

Useful Contacts

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2	British Geological Survey - Enquiry Service British Geological Survey, Kingsley Dunham Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
3	Environment Agency - National Customer Contact Centre (NCCC) PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 08708 506 506 Email: enquiries@environment-agency.gov.uk
4	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmark.co.uk Website: www.landmarkinfo.co.uk
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Order Number: 48629263_1_1 Date: 23-Aug-2013 rpr_ec_datasheet v47.0 A Landmark Information Group Service Page 6 of 6



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RE: 11167 Greenwood Place, Highgate Road, NW5

Felix, Amedeo

to:

'EllenJones@campbellreith.com'

13/11/2012 14:34

Hide Details

From: "Felix, Amedeo" < Amedeo. Felix@camden.gov.uk>

To: "'EllenJones@campbellreith.com'" < EllenJones@campbellreith.com>,

History: This message has been forwarded.

1 Attachment



image001.jpg

Building Control has no information on ground conditions, or any of the other information you outline a need for.

Regards,

Amedeo Felix

Technical Support Officer

Telephone: 020 7974 5131

From: EllenJones@campbellreith.com [mailto:EllenJones@campbellreith.com]

Sent: 13 November 2012 12:13

To: BC Mail

Cc: RhyaddWatkins@campbellreith.com

Subject: 11167 Greenwood Place, Highgate Road, NW5

Dear Sir/ Madam,

I am undertaking a geo-environmental desktop study of Greenwood Place, Highgate, NW5, National Grid Reference: 528840^E, 185400^N.

I would be grateful if you could provide any information on the following:

- What are the typical ground conditions in the site area?
- What are the typical foundation solutions in the site area?
- What is the site's current and previous land use history, including that of the adjacent land?
- What is the water table level in the area?
- What are the seasonal high and low water table levels?
- Is / was there any mining / mineral / gravel extraction in the area?
- Does fill material occur in the area?
- Are there any methane problem in the area or any such history of problems?
- Are soakaways or piped networks used in the area?
- Do you hold any relevant investigation reports for the site?

Please could you advise if there is likely to be a charge for providing the above information. Thank you for your time in advance

Kind regards,

Ellen

Ellen Jones

Graduate Environmental Scientist

CampbellReith

Raven House, 29 Linkfield Lane, Redhill, Surrey RH1 1SS

Tel +44 (0)1737 784500 www.campbellreith.com

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RE: 11167 Greenwood Place, Highgate Road, NW5

Location Enquiries

to:

'EllenJones@campbellreith.com'

14/11/2012 12:11

Hide Details

From: Location Enquiries <SMBLocationEnquiries@tfl.gov.uk>

To: "'EllenJones@campbellreith.com'" <EllenJones@campbellreith.com>,

History: This message has been replied to and forwarded.

1 Attachment



SI-6-141112 Greenwood Place, Highgate Road, NW5.pdf

London Underground Infrastructure Protection response to your communication attached.

Kind regards

Shahina Inayathusein Information Manager <u>locationenquiries@tube.tfl.gov.uk</u>

Tel: 0207 918 0016

Auto: 40016

From: EllenJones@campbellreith.com [mailto:EllenJones@campbellreith.com]

Sent: 14 November 2012 11:16

To: Location Enquiries

Subject: RE: 11167 Greenwood Place, Highgate Road, NW5

Hi Shahina,

Thank you for your email and advice.

Please find attached two more plans which will hopefully give you a clearer idea of the site's location. The site boundary covers four existing buildings; the Greenwood Centre, AA Storage Depot, Highgate Centre and Deane House.

If you need any further information please do not hesitate to contact me.

Many thanks for your help,

Ellen

Ellen Jones

Graduate Environmental Scientist

CampbellReith

Raven House, 29 Linkfield Lane, Redhill, Surrey

RH1 1SS

Tel +44 (0)1737 784500 www.campbellreith.com

From: Location Enquiries < SMBLocationEnquiries@tfl.gov.uk>

To: "EllenJones@campbellreith.com" < <u>EllenJones@campbellreith.com</u>>,

Date: 14/11/2012 10:29

Subject: RE: 11167 Greenwood Place, Highgate Road, NW5

Hi Ellen,

To ensure that we provide you with the correct information can you please send a legible plan of the locality to your search showing surrounding streets with your site clearly outlined or plotted. Also we need the property name or no.

Please see our attached leaflet on how to request asset location enquiries which you may find helpful.

Kind regards

Shahina Inayathusein

Information Manager London Underground Infrastructure Protection

Tel: 020 7918 0016

Email: locationenquiries@tube.tfl.gov.uk

From: EllenJones@campbellreith.com [mailto:EllenJones@campbellreith.com]

Sent: 13 November 2012 14:02

To: Location Enquiries

Cc: RhyaddWatkins@campbellreith.com

Subject: 11167 Greenwood Place, Highgate Road, NW5

Dear Sir/ Madam,

We are currently undertaking a desk study for a proposed development at Greenwood Place, Highgate Road, NW5, National Grid Reference: 528840^E, 185400^N.

Below groundworks are likely to comprise a ground investigation (boreholes and trial pits). The foundations of the proposed development are likely to be piled foundations.

Would you be able to tell us if there are any London Underground assets within the vicinity of the site?

Please find attached a site location plan (outlined in red in the middle of the large circle). If you have any questions please do not hesitate to contact me.

I look forward to hearing from you.

Kind regards,

Ellen

Ellen Jones

Graduate Environmental Scientist

CampbellReith

Raven House, 29 Linkfield Lane, Redhill, Surrey RH1 1SS

Tel +44 (0)1737 784500 www.campbellreith.com

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Date 14 November 2012

Our Ref 20878-SI-6-141112

Your Ref 11167

To Ellen Jones

Campbell Reith

EllenJones@campbellreith.com

Hello Ellen

Greenwood Place, Highgate Road, NW5

Thank you for your communication of 13th February 2012.

I can confirm that London Underground has no assets within 50 metres of your site as shown on the plan you provided.

Should you have any further enquiries, please do not hesitate to contact me.

Shahina Inayathusein
Information Manager
LUL Infrastructure Protection
E-mail: Locationenquiries@tube.tfl.gov.uk

Tel: 020 7918 0016



London Underground Limited



37-51 Greenwood Place, Highgate Road NW5 1LB Helen McCarthy

'Ellen Jones' 08/01/2013 14:29 **Hide Details**

From: Helen McCarthy < Helen McCarthy @crossrail.co.uk >

To: "'Ellen Jones'" <ellenjones@campbellreith.com>,

Crossrail Ref: CRL-00-058283

Dear Ellen Jones,

37-51 Greenwood Place, Highgate Road NW5 1LB

Thank you for your enquiry of 03 December 2012, regarding the effect of the proposed Chelsea-Hackney Line on the above property.

Crossrail Limited acts as an agent for Transport for London in the administration of the Chelsea-Hackney Line Safeguarding Direction made by the Secretary of State for Transport in June 2008.

The current safeguarded route for the Chelsea-Hackney Line follows the District Line from Wimbledon in the south to proposed new tunnels at Parsons Green. The new tunnels would continue via new stations at Kings Road, Victoria, Piccadilly Circus, Tottenham Court Road, Kings Cross, Angel, Essex Road, Dalston, Hackney and Homerton. The tunnels would surface in north London, south of Leytonstone, and then run on London Underground's Central Line to Epping.

The above property falls outside the safeguarded limits of land shown on the plans accompanying the Directions referred to above.

You may be aware that Crossrail (a scheme linking Maidenhead/Heathrow with Central London and Shenfield/Abbey Wood) was enacted as the Crossrail Act 2008.

The design, planning and construction resources required to build Crossrail are very substantial and must remain a priority, but the collective desire of the Department for Transport and Transport for London is to maintain the safeguarding of the Chelsea-Hackney Line for development at some point in the future. Construction on the Chelsea-Hackney Line could begin, at the very earliest, in 2024.

In addition, the latest project developments can be found on the Crossrail website www.crossrail.co.uk/safeguarding, which is updated on a regular basis.

I hope this information is helpful, but if you require any further assistance then please feel free to contact a member of the Safeguarding Team on 0345 602 3813, or by email to safeguarding@crossrail.co.uk

Yours sincerely,

Helen McCarthy Stakeholder Administrator

Crossrail Limited | 25 Canada Square | London | E14 5LQ Tel: 020 3229 9100 | Helpdesk (24hr) 0345 602 3813

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APPENDIX C: GROUND INVESTIGATION DATA



Newark Road Peterborough PE1 5UA Tel: 01733 566566 Fax: 01733 315280

GROUND INVESTIGATION REPORT
GREENWOOD PLACE
KENTISH TOWN
LONDON NW5
(Factual)
Report Reference No. C12974

On behalf of:-

London Borough of Camden c/o CampbellReith Friars Bridge Court 41-45 Blackfriars Road London SE1 8NZ

June 2013

LONDEN BOROUGH OF CAMDEN

CAMPBELLREITH HILL LLP CONSULTING ENGINEERS

FACTUAL REPORT ON A GROUND INVESTIGATION HIGHGATE AND GREENWOOD DAY CENTRES GREENWOOD PLACE KENTISH TOWN

LONDON NW5

Report Reference No. C12974

June 2013

INTRODUCTION

The London Borough of Camden, the client, intends to demolish their existing Highgate Day Centre and Greenwood Community Centre buildings, Greenwood Place, Kentish Town, London NW5, and construct two new buildings of three and six storeys in height with new access ways, cycle parking and soft landscaped areas.

Ground Engineering Limited was commissioned by the client, under the guidance of consulting engineers CampbellReith Hill LLP, the 'Engineer' to carry out a ground investigation and produce a factual report. The investigation was to determine the nature and geotechnical properties of the underlying soils in addition to environmental sampling, monitoring and analysis.

LOCATION, TOPOGRAPHY, GEOLOGY AND HYDROGEOLOGY OF THE SITE

The site is bisected by the north-west to south-east trending part of Greenwood Place and is positioned on the south-western side of Highgate Road, London NW5, approximately 200m north-west of Kentish Town London Underground railway station. The site is centred at National Grid Reference TQ 2884 8540. A site location plan is presented in Appendix 1.

The near-rectangular site has an approximately 75m long frontage along the south-western side of Highgate Road and extends to the south-west by up to 80m. Greenwood Place crosses the site near centrally in a south-east to north-west orientation, then turns to border the north-western edge of the site and forms a junction with Highgate Road to the immediate north of the site. A church, named Christ Apostolic Church, was to the immediate south-east.

At the time of the investigation the north-eastern half of the site area contained Highgate Day Centre and Lensham House. Both of these buildings were in use at the time of the investigation. Lensham House was adorned with signs marked A&A Storage and Business Centre. This building, although located within the site, does not form part of the proposed redevelopment area which it bisects. The south-western half of the site contained Greenwood Community Centre that was disused. The day centre and community centre buildings were single and two storey structures whereas Lensham House was up to three storeys high with several large metal roller shutter doors and loading bays at ground level. All three buildings were of brick construction.

A car park was positioned in the north-eastern corner of the site, associated with Highgate Day Centre. Four car parking spaces, some loading bays and motorcycle bays were positioned along the south-western side of Greenwood Place. Remaining parts of the site comprised pathways and peripheral soft landscaping.

Various immature to mature trees were located in landscaped areas along the north-eastern boundary and in the northern corner of the site including Eucalyptus, Beech, Cherry, Cotoneaster, Laburnum, Laurel and Maple. A row of mature Cypress trees was C12974

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positioned immediately beyond the southern corner of the site and along the south-western side of Greenwood Place. A small garden to the rear of Highgate Day Centre in the eastern corner of the site contained abundant Bamboo. A stand of Japanese Knotweed was to the rear of Lensham House beyond the southern corner of the site and was established behind and on top of a brick retaining wall that bordered the lower level of the Greenwood Place roadway.

Ground levels generally fell across the site towards the south-west from approximately 38mOD alongside Highgate Road, reducing to some 36.5mOD to the rear of Greenwood Community Centre. The site was largely surrounded by brick walls, some of which were retaining walls of up to 1.5m high to accommodate the change in levels between higher ground to the north-east and lower ground to the south-west.

The 1934 geological map for the area shows the site to be immediately underlain by the solid geology of the London Clay. A tributary of the River Fleet is indicated to flow towards the south-west along the north-castern edge of the site beneath Greenwood Place and turn beneath the western corner of the site to flow towards the south. This tributary has since been apparently re-routed and culverted. Service plans provided by the Engineer include a sewer plan depicting a trunk combined sewer and a storm relief sewer flowing to the south-east of the site beneath Highgate Road.

The 2006 geological map for the area at 1:50,000 scale, Sheet 256, shows the site to be immediately underlain by the London Clay Formation, but with areas of higher ground to the north-east also indicated with a propensity for Head or 'hill wash' deposits. An area of worked ground is also marked immediately beyond the western corner or the site.

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SITE WORK

The locations of the intrusive works were agreed on site with the Engineer.

The investigation was undertaken following the protocols detailed in British Standards (BS) 'Code of Practice for Site Investigations' (BS5930:1999+A2:2010) and 'Methods of test for soils for engineering purposes' (BS1377:1990). All of the intrusive works were undertaken under the supervision of a Geo-environmental Engineer. The works were carried out making due reference to generic and site specific risk assessments, and method statements. Prior to commencement of intrusive works, available statutory service plans were sourced by Ground Engineering Limited and consulted, and a cable avoidance tool (CAT) was used to confirm the absence of buried services at each exploratory hole position.

