	0.3	4.1	14	6.2	0.3	<0.1
	Benzo[a]pyrene	50328	mg kg⁻¹	M	2.3	2.1	0.6	8.1	26	11	0.8	<0.1
	Dibenzo[a,h]anthracene	53703	mg kg⁻¹	M	0.7	0.4	0.2	4.2	17	6.5	0.5	<0.1
	Indeno[1,2,3-cd]pyrene	193395	mg kg⁻¹	M	0.1	<0.1	<0.1	1.3	4.7	1.7	<0.1	<0.1

All tests undertaken between 01-Jul-2010 and 9-Jul-2010

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HP3 9RT

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LABORATORY TEST REPORT

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241458 - Twickenham Railway Station

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Report Date
09 July 2010

					89511					
					AF09663	AF09664	AF09665	AF09666	AF09667	AF09668
					WS1	WS1	WS2	WS2	WS3	WS3
					14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010
					0.25m	1m	0.5m	1m	0.25m	0.75m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2675	TPH aliphatic >C8-C10		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C10-C12		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C12-C16		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C16-C21		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C21-C35		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C35-C44		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aromatic >C5-C7		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aromatic >C7-C8		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aromatic >C8-C10		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aromatic >C10-C12		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aromatic >C12-C16		mg kg⁻¹	N	3.5	3.0	7.6	17	9.9	1.2
	TPH aromatic >C16-C21		mg kg⁻¹	N	30	27	100	180	64	12
	TPH aromatic >C21-C35		mg kg⁻¹	N	77	62	270	410	210	31
	TPH aromatic >C35-C44		mg kg⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	Total Petroleum Hydrocarbons		mg kg⁻¹	N	110	93	380	610	290	44
2700	Naphthalene	91203	mg kg⁻¹	M	0.2	0.8	1	4.2	0.3	<0.1
	Acenaphthylene	208968	mg kg⁻¹	M	0.5	0.3	2.3	5.6	1.1	<0.1
	Acenaphthene	83329	mg kg⁻¹	M	0.4	0.4	0.6	1.3	1.4	<0.1
	Fluorene	86737	mg kg⁻¹	M	0.4	0.2	1.3	4.2	1	<0.1
	Phenanthrene	85018	mg kg⁻¹	M	4.6	4.1	15	46	9.7	0.4
	Anthracene	120127	mg kg⁻¹	M	1.7	0.9	3.8	11	2.5	<0.1
	Fluoranthene	206440	mg kg⁻¹	M	10	8.4	29	67	17	0.9
	Pyrene	129000	mg kg⁻¹	M	9.7	7.4	24	51	14	0.7
	Benzo[a]anthracene	56553	mg kg⁻¹	M	6.6	4.6	14	30	7.1	0.6
	Chrysene	218019	mg kg⁻¹	M	7.3	5.3	16	32	0.9	0.6
	Benzo[b]fluoranthene	205992	mg kg⁻¹	M	6.6	5.8	17	22	9.1	0.6
	Benzo[k]fluoranthene	207089	mg kg⁻¹	M	3.8	3	10	18	3	0.5
	Benzo[a]pyrene	50328	mg kg⁻¹	M	8.7	6.1	19	36	9.6	0.3
	Dibenzo[a,h]anthracene	53703	mg kg⁻¹	M	3.8	3.8	12	20	7.1	0.5
	Indeno[1,2,3-cd]pyrene	193395	mg kg⁻¹	M	1.1	0.3	3.3	5.3	2.1	0.2

All tests undertaken between 01-Jul-2010 and 9-Jul-2010

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FAO Andrea Grossey

LABORATORY TEST REPORT

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Chemtest
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09 July 2010

					89511							
					AF09639	AF09640	AF09641	AF09642	AF09643	AF09644	AF09645	AF09646
					BHA	BHA	BHA	BHB	BHB	BHB	BHB	BHC
					14/06/2010	14/06/2010	14/06/2010	10/06/2010	10/06/2010	10/06/2010	10/06/2010	14/06/2010
					0.5m	1.5m	3.5m	1m	2m	3m	4.5m	0.5m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2700	Benzo[g,h,i]perylene	191242	mg kg-1	M	2	1.5	0.1	0.2	9.8	2.1	6.9	5.9
	Coronene	191071	mg kg-1	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Total (of 17) PAHs		mg kg-1	N	34	23	<2	3.9	240	43	130	89
	Benzo[j]fluoranthene by FID	205823	mg kg-1	N	1.53	1.17	0.08	0.18	8.3	1.9	8.8	5.9
2760	Benzene	71432	µg kg-1	M	< 1	< 1	< 1	< 1	1.1	1.5	1.3	< 1
	Toluene	108883	µg kg-1	M	< 1	< 1	< 1	< 1	< 1	1.3	1.4	< 1
	Ethyl benzene	100414	µg kg-1	M	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
	m- & p-Xylene	1330207	µg kg-1	M	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
	o-Xylene	95476	µg kg-1	M	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
	Methyl tert-butyl ether	1634044	µg kg-1	N	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
	Dichlorodifluoromethane	75718	µg kg-1	U	<1	<1	<1	<1	<1	<1	<1	<1
	Chloromethane	74873	µg kg-1	M	<1	<1	<1	<1	<1	<1	<1	<1
	Vinyl chloride	75014	µg kg-1	M	<1	<1	<1	<1	<1	<1	<1	<1
	Bromomethane	74839	µg kg-1	U	<20	<20	<20	<20	<20	<20	<20	<20
	Chloroethane	75003	µg kg-1	U	<2	<2	<2	<2	<2	<2	<2	<2
	Trichlorofluoromethane	75694	µg kg-1	U	<1	<1	<1	<1	<1	<1	<1	<1
	1,1-Dichloroethene	75354	µg kg-1	U	<1	<1	<1	<1	<1	<1	<1	<1
	Dichloromethane	75092	µg kg-1	U	ne	ne	ne	ne	ne	ne	ne	ne
	trans-1,2-Dichloroethene	156605	µg kg-1	M	<1	<1	<1	<1	<1	<1	<1	<1
	1,1-Dichloroethane	75343	µg kg-1	M	<1	<1	<1	<1	<1	<1	<1	<1
	cis-1,2-Dichloroethene	156592	µg kg-1	M	<1	<1	<1	<1	<1	<1	<1	<1
	Bromochloromethane	74975	µg kg-1	U	<1	<1	<1	<1	<1	<1	<1	<1
	Trichloromethane	67663	µg kg-1	M	<1	<1	<1	<1	<1	<1	<1	<1
	1,1,1-Trichloroethane	71556	µg kg-1	M	<1	<1	<1	<1	<1	<1	<1	<1
	Tetrachloromethane	56235	µg kg-1	M	<1	<1	<1	<1	<1	<1	<1	<1
	1,1-Dichloropropene	563586	µg kg-1	U	<1	<1	<1	<1	<1	<1	<1	<1
	1,2-Dichloroethane	107062	µg kg-1	M	<2	<2	<2	<2	<2	<2	<2	<2
	Trichloroethene	79016	µg kg-1	M	<1	<1	<1	<1	<1	<1	<1	<1
	1,2-Dichloropropane	78875	µg kg-1	U	<1	<1	<1	<1	<1	<1	<1	<1
	Dibromomethane	74953	µg kg-1	U	<10	<10	<10	<10	<10	<10	<10	<10

All tests undertaken between 01-Jul-2010 and 9-Jul-2010

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					89511							
					AF09647	AF09648	AF09649	AF09650	AF09651	AF09652	AF09653	AF09654
					BHC	BHC	BHD	BHD	BHD	BHE	BHE	BHE
					14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010
					1m	2m	0.5m	1.5m	2m	1m	2m	3m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2700	Benzo[g,h,i]perylene	191242	mg kg-¹	M	0.6	<0.1	0.7	0.1	<0.1	1.2	0.1	0.2
	Coronene	191071	mg kg-¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Total (of 17) PAHs		mg kg-¹	N	13	<2	15	2.2	<2	19	3.5	2.2
	Benzo[j]fluoranthene by FID	205823	mg kg-¹	N	1.05	0.19	1.45	0.22	<0.1	1.62	0.37	0.29
2760	Benzene	71432	µg kg-¹	M	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
	Toluene	108883	µg kg-¹	M	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
	Ethyl benzene	100414	µg kg-¹	M	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
	m- & p-Xylene	1330207	µg kg-¹	M	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
	o-Xylene	95476	µg kg-¹	M	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
	Methyl tert-butyl ether	1634044	µg kg-¹	N	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
	Dichlorodifluoromethane	75718	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	Chloromethane	74873	µg kg-¹	M	<1	<1	<1	<1	<1	<1	<1	<1
	Vinyl chloride	75014	µg kg-¹	M	<1	<1	<1	<1	<1	<1	<1	<1
	Bromomethane	74839	µg kg-¹	U	<20	<20	<20	<20	<20	<20	<20	<20
	Chloroethane	75003	µg kg-¹	U	<2	<2	<2	<2	<2	<2	<2	<2
	Trichlorofluoromethane	75694	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	1,1-Dichloroethene	75354	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	Dichloromethane	75092	µg kg-¹	U	ne	ne	ne	ne	ne	ne	ne	ne
	trans-1,2-Dichloroethene	156605	µg kg-¹	M	<1	<1	<1	<1	<1	<1	<1	<1
	1,1-Dichloroethane	75343	µg kg-¹	M	<1	<1	<1	<1	<1	<1	<1	<1
	cis-1,2-Dichloroethene	156592	µg kg-¹	M	<1	<1	<1	<1	<1	<1	<1	<1
	Bromochloromethane	74975	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	Trichloromethane	67663	µg kg-¹	M	<1	<1	<1	<1	<1	<1	<1	<1
	1,1,1-Trichloroethane	71556	µg kg-¹	M	<1	<1	<1	<1	<1	<1	<1	<1
	Tetrachloromethane	56235	µg kg-¹	M	<1	<1	<1	<1	<1	<1	<1	<1
	1,1-Dichloropropene	563586	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	1,2-Dichloroethane	107062	µg kg-¹	M	<2	<2	<2	<2	<2	<2	<2	<2
	Trichloroethene	79016	µg kg-¹	M	<1	<1	<1	<1	<1	<1	<1	<1
	1,2-Dichloropropane	78875	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	Dibromomethane	74953	µg kg-¹	U	<10	<10	<10	<10	<10	<10	<10	<10

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					89511							
					AF09655	AF09656	AF09657	AF09658	AF09659	AF09660	AF09661	AF09662
					BHF	BHF	BHF	BHG	BHG	BHG	BHG	BHG
					14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010
					0.5m	1.5m	3m	0.5m	1m	1.5m	2.5m	4m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2700	Benzo[g,h,i]perylene	191242	mg kg-¹	M	0.8	0.4	0.2	3.1	17	7.3	0.6	<0.1
	Coronene	191071	mg kg-¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Total (of 17) PAHs		mg kg-¹	N	25	9	6.3	79	250	110	6.4	<2
	Benzo[j]fluoranthene by FID	205823	mg kg-¹	N	1.07	0.42	0.27	4.07	13.6	5.73	0.35	<0.1
2760	Benzene	71432	µg kg-¹	M	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
	Toluene	108883	µg kg-¹	M	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
	Ethyl benzene	100414	µg kg-¹	M	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
	m- & p-Xylene	1330207	µg kg-¹	M	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
	o-Xylene	95476	µg kg-¹	M	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
	Methyl tert-butyl ether	1634044	µg kg-¹	N	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
	Dichlorodifluoromethane	75718	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	Chloromethane	74873	µg kg-¹	M	<1	<1	<1	<1	<1	<1	<1	<1
	Vinyl chloride	75014	µg kg-¹	M	<1	<1	<1	<1	<1	<1	<1	<1
	Bromomethane	74839	µg kg-¹	U	<20	<20	<20	<20	<20	<20	<20	<20
	Chloroethane	75003	µg kg-¹	U	<2	<2	<2	<2	<2	<2	<2	<2
	Trichlorofluoromethane	75694	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	1,1-Dichloroethene	75354	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	Dichloromethane	75092	µg kg-¹	U	ne	ne	ne	ne	ne	ne	ne	ne
	trans-1,2-Dichloroethene	156605	µg kg-¹	M	<1	<1	<1	<1	<1	<1	<1	<1
	1,1-Dichloroethane	75343	µg kg-¹	M	<1	<1	<1	<1	<1	<1	<1	<1
	cis-1,2-Dichloroethene	156592	µg kg-¹	M	<1	<1	<1	<1	<1	<1	<1	<1
	Bromochloromethane	74975	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	Trichloromethane	67663	µg kg-¹	M	<1	<1	<1	<1	<1	<1	<1	<1
	1,1,1-Trichloroethane	71556	µg kg-¹	M	<1	<1	<1	<1	<1	<1	<1	<1
	Tetrachloromethane	56235	µg kg-¹	M	<1	<1	<1	<1	<1	<1	<1	<1
	1,1-Dichloropropene	563586	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	1,2-Dichloroethane	107062	µg kg-¹	M	<2	<2	<2	<2	<2	<2	<2	<2
	Trichloroethene	79016	µg kg-¹	M	<1	<1	<1	<1	<1	<1	<1	<1
	1,2-Dichloropropane	78875	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	Dibromomethane	74953	µg kg-¹	U	<10	<10	<10	<10	<10	<10	<10	<10

All tests undertaken between 01-Jul-2010 and 9-Jul-2010

* Accreditation status

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RSK STATS Geoconsult Ltd
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

FAO Andrea Grossey

LABORATORY TEST REPORT

Results of analysis of 30 samples
received 02 July 2010

241458 - Twickenham Railway Station

Report Date
09 July 2010

					89511					
					AF09663	AF09664	AF09665	AF09666	AF09667	AF09668
					WS1	WS1	WS2	WS2	WS3	WS3
					14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010
					0.25m	1m	0.5m	1m	0.25m	0.75m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2700	Benzo[g,h,i]perylene	191242	mg kg-¹	M	3.8	3.3	11	20	6.5	0.5
	Coronene	191071	mg kg-¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Total (of 17) PAHs		mg kg-¹	N	69	55	180	370	92	5.8
	Benzo[j]fluoranthene by FID	205823	mg kg-¹	N	3.46	2.93	9.19	13.31	4.04	0.38
2760	Benzene	71432	µg kg-¹	M	< 1	< 1	< 1	1.3	< 1	< 1
	Toluene	108883	µg kg-¹	M	< 1	< 1	< 1	< 1	< 1	< 1
	Ethyl benzene	100414	µg kg-¹	M	< 1	< 1	< 1	< 1	< 1	< 1
	m- & p-Xylene	1330207	µg kg-¹	M	< 1	< 1	< 1	< 1	< 1	< 1
	o-Xylene	95476	µg kg-¹	M	< 1	< 1	< 1	< 1	< 1	< 1
	Methyl tert-butyl ether	1634044	µg kg-¹	N	< 1	< 1	< 1	< 1	< 1	< 1
	Dichlorodifluoromethane	75718	µg kg-¹	U	<1	<1	<1	<1	<1	<1
	Chloromethane	74873	µg kg-¹	M	<1	<1	<1	<1	<1	<1
	Vinyl chloride	75014	µg kg-¹	M	<1	<1	<1	<1	<1	<1
	Bromomethane	74839	µg kg-¹	U	<20	<20	<20	<20	<20	<20
	Chloroethane	75003	µg kg-¹	U	<2	<2	<2	<2	<2	<2
	Trichlorofluoromethane	75694	µg kg-¹	U	<1	<1	<1	<1	<1	<1
	1,1-Dichloroethene	75354	µg kg-¹	U	<1	<1	<1	<1	<1	<1
	Dichloromethane	75092	µg kg-¹	U	ne	ne	ne	ne	ne	ne
	trans-1,2-Dichloroethene	156605	µg kg-¹	M	<1	<1	<1	<1	<1	<1
	1,1-Dichloroethane	75343	µg kg-¹	M	<1	<1	<1	<1	<1	<1
	cis-1,2-Dichloroethene	156592	µg kg-¹	M	<1	<1	<1	<1	<1	<1
	Bromochloromethane	74975	µg kg-¹	U	<1	<1	<1	<1	<1	<1
	Trichloromethane	67663	µg kg-¹	M	<1	<1	<1	<1	7.6	<1
	1,1,1-Trichloroethane	71556	µg kg-¹	M	<1	<1	<1	<1	<1	<1
	Tetrachloromethane	56235	µg kg-¹	M	<1	<1	<1	<1	<1	<1
	1,1-Dichloropropene	563586	µg kg-¹	U	<1	<1	<1	<1	<1	<1
	1,2-Dichloroethane	107062	µg kg-¹	M	<2	<2	<2	<2	<2	<2
	Trichloroethene	79016	µg kg-¹	M	<1	<1	<1	<1	<1	<1
	1,2-Dichloropropane	78875	µg kg-¹	U	<1	<1	<1	<1	<1	<1
	Dibromomethane	74953	µg kg-¹	U	<10	<10	<10	<10	<10	<10