The exploratory hole positions are depicted on the site plan in Appendix 1. The working areas for two of the exploratory holes (BH2 and DCS1) comprised four parking spaces and a motorcycle bay alongside the roadway of Greenwood Place. These boreholes were undertaken under the supervision of an operative provided by Ground Engineering Limited with New Roads and Street Works Act accreditation. Parking suspensions for all four parking spaces and the motorcycle bays, a building licence and a hoarding licence were obtained by Ground Engineering Limited to facilitate the works for these areas as required by the London Borough of Camden. Traffic management with appropriate roadway works signage and temporary fences were also employed for the duration of the works where required.

The exploratory hole records are presented in Appendix 2 and give the descriptions and depths of the various strata encountered, details of all samples taken, results of the in-situ tests, installation details and the groundwater conditions observed during boring/excavation and on completion. The ground levels at each exploratory hole position were related to Ordnance Datum (OD) using levelling equipment and the National Grid co-ordinates for each position were calculated from on-site measurements, as presented on the exploratory hole records.

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Cable Percussive Boreholes

Two boreholes (BH1 to BH2) were undertaken by a standard cable percussive boring rig between 29th April and 2nd May 2013. Prior to boring at each position, starter pits were dug to 1.20m below ground level using hand tools, in order to ensure the absence of buried services. Diamond drilling equipment with 200mm diameter core barrel was employed to remove the surface asphalt, near surface granite setts and concrete at the location of BH2.

The boreholes were then advanced using weighted shell and claycutter tools, initially working within 150mm diameter casing. The boreholes were completed at the intended depths of 35.00m (BH1) and 20.00m (BH2) below ground level.

Standard penetration tests were undertaken in order to give an indication of the insitu relative density/shear strength of the soils encountered at the instructed intervals. The test was made by driving a 50mm diameter solid cone point (C) or similar diameter open shoe and split spoon sampler (S) into the soil at the base of the borehole by means of an automatic trip hammer weighing 63.50kg falling freely through 760mm. The penetration resistance was determined as the number of blows (N) required to drive the tool the final 300mm of a total penetration of 450mm into the soil ahead of the borehole. Where the full penetration was not achieved the actual penetration and the number of blows were recorded.

Undisturbed samples (U) nominally 100mm in diameter were taken in clay, using thin wall steel samplers (UT100s), at the instructed intervals. The ends of the samples were capped and sealed to maintain them in as representative condition as possible during transit to the laboratory.

Representative small (D) and bulk (B) disturbed samples of soil were taken from the boring tools at regular intervals throughout the depth of the boreholes. The supervising Geoenvironmental Engineer also took environmental samples (ES) in polycarbonate pots, glass jars and vials at regular intervals within made ground and underlying naturally deposited soil.

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On-site screening of soil samples was undertaken by the Geo-environmental Engineer using a photo-ionisation detector (PID). The results of the PID screening are tabulated to the rear of the exploratory hole records.

Within BH1, an indication of the shear strength of clay soils within the recovered samples to 6m depth was made using a hand shear vane (V) at regular intervals and the readings are presented on the BH1 record. A pocket penetrometer was also used to provide an indication of apparent cohesion of clay soils at regular intervals on recovered samples from BH1. These tests were not undertaken on the in-situ clay soils, and the results should only be used as a guide to the shear strength.

Samples of groundwater (W) were recovered from the boreholes once sufficient water had accumulated for collection.

On completion of the boreholes, 50mm diameter pipes were installed with gravel response zones to depths of 4.70m in BH1 and 4.15m in BH2 as instructed by the Engineer. Above this, each borehole was backfilled with bentonite. A gas tap was installed in the top of the standpipes, as instructed. A protective stopcock cover was concreted into the ground flush with the surface over each installation. Below the installations, the boreholes were backfilled with bentonite. Excess spoil was removed from site and disposed of at a licensed facility.

Window Sample Boreholes

Five window sample boreholes, DCS1, DCS2, DCS2A, DCS3 and DCS4, were undertaken by a dynamic continuous sampling rig on 29th and 30th April 2013. Prior to window sampling at each position a starter pit was dug to 1.20mbgl using hand tools in order to ensure the absence of buried services. Diamond drilling equipment with 200mm diameter core barrels was employed to remove the surface asphalt and concrete at the locations of DCS1 and DCS4. Representative small disturbed samples of soil were taken in the starter pits at regular intervals.

The window sample boreholes were then formed by a small track-mounted window sampling and super heavy dynamic probing rig. Personal gas monitors and fume

C12974 Page 6 of 10

extraction equipment was employed when undertaking DCS4 that was located inside the Greenwood Community Centre Building that was a confined space.

Exploratory hole DCS2 was abandoned due to refusal in concrete at 2.22mbgl, and an alternative location, DCS2A was completed at the intended 6.00m depth, as were DCS1, DCS3 and DCS4. Casing was installed to 4.00mbgl in DCS1 to maintain the hole sidewalls.

The window sampling equipment consisted of drive-in sample tubes of specially constructed and strengthened steel, lined with a plastic core-liner. The barrels were initially of 87mm internal diameter and were reduced in diameter with successive barrels with increasing depth. Upon extraction, a continuous profile of the soil was obtained within the plastic liners.

Standard penetration tests (SPTs) were undertaken at regular intervals in order to give an indication of the in-situ density or strength of the material. Each test was made by driving a 50mm diameter split spoon sampler into the soil at the base of the borehole by means of an automatic trip hammer weighing 63.50kg falling freely through 750mm. The penetration resistance was determined as the number of blows 'N' required to drive the tool the final 300mm of a total penetration of 450mm into the soil ahead of the window sample hole. In coarse or hard soils, the split tube sampler (SPT(S)) was replaced by a 60° apex cone (SPT(C)). The SPT results are tabulated to the rear of the exploratory hole records.

The plastic liners recovered from the window sample boreholes were logged and sampled on-site by a supervising Geo-environmental Engineer. Representative small disturbed (D) samples of soil were taken at regular intervals throughout the depth of each borehole. Environmental samples (ES) were taken in polycarbonate pots and glass jars at regular intervals within made ground and into the top layer of underlying naturally deposited soils.

On-site screening of soil samples was undertaken by the Geo-environmental Engineer using a photo-ionisation detector (PID). The results of the PID screening are tabulated to the rear of the exploratory hole records.

An indication of the shear strength of clay soils within the recovered liners was made using a hand shear vane (V) at regular intervals and the readings are presented on the window sample hole records. A pocket penetrometer was also used to provide an indication of C12974

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apparent cohesion of clay soils at regular intervals in DCS1, DCS3 and DCS4. These tests were not undertaken on the in-situ clay soils, and the results should only be used as a guide to the shear strength.

On completion 50mm diameter standpipes were installed to depths of 3.00m in DCS1; 2.00m in DCS2A and DCS4; and 1.00m in DCS3, for future gas and groundwater monitoring. The standpipes were slotted to within 1.00m depth (DCS1, DCS2A and DCS4) or 0.60m depth (DCS3) and surrounded with a pea gravel annulus. A bentonite seal was placed above the pea gravel annulus, a gas tap inserted and a protective steel stopcock cover concreted in place at ground level.

Monitoring

Four return visits were made on 13th, 20th, 29th May and 3rd June 2013 to monitor methane, carbon dioxide and oxygen gas levels in the standpipes using a GasData GFM 430 series gas monitor. Ambient pressures and flow rates were recorded together with the depth to groundwater. A photo-ionisation detector (PID) was used to monitor for volatile organic compounds (VOCs). Groundwater samples were obtained where possible from each standpipe during each visit and were sealed within 1 litre glass bottles. Due to vehicles obstructing the location of BH2 during these four visits, additional visits were undertaken for the BH2 standpipe that was successfully monitored on 13th June 2013. The results of all monitoring visits monitoring are presented in Appendix 3.

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LABORATORY TESTING

The samples were inspected in the laboratory and assessments of the soil characteristics have been taken into account during preparation of the exploratory hole records. The soils have been described in accordance with BS5930:1999+A2:2010. The geotechnical and chemical testing schedules were devised by the Engineer. The testing was completed within UKAS accredited laboratories.

The geotechnical test results are presented in Appendix 4 whilst the results of the chemical tests and gas sample tests are presented in Appendix 5.

Geotechnical Laboratory Testing

The samples recovered from the exploratory holes were tested in accordance with the recommendations of British Standard BS1377:1990 'Methods of tests for soils for civil engineering purposes'.

The moisture contents and index properties of selected soil samples were determined as a guide to soil classification and behaviour. The liquid limit was determined by a cone penetrometer.

The particle size distribution of a selected sample was obtained by wet sieve analysis and sedimentation by pipette. The results of this tests are given as combined particle size distribution curve.

The particle size distribution of a selected sample was determined by wet sieve analysis. The results of this test is given as a particle size distribution curve.

Immediate undrained triaxial compression tests were made on selected undisturbed samples at single confining cell pressures specified by the Engineer. The moisture content and bulk density of the specimens were also determined. A single undisturbed sample of fissured clay fragmented on extrusion in the laboratory and the recovered specimen was not suitable for triaxial testing. A hand shear vane test was undertaken as an alternative and the result, taken as an average of three readings, is presented in the summary table.

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Selected samples of soil and water were analysed to determine the concentration of soluble sulphates. The pH values were determined using an electrometric method. Selected samples of soil were also tested for total sulphur and acid soluble sulphate. The testing was undertaken using the methods prescribed in BRE Digest SD1 (2005).

Chemical Laboratory Testing

The UKAS MCERTs accredited laboratory, Chemtest, was used for the analysis of soil samples recovered during the site work.

Twelve soil samples were tested for a suite that included arsenic, cadmium, chromium, copper, nickel, lead, mercury, selenium, zinc, moisture content, speciated PAH (16 plus benzo[j]fluoranthene), gasoline range organics (>C6-C10), extractable petroleum hydrocarbons (>C10-C25 and >C25-C40), sulphate (total), sulphide, phenols monohydric (total of phenol, cresol and xylenol), total cyanide and pH. A single sample was separately tested for speciated PAH.

Eleven soil samples were screened for the presence of asbestos. Four soil samples were tested for speciated TPH CWG, three soil samples were tested for total organic carbon and three soil samples were tested for the fraction of organic carbon.

Selected water samples were tested for a suite that included arsenic, cadmium, chromium, copper, nickel, lead, mercury, selenium, zinc, hexavalent chromium, total cyanide, free cyanide, thiocyanate, total PAH, total TPH, total phenol, soluble sulphate, sulphide, free sulphur and pH. These samples were also tested for speciated TPH CWG and VOCs.

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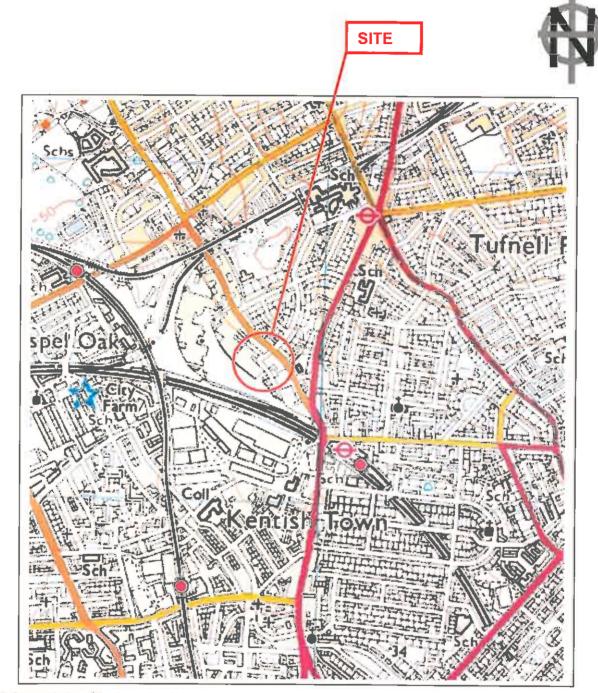
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Appendix 1