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HP3 9RT

FAO Andrea Grossey

LABORATORY TEST REPORT

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received 02 July 2010

241458 - Twickenham Railway Station

Chemtest
The right chemistry to deliver results

Report Date
09 July 2010

					89511							
					AF09639	AF09640	AF09641	AF09642	AF09643	AF09644	AF09645	AF09646
					BHA	BHA	BHA	BHB	BHB	BHB	BHB	BHC
					14/06/2010	14/06/2010	14/06/2010	10/06/2010	10/06/2010	10/06/2010	10/06/2010	14/06/2010
					0.5m	1.5m	3.5m	1m	2m	3m	4.5m	0.5m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2760	Bromodichloromethane	75274	µg kg⁻¹	U	<5	<5	<5	<5	<5	<5	<5	<5
	cis-1,3-Dichloropropene	10061015	µg kg⁻¹	U	<10	<10	<10	<10	<10	<10	<10	<10
	trans-1,3-Dichloropropene	10061026	µg kg⁻¹	U	<10	<10	<10	<10	<10	<10	<10	<10
	1,1,2-Trichloroethane	79005	µg kg⁻¹	M	<10	<10	<10	<10	<10	<10	<10	<10
	Tetrachloroethene	127184	µg kg⁻¹	M	<1	<1	<1	<1	<1	<1	<1	<1
	1,3-Dichloropropane	142289	µg kg⁻¹	U	<2	<2	<2	<2	<2	<2	<2	<2
	Dibromochloromethane	124481	µg kg⁻¹	U	<10	<10	<10	<10	<10	<10	<10	<10
	1,2-Dibromoethane	106934	µg kg⁻¹	U	<5	<5	<5	<5	<5	<5	<5	<5
	Chlorobenzene	108907	µg kg⁻¹	M	<1	<1	<1	<1	<1	<1	<1	<1
	1,1,1,2-Tetrachloroethane	630206	µg kg⁻¹	M	<2	<2	<2	<2	<2	<2	<2	<2
	Styrene	100425	µg kg⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	Tribromomethane	75252	µg kg⁻¹	U	<10	<10	<10	<10	<10	<10	<10	<10
	Isopropylbenzene	98828	µg kg⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	Bromobenzene	108861	µg kg⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	1,1,2,2-Tetrachloroethane	79345	µg kg⁻¹	M	<10	<10	<10	<10	<10	<10	<10	<10
	1,2,3-Trichloropropane	96184	µg kg⁻¹	U	<50	<50	<50	<50	<50	<50	<50	<50
	n-Propylbenzene	103651	µg kg⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	2-Chlorotoluene	95498	µg kg⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	1,3,5-Trimethylbenzene	108678	µg kg⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	4-Chlorotoluene	106434	µg kg⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	tert-Butylbenzene	98066	µg kg⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	1,2,4-Trimethylbenzene	95636	µg kg⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	sec-Butylbenzene	135988	µg kg⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	1,3-Dichlorobenzene	541731	µg kg⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	4-Isopropyltoluene	99876	µg kg⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	1,4-Dichlorobenzene	106467	µg kg⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	n-Butylbenzene	104518	µg kg⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	1,2-Dichlorobenzene	95501	µg kg⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	1,2-Dibromo-3-chloropropane	96128	µg kg⁻¹	U	<50	<50	<50	<50	<50	<50	<50	<50
	1,2,4-Trichlorobenzene	120821	µg kg⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1

All tests undertaken between 01-Jul-2010 and 9-Jul-2010

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FAO Andrea Grossey

LABORATORY TEST REPORT

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241458 - Twickenham Railway Station

Report Date
09 July 2010

					89511							
					AF09647	AF09648	AF09649	AF09650	AF09651	AF09652	AF09653	AF09654
					BHC	BHC	BHD	BHD	BHD	BHE	BHE	BHE
					14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010
					1m	2m	0.5m	1.5m	2m	1m	2m	3m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2760	Bromodichloromethane	75274	µg kg-¹	U	<5	<5	<5	<5	<5	<5	<5	<5
	cis-1,3-Dichloropropene	10061015	µg kg-¹	U	<10	<10	<10	<10	<10	<10	<10	<10
	trans-1,3-Dichloropropene	10061026	µg kg-¹	U	<10	<10	<10	<10	<10	<10	<10	<10
	1,1,2-Trichloroethane	79005	µg kg-¹	M	<10	<10	<10	<10	<10	<10	<10	<10
	Tetrachloroethene	127184	µg kg-¹	M	<1	<1	<1	<1	<1	<1	<1	<1
	1,3-Dichloropropane	142289	µg kg-¹	U	<2	<2	<2	<2	<2	<2	<2	<2
	Dibromochloromethane	124481	µg kg-¹	U	<10	<10	<10	<10	<10	<10	<10	<10
	1,2-Dibromoethane	106934	µg kg-¹	U	<5	<5	<5	<5	<5	<5	<5	<5
	Chlorobenzene	108907	µg kg-¹	M	<1	<1	<1	<1	<1	<1	<1	<1
	1,1,1,2-Tetrachloroethane	630206	µg kg-¹	M	<2	<2	<2	<2	<2	<2	<2	<2
	Styrene	100425	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	Tribromomethane	75252	µg kg-¹	U	<10	<10	<10	<10	<10	<10	<10	<10
	Isopropylbenzene	98828	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	Bromobenzene	108861	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	1,1,2,2-Tetrachloroethane	79345	µg kg-¹	M	<10	<10	<10	<10	<10	<10	<10	<10
	1,2,3-Trichloropropane	96184	µg kg-¹	U	<50	<50	<50	<50	<50	<50	<50	<50
	n-Propylbenzene	103651	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	2-Chlorotoluene	95498	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	1,3,5-Trimethylbenzene	108678	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	4-Chlorotoluene	106434	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	tert-Butylbenzene	98066	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	1,2,4-Trimethylbenzene	95636	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	sec-Butylbenzene	135988	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	1,3-Dichlorobenzene	541731	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	4-Isopropyltoluene	99876	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	1,4-Dichlorobenzene	106467	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	n-Butylbenzene	104518	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	1,2-Dichlorobenzene	95501	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	1,2-Dibromo-3-chloropropane	96128	µg kg-¹	U	<50	<50	<50	<50	<50	<50	<50	<50
	1,2,4-Trichlorobenzene	120821	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1

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09 July 2010

					89511							
					AF09655	AF09656	AF09657	AF09658	AF09659	AF09660	AF09661	AF09662
					BHF	BHF	BHF	BHG	BHG	BHG	BHG	BHG
					14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010
					0.5m	1.5m	3m	0.5m	1m	1.5m	2.5m	4m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2760	Bromodichloromethane	75274	µg kg-¹	U	<5	<5	<5	<5	<5	<5	<5	<5
	cis-1,3-Dichloropropene	10061015	µg kg-¹	U	<10	<10	<10	<10	<10	<10	<10	<10
	trans-1,3-Dichloropropene	10061026	µg kg-¹	U	<10	<10	<10	<10	<10	<10	<10	<10
	1,1,2-Trichloroethane	79005	µg kg-¹	M	<10	<10	<10	<10	<10	<10	<10	<10
	Tetrachloroethene	127184	µg kg-¹	M	<1	<1	<1	<1	<1	<1	<1	<1
	1,3-Dichloropropane	142289	µg kg-¹	U	<2	<2	<2	<2	<2	<2	<2	<2
	Dibromochloromethane	124481	µg kg-¹	U	<10	<10	<10	<10	<10	<10	<10	<10
	1,2-Dibromoethane	106934	µg kg-¹	U	<5	<5	<5	<5	<5	<5	<5	<5
	Chlorobenzene	108907	µg kg-¹	M	<1	<1	<1	<1	<1	<1	<1	<1
	1,1,1,2-Tetrachloroethane	630206	µg kg-¹	M	<2	<2	<2	<2	<2	<2	<2	<2
	Styrene	100425	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	Tribromomethane	75252	µg kg-¹	U	<10	<10	<10	<10	<10	<10	<10	<10
	Isopropylbenzene	98828	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	Bromobenzene	108861	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	1,1,2,2-Tetrachloroethane	79345	µg kg-¹	M	<10	<10	<10	<10	<10	<10	<10	<10
	1,2,3-Trichloropropane	96184	µg kg-¹	U	<50	<50	<50	<50	<50	<50	<50	<50
	n-Propylbenzene	103651	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	2-Chlorotoluene	95498	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	1,3,5-Trimethylbenzene	108678	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	4-Chlorotoluene	106434	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	tert-Butylbenzene	98066	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	1,2,4-Trimethylbenzene	95636	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	sec-Butylbenzene	135988	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	1,3-Dichlorobenzene	541731	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	4-Isopropyltoluene	99876	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	1,4-Dichlorobenzene	106467	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	n-Butylbenzene	104518	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	1,2-Dichlorobenzene	95501	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	1,2-Dibromo-3-chloropropane	96128	µg kg-¹	U	<50	<50	<50	<50	<50	<50	<50	<50
	1,2,4-Trichlorobenzene	120821	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1

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					89511					
					AF09663	AF09664	AF09665	AF09666	AF09667	AF09668
					WS1	WS1	WS2	WS2	WS3	WS3
					14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010
					0.25m	1m	0.5m	1m	0.25m	0.75m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2760	Bromodichloromethane	75274	µg kg-¹	U	<5	<5	<5	<5	<5	<5
	cis-1,3-Dichloropropene	10061015	µg kg-¹	U	<10	<10	<10	<10	<10	<10
	trans-1,3-Dichloropropene	10061026	µg kg-¹	U	<10	<10	<10	<10	<10	<10
	1,1,2-Trichloroethane	79005	µg kg-¹	M	<10	<10	<10	<10	<10	<10
	Tetrachloroethene	127184	µg kg-¹	M	<1	<1	<1	<1	<1	<1
	1,3-Dichloropropane	142289	µg kg-¹	U	<2	<2	<2	<2	<2	<2
	Dibromochloromethane	124481	µg kg-¹	U	<10	<10	<10	<10	<10	<10
	1,2-Dibromoethane	106934	µg kg-¹	U	<5	<5	<5	<5	<5	<5
	Chlorobenzene	108907	µg kg-¹	M	<1	<1	<1	<1	<1	<1
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	Isopropylbenzene	98828	µg kg-¹	U	<1	<1	<1	<1	<1	<1
	Bromobenzene	108861	µg kg-¹	U	<1	<1	<1	<1	<1	<1
	1,1,2,2-Tetrachloroethane	79345	µg kg-¹	M	<10	<10	<10	<10	<10	<10
	1,2,3-Trichloropropane	96184	µg kg-¹	U	<50	<50	<50	<50	<50	<50
	n-Propylbenzene	103651	µg kg-¹	U	<1	<1	<1	<1	<1	<1
	2-Chlorotoluene	95498	µg kg-¹	U	<1	<1	<1	<1	<1	<1
	1,3,5-Trimethylbenzene	108678	µg kg-¹	U	<1	<1	<1	<1	<1	<1
	4-Chlorotoluene	106434	µg kg-¹	U	<1	<1	<1	<1	<1	<1
	tert-Butylbenzene	98066	µg kg-¹	U	<1	<1	<1	<1	<1	<1
	1,2,4-Trimethylbenzene	95636	µg kg-¹	U	<1	<1	<1	<1	<1	<1
	sec-Butylbenzene	135988	µg kg-¹	U	<1	<1	<1	<1	<1	<1
	1,3-Dichlorobenzene	541731	µg kg-¹	U	<1	<1	<1	<1	<1	<1
	4-Isopropyltoluene	99876	µg kg-¹	U	<1	<1	<1	<1	<1	<1
	1,4-Dichlorobenzene	106467	µg kg-¹	U	<1	<1	<1	<1	<1	<1
	n-Butylbenzene	104518	µg kg-¹	U	<1	<1	<1	<1	<1	<1
	1,2-Dichlorobenzene	95501	µg kg-¹	U	<1	<1	<1	<1	<1	<1
	1,2-Dibromo-3-chloropropane	96128	µg kg-¹	U	<50	<50	<50	<50	<50	<50
	1,2,4-Trichlorobenzene	120821	µg kg-¹	U	<1	<1	<1	<1	<1	<1

All tests undertaken between 01-Jul-2010 and 9-Jul-2010

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

RSK STATS Geoconsult Ltd
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

FAO Andrea Grossey

LABORATORY TEST REPORT

Results of analysis of 30 samples
received 02 July 2010

241458 - Twickenham Railway Station

Chemtest
The right chemistry to deliver results

Report Date
09 July 2010

					89511							
					AF09639	AF09640	AF09641	AF09642	AF09643	AF09644	AF09645	AF09646
					BHA	BHA	BHA	BHB	BHB	BHB	BHB	BHC
					14/06/2010	14/06/2010	14/06/2010	10/06/2010	10/06/2010	10/06/2010	10/06/2010	14/06/2010
					0.5m	1.5m	3.5m	1m	2m	3m	4.5m	0.5m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2760	Hexachlorobutadiene	87683	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	1,2,3-Trichlorobenzene	87616	µg kg-¹	U	<2	<2	<2	<2	<2	<2	<2	<2
2762	Tentatively Identified Compounds		µg kg-¹		None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected
2790	N-Nitrosodimethylamine	62759	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Phenol	108952	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	bis(2-Chloroethyl)ether	111444	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Chlorophenol	95578	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	1,3-Dichlorobenzene	541731	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	1,4-Dichlorobenzene	106467	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	1,2-Dichlorobenzene	95501	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Methylphenol	95487	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	bis(2-Chloroisopropyl)ether	108601	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4-Methylphenol	106445	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	N-Nitrosodi-n-propylamine	621647	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Hexachloroethane	67721	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Nitrobenzene	98953	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Isophorone	78591	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Nitrophenol	88755	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,4-Dimethylphenol	105679	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	bis(2-Chloroethoxy)methane	111911	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,4-Dichlorophenol	120832	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	1,2,4-Trichlorobenzene	120821	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Naphthalene	91203	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4-Chloroaniline	106478	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Hexachlorobutadiene	87683	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4-Chloro-3-methylphenol	59507	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Methylnaphthalene	91576	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Hexachlorocyclopentadiene	77474	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,4,6-Trichlorophenol	88062	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,4,5-Trichlorophenol	95954	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

All tests undertaken between 01-Jul-2010 and 9-Jul-2010

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FAO Andrea Grossey

LABORATORY TEST REPORT

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Chemtest
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Report Date
09 July 2010

					89511							
					AF09647	AF09648	AF09649	AF09650	AF09651	AF09652	AF09653	AF09654
					BHC	BHC	BHD	BHD	BHD	BHE	BHE	BHE
					14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010
					1m	2m	0.5m	1.5m	2m	1m	2m	3m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2760	Hexachlorobutadiene	87683	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	1,2,3-Trichlorobenzene	87616	µg kg-¹	U	<2	<2	<2	<2	<2	<2	<2	<2
2762	Tentatively Identified Compounds		µg kg-¹		None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected
2790	N-Nitrosodimethylamine	62759	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Phenol	108952	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	bis(2-Chloroethyl)ether	111444	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Chlorophenol	95578	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	1,3-Dichlorobenzene	541731	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	1,4-Dichlorobenzene	106467	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	1,2-Dichlorobenzene	95501	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Methylphenol	95487	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	bis(2-Chloroisopropyl)ether	108601	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4-Methylphenol	106445	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	N-Nitrosodi-n-propylamine	621647	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Hexachloroethane	67721	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Nitrobenzene	98953	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Isophorone	78591	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Nitrophenol	88755	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,4-Dimethylphenol	105679	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	bis(2-Chloroethoxy)methane	111911	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,4-Dichlorophenol	120832	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	1,2,4-Trichlorobenzene	120821	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Naphthalene	91203	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4-Chloroaniline	106478	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Hexachlorobutadiene	87683	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4-Chloro-3-methylphenol	59507	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Methylnaphthalene	91576	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Hexachlorocyclopentadiene	77474	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,4,6-Trichlorophenol	88062	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,4,5-Trichlorophenol	95954	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