Site Location Plan

Exploratory Hole Location Plan

Site Location Plan



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Not to Scale

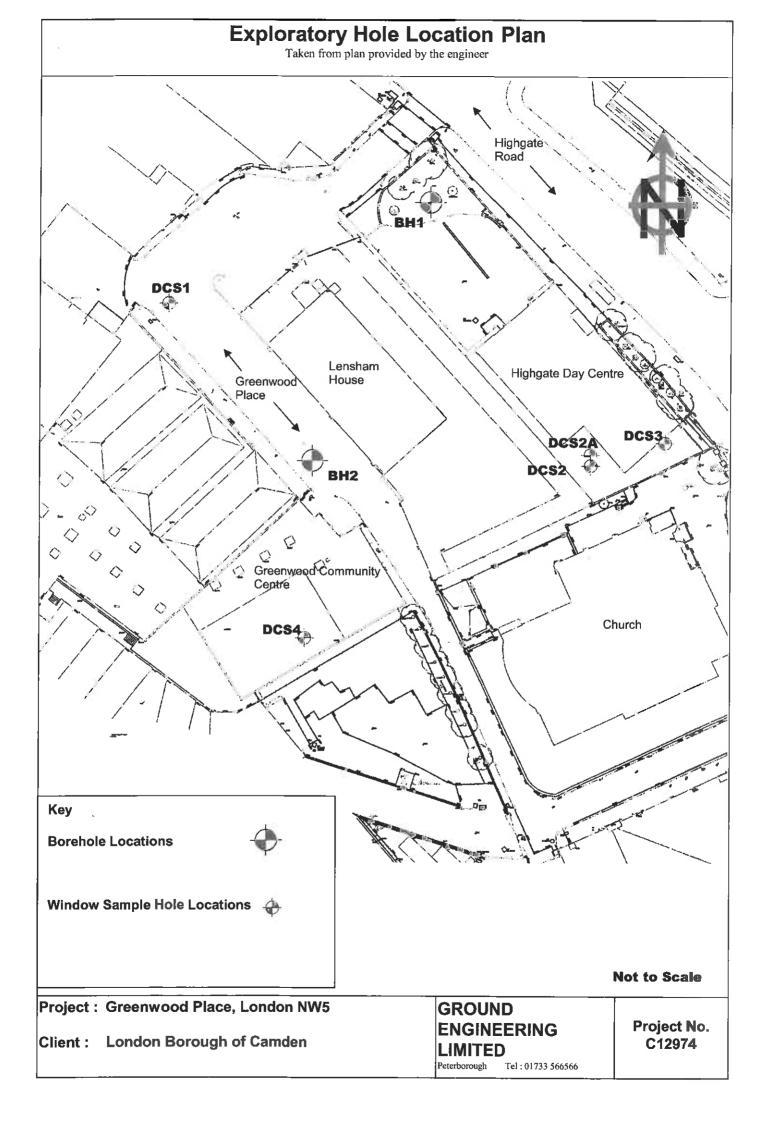
Project : Greenwood Place, London NW5

Client: London Borough of Camden

GROUND ENGINEERING LIMITED

Peterborough Tel: 01733 566566

Project No. C12974



Appendix 2

Exploratory Hole Records
Results of On-site PID Screening

GROUN	D ER	iNG	Site:	GREEN	OOD PLACE COMMUNITY CENTRE, LONDON SE6	BOREHO BH1	LE
L I M I	T	E D	Date:	04/13		855 mE 1	8543 2 m
Tel: 01733-566566 www.groundengin	eering.c	o.uk	to 30/		Ground Level:	36.9	Om. 0.D
Samples and ir Depth m	Туре	Blows	(Date) Casing	Inst.	Description of Strata Legend	Depth m	O.D. Level m
0.10 0.10 0.50-1.00 0.50	D1 ES1 B1 D2				MADE GROUND - Firm, friable, brown, slightly sandy, gravelly CLAY. Gravel consists of angular to rounded brick, flint, concrete, slate, coal, ash and rare smoker's pipe fragments. MADE GROUND - Firm, friable, dark brown, slightly	0.25	36. 65
0.50 - - - 1.10 - 1.20-1.60	D3 U1	30	1.20		sandy, gravelly CLAY with occasional brick cobbles. Gravel consists of angular to rounded brick, flint, concrete, slate, ash and coal. Occasional brown asbestos fragments at 0.50m depth.	1.10	35.80
1.20 1.20 1.35 1.70 1.70	PP1 V1 ES3 D4 PP2	(1.50) (81)			below 1.55m, brown, orange brown and grey mottled, slightly sandy, slightly gravelly CLAY. Gravel of angular brick, coal, flint and ash.		-
1.80 1.95 2.20 2.20 2.35-2.65	V2 ES4 D5 PP3 V3 S	(0.25) (34) N9	1.50 ⊻ s		Firm becoming stiff brown spaces brown and and	2.40	34.50
2.60 - 2.70 - 2.70	D6 ES5 PP4 V4 D7	(1.50) (91)	⊻ s 1 .5 0		Firm, becoming stiff, brown, orange brown and grey mottled gravelly CLAY. Gravel of rounded flint and quartzite.	3.15	33. 75
2.95 3.20-3.60 3.20 3.20 3.40 3.70	U2 PP5 V5 ES6 D8	30 (1.75) (66)	T.SU ▼s		Firm, becoming stiff below 4.00m depth, fissured, brown and grey mottled CLAY with occasional sand size selenite crystals and orange brown silt partings.		_
3.70 3.95 4.20	PP6 V6 D9 V7 PP7	(1.75) (72) (96) (2.00)	1.50				
4.20 4.35-4.65 4.65 4.70 4.70 4.95	S D10 PP8 V8 D11	N11 (2.00) (125)	,				_
5.20-5.60 5.20 5.20	U3 PP9 V9	(124)	1.50			_ _ _	- -
5.70 5.70 5.70 5.95 6.35-6.65	PP10 V10 D13	(2.75) (108) N15	1.50	?		 	
6.65	D14					-	-
7.20-7.60	U4	35	1.50				:
7.70	D15					-	
8.35-8.45 8.65	S D16	N18	1.50			-	-
9.20-9.60	U5	45	1.50			-	-
9.70	D17 ES7	İ			Very stiff, fissured, brown grey CLAY with occasional grey silt partings and rare gravel size pyrite nodules.	9.70	27.20
REMARKS 1. Ex	cavat	ing a pots observation	pit from erved to to 1.50 standpi	0.00m to 2.70m on depth ipe inst	<u> </u>	Project 1297 Scale	t No 74 Page
						1:50	1/4
KEY D - Disturbed Samı			Blows for 0 for quote			Observatio Oepth m	ns
B - Bulk Sample U - Undisturbed Sa		penet	ration	17	lo Struck Rose to Rate Cased Sealed Date Hole	Casing	Water
W - Water Sample i/C - SPT Spoon/Cor ▼ Water Strike ▼ Water Rise	ne 💌	Cohe: c Level w Level	sion () kPa on comple casing wit lpipe Level	etion hdrawn	29/04/13 14.15 30/04/13 14.15 30/04/13 35.00 30/04/13 35.00 13/05/13 4.70	1.50 1.50 1.50 0.00	dry dry dry dry 3.75

GROUN ENGINE		iNG	Site:	GREENW	· ·	COMMUNITY		, LON	DON SE		BOREHO BH	1
L M Tel: 01733-566566		E D		/04/13	Hole Size: '	50mm dia to 35.	.00m			528 Groun	8855 mE	
Tel: 01733-566566 www.groundengin				/04/13 T						Level:	36.	90m. O.
Samples and in	Type	T	(Date) Casing	Inst.		Description	of Strata			Legen	d Depth	0.D Level
10.20	D18				Very stiff, occasional pyrite nodu	fissured, brow grey silt parti les.	n grey C ngs and	LAY with rare gra	ıvel sîze	1	10.0	_
- 40 0E 44 4E	s	N2/	4 50		.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,							
10.85-11.15 - 11.15	D19	N24	1.50							关		
-											\exists	
11.70	D20											
12.20-12.30	U6	60	1.50		Concreti	pnary limestone	nodule a	at 12.30	m to	17	4	
12.40 12.50	D21 D22				12.45m dept	n.				1		
47.20	D27									1	-	
13.20	D23									*		
13.85-14.15	s	N33	1.50									
14.15	D24									关	_	
14.70	D25										-	
15.20-15.60	U7	45	1.50									-
15.70	D26			2 4 4 4 4 4								
16.20	D27									×		-
16.85-17.15	s	N36	1.50								-	
17.15	D28	ľ		(,						*		-
17.70	D29									*		
18.20-18.60	U8	50	1.50		Becoming	hard below 18.0	Om depth					_
		~	1.30									
18.70	D30	ĺ									-	
19.20	D31											
19.85-20.15	s	N38	1.50							*		-
REMARKS				× • •							20.00 Projec	16.90 et No
											129 Scale	74
(EY	K!	ent i	Nows for S	1 2m	G	oundwater Strike			Gro	undwater (1:50	2/4
D - Disturbed Samp		- Blows	Blows for 0 for quote	ed		Depth m			300	ı	Depth m	7110
3 - Bulk Sample J - Undisturbed Sa	mpleV	- Vane		st 📘	o Struck Rose to		Cased	Sealed	Date	Hole	Casing	Water
W - Water Sample C - SPT Spoon/Cor ▼ Water Strike ▼ Water Rise	ne ▼ c▼	Cohe: c Level w Level	sion () kPa on comple casing wi pipe Level	a etion thdrawn					20/05/13 29/05/13 03/06/13	4.70 4.70 4.70		3.49 2.72 2.56

GROUN ENGINE	D ERi	NG	Site:		OOD PLACE COMMUNITY CENTRE, LONDON SE6		OREHO BH1	
. M Tel: 01733-566566 www.groundengin		E D		/04/13	Hole Size: 150mm dia to 35.00m	Ground	855 mE 1	85432 m
www.groundengin Samples and ir			to 30/ (Date)			Level:	30.9	0.D.
Depth m	Туре	Blows	Casing	Inst.	Description of Strata	Legend	Depth m	Level m
20.15	D32			4,4	Hard, fissured, brown grey CLAY with occasional grey silt partings and rare gravel size pyrite nodules.	1	20.00	16.90
				111	Toda (CD)	K		
20.70	D33			() (4	
21.20-21.60	U9	55	1.50	12		77	+	
						1	1	
21.70	D34							
22.20	D35			1		*		-
22.20	037					一	-	
22.85-23.15	s	N37	1.50	1			-	
		1131	1.50	1		1	-	-
23.15	D36			211				
23.70	D37					Ι×Ξ		
							-	_
24.20-24.60	U10	55	1.50				-	
0/ 70	570							
24.70	D38			1]	
25.20	D39			111		7		-
				177			4	
25.85-26.15	s	N39	1.50			->-	-	
26.15	D40					<u>/</u>	1	-
20.13	540		i	111		X	1	
26.70	D41			! ! ! !		7		
			92	111				_
27.20-27.60	U11	65	1.50	1111				
27.70	D42			111		*	1	
				11]	_
28.20	D43			444				
				« 4,4				
28.85-29.15	s	N41	1.50				-	
29.15	D44			111		/	-	
i								-
29.70	D45					7	70.00	
REMARKS				• • •			30.00 Projec	
							1297	
							Scale 1:50	Page
EY	N	- SPT	Blows for (0.3m	Groundwater Strikes Groun	ndw ater (Observation	3/4 ons
D - Disturbed Sam B - Bulk Sample		- Blow	s for quote tration	ed	Depth m		Depth m	
ย - Bulk Sample ป - Undisturbed Sa	ample V	- Vane		st [-	No Struck Rose to Rate Cased Sealed Date	Hole	Casing	Water

GROUNI ENGINE	D ERi	iNG		GREEN				MUNITY		, LONI	OON SE	6 B	BOREHO BH1	
L I M I	T /	E D	Date: 29/	/04/13	Hole S	ize: 1	50mm d	lia to 35.	.00m			528i Ground	8855 mE 1	185432 m
Tel: 01733-566566 www.groundengine			to 30/	/04/13	<u> </u>							Level:	36.9	90m. O.D
Samples and in-			(Date)	Inst.				Description	of Strata		_	Legend	d Depth	O.D. Level
Depth m	Туре	Blows	Casing	3 11	a ueed	51000						7_	m	m
30.20-30.60	U12	75	1.50	111	grey nodul	fissur silt pr es.	red, bi artings	rown grey s and rar	CLAY with	th occas size py	ional rite	7	30.00	0 6.90
30.70	D46												-	
31.20	D47												-	
31.85-32.15	s	N47	1.50	() (-	
32.15	D48			4,4,4	,								_	
32.70	D49				,								_	-
33.20-33.60	U13	75	1.50		?							<u> </u>		-
- - 33.70	D50											<u>*</u>		-
- - 34.20	D51				,							<u> </u>		-
34.65-34.95 34.95	S D52	N53	1.50		, 							*	35.00	1.90
J4.72		1	1	*	Boreh/	ole cor	moleted	at 35.00	—— —— ∩m depth				333.00	13/11/20_
F	,	1 1	[1	DOI C	/16 00	hreen	al Joie,	All debri				1	
	i	1	1 1										'	_
	i	1 1	1 1										'	_
F		1 1	1 1										'	
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				<i>i</i> '	1							'		1
				'				·				'		i
REMARKS	_												Projec 1297	
													Scale 1:50	Page 4/4
KEY			Blows for 0			Gr		ater Strike	ðS.		Gro	undwater O	-	วทธ
D - Disturbed Samp B - Bulk Sample	ple *		s for quote tration	_	lar-ink	T		pth m	- 		<u>. </u>		Depth m	
U - Undisturbed Sai	.mpleV	- Vane	Shear Tes	st 🔽	No Struck	Rose to	PG	Rate	Cased	Sealed	Date	Hole	Casing	Water
W - Water Sample S/C - SPT Spoon/Con ▼ Water Strike ▼ Water Rise	ne Vo	c Level w Level	esion () kPa I on comple I casing wif dpipe Level	etion ithdrawn										I

GROUND ENGINEERING		WOOD PLACE COMMUNITY CENTRE, LONDON SE6	ВС	REHO BH2	
L I M I T E D Tel: 01733-566566 www.groundenginsering.co.uk	Date: 01/05/13 to 02/05/13	Hole Size: 200mm dia to 0.42m 150mm dia to 20.00m	52883 Ground Level:		853 90 mM 5m. O.D.
Samples and in-situ Tests Depth m Type Blows	(Date) Casing 2 ✓	Description of Strata	Legend	Depth m	O.D. Level m
- 0.67 ES1		MADE GROUND - ASPHALT. MADE GROUND - GRANITE SETTS in concrete. MADE GROUND - CONCRETE. MADE GROUND - Very soft, brown, slightly sandy, very gravelly CLAY. Gravel consists of angular to sub-rounded brick, concrete, ceramic, shell fragments and ash.		0.05 0.25 0.42	36.50 36.30 36.13
- 1.20-1.70 B1 ES3 N2 ES4 N2 ES4 D1	1.20 ¥s.	MADE GROUND - Very soft, grey, slightly gravelly, sandy, organic CLAY. Gravel consists of angular to sub-rounded brick, flint and ash. Occasional black organic patches.		1.00	-
2.25 D2 2.40 ES5 2.55 D3 2.60 D4 2.70-3.10 U1 25	2.70 ¥			7.40	-
3.20-3.70 B3 C N15 ES6	3.00	Medium dense, brown, slightly clayey, very sandy GRAVEL. Gravel consists of sub-angular to rounded flint.	-	3.10 3.70	33.45 32.85
3.70 3.80-4.20 D5 U2 ES7	3.80	Firm, brown, orange brown and grey mottled, gravelly CLAY. Gravel consists of angular to rounded flint.	, <u>, , , , , , , , , , , , , , , , , , </u>	4.15	32.40 -
4.30 D6 4.40 ES8 4.55 D7		Stiff, fissured, brown and grey mottled CLAY with occasional sand size selenite crystals and orange brown silt partings.	XXXX		-
4.95-5.25 S N11 5.25 D8	4.20		*		-
5.55 D9 5.80-5.20 U3 30	4.20		7		- - - - -
6.30 D10					-
6.80 D11			X		- - -
7.45-7.75 S N14	4.20				
8.30 D13		-	**		-
	4.20		X		
9.30 D14					
	it from 0.00m to to 4.15m depth standpipe instantal Sample	o 1.20m alled to 4.15m depth	*	10.00 Projec 1297	t No 4
	lows for 0.3m		1	1:50	Page 1/2 ns
D - Disturbed Sample * - Blows	for quoted	Depth m		pth m	
S/C - SPT Spoon/Cone ▼c Level ▼ Water Strike c▼w Level	Shear Test	No Struck Rose to Rate Cased Sealed Date 1 3.10 2.70 very slow seepage 4.20 3.70 02/05/13 15 02/05/13 20 02/05/13 20 02/05/13 20 13/05/13 4.20 4.20 4.20 4.20 4.20 4.20 4.20 4.20 4.		20 -20 -20 -20 -20	Water dry dry dry dry

GROUN ENGINE	=	iNG	Site:	GREEN					CENTRI	LON	DON SE		BOREHO BH2	2
L I M I Tel: 01733-566566 www.groundengin	-	E D	Date: 01, to 02,	/05/13 /05/13	Hole S			dia to 0 dia to 2				52 Groun Level:	74 1	1 8539 0 5 m. 0.
Samples and in	r-situ Te	Blows	(Date) Casing	înst.			•	Description	on of Strata	-		Legen		0.D Leve
10.45-10.75	S	N15	4.20		Stiff occas brown	, fiss ional silt	sured, sand s partir	brown ar size sele ngs.	nd grey mo enite crys	ttled Cl tals and	AY with corange	*	10.00	26.5
10.75	D16				Very	stiff,	fissu	ired, loc	cally fiss	ured to	stiff,		11.00	25. 5!
11.30	D17				and r	, grey are gr	avel s	with occ size pyri	cally fiss casional g ite nodule	rey silt s.	parting:			
11.80-12.20	U5 D18	50	4.20											
12.30	D19			111										
13.45-13.75	s	N34	4.20											
13.75	D20													
14.30	D21													
14.80-15.20	U6	50	4.20									7		
15.30	D22		i									*		
15.80	D23			111									_	
16.45-16.75 16.65	S D24	N36	14.20									X X		
17.30	D25													
17.80-18.20	U7	55	4.20											-
18.30 18.65-18.95	D26 S	и38	14.20											
18.95 19.50-19.90	D27	55	4.20									<u> </u>		-
		,	7160										-	
19.95 REMARKS	D28			4 13 13	Borehole	compl	leted a	at 20.00	m depth	_		<u> </u>	20.00 Projec	
									-				Scale 1:50	Pag e 2/ 2
(EY D - Disturbed Sam			Blows for C			G		/ater Stril	kes		Gro	undwater	Observation Depth m	ons
B - Bulk Sample U - Undisturbed Sa W - Water Sample (C - SPT Spoon/Cor	m pleV	penet - Vane Cohe:	rat ion	t I	No Struck	Rose to		Rate	Cased	Sealed	Date 20/05/13 29/05/13	Hole	Casing	Water
/C - SPT Spoon/Cor ▼ Water Strike ▼ Water Rise	C ∑ \	w Level	o n comple casing with pipe Level	thdrawn							20/05/13 29/05/13 03/06/13 13/06/13	4.50 4.50 4.50		1.5

GROUND ENGINEERING	Site: (GREENV			COMMUNI			, LON	DON SE	6 WINE	ow sa	
I M I T E D Tel: 01733-566566 www.groundengineering.co.uk	Date: 30/0	04/13	Hole S	6	7mm dia to 7mm dia to 7mm dia to	4.00	m			528 Ground Level:	813 mE 1	85416 r
Samples and in-situ Tests Depth m Type Result	(Date) Water	inst.			Descr	ription	of Strata			Legend	Depth	0.D Leve
4.80 PP6 (2.25) 4.80 V6 (102) 5.00 5.00-6.00 U5 4.90 U4C 5.15-5.45 S N17 5.30	3.00 4.00 4.00		MADE MADE Claye Sub-a MADE Sub-a	GROUND GROUND GROUND Y, san ngular GROUND and d Lly CL ed con coming becom ed CLA ngs and fisst s and c etionar	- ASPHALT GRANITE - CONCRETE - Brownete, - Very sofark brown may. Gravel crete, brice organic be ing stiff, / with occad gravel si ly stiff, f / with occad sand size ured, brown brown scasional sy limestone ed at 6.00m	serri: d gree Grave brick t, lo ttli tottle	ey mottle cl consist cand as coally fed, slights of a coal, cera coal, cera c	ed, sligsts of an irm brown try san angular amic and oth.	and grey silt tions.		0.05 0.24 0.39 0.65	36.4\\ 36.2\\ 36.1\\ 35.8\\\ 33.40\\ 30.50\\
EMARKS 1. Starter pit ex depth) 2. No live roots 3. Hole cased to 4. Gas monitoring	observed 4.00m den	, dead o	roots ob	served	to 4.20m c			diameter	to 0.39	n	Projec 129 Scale	
5. PP = Pocket Pe 6 FS - Environme	netromete	∍r read [.]	ing (Kg/	cm2)	roundwater \$	Strike	s		Grou	undwater C	1:50 bservation	1/1
- Disturbed Sample J - Ja - Bulk Sample M - Ma	r Sample ackintosh P		No Struck	Rose to	Depth m		Cased	Sealed	Dota		epth m	Wat
/- Water Sample Co // Water Strike P() - Ha // Depth to Water Co	ine Shear T Phesion () k and Penetro Phesion () k andpipe Lev	est – kPa – meter kPa	1 3.00	(Was to	ivale		Vaseu		Date 13/05/13 20/05/13 29/05/13 03/06/13		Casing	dry 1.34 1.21

GROUND ENGINEERING	Site:	GREEN	WO.	OD P	PLACE	COM	MUNII	ry c	ENTRE	, LONI	OON SE	6 WIN		w sa	MPLE
	Date:	/04/13	H	Hole S	Size: 8	87mm o 77mm o	dia to 2 dia to 2	2.00m 2.22m				Grou Leve	ınd		8539 4 m
Samples and in-situ Tests Depth m Type Resu	(Date)					Des	scription o	of Strat	a			Lege	nd I	Depth m	O.D. Level
0.40 D1 0.40 ES1 0.50 V1 0.70 D2 0.70 ES2 1.00 V2 1.00 ES3 1.20 D4 1.20-2.00 U1 1.30 ES4 1.50 V3 1.85 ES5)	MADE MADE consi MADE sligh to su	GRO GRO ists GRO htly Jb-r	NUMB	CONCR Orang Sub-ang Soft, ly, gra	ETE	wn, sil wn, sil to roun lly fir CLAY. brick,			/ SAND. d grey, ists of metal,	Gravel mottled, angular coal,			0.05 0.10 0.24	37.45 37.40 37.26
REMARKS 1. Starter pit 2. No live room 3. Hole sides s 4. Concrete obs 5. ES = Environ	struction	Hole	aba	o 1.20	d at 2	22m	depth							2.20 2.22 Projecting 1297 Scale : 50	
KEY					G		water S	trikes		_	Gro	undw ate	r Obse	ervatio	
B - Bulk Sample M -	Jar Sample Mackintosh	Probe	No	Struck	Rose to		epth_m Rate	Т	Cased	Sealed	Date	Hole	Dept		Water
W - Water Sample	Vane Shear Cohesion (Hand Penet Cohesion (Standpipe L) kPa rometer) kPa		251		-					02/05/13	_	Cas	ang.	dry

GROUND ENGINEERING	Site: GREEN		WINDOW SAMPLE DCS2A				
L I M I T E D Tel: 01733-566566 www.groundengineering.co.uk	Date: 29/04/13	Hole Size: 87mm dia to 2.00m 77mm dia to 3.00m 57mm dia to 6.00m	5288 Ground Level:		853 95 ml		
Samples and in-situ Tests Depth m Type Result	(Date) Water Inst.	Description of Strata	Legend	Depth	0.D. Level		
0.28		MADE GROUND - Firm, brown, slightly sandy, gravelly CLAY with occasional cobbles of brick and concrete. Gravel consists of angular to sub-rounded brick, concrete, flint and ash. Firm, brown, orange brown and grey mottled CLAY with occasional orange brown silt partings and gravel size calcareous concretions.		0.05 0.09 0.16 0.40 1.25	37.45 37.41 37.34 37.10 36.25		
REMARKS 1. Starter pit ex 2. Live roots obs 3. Hole sides sta 4. Gas monitoring	erved to 1.25m ble standpipe inst	to 1.20m depth depth ::alled to 2.00m depth		Project 1297	74		
5. ES = Environme	ntal Sample		dwater Ob	Scale 1:50	Page 1/1		
	r Sample ackintosh Probe	Depth m	De	epth m			
U - Undisturbed Sample	ane Shear Test bhesion () kPa and Penetrometer bhesion () kPa andpipe Level	No Struck Rose to Rate Cased Sealed Date 29/04/13 6 13/05/13 2 20/05/13 2 29/05/13 2 03/06/13 2		asing	dry dry dry dry dry dry		

GROUND ENGINEERING	Site: GREEN	WOOD PLACE COMMUNITY CENTRE, LONDON SE6		OW SA	
LIMITED	Date: 30/04/13	Hole Size: 87mm dia to 2.00m 77mm dia to 3.00m	5288		85394 mA
Tel: 01733-566566 www.groundengineering.co.uk	30,04,10	57mm dia to 6.00m	Ground Level:	37.5	0m. 0.D.
Samples and in-situ Tests Depth m Type Result	(Date) Inst.	Description of Strata	Legend	Depth m	O.D. Level m
0.30 D1 ES1 D2 D2 D3 D3 D3 D4 D4 D5 D5 D5 D5 D5 D5 D7 D7 D7 D7 D7 D8		occasional sand size selenite crystals and orange brown silt partings.		0.05 0.30 0.70 1.10 2.00	37.45 37.20 36.80 36.40 35.50
REMARKS 1. Starter pit exc 2. Live roots obse 3. Gas monitoring 4. PP = Pocket Per 5. ES = Environmer	erved to 1.10m o standpipe insta petrometer read	depth		Project 1297 Scale	
	·			1:50	1/1
KEY D - Disturbed Sample J - Jan	r Sample	Groundwater Strikes Ground Depth m	water Ob		ns
B - Bulk Sample M - Ma	ckintosh Probe			epth m asing	Water
W - Water Sample Co ▼ Water Strike P() - Ha ▼ Depth to Water Co	ne Shear Test hesion () kPa nd Penetrometer hesion () kPa andpipe Level	30/04/13 6 13/05/13 1 20/05/13 1 29/05/13 1 03/06/13 1			dry dry dry dry dry