All tests undertaken between 01-Jul-2010 and 9-Jul-2010

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HP3 9RT

FAO Andrea Grossey

LABORATORY TEST REPORT

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received 02 July 2010

241458 - Twickenham Railway Station

Report Date
09 July 2010

					89511							
					AF09655	AF09656	AF09657	AF09658	AF09659	AF09660	AF09661	AF09662
					BHF	BHF	BHF	BHG	BHG	BHG	BHG	BHG
					14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010
					0.5m	1.5m	3m	0.5m	1m	1.5m	2.5m	4m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2760	Hexachlorobutadiene	87683	µg kg-¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	1,2,3-Trichlorobenzene	87616	µg kg-¹	U	<2	<2	<2	<2	<2	<2	<2	<2
2762	Tentatively Identified Compounds		µg kg-¹		None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected
2790	N-Nitrosodimethylamine	62759	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Phenol	108952	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	bis(2-Chloroethyl)ether	111444	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Chlorophenol	95578	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	1,3-Dichlorobenzene	541731	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	1,4-Dichlorobenzene	106467	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	1,2-Dichlorobenzene	95501	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Methylphenol	95487	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	bis(2-Chloroisopropyl)ether	108601	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4-Methylphenol	106445	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	N-Nitrosodi-n-propylamine	621647	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Hexachloroethane	67721	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Nitrobenzene	98953	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Isophorone	78591	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Nitrophenol	88755	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,4-Dimethylphenol	105679	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	bis(2-Chloroethoxy)methane	111911	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,4-Dichlorophenol	120832	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	1,2,4-Trichlorobenzene	120821	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Naphthalene	91203	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4-Chloroaniline	106478	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Hexachlorobutadiene	87683	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4-Chloro-3-methylphenol	59507	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Methylnaphthalene	91576	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Hexachlorocyclopentadiene	77474	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,4,6-Trichlorophenol	88062	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,4,5-Trichlorophenol	95954	mg kg-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

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					89511					
					AF09663	AF09664	AF09665	AF09666	AF09667	AF09668
					WS1	WS1	WS2	WS2	WS3	WS3
					14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010
					0.25m	1m	0.5m	1m	0.25m	0.75m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2760	Hexachlorobutadiene	87683	µg kg⁻¹	U	<1	<1	<1	<1	<1	<1
	1,2,3-Trichlorobenzene	87616	µg kg⁻¹	U	<2	<2	<2	<2	<2	<2
2762	Tentatively Identified Compounds		µg kg⁻¹		None Detected	None Detected	None Detected	None Detected	None Detected	None Detected
2790	N-Nitrosodimethylamine	62759	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Phenol	108952	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	bis(2-Chloroethyl)ether	111444	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Chlorophenol	95578	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	1,3-Dichlorobenzene	541731	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	1,4-Dichlorobenzene	106467	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	1,2-Dichlorobenzene	95501	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Methylphenol	95487	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	bis(2-Chloroisopropyl)ether	108601	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4-Methylphenol	106445	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	N-Nitrosodi-n-propylamine	621647	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Hexachloroethane	67721	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Nitrobenzene	98953	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Isophorone	78591	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Nitrophenol	88755	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,4-Dimethylphenol	105679	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	bis(2-Chloroethoxy)methane	111911	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,4-Dichlorophenol	120832	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	1,2,4-Trichlorobenzene	120821	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Naphthalene	91203	mg kg⁻¹	N	<0.5	<0.5	0.54	1.6	<0.5	<0.5
	4-Chloroaniline	106478	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Hexachlorobutadiene	87683	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4-Chloro-3-methylphenol	59507	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Methylnaphthalene	91576	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Hexachlorocyclopentadiene	77474	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,4,6-Trichlorophenol	88062	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,4,5-Trichlorophenol	95954	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

All tests undertaken between 01-Jul-2010 and 9-Jul-2010

* Accreditation status

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RSK STATS Geoconsult Ltd
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

FAO Andrea Grossey

LABORATORY TEST REPORT

Results of analysis of 30 samples
received 02 July 2010

241458 - Twickenham Railway Station

Chemtest
The right chemistry to deliver results

Report Date
09 July 2010

					89511							
					AF09639	AF09640	AF09641	AF09642	AF09643	AF09644	AF09645	AF09646
					BHA	BHA	BHA	BHB	BHB	BHB	BHB	BHC
					14/06/2010	14/06/2010	14/06/2010	10/06/2010	10/06/2010	10/06/2010	10/06/2010	14/06/2010
					0.5m	1.5m	3.5m	1m	2m	3m	4.5m	0.5m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2790	2-Chloronaphthalene	91587	mg kg-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Nitroaniline	88744	mg kg-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Dimethylphthalate	131113	mg kg-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,6-Dinitrotoluene	606202	mg kg-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Acenaphthylene	208968	mg kg-1	N	<0.5	<0.5	<0.5	<0.5	1.4	<0.5	1.1	0.78
	3-Nitroaniline	99092	mg kg-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Acenaphthene	83329	mg kg-1	N	<0.5	<0.5	<0.5	<0.5	0.83	<0.5	<0.5	<0.5
	Dibenzofuran	132649	mg kg-1	N	<0.5	<0.5	<0.5	<0.5	1.5	<0.5	<0.5	<0.5
	2,4-Dinitrotoluene	121142	mg kg-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Diethylphthalate	84662	mg kg-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Fluorene	86737	mg kg-1	N	<0.5	<0.5	<0.5	<0.5	1.1	<0.5	<0.5	<0.5
	4-Chlorophenylphenylether	7005723	mg kg-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4-Nitroaniline	100016	mg kg-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Methyl-4,6-dinitrophenol	534521	mg kg-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Azobenzene	103333	mg kg-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4-Bromophenylphenylether	101553	mg kg-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Hexachlorobenzene	118741	mg kg-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Pentachlorophenol	87865	mg kg-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Phenanthrene	85018	mg kg-1	N	0.68	0.68	<0.5	<0.5	25	1.2	11	4.2
	Anthracene	120127	mg kg-1	N	<0.5	<0.5	<0.5	<0.5	4.5	<0.5	2.7	1.0
	Carbazole	86748	mg kg-1	N	<0.5	<0.5	<0.5	<0.5	1.1	<0.5	0.55	<0.5
	Di-n-butylphthalate	84742	mg kg-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Fluoranthene	206440	mg kg-1	N	2.4	1.5	<0.5	<0.5	27	2.5	16	9.2
	Pyrene	129000	mg kg-1	N	2.1	1.2	<0.5	<0.5	22	2.1	14	8.1
	Butylbenzylphthalate	85687	mg kg-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo[a]anthracene	56553	mg kg-1	N	1.4	0.72	<0.5	<0.5	9.4	1.2	7.2	4.2
	Chrysene	218019	mg kg-1	N	1.2	0.74	<0.5	<0.5	7.4	1.1	6.0	4.2
	bis(2-Ethylhexyl)phthalate	117817	mg kg-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Di-n-octylphthalate	117840	mg kg-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo[b]fluoranthene	205992	mg kg-1	N	2.4	1.2	<0.5	<0.5	11	1.6	9.3	6.3

All tests undertaken between 01-Jul-2010 and 9-Jul-2010

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LABORATORY TEST REPORT

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241458 - Twickenham Railway Station

Chemtest
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Report Date
09 July 2010

					89511							
					AF09647	AF09648	AF09649	AF09650	AF09651	AF09652	AF09653	AF09654
					BHC	BHC	BHD	BHD	BHD	BHE	BHE	BHE
					14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010
					1m	2m	0.5m	1.5m	2m	1m	2m	3m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2790	2-Chloronaphthalene	91587	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Nitroaniline	88744	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Dimethylphthalate	131113	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,6-Dinitrotoluene	606202	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Acenaphthylene	208968	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	3-Nitroaniline	99092	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Acenaphthene	83329	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Dibenzofuran	132649	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,4-Dinitrotoluene	121142	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Diethylphthalate	84662	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Fluorene	86737	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4-Chlorophenylphenylether	7005723	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4-Nitroaniline	100016	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Methyl-4,6-dinitrophenol	534521	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Azobenzene	103333	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4-Bromophenylphenylether	101553	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Hexachlorobenzene	118741	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Pentachlorophenol	87865	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Phenanthrene	85018	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	0.60	<0.5	<0.5
	Anthracene	120127	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Carbazole	86748	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Di-n-butylphthalate	84742	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Fluoranthene	206440	mg kg⁻¹	N	1.6	<0.5	<0.5	<0.5	<0.5	1.4	<0.5	<0.5
	Pyrene	129000	mg kg⁻¹	N	1.3	<0.5	<0.5	<0.5	<0.5	1.2	<0.5	<0.5
	Butylbenzylphthalate	85687	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo[a]anthracene	56553	mg kg⁻¹	N	0.78	<0.5	<0.5	<0.5	<0.5	0.64	<0.5	<0.5
	Chrysene	218019	mg kg⁻¹	N	0.65	<0.5	<0.5	<0.5	<0.5	0.63	<0.5	<0.5
	bis(2-Ethylhexyl)phthalate	117817	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Di-n-octylphthalate	117840	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo[b]fluoranthene	205992	mg kg⁻¹	N	1.1	<0.5	<0.5	<0.5	<0.5	1.1	<0.5	<0.5

All tests undertaken between 01-Jul-2010 and 9-Jul-2010

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LABORATORY TEST REPORT

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241458 - Twickenham Railway Station

Chemtest
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					89511							
					AF09655	AF09656	AF09657	AF09658	AF09659	AF09660	AF09661	AF09662
					BHF	BHF	BHF	BHG	BHG	BHG	BHG	BHG
					14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010
					0.5m	1.5m	3m	0.5m	1m	1.5m	2.5m	4m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2790	2-Chloronaphthalene	91587	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Nitroaniline	88744	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Dimethylphthalate	131113	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,6-Dinitrotoluene	606202	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Acenaphthylene	208968	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	1.4	<0.5	<0.5	<0.5
	3-Nitroaniline	99092	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Acenaphthene	83329	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Dibenzofuran	132649	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,4-Dinitrotoluene	121142	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Diethylphthalate	84662	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Fluorene	86737	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4-Chlorophenylphenylether	7005723	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4-Nitroaniline	100016	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Methyl-4,6-dinitrophenol	534521	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Azobenzene	103333	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4-Bromophenylphenylether	101553	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Hexachlorobenzene	118741	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Pentachlorophenol	87865	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Phenanthrene	85018	mg kg⁻¹	N	0.74	<0.5	<0.5	0.60	4.8	1.7	<0.5	<0.5
	Anthracene	120127	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	1.3	<0.5	<0.5	<0.5
	Carbazole	86748	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Di-n-butylphthalate	84742	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Fluoranthene	206440	mg kg⁻¹	N	1.7	<0.5	<0.5	3.4	15	5.0	<0.5	<0.5
	Pyrene	129000	mg kg⁻¹	N	1.5	<0.5	<0.5	3.6	13	4.1	<0.5	<0.5
	Butylbenzylphthalate	85687	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo[a]anthracene	56553	mg kg⁻¹	N	0.87	<0.5	<0.5	2.6	8.5	2.8	<0.5	<0.5
	Chrysene	218019	mg kg⁻¹	N	0.84	<0.5	<0.5	2.4	8.6	2.6	<0.5	<0.5
	bis(2-Ethylhexyl)phthalate	117817	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Di-n-octylphthalate	117840	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo[b]fluoranthene	205992	mg kg⁻¹	N	1.4	<0.5	<0.5	4.5	15	4.6	<0.5	<0.5

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241458 - Twickenham Railway Station

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09 July 2010

					89511					
					AF09663	AF09664	AF09665	AF09666	AF09667	AF09668
					WS1	WS1	WS2	WS2	WS3	WS3
					14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010
					0.25m	1m	0.5m	1m	0.25m	0.75m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2790	2-Chloronaphthalene	91587	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Nitroaniline	88744	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Dimethylphthalate	131113	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,6-Dinitrotoluene	606202	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Acenaphthylene	208968	mg kg⁻¹	N	<0.5	<0.5	1.7	7.2	0.70	<0.5
	3-Nitroaniline	99092	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Acenaphthene	83329	mg kg⁻¹	N	<0.5	<0.5	<0.5	0.76	<0.5	<0.5
	Dibenzofuran	132649	mg kg⁻¹	N	<0.5	<0.5	<0.5	3.0	<0.5	<0.5
	2,4-Dinitrotoluene	121142	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Diethylphthalate	84662	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Fluorene	86737	mg kg⁻¹	N	<0.5	<0.5	<0.5	4.6	<0.5	<0.5
	4-Chlorophenylphenylether	7005723	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4-Nitroaniline	100016	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Methyl-4,6-dinitrophenol	534521	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Azobenzene	103333	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4-Bromophenylphenylether	101553	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Hexachlorobenzene	118741	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Pentachlorophenol	87865	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Phenanthrene	85018	mg kg⁻¹	N	0.96	1.3	11	78	3.4	<0.5
	Anthracene	120127	mg kg⁻¹	N	<0.5	<0.5	2.7	15	0.96	<0.5
	Carbazole	86748	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Di-n-butylphthalate	84742	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Fluoranthene	206440	mg kg⁻¹	N	3.1	3.9	23	120	7.3	0.94
	Pyrene	129000	mg kg⁻¹	N	3.0	3.3	20	92	6.5	0.82
	Butylbenzylphthalate	85687	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo[a]anthracene	56553	mg kg⁻¹	N	1.7	2.1	12	53	3.8	0.52
	Chrysene	218019	mg kg⁻¹	N	1.8	2.0	11	41	3.4	0.53
	bis(2-Ethylhexyl)phthalate	117817	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Di-n-octylphthalate	117840	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo[b]fluoranthene	205992	mg kg⁻¹	N	2.9	3.6	18	68	6.4	1.1

All tests undertaken between 01-Jul-2010 and 9-Jul-2010

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

RSK STATS Geoconsult Ltd
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

FAO Andrea Grossey

LABORATORY TEST REPORT

Results of analysis of 30 samples
received 02 July 2010

241458 - Twickenham Railway Station

Chemtest
The right chemistry to deliver results

Report Date
09 July 2010

					89511							
					AF09639	AF09640	AF09641	AF09642	AF09643	AF09644	AF09645	AF09646
					BHA	BHA	BHA	BHB	BHB	BHB	BHB	BHC
					14/06/2010	14/06/2010	14/06/2010	10/06/2010	10/06/2010	10/06/2010	10/06/2010	14/06/2010
					0.5m	1.5m	3.5m	1m	2m	3m	4.5m	0.5m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2790	Benzo[k]fluoranthene	207089	mg kg-1	N	0.63	<0.5	<0.5	<0.5	4.1	0.55	2.6	1.8
	Benzo[a]pyrene	50328	mg kg-1	N	1.8	0.84	<0.5	<0.5	8.6	1.2	6.9	4.1
	Indeno[1,2,3-cd]pyrene	193395	mg kg-1	N	0.82	<0.5	<0.5	<0.5	4.5	0.51	3.8	2.1
	Dibenzo[a,h]anthracene	53703	mg kg-1	N	<0.5	<0.5	<0.5	<0.5	1.1	<0.5	0.98	<0.5
	Benzo[g,h,i]perylene	191242	mg kg-1	N	1.1	<0.5	<0.5	<0.5	4.9	0.69	4.0	2.8
2792	Tentatively Identified Compounds		mg kg-1		Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2810	2,4,4'-Trichlorobiphenyl	7012375	mg kg-1	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	2,2',5,5'-Tetrachlorobiphenyl	35693993	mg kg-1	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	2,2',4,5,5'-Pentachlorobiphenyl	37680732	mg kg-1	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	2,3,4,4',5-Pentachlorobiphenyl	31508006	mg kg-1	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	2,2',3,4,4',5-Hexachlorobiphenyl	35065282	mg kg-1	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	2,2',4,4',5,5'-Hexachlorobiphenyl	35065271	mg kg-1	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	2,2',3,4,4',5,5'-Heptachlorobiphenyl	35065293	mg kg-1	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2920	Catechols		mg kg-1	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Phenol	108952	mg kg-1	M	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Cresols		mg kg-1	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Xylenols		mg kg-1	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Naphthols		mg kg-1	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Trimethyl phenols		mg kg-1	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Phenols (total)		mg kg-1	N	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
2010	pH		-	M	9.9	7.9	7.5	8.4	10.1	8.4	8.5	8.6
2186	Asbestos Containing Material		-	U	not found	not found	not found	not found	not found	not found	not found	not found