GROUND	Site: GREE	WOOD PLACE COMMUNITY CENTRE, LONDON SE6	WINDOW S	AMDI E
ENGINEERING			DCS	
L I M I T E D Tel: 01733-566566 www.groundengineering.co.uk	Date: 29/04/13	Hole Size: 87mm dia to 2.00m 77mm dia to 3.00m 57mm dia to 6.00m	528838 mE Ground Level: 36.	1 853 64 m
Samples and in-situ Tests	(Date) Inst.	Description of Strata	Legend Depth	0.D.
Depth m Type Result	Water	MADE GROUND - CONCRETE.	m	m
0.40 ES1		MADE GROUND - Brown, slightly silty SAND AND GRAVEL. Gravel consists of angular to sub-rounded brick, flint and concrete.	0.20	36.14
_ 0.95 ES2		brick, flint and concrete. MADE GROUND - CONCRETE. MADE GROUND - Firm, black, brown and dark brown mottled, slightly sandy, gravelly, silty CLAY. Gravel consists of angular to sub-angular brick,	0.70	
1.20 D1 1.20-2.00 U1 1.20 ES3 1.35-1.65 S N5		MADE GROUND - Firm, brown and grey mottled, slightly gravelly CLAY. Gravel consists of angular	1.50	35.20
- 1.50 PP1 (0.75) - 1.50 V1 (32) - 1.75 ES4 - 1.90 III4		to sub-angular brick, concrete and ash. Firm, brown, grey and orange brown mottled gravelly CLAY. Gravel consists of sub-angular to rounded flint.	2.10	34.60
2.00-3.00 U2 (41) 2.00 PP2 (1.00) 2.15-2.45 C 7		Firm, brown and grey mottled CLAY with abundant calcareous concretions and orange brown silt partings.		34.00
2.20 UZA	11			_
2.40 PP3 (1.50) - 2.40 V3 (56) - 2.60-2.80 U2B - 2.90 V4 (79) - 3.00 D2 - 3.00-4.00 U3				
5.15-5.45 S N11				
4.00-5.00	(-
5.00 04		Stiff, fissured, brown and grey mottled CLAY with occasional orange brown mottled silt partings and sand size selenite crystals.	4.60	32.10
5.00 5.00-6.00 5.15-5.45 S N14		and size seterite dispatata.	*	12
- - - - - - - - - - - - - - - - - - -			6.00	70 70
6.15-6.45 S N19		Hole completed at 6.00m depth		30. 70_
				-
-				_
				-
				_
				-
REMARKS 1. Starter pit ex. 2. No live roots 3. Gas monitoring	observed	•	Proje	ct No
4. PP = Pocket Pe 5. ES = Environme	netrometer re ntal Sample	talled to 2.00m depth ding (Kg/cm2)	Scale 1:50	Page 1/1
KEY D - Disturbed Sample J - Jai	ır Sample		water Observati	ons
B - Bulk Sample M - Ma	ackintosh Probe ane Shear Test	Depth m No Struck Rose to Rate Cased Sealed Date	Depth m Hole Casing	Water
W - Water Sample ✓ Water Strike ✓ Depth to Water Co	ohesion () kPa and Penetrometer ohesion () kPa andpipe Level	13/05/13 2. 20/05/13 2. 29/05/13 2.	.00 .00 .00 .00	dry dry dry dry dry

Borehole		Casing	Depth	Туре	Seating Drive:	T	est Dri		mm	N	Extrapolate
	Depth (m)		to	of Test		Blows	for ear	ch succ	essive		1
Number		Depth	Water	lest	Blows/Penetration	7	5 mm Pei	netrati	on	Value	Value
		(m)	(m)	*	(mm)						
BH1	2.20 - 2.65	1.50		s	3/150	2	2	2	3	9	
	4.20 - 4.65	1.50		s	3/150	2	3	3	3	11	
	6.20 = 6.65	1.50		s	4/150	3	4	4	4	15	
	8.20 - 8.45	1.50		s	4/150	4	4	5	5	18	
	10.70 - 11.15	1.50		s	7/150	5	6	6	5 7	ı	
	13.70 - 14.15	1.50	ŀ	s	10/150	8	8	8		24	
	16.70 - 17.15	1.50		S	10/150	8			9	33	
	19.70 = 20.15	1.50		S			9	9	10	36	
		ı		_	10/150	8	9	10	11	38	
	22.70 - 23.15	1.50		S	10/150	8	9	10	10	37	
	25.70 - 26.15	1.50		S	10/150	8	10	10	11	39	
	28.70 - 29.15	1.50		S	10/150	8	10	11	12	41	
	31.70 32.15	1.50		S	12/150	10	11	12	14	47	
	34.50 - 34.95	1.50		S	13/150	11	13	13	16	53	
вн2	1.20 = 1.65	1.20		С	1/150	0	1	0	1	2	
	1.80 - 2.25	1.50		S	1/150	0	1	1	1	3	
	3.20 - 3.65	3.00		C	3/150	3	4	4	4	15	
	4.80 - 5.25	4.20		s	2/150	2	3	3	3	11	
	7.30 = 7.75	4.20		s	3/150	3	3	4	4	14	
	10.30 - 10.75	4.20		S	4/150	3	4	4	4	15	
	13.30 * 13.75	4.20		s	9/150	8	8	9	9	34	
	16.30 - 16.75	14.20		S	10/150	8	9	9	10		
	18.50 = 18.95	14.20		S	10/150	8	9	10	11	36 38	
DOG1	1 00 5 1 65				. /						
DCS1	1.20 - 1.65			S	1/150	0	1	1	1	3	
	2.00 = 2.45			S	2/150	1	0	1	0	2	
	3.00 - 3.45	3.00	3 00	S	3/150	1	2	2	2	7	
ļ	4.00 - 4.45	4.00		S	3/150	2	2	2	4	10	
	5.00 = 5.45	4.00		ន	4/150	4	4	4	5	17	
	6.00 = 6.45	4.00		S	4/150	4	4	5	5	18	
DCS2A	2.00 - 2.45			ន	3/150	2	2	3	3	10	
	3.00 - 3.45			ន	3/150	2	2	2	3	9	
ł	4.00 - 4.45			S	4/150	2	3	3	4	12	
	5.00 - 5.45			s	5/150	4	4	5	5	18	
	6.00 - 6.45			S	7/150	5	5	6	5	21	
DCS3	1.20 = 1.65			s	2/150	2	1	0	1	4	
	2.00 - 2.45			s	4/150	2	3	3	3	11	
	3.00 = 3.45			s	5/150	3	3	3	4	13	
	4.00 - 4.45			s	5/150	4	4	4	4	16	
	5.00 = 5.45			s	7/150	5	6				
	6.00 - 6.45			S	7/150	4	5	5 6	6	22 21	
Dag.	1 20 1 65						_	_		1	
DCS4	1.20 - 1.65			S	1/150	1	1	2	1	5	
- 1	2.00 - 2.45			C	4/150	1	1	2	3	7	
	3.00 - 3.45			S	3/150	2	2	3	4	11	
ļ	4.00 = 4.45			S	3/150	2	2	3	3	10	
	5.00 - 5.45			s	4/150	4	3	4	3	14	
	6.00 - 6.45			S	5/150	5	4	5	5	19	
		* C de	enotes	test	using a so	lid (one				

GROUND ENGINEERING

L I M I T E D

Tel: 01733-566566 www.groundengineering.co.uk * C denotes test using a solid cone

S denotes test using a split barrel sampler

Results	of Standard/Cone Penetration Tests	12974
	· · · · · · · · · · · · · · · · · · ·	Table No
GREENWOOD	PLACE COMMUNITY CENTRE, LONDON SE6	1.1

Results of On-Site PID Screening

			Photo-ionis	sation Detecto (ppm)	r Reading										
Depth (m)	BH1	ВН2	DCS1	DCS2	DCS2A	DCS3	DCS4								
0.10	<0.1														
0.30					<0.1	<0.1									
0.40				<0.1		-	<0.1								
0.50	<0.1		<0.1												
0.60						-0.1	_								
0.65		<0.1			<0.1	<u> </u>									
0.70				<0.1											
0.90			≤0.1			<0.1									
0.95							0.4								
1.00		<0.1		<0.1	<0.1										
1.20		<0.1	<0.1				<0.1								
1.30				<0.1											
1.35	<0.1					<0.1									
1.50		<0.1	10.1		<0.1										
1.75							<0.1								
1.80	⊴0.1														
1.85				<0.1			-								
2.05	-				<0.1										
2.30			© 0.1												
2.35							<0.1								
2.40		<0.1													
2.65	<0.1														
3.35		<0.1	<0.1												
3.40	<0.1														
3.95		<0.1													
4.40		<0.1			,	,									

Project : Greenwood Place, London NW5

Client : London Borough of Camden

GROUND ENGINEERING LIMITED

Peterborough Tel: 01733 566566

Project No. C12974

Appendix 3

Results of Gas and Groundwater Monitoring

Greenwood Place, London NW5 Site:

C12974 Report Ref:

		T	1			Т	
Comments		Water sample taken & described as clear		ı	ı		l
Depth to Groundwater (mbgl)		3.75		Dry	Dry	Dry	Dry
VOCs (ppm)		4.9		0.4	1.9	9.0	0.4
Depth of Well (mbgl)		4.70		3.00	2.00	1.10	2.00
Dp (mb)		<0.1	<u>e</u>	<0.1	<0.1	<0.1	<0.1
Atmosph. Pressure (mb)		1008	Installation obstructed by vehicle	1008	1008	1008	1008
Flow Rate (l/hr)		<0.1	on obstru	<0.1	<0.1	40.1	<0.1
Oxygen (% v/v)	Мах.	19.2	Installati	20.9	18.9	20.9	20.7
ŏ»	Min.	19.2		20.9	18.9	20.9	20.7
Carbon Dioxide (% v/v)	Steady	1.6		<0.1	1.9	<0.1	<0.1
Carbor (%	Peak	1.6		<0.1	1.9	<0.1	<0.1
Methane LEL %	Steady	<0.1		<0.1	<0.1	<0.1	<0.1
Meti	Peak	<0.1		<0.1	<0.1	<0.1	<0.1
Methane (% v/v)	Steady	<0.1		<0.1	<0.1	<0.1	<0.1
Mei (%	Peak	<0.1		<0.1	<0.1	<0.1	<0.1
Borehole No.		BH1	BH2	DCS1	DCS2	DCS3	DCS4
Date		13/05/13	13/05/13	13/05/13	13/05/13	13/05/13	13/05/13

Note -

- Air temperature 12°C
- Weather = Overcast
- Barometric pressures on 10/05/13= 1010mb
11/05/13= 1010mb
12/05/13= 1009mb

Greenwood Place, London NW5 Site:

C12974 Report Ref:

so.		taken		taken			
Comments		Water sample taken & described as clear		Water sample taken & described as clear	•	ı	
Depth to Groundwater (mbgl)		3.49		1.34	Dry	Dry	Drv
VOCs (ppm)		<0.1		<0.1	<0.1	<0.1	<0.1
Depth of Well (mbgl)		4.70		3.00	2.00	1.10	2.00
Dp (mb)		<0.1	je je	<0.1	<0.1	<0.1	<0.1
Atmosph. Pressure (mb)		1007	installation obstructed by vehicle	1007	1007	1007	1007
Flow Rate (I/hr)		<0.1	on obstru	<0.1	<0.1	<0.1	<0.1
Oxygen (% v/v)	Max.	19.4	Installati	20.1	19.2	20.7	20.7
- 6° € 	Min.	19.4		20.1	19.2	20.7	20.7
Carbon Dioxide (% v/v)	Steady	1.6		0.2	1.8	<0.1	<0.1
Carbor (%	Peak	1.6		0.2	1.8	<0.1	<0.1
Methane LEL %	Steady	<0.1		<0.1	<0.1	<0.1	<0.1
Met	Peak	<0.1		<0.1	<0.1	<0.1	<0.1
Methane (% v/v)	Steady	<0.1	i	<0.1	<0.1	<0.1	<0.1
Mei (%)	Peak	<0.1		<0.1	<0.1	<0.1	<0.1
Borehole No.		BH1	BH2	DCS1	DCS2	DCS3	DCS4
Date		20/05/13	20/05/13	20/05/13	20/05/13	20/05/13	20/05/13

Note -

- Air temperature 11°C

Weather = Partly Cloudy

Barometric pressures on 17/05/13= 1008mb
18/05/13= 1006mb
19/05/13= 1007mb

LEL - Lower Explosive Limit

Greenwood Place, London NW5 Site:

C12974 Report Ref:

Comments		Water sample taken & described as clear		Water sample taken & described as clear		1	
Depth to Groundwater (mbgl)		2.72		1.21	Dry	Dry	Dry
VOCs (ppm)		<0.1	•	<0.1	<0.1	<0.1	<0.1
Depth of Well (mbgl)		4.70		4.70	2.00	1.10	2.00
Dp (mb)		<0.1	<u>e</u>	<0.1	<0.1	<0.1	<0.1
Atmosph. Pressure (mb)		1001	Installation obstructed by vehicle	1001	1001	1007	1007
Flow Rate (I/hr)		<0.1	on obstru	<0.1	<0.1	<0.1	<0.1
Oxygen (% v/v)	Мах.	19.4	Installati	20.1	19.4	20.6	20.7
xo"	Min.	19.4		20.0	19.4	20.6	20.7
Carbon Dioxíde (% v/v)	Steady	1.7		0.3	1.3	<0.1	<0.1
Carbor (%	Peak	1.7		0.4	1.3	<0.1	<0.1
Methane LEL %	Steady	<0.1		<0.1	<0.1	<0.1	<0.1
Met	Peak	<0.1		<0.1	<0.1	<0.1	<0.1
Methane (% v/v)	Steady	<0.1		<0.1	<0.1	<0.1	<0.1
We (%)	Peak	<0.1	_	<0.1	<0.1	<0.1	<0.1
Borehole No.		BH1	BH2	DCS1	DCS2	DCS3	DCS4
Date		29/05/13	29/05/13	29/05/13	29/05/13	29/05/13	29 /05/13

Note -

- Air temperature 16°C

Weather = Partly Cloudy

Barometric pressures on 26/05/13= 1010mb

27/05/13= 1008mb

28/05/13= 1004mb

LEL - Lower Explosive Limit

Greenwood Place, London NW5 Site:

C12974 Report Ref:

		-		Т	_		Т
Comments		Water sample taken & described as clear					
Depth to Groundwater (mbgl)		2.56			Dry	Dry	Dry
VOCs (ppm)		<0.1			<0.1	<0.1	<0.1
Depth of Well (mbgl)		<0.1 4.70			2.00	1.10	2.00
Op (mb)		<0.1	ie.	eje	<0.1	<0.1	<0.1
Atmosph. Pressure (mb)		1028	Installation obstructed by vehicle	Installation obstructed by vehicle	1028	1028	1028
Flow Rate (l/hr)		<0.1	on obstru	on obstru	<0.1	<0.1	<0.1
Oxygen (% v/v)	Мах.	19.2	Installati	Installati	20.7	20.7	20.7
60	Min.	19.2			20.7	20.7	20.7
Carbon Dioxide (% v/v)	Steady	1.6			<0.1	<0.1	<0.1
Carbor (%	Peak	1.6			<0.1	<0.1	<0.1
Methane LEL %	Steady	<0.1			<0.1	<0.1	<0.1
Met	Peak	<0.1			<0.1	<0.1	<0.1
Methane (% v/v)	Steady	<0.1			<0.1	<0.1	<0.1
Me: (%	Peak	<0.1			<0.1	<0.1	<0.1
Borehole No.		BH1	BH2	DCS1	DCS2	DCS3	DCS4
Date		03/06/13	03/06/13	03/06/13	03/06/13	03/06/13	03/06/13

Air temperature 160C Note -

Weather = Partly Cloudy
Barometric pressures on 31/05/13= 1015mb

01/06/13= 1018mb 02/06/13= 1025mb

LEL - Lower Explosive Limit

Greenwood Place, London NW5 Site:

C12974 Report Ref:

Depth of Well (mbgl) 4.50 ٥. 1. d (qu Atmosph. Pressure (mb) 1005 Flow Rate (l/hr) √. 0.1 19.2 Max. Oxygen (% v/v) Min. 19.2 Steady Carbon Dioxide (% v/v) 0.8 Peak 0.8 Steady **0.1** Methane LEL % Peak <0.1 Steady <0.1 Methane (% v/v) Peak **0.** Borehole No. BH2 13/06/13 Date

Water sample taken & described as clear

1.53

۸ 40.1

Comments

Depth to Groundwater (mbgl)

VOCs (ppm)

Note-

Air temperature 18°C Weather =Sunny with some light showers Barometric pressures on 10/06/13= 1015mb

11/06/13= 1014mb 12/06/13= 1006mb

LEL - Lower Explosive Limit

Appendix 4

Geotechnical Laboratory Test Results

Remarks

표

Soil
Total Aqueous
% Extract
Dry Wt. mg/l

Angle of Shear Resistance degrees

Shear Strength k Ba

Cell Pressure S Pa

Principal Stress Difference kPa

Туре

Mg/m 3

Mg/m³

6

0.50

2

BH1

1.10

1.20

22

ģ

훒

Moisture Content % 7

Plasticity ndex %

Plastic Limit %

Liquid Limit %

Depth

Sample

Bore-hole

Classification

Triaxial Compression

Density

CONTRACT GREENWOOD PLACE COMMUNITY CENTRE, LONDON SE6

Sulphates (SO₄) Water ₩ J 7.6

971

0

45

54

8

Ø

1.62

2.06

27

24

24

9

9

1.70

5

1.95

25

2.45

8

7

5

45

ន

65

2.95

70

					7 (
0		-			Soil
57	<u> </u>				1 Water:
128					xtract 2:
113					Aqueous Extract 2:1 Water:Soil
G					7
1.51					STAGE
1.99					RAINED INED NED NED MULTI
32	 %	31	53	53	C.U CONSOLIDATED UNDRAINED C.D CONSOLIDATED DRAINED Q IMMEDIATE UNDRAINED Q.M IMMEDIATE UNDRAINED MULTISTA
					- CONSC - CONSC - IMMEI
- <u>-</u>					
_					 <u> </u>
3.20	3.60	3.95	4.65	4.95	U - UNDISTURBED SAMPLE D - DISTURBED SAMPLE B - BULK SAMPLE W - WATER SAMPLE
71	80	60	D10 ,		UNDISTI DISTURI BULK SA
	<u>&</u>			<u> </u>	D 0 8 3

1% retained on 425µm sieve

7.0

420

SOIL CLASSIFICATION = CI

2% retained on 425µm sieve

SOIL CLASSIFICATION = CH

12974

Tel: 01733-566566 www.groundengineering.co.uk

LABORATORY TEST RESULTS

CONTRACT GREENWOOD PLACE COMMUNITY CENTRE, LONDON SE6

								<u> </u>		_					12974
	Remarks								Hand Vane Test						
	표							7.8				7.7		8.0	
Sulphates (SO ₄)		g d							_				_		
Sulph	Soil Aqueous	_						1176				1070		673	
	Tota	Dry Wt.													
	Angle of Shear Resistance	degrees	0			0	<u> </u>			0	o 		0		:Soil
sion	Shear	<u>چ</u> إ	8			101	190		130+	173	340		303		:1 Water
Triaxial Compression	Cell	kPa	208			288	368			809	728		848		xtract 2
Trie	Principal Stress Difference	KPa (157			201	380			346	089		909		Aqueous Extract 2:1 Water:Soil
	Type	7	3			G	o o			g	o		<u> </u>		_ *
	Dry	Mg/m 2	۲. اخ			1.56	1.58	<u> </u>		1.55	1.64		1.51		
Density	BUK 3	Mg/m²	66°-			2.01	2.03			2.02	2.05		1.91		AINED NED ED
	Moisture Content	? .	75		30	&	 82		58	30	25		54		CONSOLIDATED UNDRAINED CONSOLIDATED DRAINED IMMEDIATE UNDRAINED
tíon	Plasticity Index	s								•					- CONSOLIC - CONSOLIC - IMMEDIAT
Classification	Plastic Limit	ę l)
	Liquid Limit	5				_						_		<u> </u>	
i	<u> </u>	200	5.60	5.70	5.95	7.20 ÷	9.50	10.20	12.20 -	15.20 -	18.20 -	18.70	21.20 -	22.20	- UNDISTURBED SAMPLE - DISTURBED SAMPLE - BULK SAMPLE
	Sample	<u> </u>	5	D12	D13	7 0	ns Su	D18	9n	2 n	 	030	 60	035	UNDIST DISTUR BULK S
	hole	Pul.			_							<u> </u>			

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Tel: 01733-566566

	Remarks								SOIL CLASSIFICATION = CH O% retained on 425µm sieve			SOIL CLASSIFICATION = CV 1% retained on 425µm sieve	12974
	표		7.8			7.9		7.1			7.3		
Sulphates (SO ₄)	Water mg/l												
Sulphat	Aqueous Extract		905			871		82		-	179		
	Soil Total %								_				
	Angle of Shear Resistance degrees			0	0		0			0		0	Soil
sion	Shear Strength kPa	342		434	338		594			75		- 25	-1 Water:
Triaxial Compression	Cell Pressure kPa	896		108	120		132	_		72	_	152	Extract 2
Į įį	Principal Stress Difference kPa	789		867	929		588			109		105	Aqueous Extract 2:1 Water:Soil
	Туре	Ø		Œ	ø		œ			G		G	
ıty	Dry Mg/m ³	1.52		1.56	1.57		1.54		<u> </u>	1.76		1.48	ISTAGE
Density	Bulk Mg/m ³	1.90		1.93	1.96		1.92			2.15		1.95	RAINED (INED (NED (NED MULT)
	Moisture Content %	25		23	52		25		56	22		32	CONSOLIDATED UNDRAINED CONSOLIDATED DRAINED IMMEDIATE UNDRAINED IMMEDIATE UNDRAINED
cation	Plasticity Index %								35	-		99	1111
Classification	Plastic Limit %							_	50			52	
	Liquid Limit %				_				55			72	PLE
4	e o	24.20 -	26.15	27.20 = 27.60	30.20	30.70	33.20 -	1.70	2.25	2.70 ± 3.10	3.70	3.80 = 4.20	UNDISTURBED SAMPLE DISTURBED SAMPLE BULK SAMPLE WATER SAMPLE
	Sample	010	040	17	112	D46	U13	2	20	5	92	77	- UNDIST - DISTUR - BULK S
2 2 2 4	hole	BH1						BHZ					2003

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GROUND ENGINEERING

	Remarks											12974 TABLEBING
	둞		7.7			7.9	_					
Sulphates (SO ₄)	Water mg/l]
Sulpha	Aqueous Extract		2799			1067				·		7 8
	Soil Total	ĥ									,	
	Angle of Shear Resistance	0		0	0		0	0	0			:Soil
sion	Shear Strength kPa	91		124	205		112	66	184	_		:1 Water
Triaxial Compression	Cell Pressure KPa	232		352	472		592	712	780			Extract 2
Trie	Principal Stress Difference kPa	183		248	410	_	524	197	367			Aqueous Extract 2:1 Water:Soil
	Туре	e,		œ	ď	-	ø	ø	G			1
ıty	Dry Mg/m ³	1.52		1.58	1.59		1.53	1.61	1.64			ISTAGE
Density	Bulk Mg/m ³	1.99		2.02	2.04		2.00	2.05	2.06			ORAINED AINED FINED FINED MULT
	Moisture Content %	×		88	58		30	27	56			CONSOLIDATED UNDRAINED CONSOLIDATED DRAINED IMMEDIATE UNDRAINED IMMEDIATE UNDRAINED
ation	Plasticity Index %											1 1 1 1
Classification	Plestic Limit %			•	-							
	Liquid Limit %									-		P.E.
4,000	E E	5.80 -	7.75	8.80 = 9.20	11.80 -	14.30	14.80 -	17.80 - 18.20	19.50 -			UNDISTURBED SAMPLE DISTURBED SAMPLE BULK SAMPLE WATER SAMPLE
	Sample	En	D12	70		D21	90	<u></u>	8n		-	- UNDIST - DISTUR - BULK S
80.00 10.00	po le	BH2 L	_	_						-		2083

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Aqueous Extract 2:1	•		
C.U CONSOLIDATED UNDRAINED	C.D CONSOLIDATED DRAINED	IMMEDIATE UNDRAINED	Q.M IMMEDIATE UNDRAINED MULTISTAGE
زن	ت	ø	o

	Remarks			SOIL CLASSIFICATION = CL 52% retained on 425µm sieve	-			SOIL CLASSIFICATION = CH 7% retained on 425µm sieve								12974
	1	<u>.</u>	9.8				6.8							_		
Sulphates (SO ₄)	Water	l/gm		_												
Sulphi	Soil Aqueous		_				156									
	Tota	۵												-		
	Angle of Shear Resistance	degrees														:Soil
sion	Shear Strength	кРа						-								.1 Water
Triaxial Compression	Cell	кРа									_				_	xtract 2
Tria	Principal Stress Difference	кРа		-					-							Aqueous Extract 2:1 Water:Soil
	- App	_														
τ¢	Dry	Mg/m ³										_		_		 ISTAGE
Density	Bulk	Mg/m ³														 RAINED INED NED MULTI
	Moisture Content	%	32	20		32	34	27	54	32	56	31	58	54	27	 CONSOLIDATED UNDRAINED CONSOLIDATED DRAINED IMMEDIATE UNDRAINED IMMEDIATE UNDRAINED
cation	Plasticity Index	%						34	-			_				[t t a t
Classification	Plastic Limit	%		81				52	-							
	Liquid	%		52				29								
4	E		0.50	0.00		1.20	1.80	2.00	3.00	3.55 =	4.00	- 09.7 4.80	5.00	5.60	00.9	UNDISTURBED SAMPLE DISTURBED SAMPLE BULK SAMPLE WATER SAMPLE
	Sample		<u>م</u>	20		03	MA.	70		U3B	90	U4B	20	U5B	 82	 UNDIST DISTUR BULK S
	ho le		DCS1 [<u></u>		<u> </u>	<u> </u>		3		 1 1 1 7 ⊃ 2 20 23
																J

12974

Tel: 01733-566566

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NDRAINED Aqueous Extract 2:1 Water:Soil RAINED AINED AINED MULTISTAGE
C.U CONSOLIDATED UNDRAINED C.D CONSOLIDATED DRAINED Q IMMEDIATE UNDRAINED Q.M IMMEDIATE UNDRAINED MULTISTAGE
UNDISTURBED SAMPLE DISTURBED SAMPLE BULK SAMPLE WATER SAMPLE
U - UNDISTURBED D - DISTURBED S/ B - BULK SAMPLE W - WATER SAMPLE

	Remarks		SOIL CLASSIFICATION = CH 17% retained on 425µm sieve	SOIL CLASSIFICATION = CV 16% retained on 425µm sieve	SOIL CLASSIFICATION = CH 0% retained on 425µm sieve						SOIL CLASSIFICATION = CV 0% retained on 425µm sieve		
		Ŧ		7.4			8.6	8.0					
Sulphates (SO ₄)	Water	l/6m									_		
Sulphate	П	Aqueous Extract ma/l		274			18	788					
	I≅I	Total Dry Wt.		-	_						· <u>-</u>		
	Angle of				-								
sion	⊢	Strength KPa					-						
Triaxial Compression	Cell	ressure kPa					_						
Tri	Principal	Difference kPa			_		•		-			-	_
		Туре											-
iity	Dry	Mg/m ³					_				,	.	
Density	Bulk	Mg/m ³		·									
i	Moisture	% %	28	55	22	1			25	30	30	32	29
Classification	Plasticity	%	39	67	77	·					67		
Classif	Plastic	%	20	23	22						24		
	Liquid	%	26	22	99					-	73		
Depth	Æ		1.00	1.20 -	2.50	0.30	09.0	06.0	1.20	1.65 *	2.00	2.50 -	3.00
	Sample		23	2	90	<u>D1</u>	D2	D3	70	U1B	50	UZB	90
Bore-	hole		DCS2	DCS2A		DCS3							