All tests undertaken between 01-Jul-2010 and 9-Jul-2010

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

RSK STATS Geoconsult Ltd
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

FAO Andrea Grossey

LABORATORY TEST REPORT

Results of analysis of 30 samples
received 02 July 2010

241458 - Twickenham Railway Station

Report Date
09 July 2010

					89511							
					AF09647	AF09648	AF09649	AF09650	AF09651	AF09652	AF09653	AF09654
					BHC	BHC	BHD	BHD	BHD	BHE	BHE	BHE
					14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010
					1m	2m	0.5m	1.5m	2m	1m	2m	3m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2790	Benzo[k]fluoranthene	207089	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo[a]pyrene	50328	mg kg⁻¹	N	0.67	<0.5	<0.5	<0.5	<0.5	0.63	<0.5	<0.5
	Indeno[1,2,3-cd]pyrene	193395	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Dibenzo[a,h]anthracene	53703	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo[g,h,i]perylene	191242	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2792	Tentatively Identified Compounds		mg kg⁻¹		Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2810	2,4,4'-Trichlorobiphenyl	7012375	mg kg⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	2,2',5,5'-Tetrachlorobiphenyl	35693993	mg kg⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	2,2',4,5,5'-Pentachlorobiphenyl	37680732	mg kg⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	2,3,4,4',5-Pentachlorobiphenyl	31508006	mg kg⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	2,2',3,4,4',5-Hexachlorobiphenyl	35065282	mg kg⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	2,2',4,4',5,5'-Hexachlorobiphenyl	35065271	mg kg⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	2,2',3,4,4',5,5'-Heptachlorobiphenyl	35065293	mg kg⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2920	Catechols		mg kg⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Phenol	108952	mg kg⁻¹	M	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Cresols		mg kg⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Xylenols		mg kg⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Naphthols		mg kg⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Trimethyl phenols		mg kg⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Phenols (total)		mg kg⁻¹	N	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
2010	pH		-	M	7.7	8.3	7.8	7.7	8.2	8.1	7.9	7.2
2186	Asbestos Containing Material		-	U	not found	not found	not found	not found	not found	not found	not found	not found

All tests undertaken between 01-Jul-2010 and 9-Jul-2010

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

RSK STATS Geoconsult Ltd
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

FAO Andrea Grossey

LABORATORY TEST REPORT

Results of analysis of 30 samples
received 02 July 2010

241458 - Twickenham Railway Station

Report Date
09 July 2010

					89511							
					AF09655	AF09656	AF09657	AF09658	AF09659	AF09660	AF09661	AF09662
					BHF	BHF	BHF	BHG	BHG	BHG	BHG	BHG
					14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010
					0.5m	1.5m	3m	0.5m	1m	1.5m	2.5m	4m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2790	Benzo[k]fluoranthene	207089	mg kg⁻¹	N	<0.5	<0.5	<0.5	1.5	3.8	1.3	<0.5	<0.5
	Benzo[a]pyrene	50328	mg kg⁻¹	N	0.93	<0.5	<0.5	3.2	9.1	2.8	<0.5	<0.5
	Indeno[1,2,3-cd]pyrene	193395	mg kg⁻¹	N	<0.5	<0.5	<0.5	1.7	6.1	1.7	<0.5	<0.5
	Dibenzo[a,h]anthracene	53703	mg kg⁻¹	N	<0.5	<0.5	<0.5	<0.5	1.6	<0.5	<0.5	<0.5
	Benzo[g,h,i]perylene	191242	mg kg⁻¹	N	<0.5	<0.5	<0.5	1.9	7.6	2.1	<0.5	<0.5
2792	Tentatively Identified Compounds		mg kg⁻¹		Not detected	Not detected	Not detected	Not detected	None Detected	Not detected	Not detected	Not detected
2810	2,4,4'-Trichlorobiphenyl	7012375	mg kg⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	2,2',5,5'-Tetrachlorobiphenyl	35693993	mg kg⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	2,2',4,5,5'-Pentachlorobiphenyl	37680732	mg kg⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	2,3,4,4',5-Pentachlorobiphenyl	31508006	mg kg⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	2,2',3,4,4',5-Hexachlorobiphenyl	35065282	mg kg⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	2,2',4,4',5,5'-Hexachlorobiphenyl	35065271	mg kg⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	2,2',3,4,4',5,5'-Heptachlorobiphenyl	35065293	mg kg⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2920	Catechols		mg kg⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Phenol	108952	mg kg⁻¹	M	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Cresols		mg kg⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Xylenols		mg kg⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Naphthols		mg kg⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Trimethyl phenols		mg kg⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Phenols (total)		mg kg⁻¹	N	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
2010	pH		-	M	7.9	7.7	7.5	8.7	7.9	8.1	8.2	8.7
2186	Asbestos Containing Material		-	U	not found	not found	not found	not found	not found	not found	not found	not found

All tests undertaken between 01-Jul-2010 and 9-Jul-2010

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

RSK STATS Geoconsult Ltd
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

FAO Andrea Grossey

LABORATORY TEST REPORT

Results of analysis of 30 samples
received 02 July 2010

241458 - Twickenham Railway Station

Report Date
09 July 2010

					89511					
					AF09663	AF09664	AF09665	AF09666	AF09667	AF09668
					WS1	WS1	WS2	WS2	WS3	WS3
					14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010	14/06/2010
					0.25m	1m	0.5m	1m	0.25m	0.75m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2790	Benzo[k]fluoranthene	207089	mg kg⁻¹	N	0.80	1.0	4.2	21	1.3	<0.5
	Benzo[a]pyrene	50328	mg kg⁻¹	N	1.9	2.4	11	41	3.7	0.60
	Indeno[1,2,3-cd]pyrene	193395	mg kg⁻¹	N	1.0	1.2	6.7	25	2.4	<0.5
	Dibenzo[a,h]anthracene	53703	mg kg⁻¹	N	<0.5	<0.5	1.9	7.3	<0.5	<0.5
	Benzo[g,h,i]perylene	191242	mg kg⁻¹	N	1.3	1.4	7.9	29	2.8	<0.5
2792	Tentatively Identified Compounds		mg kg⁻¹		Not detected	Not detected	Not detected	None Detected	Not detected	Not detected
2810	2,4,4'-Trichlorobiphenyl	7012375	mg kg⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	2,2',5,5'-Tetrachlorobiphenyl	35693993	mg kg⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	2,2',4,5,5'-Pentachlorobiphenyl	37680732	mg kg⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	2,3,4,4',5-Pentachlorobiphenyl	31508006	mg kg⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	2,2',3,4,4',5-Hexachlorobiphenyl	35065282	mg kg⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	2,2',4,4',5,5'-Hexachlorobiphenyl	35065271	mg kg⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	2,2',3,4,4',5,5'-Heptachlorobiphenyl	35065293	mg kg⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2920	Catechols		mg kg⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Phenol	108952	mg kg⁻¹	M	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Cresols		mg kg⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Xylenols		mg kg⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Naphthols		mg kg⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Trimethyl phenols		mg kg⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Phenols (total)		mg kg⁻¹	N	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
2010	pH		-	M	7.7	7.7	7.8	7.9	6.2	6.2
2186	Asbestos Containing Material		-	U	not found	not found	not found	not found	not found	not found

All tests undertaken between 01-Jul-2010 and 9-Jul-2010

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

LABORATORY TEST REPORT

Waste Acceptance Criteria Waste Parameters

RSK STATS Geoconsult Ltd
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT
FAO Andrea Grossey

Results of analysis of 5 samples
received 21 July 2010
Twickenham Railway Station - 241458

Report Date
28 July 2010

Login Batch No								113013
Chemtest LIMS ID					Limit values			AF14408
Sample ID					Inert waste landfill	Stable non-reactive hazardous waste in non-hazardous landfill	Hazardous waste landfill	BHA
Sample No								
Depth								0.5m - 2m
Matrix								*SOIL*
Determinand↓	SOP↓	*	CAS No↓	Units↓				
Total Organic Carbon	2625	M		%	3	5	6	1.1
Loss on ignition	2610	N		%			10	2.74
Benzene	2760	M	71432	µg kg-¹				< 1
Toluene	2760	M	108883	µg kg-¹				< 1
Ethyl benzene	2760	M	100414	µg kg-¹				< 1
m- & p-Xylene	2760	M	1330207	µg kg-¹				< 1
o-Xylene	2760	M	95476	µg kg-¹				< 1
Total BTEX	2761	M		mg kg-¹	6			<0.005
PCB 28	2810	N	7012375	mg kg-¹				<0.1
PCB 52	2810	N	35693993	mg kg-¹				<0.1
PCB 101	2810	N	37680732	mg kg-¹				<0.1
PCB 118	2810	N	31508006	mg kg-¹				<0.1
PCB 138	2810	N	35065282	mg kg-¹				<0.1
PCB 153	2810	N	35065271	mg kg-¹				<0.1
PCB 180	2810	N	35065293	mg kg-¹				<0.1
Total PCBs (7 congeners)	2811	N		mg kg-¹	1			<1
Naphthalene	2700	M	91203	mg kg-¹				<0.1
Acenaphthylene	2700	M	208968	mg kg-¹				<0.1
Acenaphthene	2700	M	83329	mg kg-¹				<0.1
Fluorene	2700	M	86737	mg kg-¹				<0.1
Phenanthrene	2700	M	85018	mg kg-¹				1.4
Anthracene	2700	M	120127	mg kg-¹				0.4
Fluoranthene	2700	M	206440	mg kg-¹				3.3
Pyrene	2700	M	129000	mg kg-¹				2.9
Benzo[a]anthracene	2700	M	56553	mg kg-¹				1.6
Chrysene	2700	M	218019	mg kg-¹				1.8
Benzo[b]fluoranthene	2700	M	205992	mg kg-¹				2.4
Benzo[k]fluoranthene	2700	M	207089	mg kg-¹				1.3
Benzo[a]pyrene	2700	M	50328	mg kg-¹				2.4
Dibenzo[a,h]anthracene	2700	M	53703	mg kg-¹				1.6
Indeno[1,2,3-cd]pyrene	2700	M	193395	mg kg-¹				0.4
Benzo[g,h,i]perylene	2700	M	191242	mg kg-¹				1.3
Coronene	2700	N	191071	mg kg-¹				<0.1
Total (of 17) PAHs	2700	N		mg kg-¹	100			21
pH	2010	M		-		>6		9.4
Acid Neutralisation Capacity	2015	N	ANC	mol kg-¹		To evaluate	To evaluate	0.017
TPH Total WAC	2670	N		mg kg-¹	500			23

All tests undertaken between 21-Jul-2010 and 28-Jul-2010

Column page 1

* Accreditation status

Report sample ID range AF14408 to AF15181

This report should be interpreted in conjunction with the notes on the accompanying cover page

LABORATORY TEST REPORT

Waste Acceptance Criteria Waste Parameters

RSK STATS Geoconsult Ltd
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT
FAO Andrea Grossey

Results of analysis of 5 samples
received 21 July 2010
Twickenham Railway Station - 241458

Report Date
28 July 2010

Login Batch No								113013
Chemtest LIMS ID								AF14409
Sample ID								BHB
Sample No								
Depth								0.5m - 3m
Matrix								*SOIL*
Determinand↓	SOP↓		CAS No↓	Units↓				
Total Organic Carbon	2625	M		%	3	5	6	0.91
Loss on ignition	2610	N		%			10	2.37
Benzene	2760	M	71432	µg kg-¹				< 1
Toluene	2760	M	108883	µg kg-¹				< 1
Ethyl benzene	2760	M	100414	µg kg-¹				< 1
m- & p-Xylene	2760	M	1330207	µg kg-¹				< 1
o-Xylene	2760	M	95476	µg kg-¹				< 1
Total BTEX	2761	M		mg kg-¹	6			<0.005
PCB 28	2810	N	7012375	mg kg-¹				<0.1
PCB 52	2810	N	35693993	mg kg-¹				<0.1
PCB 101	2810	N	37680732	mg kg-¹				<0.1
PCB 118	2810	N	31508006	mg kg-¹				<0.1
PCB 138	2810	N	35065282	mg kg-¹				<0.1
PCB 153	2810	N	35065271	mg kg-¹				<0.1
PCB 180	2810	N	35065293	mg kg-¹				<0.1
Total PCBs (7 congeners)	2811	N		mg kg-¹	1			<1
Naphthalene	2700	M	91203	mg kg-¹				<0.1
Acenaphthylene	2700	M	208968	mg kg-¹				0.4
Acenaphthene	2700	M	83329	mg kg-¹				0.7
Fluorene	2700	M	86737	mg kg-¹				0.3
Phenanthrene	2700	M	85018	mg kg-¹				6.9
Anthracene	2700	M	120127	mg kg-¹				1.3
Fluoranthene	2700	M	206440	mg kg-¹				9.8
Pyrene	2700	M	129000	mg kg-¹				8.8
Benzo[a]anthracene	2700	M	56553	mg kg-¹				3.7
Chrysene	2700	M	218019	mg kg-¹				3.4
Benzo[b]fluoranthene	2700	M	205992	mg kg-¹				3.9
Benzo[k]fluoranthene	2700	M	207089	mg kg-¹				2.3
Benzo[a]pyrene	2700	M	50328	mg kg-¹				4
Dibenzo[a,h]anthracene	2700	M	53703	mg kg-¹				2.5
Indeno[1,2,3-cd]pyrene	2700	M	193395	mg kg-¹				0.7
Benzo[g,h,i]perylene	2700	M	191242	mg kg-¹				2.2
Coronene	2700	N	191071	mg kg-¹				<0.1
Total (of 17) PAHs	2700	N		mg kg-¹	100			51
pH	2010	M		-		>6		9.0
Acid Neutralisation Capacity	2015	N	ANC	mol kg-¹		To evaluate	To evaluate	0.029
TPH Total WAC	2670	N		mg kg-¹	500			150

All tests undertaken between 21-Jul-2010 and 28-Jul-2010

Report sample ID range AF14408 to AF15181

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LABORATORY TEST REPORT

Waste Acceptance Criteria Waste Parameters

RSK STATS Geoconsult Ltd
18 Frogmore Road
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FAO Andrea Grossey

Results of analysis of 5 samples
received 21 July 2010
Twickenham Railway Station - 241458

Report Date
28 July 2010

Login Batch No								**113013**
Chemtest LIMS ID								AF14410
Sample ID								BHC
Sample No								
Depth								2m - 3.5m
Matrix								*SOIL*
Determinand↓	SOP↓		CAS No↓	Units↓				
Total Organic Carbon	2625	M		%	3	5	6	1.8
Loss on ignition	2610	N		%			10	3.41
Benzene	2760	M	71432	µg kg-¹				< 1
Toluene	2760	M	108883	µg kg-¹				< 1
Ethyl benzene	2760	M	100414	µg kg-¹				< 1
m- & p-Xylene	2760	M	1330207	µg kg-¹				< 1
o-Xylene	2760	M	95476	µg kg-¹				< 1
Total BTEX	2761	M		mg kg-¹	6			<0.005
PCB 28	2810	N	7012375	mg kg-¹				<0.1
PCB 52	2810	N	35693993	mg kg-¹				<0.1
PCB 101	2810	N	37680732	mg kg-¹				<0.1
PCB 118	2810	N	31508006	mg kg-¹				<0.1
PCB 138	2810	N	35065282	mg kg-¹				<0.1
PCB 153	2810	N	35065271	mg kg-¹				<0.1
PCB 180	2810	N	35065293	mg kg-¹				<0.1
Total PCBs (7 congeners)	2811	N		mg kg-¹	1			<1
Naphthalene	2700	M	91203	mg kg-¹				0.2
Acenaphthylene	2700	M	208968	mg kg-¹				<0.1
Acenaphthene	2700	M	83329	mg kg-¹				<0.1
Fluorene	2700	M	86737	mg kg-¹				<0.1
Phenanthrene	2700	M	85018	mg kg-¹				1.5
Anthracene	2700	M	120127	mg kg-¹				<0.1
Fluoranthene	2700	M	206440	mg kg-¹				2.5
Pyrene	2700	M	129000	mg kg-¹				2.3
Benzo[a]anthracene	2700	M	56553	mg kg-¹				1
Chrysene	2700	M	218019	mg kg-¹				1
Benzo[b]fluoranthene	2700	M	205992	mg kg-¹				1.6
Benzo[k]fluoranthene	2700	M	207089	mg kg-¹				0.7
Benzo[a]pyrene	2700	M	50328	mg kg-¹				3.2
Dibenzo[a,h]anthracene	2700	M	53703	mg kg-¹				0.7
Indeno[1,2,3-cd]pyrene	2700	M	193395	mg kg-¹				0.2
Benzo[g,h,i]perylene	2700	M	191242	mg kg-¹				0.8
Coronene	2700	N	191071	mg kg-¹				<0.1
Total (of 17) PAHs	2700	N		mg kg-¹	100			16
pH	2010	M		-		>6		7.7
Acid Neutralisation Capacity	2015	N	ANC	mol kg-¹		To evaluate	To evaluate	0.005
TPH Total WAC	2670	N		mg kg-¹	500			22