12974

Tel: 01733-566566

www.groundengineering.co.uk

UNDRAINED Aqueous Extract 2:1 Water:Soil DRAINED DRAINED DRAINED DRAINED WULTISTAGE	
C.U CONSOLIDATED UNDRAINED C.D CONSOLIDATED DRAINED Q IMMEDIATE UNDRAINED Q.M IMMEDIATE UNDRAINED MULTISTAG	
U - UNDISTURBED SAMPLE D - DISTURBED SAMPLE B - BULK SAMPLE W - WATER SAMPLE	

		_				_							
	Remarks					SOIL CLASSIFICATION = CV 3% retained on 425μm sieve		SOIL CLASSIFICATION = CV 2% retained on 425µm sieve					
	표			7.7		-	7.4		7.5				
Sulphates (SO ₄)	Water mg/l									_			_
Sulphate	Aqueous Extract	io i		3136	-		181		699				
	Soil Total Cr. Wf								_			-	
	Angle of Shear Resistance degrees	_								_	4.		
_	Shear Strength R				_	-	_			<u>.</u>			
Triaxial Compression	Cell Pressure Si												
Triaxial (
į	Principal Strens Difference KPa										_		
	Туре					 .					<u>.</u>		
ity	Dry Mg/m ³												
Density	Bulk Mg/m ³												
	Moisture Content %	27	58		28	53		32					
Classification	Plasticity Index					21		63					
Classi	Plastic Limit %					50		52					
	Liquid Limit %					5		88					
- too	E	2.00	5.60 - 5.80	5.90	00.9	1.20	1.90	2.20	4.00				
	Sample	80 80	USB	USC	6 0	5	U1A	UZA	D3				
Rone -	hole	DCS3				DCS4							





TEST CERTIFICATE

Peterborough t: 01733 555525 f: 01733 315280

e: peterborough@enverity.co.uk

Certificate Number: PL4139-1/32/710-2

Client Reference: C12971

Certificate of Sampling: N/A

Sampling Certificate No.: N/A

Lab Job Number: PL4139-1

Sampled By: Client

Date Sampled: Unknown Date Received: 15.05.2013

Date Tested: 29.05.2013

Determination of Particle Size Distribution

Tested in Accordance with BS 1377-2: 1990: Clause 9.2 & 9.4

Sieved Grading and Sedimentation by Pipette

Client: Ground Engineering Ltd

Client Address: **Newark Road** Peterborough

PE1 5UA

Contact: **James Davies**

Site Name: Greenwood Place Community Centre

Site Address:

London SE6

TEST RESULTS Laboratory Reference:

Client Reference:

Brown clayey silty sandy GRAVEL

Material Specification:

Sample Description:

Not Required

Location:

BH₂

PL4139-1/32

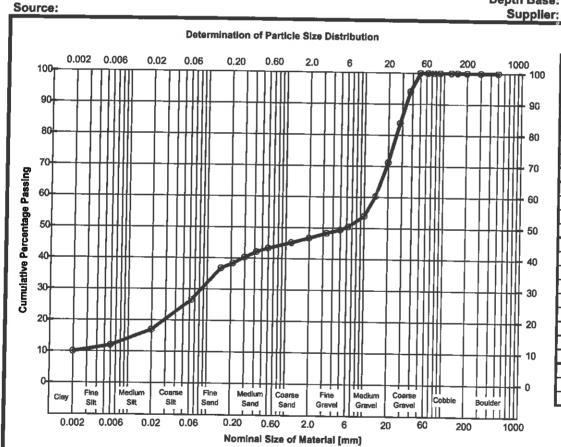
B3

Pre-treatment for

organic material:

No

Depth Top: 3.20m Depth Base: 3.70m



Sieve mm	nalysis %Развілд
125	100
90	100
75	100
63	100
50	100
37.5	94
28	84
20	71
14	60
10	54
6.3	50
5.0	49
3.35	48
2.00	47
1.18	45
0.600	43
0.425	42
0.300	40
0.212	38
0.150	37
0.063	27
0.020	17
0.006	12
0.002	10

Comments: Data relevant to material below 63 microns is outside the current scope of UKAS accreditation

Approved Signatory:

M. Hartnup - Laboratory Manager

Signed:

for and on behalf of Enverity Ltd

Date Reported:

06.06.2013

Page 1 of 1

Form Number:

EN/C/709-2 Version 31

Registered in England & Wales Registration Number: 6930692 Reg Office: Diasma, Willie Snaith Rd Newmarket, Suffolk, CB8 7SQ

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation This report may not be reproduced other than in full without the prior written approval of the issuing laboratory



Depot Road Newmarket CB8 0AL Tel: 01633 606070

Ground Engineering Limited Newark Road Peterborough

PE15UA

FAO James Davies 03 June 2013

Dear James Davies

Test Report Number 230731

Your Project Reference C12974 Greenwood Place, London NW5

Please find enclosed the results of analysis for the samples received 23 May 2013.

All soil samples will be retained for a period of one month and all water samples will be retained for 7 days following the date of the test report. Should you require an extended retention period then please detail your requirements in an email to customerservices@chemtest.co.uk. Please be aware that charges may be applicable for extended sample storage.

If you require any further assistance, please do not hesitate to contact the Customer Services team.

Yours sincerely

Darrell Hall, Director



2183



Notes to accompany report:

- The sign < means 'less than'
- Tests marked 'U' hold UKAS accreditation
- Tests marked 'M' hold MCertS (and UKAS) accreditation
- Tests marked 'N' do not currently hold UKAS accreditation
- Tests marked 'S' were subcontracted to an approved laboratory
- n/e means 'not evaluated'
- i/s means 'insufficient sample'
- u/s means 'unsuitable sample'
- Comments or interpretations are beyond the scope of UKAS accreditation
- · The results relate only to the items tested
- All results are expressed on a dry weight basis
- The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, phenols
- For all other tests the samples were dried at < 37 °C prior to analysis
- Uncertainties of measurement for the determinands tested are available upon request
- None of the test results included in this report have been recovery corrected

Test Report 230731 Cover Sheet

LABORATORY TEST REPORT

Results of analysis of 6 samples received 23 May 2013 C12974 Greenwood Place, London NW5

MChemisty to deserve J.

PE1 5UA

FAO James Davies

03 June 2013 Report Date

Login Batch No						230731	31		
Oiremites LIMS ID				AI72295	AI72296	Al72297	AI72298	A172299	Al/2300
Sample ID				BH1	BH2	DCS1	DCS2	DCS3	DCS4
Sample No				9	4	38	2	4	-
Sampling Date				2/5/2013	2/5/2013	2/5/2013	2/5/2013	2/5/2013	2/5/2013
Depth				2.45m	2.60m	3.55m - 3.75m	0.70m	1.50m	1.20m
Matrix				SOIL	SOIL	SOIL	Nos	SOIL	SOIL
SOP↓ Determinand↓	CAS No↓ U	Units↓ *							
2010 pH			₹	7.8	7.7	8.1	8.2	8.1	7.8
2175 Sulfur (total TRL report 447)		%	Σ	0.021	<0.010	0.65	0.047	0.019	0.024
2120 Sulfate (2:1 water soluble) as SO4	14808798	g F,	Σ	0.24	<0.01	1.4	<0.01	0.07	90'0
2430 Sulfate (total BS1377 HCI extract)	14808798	%	Σ	0.05	<0.01	0.64	0.07	0.05	0.05

All tests undertaken between 23/05/2013 and 31/05/2013

* Accreditation status

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

LIMS sample ID range AI72295 to AI72300 Report page 1 of 1 Column page 1

Appendix 5

Chemical Laboratory Test Results



Depot Road Newmarket CB8 SAL Tel: 01638 806070

Ground Engineering Limited Newark Road Peterborough

PE1 5UA

FAO James Davies 21 May 2013

Dear James Davies

Test Report Number 229885

Your Project Reference C12974 - Greenwood Place, London NW5

Please find enclosed the results of analysis for the samples received 13 May 2013.

All soil samples will be retained for a period of one month and all water samples will be retained for 7 days following the date of the test report. Should you require an extended retention period then please detail your requirements in an email to customerservices@chemtest.co.uk. Please be aware that charges may be applicable for extended sample storage.

If you require any further assistance, please do not hesitate to contact the Customer Services team.

Yours sincerely

Darrell Hall, Director



2183



Notes to accompany report:

- The sign < means 'less than'
- Tests marked 'U' hold UKAS accreditation
- Tests marked 'M' hold MCertS (and UKAS) accreditation
- Tests marked 'N' do not currently hold UKAS accreditation
- Tests marked 'S' were subcontracted to an approved laboratory
- n/e means 'not evaluated'
- i/s means 'insufficient sample'
- u/s means 'unsuitable sample'
- Comments or interpretations are beyond the scope of UKAS accreditation
- · The results relate only to the items tested
- All results are expressed on a dry weight basis
- The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, phenols
- For all other tests the samples were dried at < 37°C prior to analysis
- Uncertainties of measurement for the determinands tested are available upon request
- None of the test results included in this report have been recovery corrected

Test Report 229885 Cover Sheet

FAO James Davies

PE1 5UA

LABORATORY TEST REPORT

Results of analysis of 12 samples received 13 May 2013

Cherment to deliver results

Report Date 21 May 2013

C12974 - Greenwood Place, London NW5

Login Batch No						229	229885		
Chemiest LIMS ID.				AI67544	AI67545	80		AI67548	AI67549
Sample ID				BH1	BH1	BH1	BH2	BH2	DCS1
Sample No				2	က	*	2	S	2
Sampling Date				9/5/2013	9/5/2013	9/5/2013	9/5/2013	9/5/2013	9/5/2013
Depth				0.50m	1.35m	1.80m	1.00m	2.50m	0.90m
Matrix				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SOP↓ Determinand↓	CAS No↓ L	Units↓						!	!
2010 pH			Σ	8.3	7.5	7.7	8.3	0.8	4.8
2300 Cyanide (total)	57125	mg kg-1	≥	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
2325 Sulfide (Easily Liberatable)	18496258	mg kg-1	Σ	8.4	1.9	1.7	€.	5.7	8.0
2625 Fraction of Organic Carbon			Σ	0.019		mbasis .			
Total Organic Carbon		%	Σ	6.1	1.3			1.6	the articles
2430 Sulfate (total) as SO4	14808798	%	∑	0.33	0.22	0,14	0.10	0.11	0.12
2450 Arsenic	7440382	mg kg-1	Σ	24	12	14	17	15	15
Cadmium	7440439	mg kg-1	Σ	0.92	0.16	<0.10	<0,10	0.11	<0.10
Chromium	7440473	mg kg-1	Σ	30	19	29	4	25	4
Copper	7440508	mg kg-1	Σ	140	24	12	55	33	47
Mercury	7439976	mg kg-1	Σ	1.2	0.56	0.11	1.1	0.25	0.87
Nickel	7440020	mg kg-1	Σ	38	4	19	17	19	13
Lead	7439921	mg kg-1	Σ	1400	170	49	510	85	430
Selenium	7782492	mg kg-1	Σ	0.82	0.70	0.71	0.44	0.79	0.81
Zinc	7440666	mg kg-1	Σ	330	71	23	26	22	75
2670 TPH >C6-C10		mg kg-1	z	<u>^</u>	^	^	^	^	. ₹
TPH >C10-C25		mg kg-1	z	24	22	^	\ \ \	^	· •
TPH >C25-C40		mg kg-1	z	20	13	^	^	^	· •
•		mg kg-1	Σ	4	35	× 10	< 10	× 10	× 10
2675 TPH aliphatic >C5-C6		mg kg-1	z			< 0.1		2	2
TPH aliphatic >C6-C8		mg kg-1	z			< 0.1			
TPH aliphatic >C8-C10		mg kg-1	z			× 0.1			
TPH aliphatic >C10-C12		mg kg-1	Σ			\ -			
TPH aliphatic >C12-C16		mg kg-1	Σ			V			