All tests undertaken between 21-Jul-2010 and 28-Jul-2010

Report sample ID range AF14408 to AF15181

LABORATORY TEST REPORT

Waste Acceptance Criteria Waste Parameters

RSK STATS Geoconsult Ltd
18 Frogmore Road
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Results of analysis of 5 samples
received 21 July 2010
Twickenham Railway Station - 241458

Report Date
28 July 2010

Login Batch No								113013
Chemtest LIMS ID								AF15178
Sample ID								BHE
Sample No								
Depth								0.5m - 1.5m
Matrix								*SOIL*
Determinand↓	SOP↓		CAS No↓	Units↓				
Total Organic Carbon	2625	M		%	3	5	6	3.4
Loss on ignition	2610	N		%			10	4.91
Benzene	2760	M	71432	µg kg-¹				< 1
Toluene	2760	M	108883	µg kg-¹				< 1
Ethyl benzene	2760	M	100414	µg kg-¹				< 1
m- & p-Xylene	2760	M	1330207	µg kg-¹				< 1
o-Xylene	2760	M	95476	µg kg-¹				< 1
Total BTEX	2761	M		mg kg-¹	6			<0.005
PCB 28	2810	N	7012375	mg kg-¹				<0.1
PCB 52	2810	N	35693993	mg kg-¹				<0.1
PCB 101	2810	N	37680732	mg kg-¹				<0.1
PCB 118	2810	N	31508006	mg kg-¹				<0.1
PCB 138	2810	N	35065282	mg kg-¹				<0.1
PCB 153	2810	N	35065271	mg kg-¹				<0.1
PCB 180	2810	N	35065293	mg kg-¹				<0.1
Total PCBs (7 congeners)	2811	N		mg kg-¹	1			<1
Naphthalene	2700	M	91203	mg kg-¹				<0.1
Acenaphthylene	2700	M	208968	mg kg-¹				<0.1
Acenaphthene	2700	M	83329	mg kg-¹				<0.1
Fluorene	2700	M	86737	mg kg-¹				<0.1
Phenanthrene	2700	M	85018	mg kg-¹				1
Anthracene	2700	M	120127	mg kg-¹				0.2
Fluoranthene	2700	M	206440	mg kg-¹				2
Pyrene	2700	M	129000	mg kg-¹				1.9
Benzo[a]anthracene	2700	M	56553	mg kg-¹				1
Chrysene	2700	M	218019	mg kg-¹				1.2
Benzo[b]fluoranthene	2700	M	205992	mg kg-¹				1.5
Benzo[k]fluoranthene	2700	M	207089	mg kg-¹				1.1
Benzo[a]pyrene	2700	M	50328	mg kg-¹				1.3
Dibenzo[a,h]anthracene	2700	M	53703	mg kg-¹				0.9
Indeno[1,2,3-cd]pyrene	2700	M	193395	mg kg-¹				0.4
Benzo[g,h,i]perylene	2700	M	191242	mg kg-¹				0.7
Coronene	2700	N	191071	mg kg-¹				<0.1
Total (of 17) PAHs	2700	N		mg kg-¹	100			13
pH	2010	M		-		>6		9.6
Acid Neutralisation Capacity	2015	N	ANC	mol kg-¹		To evaluate	To evaluate	0.034
TPH Total WAC	2670	N		mg kg-¹	500			25

All tests undertaken between 21-Jul-2010 and 28-Jul-2010

Column page 4

Report sample ID range AF14408 to AF15181

This report should be interpreted in conjunction with the notes on the accompanying cover page

LABORATORY TEST REPORT

Waste Acceptance Criteria Waste Parameters

RSK STATS Geoconsult Ltd
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FAO Andrea Grossey

Results of analysis of 5 samples
received 21 July 2010
Twickenham Railway Station - 241458

Report Date
28 July 2010

Login Batch No								113013
Chemtest LIMS ID								AF15179
Sample ID								BHF
Sample No								
Depth								0.5m - 1m
Matrix								*SOIL*
Determinand↓	SOP↓		CAS No↓	Units↓				
Total Organic Carbon	2625	M		%	3	5	6	3.2
Loss on ignition	2610	N		%			10	2.88
Benzene	2760	M	71432	µg kg-¹				< 1
Toluene	2760	M	108883	µg kg-¹				< 1
Ethyl benzene	2760	M	100414	µg kg-¹				< 1
m- & p-Xylene	2760	M	1330207	µg kg-¹				< 1
o-Xylene	2760	M	95476	µg kg-¹				< 1
Total BTEX	2761	M		mg kg-¹	6			<0.005
PCB 28	2810	N	7012375	mg kg-¹				<0.1
PCB 52	2810	N	35693993	mg kg-¹				<0.1
PCB 101	2810	N	37680732	mg kg-¹				<0.1
PCB 118	2810	N	31508006	mg kg-¹				<0.1
PCB 138	2810	N	35065282	mg kg-¹				<0.1
PCB 153	2810	N	35065271	mg kg-¹				<0.1
PCB 180	2810	N	35065293	mg kg-¹				<0.1
Total PCBs (7 congeners)	2811	N		mg kg-¹	1			<1
Naphthalene	2700	M	91203	mg kg-¹				<0.1
Acenaphthylene	2700	M	208968	mg kg-¹				0.3
Acenaphthene	2700	M	83329	mg kg-¹				<0.1
Fluorene	2700	M	86737	mg kg-¹				0.2
Phenanthrene	2700	M	85018	mg kg-¹				4.6
Anthracene	2700	M	120127	mg kg-¹				1
Fluoranthene	2700	M	206440	mg kg-¹				8.8
Pyrene	2700	M	129000	mg kg-¹				7.3
Benzo[a]anthracene	2700	M	56553	mg kg-¹				4
Chrysene	2700	M	218019	mg kg-¹				4.4
Benzo[b]fluoranthene	2700	M	205992	mg kg-¹				3.8
Benzo[k]fluoranthene	2700	M	207089	mg kg-¹				4.3
Benzo[a]pyrene	2700	M	50328	mg kg-¹				4.8
Dibenzo[a,h]anthracene	2700	M	53703	mg kg-¹				3
Indeno[1,2,3-cd]pyrene	2700	M	193395	mg kg-¹				0.8
Benzo[g,h,i]perylene	2700	M	191242	mg kg-¹				3.1
Coronene	2700	N	191071	mg kg-¹				<0.1
Total (of 17) PAHs	2700	N		mg kg-¹	100			50
pH	2010	M		-		>6		9.6
Acid Neutralisation Capacity	2015	N	ANC	mol kg-¹		To evaluate	To evaluate	0.022
TPH Total WAC	2670	N		mg kg-¹	500			160

All tests undertaken between 21-Jul-2010 and 28-Jul-2010

Column page 5

Report sample ID range AF14408 to AF15181

This report should be interpreted in conjunction with the notes on the accompanying cover page

LABORATORY TEST REPORT

Waste Acceptance Criteria BS EN 12457 Part 3 2 Stage

RSK STATS Geoconsult Ltd
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT
FAO Andrea Grossey

Results of analysis of 5 samples
received 21 July 2010
Twickenham Railway Station - 241458

Report Date
28 July 2010

Login Batch No								113013
Chemtest LIMS ID					Limit values			AF14413
Sample ID					Inert waste landfill	Stable non-reactive hazardous waste in non-hazardous landfill	Hazardous waste landfill	BHA
Sample No								
Depth								0.5m - 2m
Matrix								*LEACHATE*
Determinand↓	SOP↓	*	CAS No↓	Units↓				
As (arsenic) L/S=2	1450	N	7440382	mg kg⁻¹				<0.05
Ba (barium) L/S=2	1450	N	7440393	mg kg⁻¹				<0.5
Cd (cadmium) L/S=2	1450	N	7440439	mg kg⁻¹				<0.01
Cr (chromium) L/S=2	1450	N	7440473	mg kg⁻¹				<0.05
Cu (copper) L/S=2	1450	N	7440508	mg kg⁻¹				0.07
Hg (mercury) L/S=2	1450	N	7439976	mg kg⁻¹				<0.005
Mo (molybdenum) L/S=2	1450	N	7439987	mg kg⁻¹				0.15
Ni (nickel) L/S=2	1450	N	7440020	mg kg⁻¹				<0.05
Pb (lead) L/S=2	1450	N	7439921	mg kg⁻¹				<0.05
Sb (antimony) L/S=2	1450	N	7440360	mg kg⁻¹				0.01
Se (selenium) L/S=2	1450	N	7782492	mg kg⁻¹				0.01
Zn (zinc) L/S=2	1450	N	7440666	mg kg⁻¹				<0.5
Cl (chloride) L/S=2	1220	N	16887006	mg kg⁻¹				50
F (fluoride) L/S=2	1220	N	16984488	mg kg⁻¹				2.4
SO4 (sulfate) L/S=2	1220	N	14808798	mg kg⁻¹				148
Total Dissolved Solids L/S=2	1610	N	TDS	mg kg⁻¹				540
Phenol index L/S=2	1920	N	108952	mg kg⁻¹				<0.5
Dissolved Organic Carbon L/S=2	1610	N	DOC	mg kg⁻¹				74.1
As (arsenic) L/S=10	1450	N	7440382	mg kg⁻¹	0.5	2	25	<0.05
Ba (barium) L/S=10	1450	N	7440393	mg kg⁻¹	20	100	300	<0.5
Cd (cadmium) L/S=10	1450	N	7440439	mg kg⁻¹	0.04	1	5	<0.01
Cr (chromium) L/S=10	1450	N	7440473	mg kg⁻¹	0.5	10	70	<0.05
Cu (copper) L/S=10	1450	N	7440508	mg kg⁻¹	2	50	100	0.12
Hg (mercury) L/S=10	1450	N	7439976	mg kg⁻¹	0.01	0.2	2	<0.005
Mo (molybdenum) L/S=10	1450	N	7439987	mg kg⁻¹	0.5	10	30	0.17
Ni (nickel) L/S=10	1450	N	7440020	mg kg⁻¹	0.4	10	40	<0.05
Pb (lead) L/S=10	1450	N	7439921	mg kg⁻¹	0.5	10	50	<0.05
Sb (antimony) L/S=10	1450	N	7440360	mg kg⁻¹	0.06	0.7	5	<0.01
Se (selenium) L/S=10	1450	N	7782492	mg kg⁻¹	0.1	0.5	7	0.01
Zn (zinc) L/S=10	1450	N	7440666	mg kg⁻¹	4	50	200	<0.5
Cl (chloride) L/S=10	1220	N	16887006	mg kg⁻¹	800	15000	25000	81
F (fluoride) L/S=10	1220	N	16984488	mg kg⁻¹	10	150	500	6.31
SO4 (sulfate) L/S=10	1220	N	14808798	mg kg⁻¹	1000	20000	50000	262
Total Dissolved Solids L/S=10	1610	N	TDS	mg kg⁻¹	4000	60000	100000	1320
Phenol index L/S=10	1920	N	108952	mg kg⁻¹	1			<0.5
Dissolved Organic Carbon L/S=10	1610	N	DOC	mg kg⁻¹	500	800	1000	278

All tests undertaken between 21-Jul-2010 and 28-Jul-2010

Column page 1

* Accreditation status

Report sample ID range AF14408 to AF15181

This report should be interpreted in conjunction with the notes on the accompanying cover page

LABORATORY TEST REPORT

Waste Acceptance Criteria BS EN 12457 Part 3 2 Stage

RSK STATS Geoconsult Ltd
18 Frogmore Road
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FAO Andrea Grossey

Results of analysis of 5 samples
received 21 July 2010
Twickenham Railway Station - 241458

Report Date
28 July 2010

Login Batch No								113013
Chemtest LIMS ID								AF14414
Sample ID								BHB
Sample No								
Depth								0.5m - 3m
Matrix								*LEACHATE*
Determinand↓	SOP↓		CAS No↓	Units↓				
As (arsenic) L/S=2	1450	N	7440382	mg kg-¹				<0.05
Ba (barium) L/S=2	1450	N	7440393	mg kg-¹				<0.5
Cd (cadmium) L/S=2	1450	N	7440439	mg kg-¹				<0.01
Cr (chromium) L/S=2	1450	N	7440473	mg kg-¹				0.08
Cu (copper) L/S=2	1450	N	7440508	mg kg-¹				<0.05
Hg (mercury) L/S=2	1450	N	7439976	mg kg-¹				<0.005
Mo (molybdenum) L/S=2	1450	N	7439987	mg kg-¹				0.1
Ni (nickel) L/S=2	1450	N	7440020	mg kg-¹				<0.05
Pb (lead) L/S=2	1450	N	7439921	mg kg-¹				<0.05
Sb (antimony) L/S=2	1450	N	7440360	mg kg-¹				0.01
Se (selenium) L/S=2	1450	N	7782492	mg kg-¹				0.01
Zn (zinc) L/S=2	1450	N	7440666	mg kg-¹				<0.5
Cl (chloride) L/S=2	1220	N	16887006	mg kg-¹				66
F (fluoride) L/S=2	1220	N	16984488	mg kg-¹				<1
SO4 (sulfate) L/S=2	1220	N	14808798	mg kg-¹				941
Total Dissolved Solids L/S=2	1610	N	TDS	mg kg-¹				1560
Phenol index L/S=2	1920	N	108952	mg kg-¹				<0.5
Dissolved Organic Carbon L/S=2	1610	N	DOC	mg kg-¹				<50
As (arsenic) L/S=10	1450	N	7440382	mg kg-¹	0.5	2	25	<0.05
Ba (barium) L/S=10	1450	N	7440393	mg kg-¹	20	100	300	<0.5
Cd (cadmium) L/S=10	1450	N	7440439	mg kg-¹	0.04	1	5	<0.01
Cr (chromium) L/S=10	1450	N	7440473	mg kg-¹	0.5	10	70	0.11
Cu (copper) L/S=10	1450	N	7440508	mg kg-¹	2	50	100	<0.05
Hg (mercury) L/S=10	1450	N	7439976	mg kg-¹	0.01	0.2	2	<0.005
Mo (molybdenum) L/S=10	1450	N	7439987	mg kg-¹	0.5	10	30	0.11
Ni (nickel) L/S=10	1450	N	7440020	mg kg-¹	0.4	10	40	<0.05
Pb (lead) L/S=10	1450	N	7439921	mg kg-¹	0.5	10	50	<0.05
Sb (antimony) L/S=10	1450	N	7440360	mg kg-¹	0.06	0.7	5	0.01
Se (selenium) L/S=10	1450	N	7782492	mg kg-¹	0.1	0.5	7	0.01
Zn (zinc) L/S=10	1450	N	7440666	mg kg-¹	4	50	200	<0.5
Cl (chloride) L/S=10	1220	N	16887006	mg kg-¹	800	15000	25000	82.4
F (fluoride) L/S=10	1220	N	16984488	mg kg-¹	10	150	500	2.52
SO4 (sulfate) L/S=10	1220	N	14808798	mg kg-¹	1000	20000	50000	1090
Total Dissolved Solids L/S=10	1610	N	TDS	mg kg-¹	4000	60000	100000	2510
Phenol index L/S=10	1920	N	108952	mg kg-¹	1			<0.5
Dissolved Organic Carbon L/S=10	1610	N	DOC	mg kg-¹	500	800	1000	159

All tests undertaken between 21-Jul-2010 and 28-Jul-2010

Report sample ID range AF14408 to AF15181

This report should be interpreted in conjunction with the notes on the accompanying cover page

LABORATORY TEST REPORT

Waste Acceptance Criteria BS EN 12457 Part 3 2 Stage

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HP3 9RT
FAO Andrea Grossey

Results of analysis of 5 samples
received 21 July 2010
Twickenham Railway Station - 241458

Report Date
28 July 2010

Login Batch No								113013
Chemtest LIMS ID								AF14415
Sample ID								BHC
Sample No								
Depth								2m - 3.5m
Matrix								*LEACHATE*
Determinand↓	SOP↓		CAS No↓	Units↓				
As (arsenic) L/S=2	1450	N	7440382	mg kg-1				<0.05
Ba (barium) L/S=2	1450	N	7440393	mg kg-1				<0.5
Cd (cadmium) L/S=2	1450	N	7440439	mg kg-1				<0.01
Cr (chromium) L/S=2	1450	N	7440473	mg kg-1				<0.05
Cu (copper) L/S=2	1450	N	7440508	mg kg-1				<0.05
Hg (mercury) L/S=2	1450	N	7439976	mg kg-1				<0.005
Mo (molybdenum) L/S=2	1450	N	7439987	mg kg-1				<0.05
Ni (nickel) L/S=2	1450	N	7440020	mg kg-1				<0.05
Pb (lead) L/S=2	1450	N	7439921	mg kg-1				<0.05
Sb (antimony) L/S=2	1450	N	7440360	mg kg-1				<0.01
Se (selenium) L/S=2	1450	N	7782492	mg kg-1				0.01
Zn (zinc) L/S=2	1450	N	7440666	mg kg-1				<0.5
Cl (chloride) L/S=2	1220	N	16887006	mg kg-1				36
F (fluoride) L/S=2	1220	N	16984488	mg kg-1				1.28
SO4 (sulfate) L/S=2	1220	N	14808798	mg kg-1				122
Total Dissolved Solids L/S=2	1610	N	TDS	mg kg-1				561
Phenol index L/S=2	1920	N	108952	mg kg-1				<0.5
Dissolved Organic Carbon L/S=2	1610	N	DOC	mg kg-1				82.1
As (arsenic) L/S=10	1450	N	7440382	mg kg-1	0.5	2	25	<0.05
Ba (barium) L/S=10	1450	N	7440393	mg kg-1	20	100	300	<0.5
Cd (cadmium) L/S=10	1450	N	7440439	mg kg-1	0.04	1	5	<0.01
Cr (chromium) L/S=10	1450	N	7440473	mg kg-1	0.5	10	70	<0.05
Cu (copper) L/S=10	1450	N	7440508	mg kg-1	2	50	100	<0.05
Hg (mercury) L/S=10	1450	N	7439976	mg kg-1	0.01	0.2	2	<0.005
Mo (molybdenum) L/S=10	1450	N	7439987	mg kg-1	0.5	10	30	<0.05
Ni (nickel) L/S=10	1450	N	7440020	mg kg-1	0.4	10	40	<0.05
Pb (lead) L/S=10	1450	N	7439921	mg kg-1	0.5	10	50	<0.05
Sb (antimony) L/S=10	1450	N	7440360	mg kg-1	0.06	0.7	5	<0.01
Se (selenium) L/S=10	1450	N	7782492	mg kg-1	0.1	0.5	7	<0.01
Zn (zinc) L/S=10	1450	N	7440666	mg kg-1	4	50	200	<0.5
Cl (chloride) L/S=10	1220	N	16887006	mg kg-1	800	15000	25000	104
F (fluoride) L/S=10	1220	N	16984488	mg kg-1	10	150	500	5.83
SO4 (sulfate) L/S=10	1220	N	14808798	mg kg-1	1000	20000	50000	191
Total Dissolved Solids L/S=10	1610	N	TDS	mg kg-1	4000	60000	100000	1280
Phenol index L/S=10	1920	N	108952	mg kg-1	1			<0.5
Dissolved Organic Carbon L/S=10	1610	N	DOC	mg kg-1	500	800	1000	239

All tests undertaken between 21-Jul-2010 and 28-Jul-2010

Report sample ID range AF14408 to AF15181

LABORATORY TEST REPORT

Waste Acceptance Criteria BS EN 12457 Part 3 2 Stage

RSK STATS Geoconsult Ltd
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT
FAO Andrea Grossey

Results of analysis of 5 samples
received 21 July 2010
Twickenham Railway Station - 241458

Report Date
28 July 2010

Login Batch No								113013
Chemtest LIMS ID								AF15180
Sample ID								BHE
Sample No								
Depth								0.5m - 1.5m
Matrix								*LEACHATE*
Determinand↓	SOP↓		CAS No↓	Units↓				
As (arsenic) L/S=2	1450	N	7440382	mg kg-¹				<0.05
Ba (barium) L/S=2	1450	N	7440393	mg kg-¹				<0.5
Cd (cadmium) L/S=2	1450	N	7440439	mg kg-¹				<0.01
Cr (chromium) L/S=2	1450	N	7440473	mg kg-¹				<0.05
Cu (copper) L/S=2	1450	N	7440508	mg kg-¹				<0.05
Hg (mercury) L/S=2	1450	N	7439976	mg kg-¹				<0.005
Mo (molybdenum) L/S=2	1450	N	7439987	mg kg-¹				0.06
Ni (nickel) L/S=2	1450	N	7440020	mg kg-¹				<0.05
Pb (lead) L/S=2	1450	N	7439921	mg kg-¹				<0.05
Sb (antimony) L/S=2	1450	N	7440360	mg kg-¹				0.01
Se (selenium) L/S=2	1450	N	7782492	mg kg-¹				0.02
Zn (zinc) L/S=2	1450	N	7440666	mg kg-¹				<0.5
Cl (chloride) L/S=2	1220	N	16887006	mg kg-¹				84.1
F (fluoride) L/S=2	1220	N	16984488	mg kg-¹				1.34
SO4 (sulfate) L/S=2	1220	N	14808798	mg kg-¹				240
Total Dissolved Solids L/S=2	1610	N	TDS	mg kg-¹				741
Phenol index L/S=2	1920	N	108952	mg kg-¹				<0.5
Dissolved Organic Carbon L/S=2	1610	N	DOC	mg kg-¹				<50
As (arsenic) L/S=10	1450	N	7440382	mg kg-¹	0.5	2	25	0.14
Ba (barium) L/S=10	1450	N	7440393	mg kg-¹	20	100	300	<0.5
Cd (cadmium) L/S=10	1450	N	7440439	mg kg-¹	0.04	1	5	<0.01
Cr (chromium) L/S=10	1450	N	7440473	mg kg-¹	0.5	10	70	0.12
Cu (copper) L/S=10	1450	N	7440508	mg kg-¹	2	50	100	0.06
Hg (mercury) L/S=10	1450	N	7439976	mg kg-¹	0.01	0.2	2	<0.005
Mo (molybdenum) L/S=10	1450	N	7439987	mg kg-¹	0.5	10	30	0.12
Ni (nickel) L/S=10	1450	N	7440020	mg kg-¹	0.4	10	40	<0.05
Pb (lead) L/S=10	1450	N	7439921	mg kg-¹	0.5	10	50	0.14
Sb (antimony) L/S=10	1450	N	7440360	mg kg-¹	0.06	0.7	5	0.05
Se (selenium) L/S=10	1450	N	7782492	mg kg-¹	0.1	0.5	7	0.04
Zn (zinc) L/S=10	1450	N	7440666	mg kg-¹	4	50	200	<0.5
Cl (chloride) L/S=10	1220	N	16887006	mg kg-¹	800	15000	25000	149
F (fluoride) L/S=10	1220	N	16984488	mg kg-¹	10	150	500	4.78
SO4 (sulfate) L/S=10	1220	N	14808798	mg kg-¹	1000	20000	50000	475
Total Dissolved Solids L/S=10	1610	N	TDS	mg kg-¹	4000	60000	100000	1430
Phenol index L/S=10	1920	N	108952	mg kg-¹	1			<0.5
Dissolved Organic Carbon L/S=10	1610	N	DOC	mg kg-¹	500	800	1000	290

All tests undertaken between 21-Jul-2010 and 28-Jul-2010

Column page 4

Report sample ID range AF14408 to AF15181

This report should be interpreted in conjunction with the notes on the accompanying cover page

LABORATORY TEST REPORT

Waste Acceptance Criteria BS EN 12457 Part 3 2 Stage

RSK STATS Geoconsult Ltd
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT
FAO Andrea Grossey

Results of analysis of 5 samples
received 21 July 2010
Twickenham Railway Station - 241458

Report Date
28 July 2010

Login Batch No								113013
Chemtest LIMS ID								AF15181
Sample ID								BHF
Sample No								
Depth								0.5m - 1m
Matrix								*LEACHATE*
Determinand↓	SOP↓		CAS No↓	Units↓				
As (arsenic) L/S=2	1450	N	7440382	mg kg-1				<0.05
Ba (barium) L/S=2	1450	N	7440393	mg kg-1				<0.5
Cd (cadmium) L/S=2	1450	N	7440439	mg kg-1				<0.01
Cr (chromium) L/S=2	1450	N	7440473	mg kg-1				<0.05
Cu (copper) L/S=2	1450	N	7440508	mg kg-1				<0.05
Hg (mercury) L/S=2	1450	N	7439976	mg kg-1				<0.005
Mo (molybdenum) L/S=2	1450	N	7439987	mg kg-1				0.11
Ni (nickel) L/S=2	1450	N	7440020	mg kg-1				<0.05
Pb (lead) L/S=2	1450	N	7439921	mg kg-1				<0.05
Sb (antimony) L/S=2	1450	N	7440360	mg kg-1				0.02
Se (selenium) L/S=2	1450	N	7782492	mg kg-1				0.01
Zn (zinc) L/S=2	1450	N	7440666	mg kg-1				<0.5
Cl (chloride) L/S=2	1220	N	16887006	mg kg-1				126
F (fluoride) L/S=2	1220	N	16984488	mg kg-1				1.38
SO4 (sulfate) L/S=2	1220	N	14808798	mg kg-1				320
Total Dissolved Solids L/S=2	1610	N	TDS	mg kg-1				859
Phenol index L/S=2	1920	N	108952	mg kg-1				<0.5
Dissolved Organic Carbon L/S=2	1610	N	DOC	mg kg-1				67.9
As (arsenic) L/S=10	1450	N	7440382	mg kg-1	0.5	2	25	0.13
Ba (barium) L/S=10	1450	N	7440393	mg kg-1	20	100	300	<0.5
Cd (cadmium) L/S=10	1450	N	7440439	mg kg-1	0.04	1	5	<0.01
Cr (chromium) L/S=10	1450	N	7440473	mg kg-1	0.5	10	70	<0.05
Cu (copper) L/S=10	1450	N	7440508	mg kg-1	2	50	100	0.1
Hg (mercury) L/S=10	1450	N	7439976	mg kg-1	0.01	0.2	2	<0.005
Mo (molybdenum) L/S=10	1450	N	7439987	mg kg-1	0.5	10	30	0.22
Ni (nickel) L/S=10	1450	N	7440020	mg kg-1	0.4	10	40	<0.05
Pb (lead) L/S=10	1450	N	7439921	mg kg-1	0.5	10	50	0.21
Sb (antimony) L/S=10	1450	N	7440360	mg kg-1	0.06	0.7	5	0.07
Se (selenium) L/S=10	1450	N	7782492	mg kg-1	0.1	0.5	7	0.03
Zn (zinc) L/S=10	1450	N	7440666	mg kg-1	4	50	200	<0.5
Cl (chloride) L/S=10	1220	N	16887006	mg kg-1	800	15000	25000	144
F (fluoride) L/S=10	1220	N	16984488	mg kg-1	10	150	500	6.63
SO4 (sulfate) L/S=10	1220	N	14808798	mg kg-1	1000	20000	50000	638
Total Dissolved Solids L/S=10	1610	N	TDS	mg kg-1	4000	60000	100000	1650
Phenol index L/S=10	1920	N	108952	mg kg-1	1			<0.5
Dissolved Organic Carbon L/S=10	1610	N	DOC	mg kg-1	500	800	1000	349

All tests undertaken between 21-Jul-2010 and 28-Jul-2010

Column page 5

Report sample ID range AF14408 to AF15181

RSK STATS Geoconsult Ltd
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

FAO Andrea Grossey

LABORATORY TEST REPORT

Results of analysis of 23 samples
received 12 August 2010

241458 - Twickenham Railway Station

Chemtest
The right chemistry to deliver results

Report Date
20 August 2010

Login Batch No					**113312**								
Chemtest LIMS ID					AF20654	AF20655	AF20656	AF20657	AF20658	AF20659	AF20660	AF20661
Sample ID					BHA	BHA	BHA	BHB	BHB	BHB	BHC	BHC
Sample No												
Sampling Date					11/08/2010	11/08/2010	11/08/2010	11/08/2010	11/08/2010	11/08/2010	11/08/2010	11/08/2010
Depth					5.6m	10.95m - 11.05m	15m - 15.45m	5m	8.9m	14.9m	0.6m - 0.8m	5.9m
Matrix					*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
SOP↓	Determinand↓	CAS No↓	Units↓	*								
2175	Sulfur (total TRL report 447)		%	N							0.050	
2220	Chloride (extractable)	16887006	g l-¹	M							<0.010	
	Nitrate (extractable)	14797558	g l-¹	N							<0.010	
2120	Sulfate (2:1 water soluble) as SO4	14808798	g l-¹	M	0.31	0.44	0.79	0.03	0.58	0.05	0.07	0.01
2420	Magnesium (soluble)	7439954	g l-¹	N							<0.01	
2430	Sulfate (total) by BS1377 (HCl extract)	14808798	%	N							0.04	
2010	pH		-	M	7.8	8.1	7.6	7.8	7.7	8.1	8.3	8.0

All tests undertaken between 16-Aug-2010 and 19-Aug-2010

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

RSK STATS Geoconsult Ltd
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

FAO Andrea Grossey

LABORATORY TEST REPORT

Results of analysis of 23 samples
received 12 August 2010

241458 - Twickenham Railway Station

Chemtest
The right chemistry to deliver results

Report Date
20 August 2010

Login Batch No					**113312**						
Chemtest LIMS ID					AF20662	AF20663	AF20664	AF20665	AF20666	AF20667	AF20668	AF20669
Sample ID					BHC	BHC	BHD	BHD	BHE	BHE	BHE	BHE
Sample No												
Sampling Date					11/08/2010	11/08/2010	11/08/2010	11/08/2010	11/08/2010	11/08/2010	11/08/2010	11/08/2010
Depth					9m - 9.45m	13.95m - 14.05m	10.95m - 11.05m	22.4m	5.9m	8.9m	12m - 12.45m	16.95m - 17.05m
Matrix					*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
SOP↓	Determinand↓	CAS No↓	Units↓	*								
2175	Sulfur (total TRL report 447)		%	N								0.44
2220	Chloride (extractable)	16887006	g l-¹	M								<0.010
	Nitrate (extractable)	14797558	g l-¹	N								<0.010
2120	Sulfate (2:1 water soluble) as SO4	14808798	g l-¹	M	0.19	0.29	0.25	0.18	0.09	0.87	0.89	0.28
2420	Magnesium (soluble)	7439954	g l-¹	N								0.03
2430	Sulfate (total) by BS1377 (HCl extract)	14808798	%	N								0.06
2010	pH		-	M	8.2	8.0	8.3	7.7	7.6	7.6	7.9	8.0

All tests undertaken between 16-Aug-2010 and 19-Aug-2010

* Accreditation status

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RSK STATS Geoconsult Ltd
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

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LABORATORY TEST REPORT

Results of analysis of 23 samples
received 12 August 2010

241458 - Twickenham Railway Station

Chemtest
The right chemistry to deliver results

Report Date
20 August 2010

Login Batch No					**113312**							
Chemtest LIMS ID					AF20670	AF20671	AF20672	AF20673	AF20674	AF20675	AF20676
Sample ID					BHE	BHF	BHF	BHG	BHG	BHG	BHG
Sample No											
Sampling Date					11/08/2010	11/08/2010	11/08/2010	11/08/2010	11/08/2010	11/08/2010	11/08/2010
Depth					21m - 21.45m	5.9m	7.4m	5.1m	11.9m	16.5m - 16.75m	25.5m - 25.9m
Matrix					*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
SOP↓	Determinand↓	CAS No↓	Units↓	*							
2175	Sulfur (total TRL report 447)		%	N		0.070		0.37			
2220	Chloride (extractable)	16887006	g l-¹	M		<0.010		<0.010			
	Nitrate (extractable)	14797558	g l-¹	N		<0.010		<0.010			
2120	Sulfate (2:1 water soluble) as SO4	14808798	g l-¹	M	0.30	0.68	0.40	0.14	0.77	0.18	0.80
2420	Magnesium (soluble)	7439954	g l-¹	N		0.02		<0.01			
2430	Sulfate (total) by BS1377 (HCl extract)	14808798	%	N		0.13		0.03			
2010	pH		-	M	8.2	6.6	7.7	7.7	7.7	7.9	7.6

All tests undertaken between 16-Aug-2010 and 19-Aug-2010

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RSK STATS Geoconsult Ltd
18 Frogmore Road
Hemel Hempstead
Hertfordshire
HP3 9RT

FAO Andrea Grossey

LABORATORY TEST REPORT

Results of analysis of 1 sample
received 12 August 2010

241458 - Twickenham Railway Station

Chemtest
The right chemistry to deliver results

Report Date
16 August 2010

Login Batch No					**113313**
Chemtest LIMS ID					AF20680
Sample ID					WS4
Sample No					
Sampling Date					12/08/2010
Depth					0.75m
Matrix					*SOIL*
SOP↓	Determinand↓	CAS No↓	Units↓	*	
2180	Sulfur (elemental)	7704349	mg kg-¹	M	7
2300	Cyanide (free)	57125	mg kg-¹	M	< 0.5
	Cyanide (total)	57125	mg kg-¹	M	< 0.5
	Thiocyanate	302045	mg kg-¹	M	< 5.0
2325	Sulfide	18496258	mg kg-¹	M	2.9
2625	Total Organic Carbon		%	M	2.4
2220	Nitrate (extractable)	14797558	g l-¹	N	<0.010
2120	Boron (hot water soluble)	7440428	mg kg-¹	M	0.7
	Sulfate (2:1 water soluble) as SO4	14808798	g l-¹	M	0.02
2425	Ammonium (extractable)	7664417	mg kg-¹	M	< 0.5
2450	Arsenic	7440382	mg kg-¹	M	31
	Barium	7440393	mg kg-¹	M	78
	Beryllium	7440417	mg kg-¹	U	<1.00
	Cadmium	7440439	mg kg-¹	M	0.49
	Chromium	7440473	mg kg-¹	M	33
	Copper	7440508	mg kg-¹	M	71
	Mercury	7439976	mg kg-¹	M	0.15
	Nickel	7440020	mg kg-¹	M	45
	Lead	7439921	mg kg-¹	M	180
	Antimony	7440364	mg kg-¹	N	5.8
	Selenium	7782492	mg kg-¹	M	0.21
	Vanadium	7440622	mg kg-¹	M	55
	Zinc	7440666	mg kg-¹	M	150
2670	TPH >C6-C10		mg kg-¹	N	< 1
	TPH >C10-C25		mg kg-¹	N	34
	TPH >C25-C40		mg kg-¹	N	33
	Total Petroleum Hydrocarbons		mg kg-¹	M	66
2675	TPH aliphatic >C5-C6		mg kg-¹	N	< 0.1
	TPH aliphatic >C6-C8		mg kg-¹	N	< 0.1

All tests undertaken between 13-Aug-2010 and 16-Aug-2010

* Accreditation status

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Hemel Hempstead
Hertfordshire
HP3 9RT

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LABORATORY TEST REPORT

Results of analysis of 1 sample
received 12 August 2010

241458 - Twickenham Railway Station

Chemtest
The right chemistry to deliver results

Report Date
16 August 2010

					113313
					AF20680
					WS4
					12/08/2010
					0.75m
					SOIL
2675	TPH aliphatic >C8-C10		mg kg-1	N	< 0.1
	TPH aliphatic >C10-C12		mg kg-1	N	< 0.1
	TPH aliphatic >C12-C16		mg kg-1	N	< 0.1
	TPH aliphatic >C16-C21		mg kg-1	N	< 0.1
	TPH aliphatic >C21-C35		mg kg-1	N	< 0.1
	TPH aliphatic >C35-C44		mg kg-1	N	< 0.1
	TPH aromatic >C5-C7		mg kg-1	N	< 0.1
	TPH aromatic >C7-C8		mg kg-1	N	< 0.1
	TPH aromatic >C8-C10		mg kg-1	N	< 0.1
	TPH aromatic >C10-C12		mg kg-1	N	< 0.1
	TPH aromatic >C12-C16		mg kg-1	N	1.7
	TPH aromatic >C16-C21		mg kg-1	N	5.6
	TPH aromatic >C21-C35		mg kg-1	N	18
	TPH aromatic >C35-C44		mg kg-1	N	< 0.1
	Total Petroleum Hydrocarbons		mg kg-1	N	26
2700	Naphthalene	91203	mg kg-1	M	0.3
	Acenaphthylene	208968	mg kg-1	M	0.3
	Acenaphthene	83329	mg kg-1	M	0.1
	Fluorene	86737	mg kg-1	M	<0.1
	Phenanthrene	85018	mg kg-1	M	1
	Anthracene	120127	mg kg-1	M	0.4
	Fluoranthene	206440	mg kg-1	M	2.9
	Pyrene	129000	mg kg-1	M	2.8
	Benzo[a]anthracene	56553	mg kg-1	M	1.4
	Chrysene	218019	mg kg-1	M	2
	Benzo[b]fluoranthene	205992	mg kg-1	M	2.6
	Benzo[k]fluoranthene	207089	mg kg-1	M	1.2
	Benzo[a]pyrene	50328	mg kg-1	M	2.2
	Dibenzo[a,h]anthracene	53703	mg kg-1	M	1.6
	Indeno[1,2,3-cd]pyrene	193395	mg kg-1	M	0.2

All tests undertaken between 13-Aug-2010 and 16-Aug-2010

* Accreditation status

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RSK STATS Geoconsult Ltd
18 Frogmore Road
Hemel Hempstead
Hertfordshire
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FAO Andrea Grossey

LABORATORY TEST REPORT

Results of analysis of 1 sample
received 12 August 2010

241458 - Twickenham Railway Station

Chemtest
The right chemistry to deliver results

Report Date
16 August 2010

					113313
					AF20680
					WS4
					12/08/2010
					0.75m
					SOIL
2700	Benzo[g,h,i]perylene	191242	mg kg-1	M	1.7
	Coronene	191071	mg kg-1	N	<0.1
	Total (of 17) PAHs		mg kg-1	N	21
	Benzo[j]fluoranthene by FID	205823	mg kg-1	N	1.27
2760	Methyl tert-butyl ether	1634044	µg kg-1	N	<1.0
	Dichlorodifluoromethane	75718	µg kg-1	U	<1.0
	Chloromethane	74873	µg kg-1	M	<1.0
	Vinyl chloride	75014	µg kg-1	M	<1.0
	Bromomethane	74839	µg kg-1	U	<20
	Chloroethane	75003	µg kg-1	U	<2.0
	Trichlorofluoromethane	75694	µg kg-1	U	<1.0
	1,1-Dichloroethene	75354	µg kg-1	U	<1.0
	Dichloromethane	75092	µg kg-1	U	ne
	trans-1,2-Dichloroethene	156605	µg kg-1	M	<1.0
	1,1-Dichloroethane	75343	µg kg-1	M	<1.0
	cis-1,2-Dichloroethene	156592	µg kg-1	M	<1.0
	Bromochloromethane	74975	µg kg-1	U	<1.0
	Trichloromethane	67663	µg kg-1	M	<1.0
	1,1,1-Trichloroethane	71556	µg kg-1	M	<1.0
	Tetrachloromethane	56235	µg kg-1	M	<1.0
	1,1-Dichloropropene	563586	µg kg-1	U	<1.0
	Benzene	71432	µg kg-1	M	<1.0
	1,2-Dichloroethane	107062	µg kg-1	M	<2.0
	Trichloroethene	79016	µg kg-1	N	<1.0
	1,2-Dichloropropane	78875	µg kg-1	U	<1.0
	Dibromomethane	74953	µg kg-1	U	<10
	Bromodichloromethane	75274	µg kg-1	U	<5.0
	cis-1,3-Dichloropropene	10061015	µg kg-1	U	<10
	Toluene	108883	µg kg-1	M	<1.0
	trans-1,3-Dichloropropene	10061026	µg kg-1	U	<10

All tests undertaken between 13-Aug-2010 and 16-Aug-2010

* Accreditation status

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18 Frogmore Road
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Hertfordshire
HP3 9RT

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					AF20680
					WS4
					12/08/2010
					0.75m
					SOIL
2760	1,1,2-Trichloroethane	79005	µg kg⁻¹	M	<10
	Tetrachloroethene	127184	µg kg⁻¹	M	<1.0
	1,3-Dichloropropane	142289	µg kg⁻¹	U	<2.0
	Dibromochloromethane	124481	µg kg⁻¹	U	<10
	1,2-Dibromoethane	106934	µg kg⁻¹	U	<5.0
	Chlorobenzene	108907	µg kg⁻¹	M	<1.0
	1,1,1,2-Tetrachloroethane	630206	µg kg⁻¹	M	<2.0
	Ethylbenzene	100414	µg kg⁻¹	M	<1.0
	m- & p-Xylene	1330207	µg kg⁻¹	M	<1.0
	o-Xylene	95476	µg kg⁻¹	M	<1.0
	Styrene	100425	µg kg⁻¹	U	<1.0
	Tribromomethane	75252	µg kg⁻¹	U	<10
	Isopropylbenzene	98828	µg kg⁻¹	U	<1.0
	Bromobenzene	108861	µg kg⁻¹	U	<1.0
	1,1,2,2-Tetrachloroethane	79345	µg kg⁻¹	M	ne
	1,2,3-Trichloropropane	96184	µg kg⁻¹	U	<50
	n-Propylbenzene	103651	µg kg⁻¹	U	<1.0
	2-Chlorotoluene	95498	µg kg⁻¹	U	<1.0
	1,2,4-Trimethylbenzene	95636	µg kg⁻¹	U	<1.0
	4-Chlorotoluene	106434	µg kg⁻¹	U	<1.0
	tert-Butylbenzene	98066	µg kg⁻¹	U	<1.0
	1,3,5-Trimethylbenzene	108678	µg kg⁻¹	U	<1.0
	sec-Butylbenzene	135988	µg kg⁻¹	U	<1.0
	1,3-Dichlorobenzene	541731	µg kg⁻¹	U	<1.0
	4-Isopropyltoluene	99876	µg kg⁻¹	U	<1.0
	1,4-Dichlorobenzene	106467	µg kg⁻¹	U	<1.0
	n-Butylbenzene	104518	µg kg⁻¹	U	<1.0
	1,2-Dichlorobenzene	95501	µg kg⁻¹	U	<1.0
	1,2-Dibromo-3-chloropropane	96128	µg kg⁻¹	U	<50
	1,2,4-Trichlorobenzene	120821	µg kg⁻¹	U	<1.0

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					113313
					AF20680
					WS4
					12/08/2010
					0.75m
					SOIL
2760	Hexachlorobutadiene	87683	µg kg-¹	U	<1.0
	1,2,3-Trichlorobenzene	87616	µg kg-¹		<2.0
2762	Tentatively Identified Compounds		µg kg-¹		None Detected
2790	Acenaphthene	83329	mg kg-¹	N	<0.50
	Acenaphthylene	208968	mg kg-¹	N	<0.50
	Anthracene	120127	mg kg-¹	N	<0.50
	Azobenzene	103333	mg kg-¹	N	<0.50
	Benzo[a]anthracene	56553	mg kg-¹	N	0.86
	Benzo[a]pyrene	50328	mg kg-¹	N	1.4
	Benzo[b]fluoranthene	205992	mg kg-¹	N	2.1
	Benzo[g,h,i]perylene	191242	mg kg-¹	N	0.96
	Benzo[k]fluoranthene	207089	mg kg-¹	N	0.61
	bis(2-Chloroethoxy)methane	111911	mg kg-¹	N	<0.50
	bis(2-Chloroethyl)ether	111444	mg kg-¹	N	<0.50
	bis(2-Chloroisopropyl)ether	108601	mg kg-¹	N	<0.50
	bis(2-Ethylhexyl)phthalate	117817	mg kg-¹	N	<0.50
	Butylbenzylphthalate	85687	mg kg-¹	N	<0.50
	Carbazole	86748	mg kg-¹	N	<0.50
	Chrysene	218019	mg kg-¹	N	1.1
	Di-n-butylphthalate	84742	mg kg-¹	N	<0.50
	Di-n-octylphthalate	117840	mg kg-¹	N	<0.50
	Dibenzo[a,h]anthracene	53703	mg kg-¹	N	<0.50
	Dibenzofuran	132649	mg kg-¹	N	<0.50
	Diethylphthalate	84662	mg kg-¹	N	<0.50
	Dimethylphthalate	131113	mg kg-¹	N	<0.50
	Fluoranthene	206440	mg kg-¹	N	2.1
	Fluorene	86737	mg kg-¹	N	<0.50
	Hexachlorobenzene	118741	mg kg-¹	N	<0.50
	Hexachlorobutadiene	87683	mg kg-¹	N	<0.50
	Hexachlorocyclopentadiene	77474	mg kg-¹	N	<0.50

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					113313
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					WS4
					12/08/2010
					0.75m
					SOIL
2790	Hexachloroethane	67721	mg kg-1	N	<0.50
	Indeno[1,2,3-cd]pyrene	193395	mg kg-1	N	0.63
	Isophorone	78591	mg kg-1	N	<0.50
	N-Nitrosodi-n-propylamine	621647	mg kg-1	N	<0.50
	N-Nitrosodimethylamine	62759	mg kg-1	N	<0.50
	Naphthalene	91203	mg kg-1	N	<0.50
	Nitrobenzene	98953	mg kg-1	N	<0.50
	Pentachlorophenol	87865	mg kg-1	N	<0.50
	Phenanthrene	85018	mg kg-1	N	0.58
	Phenol	108952	mg kg-1	N	<0.50
	Pyrene	129000	mg kg-1	N	1.9
	1,2-Dichlorobenzene	95501	mg kg-1	N	<0.50
	1,2,4-Trichlorobenzene	120821	mg kg-1	N	<0.50
	1,3-Dichlorobenzene	541731	mg kg-1	N	<0.50
	1,4-Dichlorobenzene	106467	mg kg-1	N	<0.50
	2-Chloronaphthalene	91587	mg kg-1	N	<0.50
	2-Chlorophenol	95578	mg kg-1	N	<0.50
	2-Methyl-4,6-dinitrophenol	534521	mg kg-1	N	<0.50
	2-Methylnaphthalene	91576	mg kg-1	N	<0.50
	2-Methylphenol	95487	mg kg-1	N	<0.50
	2-Nitroaniline	88744	mg kg-1	N	<0.50
	2-Nitrophenol	88755	mg kg-1	N	<0.50
	2,4-Dichlorophenol	120832	mg kg-1	N	<0.50
	2,4-Dimethylphenol	105679	mg kg-1	N	<0.50
	2,4-Dinitrotoluene	121142	mg kg-1	N	<0.50
	2,4,5-Trichlorophenol	95954	mg kg-1	N	<0.50
	2,4,6-Trichlorophenol	88062	mg kg-1	N	<0.50
	2,6-Dinitrotoluene	606202	mg kg-1	N	<0.50
	3-Nitroaniline	99092	mg kg-1	N	<0.50
	4-Bromophenylphenylether	101553	mg kg-1	N	<0.50

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					12/08/2010
					0.75m
					SOIL
2790	4-Chloro-3-methylphenol	59507	mg kg-¹	N	<0.50
	4-Chloroaniline	106478	mg kg-¹	N	<0.50
	4-Chlorophenylphenylether	7005724	mg kg-¹	N	<0.50
	4-Methylphenol	106445	mg kg-¹	N	<0.50
	4-Nitroaniline	100016	mg kg-¹	N	<0.50
2792	Tentatively Identified Compounds		mg kg-¹		Not detected
2810	2,4,4'-Trichlorobiphenyl	7012375	mg kg-¹	N	<0.1
	2,2',5,5'-Tetrachlorobiphenyl	35693993	mg kg-¹	N	<0.1
	2,2',4,5,5'-Pentachlorobiphenyl	37680732	mg kg-¹	N	<0.1
	2,3,4,4',5-Pentachlorobiphenyl	31508006	mg kg-¹	N	<0.1
	2,2',3,4,4',5-Hexachlorobiphenyl	35065282	mg kg-¹	N	<0.1
	2,2',4,4',5,5'-Hexachlorobiphenyl	35065271	mg kg-¹	N	<0.1
	2,2',3,4,4',5,5'-Heptachlorobiphenyl	35065293	mg kg-¹	N	<0.1
2920	Catechols		mg kg-¹	N	<0.05
	Phenol	108952	mg kg-¹	M	<0.05
	Cresols		mg kg-¹	N	<0.05
	Xylenols		mg kg-¹	N	<0.05
	Naphthols		mg kg-¹	N	<0.05
	Trimethyl phenols		mg kg-¹	N	<0.05
	Phenols (total)		mg kg-¹	N	<0.3
2010	pH		-	M	7.9
2186	Asbestos Containing Material		-	U	not found

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Results of analysis of 6 samples
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Chemtest
The right chemistry to deliver results

Report Date
21 July 2010

Login Batch No					**120214**						
Chemtest LIMS ID					AF11798	AF11799	AF11800	AF11801	AF11802	AF11803
Sample ID					River 1	River 2	River 3	BH A	BH D	BH F
Sample No										
Sampling Date					01/07/2010	01/07/2010	01/07/2010	01/07/2010	01/07/2010	01/07/2010
Depth										
Matrix					*WATER*	*WATER*	*WATER*	*WATER*	*WATER*	*WATER*
SOP↓	Determinand↓	CAS No↓	Units↓	*						
1010	pH	PH	-	U	8.8	8.8	8.5	6.8	6.5	6.3
1220	Chloride	16887006	mg l-¹	U	75	76	75	110	41	53
	Ammonium	14798039	mg l-¹	U	0.41	0.31	0.21	0.19	< 0.01	0.72
	Ammoniacal Nitrogen	AMM_NIT	mg l-¹	U	0.32	0.24	0.16	0.15	< 0.01	0.56
	Nitrate	14797558	mg l-¹	U	16	21	15	1.8	19	4.7
1300	Cyanide (total)	57125	mg l-¹	U	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
	Cyanide (free)	57125	mg l-¹	U	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1325	Sulfide	18496258	mg l-¹	U	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1470	Iron (dissolved)	7439896	µg l-¹	N	<20	<20	<20	260	290	1400
1270	Hardness	HARD_TO	mg CaCO3 l-¹	U	280	270	260	560	150	350
1220	Sulfate	14808798	mg l-¹	U	57	55	54	180	19	100
1450	Arsenic	7440382	µg l-¹	U	<1.0	1.1	<1.0	<1.0	3.0	1.1
	Boron	7440428	µg l-¹	U	110	89	71	240	53	250
	Barium	7440393	µg l-¹	U	21	21	19	49	22	80
	Beryllium	7440417	µg l-¹	U	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	Cadmium	7440439	µg l-¹	U	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
	Chromium (total)	7440473	µg l-¹	U	22	19	5.3	36	38	37
	Copper	7440508	µg l-¹	U	5.2	8.6	6.4	1.4	1.4	<1.0
	Mercury Low Level	7439976	µg l-¹	N	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	Nickel	7440020	µg l-¹	U	2.2	2.6	2.8	13	3.3	5.1
	Lead	7439921	µg l-¹	U	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	Selenium	7782492	µg l-¹	U	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	Vanadium	7440622	µg l-¹	U	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	Zinc	7440666	µg l-¹	U	1.2	6.7	7.7	7.6	<1.0	7.5
1675	TPH aliphatic >C5-C6		µg l-¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	TPH aliphatic >C6-C8		µg l-¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	TPH aliphatic >C8-C10		µg l-¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	TPH aliphatic >C10-C12		µg l-¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	TPH aliphatic >C12-C16		µg l-¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	TPH aliphatic >C16-C21		µg l-¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

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Report Date
21 July 2010

					120214					
					AF11798	AF11799	AF11800	AF11801	AF11802	AF11803
					River 1	River 2	River 3	BH A	BH D	BH F
					01/07/2010	01/07/2010	01/07/2010	01/07/2010	01/07/2010	01/07/2010
					WATER	*WATER*	*WATER*	*WATER*	*WATER*	*WATER*
1675	TPH aliphatic >C21-C35		µg l⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	TPH aliphatic >C35-C44		µg l⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	TPH aromatic >C5-C7		µg l⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	TPH aromatic >C7-C8		µg l⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	TPH aromatic >C8-C10		µg l⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	TPH aromatic >C10-C12		µg l⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	TPH aromatic >C12-C16		µg l⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	TPH aromatic >C16-C21		µg l⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	TPH aromatic >C21-C35		µg l⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	TPH aromatic >C35-C44		µg l⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Total Petroleum Hydrocarbons		µg l⁻¹	N	<10	<10	<10	<10	<10	<10
1700	Naphthalene	91203	µg l⁻¹	N	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Acenaphthylene	208968	µg l⁻¹	N	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Acenaphthene	83329	µg l⁻¹	N	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Fluorene	86737	µg l⁻¹	N	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Phenanthrene	85018	µg l⁻¹	N	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Anthracene	120127	µg l⁻¹	N	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Fluoranthene	206440	µg l⁻¹	N	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Pyrene	129000	µg l⁻¹	N	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Benzo[a]anthracene	56553	µg l⁻¹	N	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Chrysene	218019	µg l⁻¹	N	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Benzo[b]fluoranthene	205992	µg l⁻¹	N	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Benzo[k]fluoranthene	207089	µg l⁻¹	N	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Benzo[a]pyrene	50328	µg l⁻¹	N	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Dibenzo[a,h]anthracene	53703	µg l⁻¹	N	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Indeno[1,2,3-cd]pyrene	193395	µg l⁻¹	N	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Benzo[g,h,i]perylene	191242	µg l⁻¹	N	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Total (of 16) PAHs		µg l⁻¹	N	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
1760	Dichlorodifluoromethane	75718	µg l⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Chloromethane	74873	µg l⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

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					120214					
					AF11798	AF11799	AF11800	AF11801	AF11802	AF11803
					River 1	River 2	River 3	BH A	BH D	BH F
					01/07/2010	01/07/2010	01/07/2010	01/07/2010	01/07/2010	01/07/2010
					WATER	*WATER*	*WATER*	*WATER*	*WATER*	*WATER*
1760	Vinyl chloride	75014	µg l-1	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Bromomethane	74839	µg l-1	N	<2	<2	<2	<2	<2	<2
	Chloroethane	75003	µg l-1	N	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Trichlorofluoromethane	75694	µg l-1	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	1,1-Dichloroethene	75354	µg l-1	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Dichloromethane	75092	µg l-1	N	ne	ne	ne	ne	ne	ne
	trans-1,2-Dichloroethene	156605	µg l-1	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	1,1-Dichloroethane	75343	µg l-1	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	cis-1,2-Dichloroethene	156592	µg l-1	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Bromochloromethane	74975	µg l-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Trichloromethane	67663	µg l-1	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	1,1,1-Trichloroethane	71556	µg l-1	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Tetrachloromethane	56235	µg l-1	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	1,1-Dichloropropene	563586	µg l-1	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Benzene	71432	µg l-1	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	1,2-Dichloroethane	107062	µg l-1	N	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Trichloroethene	79016	µg l-1	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	1,2-Dichloropropane	78875	µg l-1	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Dibromomethane	74953	µg l-1	N	<1	<1	<1	<1	<1	<1
	Bromodichloromethane	75274	µg l-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	cis-1,3-Dichloropropene	10061015	µg l-1	N	<1	<1	<1	<1	<1	<1
	Toluene	108883	µg l-1	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	trans-1,3-Dichloropropene	10061026	µg l-1	N	<1	<1	<1	<1	<1	<1
	1,1,2-Trichloroethane	79005	µg l-1	N	<1	<1	<1	<1	<1	<1
	Tetrachloroethene	127184	µg l-1	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	1,3-Dichloropropane	142289	µg l-1	N	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Dibromochloromethane	124481	µg l-1	N	<1	<1	<1	<1	<1	<1
	1,2-Dibromoethane	106934	µg l-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Chlorobenzene	108907	µg l-1	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	1,1,1,2-Tetrachloroethane	630206	µg l-1	N	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

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Hertfordshire
HP3 9RT

FAO Andrea Grossey

LABORATORY TEST REPORT

Results of analysis of 6 samples
received 12 July 2010

241458 - Twickenham Railway Station

Chemtest
The right chemistry to deliver results

Report Date
21 July 2010

					120214					
					AF11798	AF11799	AF11800	AF11801	AF11802	AF11803
					River 1	River 2	River 3	BH A	BH D	BH F
					01/07/2010	01/07/2010	01/07/2010	01/07/2010	01/07/2010	01/07/2010
					WATER	*WATER*	*WATER*	*WATER*	*WATER*	*WATER*
1760	Ethylbenzene	100414	µg l-¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	m- & p-Xylene	1330207	µg l-¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	o-Xylene	95476	µg l-¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Styrene	100425	µg l-¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Tribromomethane	75252	µg l-¹	N	<1	<1	<1	<1	<1	<1
	Isopropylbenzene	98828	µg l-¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Bromobenzene	108861	µg l-¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	1,1,2,2-Tetrachloroethane	79345	µg l-¹	N	<1	<1	<1	<1	<1	<1
	1,2,3-Trichloropropane	96184	µg l-¹	N	<5	<5	<5	<5	<5	<5
	n-Propylbenzene	103651	µg l-¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	2-Chlorotoluene	95498	µg l-¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	1,3,5-Trimethylbenzene	108678	µg l-¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	4-Chlorotoluene	106434	µg l-¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	tert-Butylbenzene	98066	µg l-¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	1,2,4-Trimethylbenzene	95636	µg l-¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	sec-Butylbenzene	135988	µg l-¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	1,3-Dichlorobenzene	541731	µg l-¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	4-Isopropyltoluene	99876	µg l-¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	1,4-Dichlorobenzene	106467	µg l-¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	n-Butylbenzene	104518	µg l-¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	1,2-Dichlorobenzene	95501	µg l-¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	1,2-Dibromo-3-chloropropane	96128	µg l-¹	N	<5	<5	<5	<5	<5	<5
	1,2,4-Trichlorobenzene	120821	µg l-¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Hexachlorobutadiene	87683	µg l-¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	1,2,3-Trichlorobenzene	87616	µg l-¹	N	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Methyl tert-butylether	1634044	µg l-¹	N	<1	<1	<1	<1	<1	<1
1762	Tentatively Identified Compounds		µg l-¹		None Detected	None Detected	None Detected	None Detected	None Detected	None Detected
1790	N-Nitrosodimethylamine	62759	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Phenol	108952	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	bis(2-Chloroethyl)ether	111444	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

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FAO Andrea Grossey

					120214					
					AF11798	AF11799	AF11800	AF11801	AF11802	AF11803
					River 1	River 2	River 3	BH A	BH D	BH F
					01/07/2010	01/07/2010	01/07/2010	01/07/2010	01/07/2010	01/07/2010
					WATER	*WATER*	*WATER*	*WATER*	*WATER*	*WATER*
1790	2-Chlorophenol	95578	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	1,3-Dichlorobenzene	541731	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	1,4-Dichlorobenzene	106467	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	1,2-Dichlorobenzene	95501	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Methylphenol	95487	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	bis(2-Chloroisopropyl)ether	108601	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4-Methylphenol	106445	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	N-Nitrosodi-n-propylamine	621647	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Hexachloroethane	67721	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Nitrobenzene	98953	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Isophorone	78591	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Nitrophenol	88755	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,4-Dimethylphenol	105679	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	bis(2-Chloroethoxy)methane	111911	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,4-Dichlorophenol	120832	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	1,2,4-Trichlorobenzene	120821	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Naphthalene	91203	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4-Chloroaniline	106478	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Hexachlorobutadiene	87683	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4-Chloro-3-methylphenol	59507	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Methylnaphthalene	91576	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Hexachlorocyclopentadiene	77474	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,4,6-Trichlorophenol	88062	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,4,5-Trichlorophenol	95954	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Chloronaphthalene	91587	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Nitroaniline	88744	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Dimethylphthalate	131113	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,6-Dinitrotoluene	606202	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Acenaphthylene	208968	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	3-Nitroaniline	99092	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

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FAO Andrea Grossey

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241458 - Twickenham Railway Station

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					120214					
					AF11798	AF11799	AF11800	AF11801	AF11802	AF11803
					River 1	River 2	River 3	BH A	BH D	BH F
					01/07/2010	01/07/2010	01/07/2010	01/07/2010	01/07/2010	01/07/2010
					WATER	*WATER*	*WATER*	*WATER*	*WATER*	*WATER*
1790	Acenaphthene	83329	µg l-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Dibenzofuran	132649	µg l-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,4-Dinitrotoluene	121142	µg l-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Diethylphthalate	84662	µg l-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Fluorene	86737	µg l-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4-Chlorophenylphenylether	7005723	µg l-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4-Nitroaniline	100016	µg l-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2-Methyl-4,6-dinitrophenol	534521	µg l-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Azobenzene	103333	µg l-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4-Bromophenylphenylether	101553	µg l-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Hexachlorobenzene	118741	µg l-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Pentachlorophenol	87865	µg l-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Phenanthrene	85018	µg l-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Anthracene	120127	µg l-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Carbazole	86748	µg l-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Di-n-butylphthalate	84742	µg l-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Fluoranthene	206440	µg l-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Pyrene	129000	µg l-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Butylbenzylphthalate	85687	µg l-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo[a]anthracene	56553	µg l-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Chrysene	218019	µg l-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	bis(2-Ethylhexyl)phthalate	117817	µg l-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Di-n-octylphthalate	117840	µg l-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo[b]fluoranthene	205992	µg l-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo[k]fluoranthene	207089	µg l-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo[a]pyrene	50328	µg l-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Indeno[1,2,3-cd]pyrene	193395	µg l-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Dibenzo[a,h]anthracene	53703	µg l-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo[g,h,i]perylene	191242	µg l-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1792	Tentatively Identified Compounds		ug l-1		None Detected	None Detected	None Detected	None Detected	None Detected	None Detected

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					River 1	River 2	River 3	BH A	BH D	BH F
					01/07/2010	01/07/2010	01/07/2010	01/07/2010	01/07/2010	01/07/2010
					WATER	*WATER*	*WATER*	*WATER*	*WATER*	*WATER*
1810	2,4,4'-Trichlorobiphenyl	7012375	µg l-¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	2,2',5,5'-Tetrachlorobiphenyl	35693993	µg l-¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	2,2',4,5,5'-Pentachlorobiphenyl	37680732	µg l-¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	2,3,4,4',5-Pentachlorobiphenyl	31508006	µg l-¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	2,2',3,4,4',5-Hexachlorobiphenyl	35065282	µg l-¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	2,2',4,4',5,5'-Hexachlorobiphenyl	35065271	µg l-¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	2,2',3,4,4',5,5'-Heptachlorobiphenyl	35065293	µg l-¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1830	Atrazine	1912249	µg l-¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Simazine	122349	µg l-¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Diuron	330541	µg l-¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1845	2,4-D	94757	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Dichlorprop	120365	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	MCPA	94746	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	MCPB	94815	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Mecoprop	7085190	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	2,4,5-T	93765	µg l-¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1920	Catechols		mg l-¹	N	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
	Phenol	108952	mg l-¹	N	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
	Cresols		mg l-¹	N	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
	Xylenols		mg l-¹	N	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
	Naphthols		mg l-¹	N	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
	Trimethyl phenols		mg l-¹	N	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
	Phenols (total)		mg l-¹	N	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03

All tests undertaken between 13-Jul-2010 and 21-Jul-2010

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page