All tests undertaken between 14/05/2013 and 21/05/2013

* Accreditation status

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

LIMS sample ID range AI67544 to AI67556 Report page 1 of 3 Column page 1

FAO James Davies

PE1 5UA

LABORATORY TEST REPORT

Results of analysis of 12 samples

ESC Remtest

Report Date 21 May 2013

received 13 May 2013

C12974 - Greenwood Place, London NW5

Login Batch No						229	229885		
Ghentest LIMS ID				A167550	AI67552	100	AI87554	AIG7555	AI67556
Sample ID				DCS1	DCS2	DCS2A	DCS3	DCS4	DCS4
Sample No				5	က	က	_		2
Sampling Date				9/5/2013	9/5/2013	9/5/2013	9/5/2013	9/5/2013	9/5/2013
Depth				1.50m	1.00m	1.00m	0.30m	0.40m	0.95m
Matrix				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SOP↓ Determinand↓	CAS No↓	Units↓							!
2010 pH			Σ	8.2	8.4	8.4	11.2	σ σ	68
2300 Cyanide (total)	57125	mg kg-1	Σ	<0.50	<0.50	<0.50	<0.50	0.50	<0.50
2325 Sulfide (Easily Liberatable)	18496258	mg kg-1	Σ	13	7.7	3.9	2.4	2.7	00
2625 Fraction of Organic Carbon			.≥		0.017				
Total Organic Carbon		%	₹	į					
2430 Sulfate (total) as SO4	14808798	%	Σ	0.13	0.17	0.14	0.18	1.4	0.23
2450 Arsenic	7440382	mg kg-1	Σ	7	22	20	30	23	78
Cadmium	7440439	mg kg-1	Σ	<0.10	0.33	0.25	0.31	0.18	0.82
Chromium	7440473	mg kg-1	Σ	48	36	30	27	18	12
Copper	7440508	mg kg-1	Σ	4	49	20	35	61	170
Mercury	7439976	mg kg-1	Σ	0.27	7.	1.1	0.74	1.2	1.2
Nickel	7440020	mg kg-1	Σ	16	34	31	26	19	19
Lead	7439921	mg kg-1	Σ	53	2500	550	510	260	770
Selenium	7782492	mg kg-1	Σ	0.45	0.30	0.39	<0.20	0.26	0.72
Zinc	7440666	mg kg-1	Σ	8	250	170	130	150	460
2670 TPH >C6-C10		mg kg-1	z	· v		. ~	<u>^</u>	· ~	· V
TPH >C10-C25		mg kg-1	z	۲>	^	<1	9.3	\	4 4
TPH >C25-C40		mg kg-1	z	^	^	<u>^</u>	4.3	. *	
		mg kg-1	Σ	< 10	< 10	< 10	14	< 10	< 10
2675 TPH aliphatic >C5-C6		mg kg-1	z	< 0.1	< 0.1		•	2	100
TPH aliphatic >C6-C8		mg kg-1	z	< 0.1	< 0.1				, v
TPH aliphatic >C8-C10		mg kg-1	z	< 0.1	< 0.1				
TPH aliphatic >C10-C12		mg kg-1	Σ	۲۰	\ 1				
TPH aliphatic >C12-C16		mg kg-1	Σ	¥	, ,				· ~
									-

LIMS sample ID range AI67544 to AI67556 Report page 1 of 3 Column page 2

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

FAO James Davies

PE1 5UA

LABORATORY TEST REPORT

Results of analysis of 12 samples received 13 May 2013 C12974 - Greenwood Place, London NW5

Report Date 21 May 2013

MCRETITEST
The right circuits to deliver results

						229	229885		
				AI67544	AI67545			A167548	AI67549
				BH1	BH1	BH1	BH2	BH2	DCS1
				2	ო	4	2	го	8
				9/5/2013	9/5/2013	9/5/2013	9/5/2013	9/5/2013	9/5/20
				0.50m	1.35m	1.80m	1.00m	2.50m	0.90m
				SOIL	SOIL	SOIL	NOS	SOIL	SOIL
2675 TPH aliphatic >C16-C21		mg kg-¹	Σ			, _			
TPH aliphatic >C21-C35		mg kg-1	Σ			æ			
TPH aliphatic >C35-C44		mg kg-1	z			<u>`</u>			
TPH aromatic >C5-C7		mg kg-	z			< 0.1	1 Sum V 5 A		
TPH aromatic >C7-C8		mg kg-1	z			< 0.1			
TPH aromatic >C8-C10		mg kg-1	z			< 0.1			
TPH aromatic >C10-C12		mg kg-1	Σ			<u>^</u>			
TPH aromatic >C12-C16		mg kg-1	Σ			· -			
TPH aromatic >C16-C21		mg kg-1	Σ			, ,			
TPH aromatic >C21-C35		mg kg-1	Σ			×			
TPH aromatic >C35-C44		mg kg-1	z			^			
Total Petroleum Hydrocarbons		mg kg-1	z			< 10			
2700 Naphthalene	91203	mg kg-1	z	0.15	< 0.010	< 0.010	0.16	0.030	0.099
Acenaphthylene	208968	mg kg-1	z	0.23	0.034	< 0.010	0.25	0.16	0.057
Acenaphthene	83329	mg kg-1	z	0.25	0.075	< 0.010	0.63	0.15	0.18
Fluorene	86737	mg kg-1	z	0.13	0.031	< 0.010	0.13	0.089	0.11
Phenanthrene	85018	mg kg-1	z	1.1	0.21	0.061	0.31	0.22	1.0
Anthracene	120127	mg kg-1	z	0.57	0.12	0.035	0.18	0.20	0.18
Fluoranthene	206440	mg kg-1	z	2.3	0.46	0.12	0.29	0.084	0.95
Pyrene	129000	mg kg-1	z	2.0	0.38	0.11	0.44	0.12	0.67
Benzo[a]anthracene	56553	mg kg-1	z	4.1	0.23	0.072	0.26	× 0.010	0.34
Chrysene	218019	mg kg-1	z	1.7	0.28	0.084	0.34	< 0.010	0.39
Benzo[b]fluoranthene	202992	mg kg-1	z	2.0	0.39	0.17	0.35	< 0.010	0.38
Benzo[k]fluoranthene	207089	mg kg-1	z	1.2	0.24	0.16	0.31	< 0.010	0.28
Benzolalovrene	50328	ma ka-1	z	α	0.34	0.083	0.24	070	

All tests undertaken between 14/05/2013 and 21/05/2013

* Accreditation status

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

LIMS sample ID range AI67544 to AI67556 Report page 2 of 3

Column page 1

FAO James Davies

PE1 5UA

LABORATORY TEST REPORT

Results of analysis of 12 samples received 13 May 2013

Report Date 21 May 2013

Managements to deliver results

C12974 - Greenwood Place, London NW5

				A(6/020	AI67552	AI67653	A167554	A/67555	AI67556
				DCS1	DCS2	DCS2A	DCS3	DCS4	DCS4
				2	ო	ဇ	-	τ-	7
				9/5/2013	9/5/2013	9/5/2013	9/5/2013	9/5/2013	9/5/2013
				1.50m	1.00m	1.00m	0.30m	0.40m	0.95m
				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
2675 TPH aliphatic >C16-C21		mg kg-1	Σ	, ,	V				^
TPH aliphatic >C21-C35		mg kg-1	Σ	۲۷	^				v
TPH aliphatic >C35-C44		mg kg-1	z	۲۷	^				, ,
TPH aromatic >C5-C7		mg kg-1	z	< 0.1	< 0.1				< 0.1
TPH aromatic >C7-C8		mg kg-1	z	< 0.1	< 0.1				× 0.1
TPH aromatic >C8-C10		mg kg-1	z	< 0.1	< 0.1				< 0.1
TPH aromatic >C10-C12		mg kg-1	Σ	۲۰	^				, ,
TPH aromatic >C12-C16		mg kg-1	Σ	۰ ۲	^				\ \ \
TPH aromatic >C16-C21		mg kg-1	≥	۲,	^				5.2
TPH aromatic >C21-C35		mg kg-1	Σ	1 >	^				6.9
TPH aromatic >C35-C44		mg kg-1	z	^ _	^				^
Total Petroleum Hydrocarbons		mg kg-1	z	< 10	< 10				12
2700 Naphthalene	91203	mg kg-1	z	0.042	0.11	0.076	< 0.010	0.098	0.14
Acenaphthylene	208968	mg kg-1	z	0.025	0.12	0.098	0.054	0.17	0.17
Acenaphthene	83329	mg kg-1	z	0.051	0.25	0.15	0.067	0.15	0.18
Fluorene	86737	mg kg-1	z	0.020	0.12	0.055	0.015	0.13	0.051
Phenanthrene	85018	mg kg-1	z	0.16	0.32	0.16	0.30	1.0	0.43
Anthracene	120127	mg kg-1	z	0.070	0.27	0.085	0.13	0.51	0.22
Fluoranthene	206440	mg kg-1	z	0.15	0.61	0.34	0.78	1.6	0.55
Pyrene	129000	mg kg-1	z	0.11	0.45	0.25	0.67	1.2	0.45
Benzo[a]anthracene	56553	mg kg-1	z	0.070	0:30	0.14	0.49	0.83	0.29
Chrysene	218019	mg kg-1	z	0.076	0.44	0.22	0.66	1.0	0.41
Benzo[b]fluoranthene	202992	mg kg-1	z	< 0.010	0.79	< 0.010	0.69	0.87	0.44
Benzo[k]fluoranthene	207089	mg kg-1	z	< 0.010	0.45	< 0.010	0.42	0.72	0.30
Benzo[a]pyrene	50328	mg kg-1	z	< 0.010	0.53	< 0.010	0.51	0.53	4

LIMS sample ID range AI67544 to AI67556 Report page 2 of 3 Column page 2

LABORATORY TEST REPORT

Results of analysis of 12 samples received 13 May 2013

Report Date 21 May 2013

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PE1 5UA

FAO James Davies

C12974 - Greenwood Place, London NW5

			7.			229885	885		
				AI67544	A/67545	AI67546	AIB7547	AI67548	AI67549
				BH1	BH1	BH1	BH2	BH2	DCS1
				2	ო	4	2	22	2
				9/5/2013	9/5/2013	9/5/2013	9/5/2013	9/5/2013	9/5/2013
				0.50m	1.35m	1.80m	1.00m	2.50m	0.90m
				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
2700 Dibenzo[a,h]anthracene	53703	mg kg-1	z	0.38	0.047	< 0.010	0.040	< 0.010	0.043
Indeno[1,2,3-cd]pyrene	193395	mg kg-1	z	1.6	0.21	< 0.010	0.13	< 0.010	0.31
Benzo[g,h,i]perylene	191242	mg kg-1	z	1,5	0.26	< 0.010	0.10	< 0.010	0.14
Total (of 16) PAHs		mg kg-1	Z.	8	3.3	06:0	4.2	1.	5.4
Benzo[j]fluoranthene low level	205823	mg kg-1	z	1.1	0.21	0.11	0.22	<0.01	0.22
2920 Phenols (total)		mg kg-1	z	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3

All tests undertaken between 14/05/2013 and 21/05/2013

* Accreditation status

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

Column page 1 Report page 3 of 3 LIMS sample ID range AI67544 to AI67556

FAO James Davies

PE15UA

LABORATORY TEST REPORT

Results of analysis of 12 samples

Report Date 21 May 2013

E Chemistry to deliver results

received 13 May 2013

C12974 - Greenwood Place, London NW5

2 9/5/2013 Mersales 0.95m 0.033 0.22 0.25 4.6 0.25 <0.3 SOIL 9/5/2013 0.40m DCS4 SOIL 0.11 0.45 9.8 0.53 <0.3 9/5/2013 0.30m DCS3 SOIL 0.11 0.32 0.28 5.5 0.37 <0.3 229885 9/5/2013 < 0.010 < 0.010 < 0.010 < 0.010 1.00m SOIL 9/5/2013 0.0100.0100.010 1.00m DCS2 SOIL < 0.010 < 0.010 < 0.010 0.77 9/5/2013 A(67/55) 1.50m DCS1 SOIL S z z z z z z mg kg-1 mg kg-1 53703 193395 191242 2700 Dibenzo[a,h]anthracene Indeno[1,2,3-cd]pyrene Benzo[g,h,i]perylene

40.07 40.3

4.8 0.41 0.3

<0.01

mg kg-1 mg kg-1

205823

Senzo[]/fluoranthene tow level

Phenols (total)

2920

Total (of 16) PAHs

LIMS sample ID range AI67544 to AI67556 Report page 3 of 3 Column page 2



Depot Road Newmarket CB8 0AL Tel: 91638 606070

Ground Engineering Limited Newark Road Peterborough

PE15UA

FAO James Davies 21 May 2013

Dear James Davies

Test Report Number

229885

Your Project Reference

C12974 - Greenwood Place, London NW5

Please find enclosed the results of analysis for the samples received 13 May 2013.

If you require any further assistance, please do not hesitate to contact the Customer Services team.

Yours sincerely

Darrell Hall, Director



2183



Notes to accompany report:

- The in-house procedure is employed to identify materials and fibres in soils
- The sample is examined by stereo-binocular and polarised light microscopy
- Sample size is reduced by coning and quartering to obtain a representative sub-sample if necessary
- The bulk identification is in accordance with the requirements of the analyst guide (HSG 248)
- Samples associated with asbestos are retained for six months
- · The results relate only to the items tested as supplied by the client
- · Comments or interpretations are beyond the scope of UKAS accreditation

LABORATORY TEST REPORT Asbestos in Soils



PE1 5UA

FAO James Davies

Results of analysis of 11 samples received 13 May 2013 C12974 - Greenwood Place, London NW5

Report Date 21 May 2013

Login Batch No:

229885

Qualitative Results

				S	OP 2190
200000000000000000000000000000000000000	0	Camula Dasa	Double (m)	ACM Type	Asbestos Identification
Chemiesi ID	Sample ID	Sample Desc	Depth (m)		
A167544	BH1	2	0.50	Free Fibres	Amosite
A167545	BH1	3	1.35	-	No Asbestos Detected
Al67547	BH2	2	1.00		No Asbestos Detected
Al67548	BH2	5	2.50		No Asbestos Detected
Al67549	DCS1	2	0.90		No Asbestos Detected
A167550	DCS1	5	1.50		No Asbestos Detected
Al67551	DCS1	6	2.30	2	No Asbestos Detected
A(67552	DCS2	3	1.00	8	No Asbestos Detected
A167653	DCS2A	3	1.00	*	No Asbestos Detected
A167554	DCS3	_ 1	0.30	-	No Asbestos Detected
Al67555	DCS4	1	0.40		No Asbestos Detected

The detection limit for this method is 0.001%

Signed

Steve McGrath
Asbestos Analyst



Depot Road Newmarket CB3 0AL Tel: 91638 696070

Ground Engineering Limited Newark Road Peterborough

PE15UA

FAO James Davies 23 May 2013

Dear James Davies

Test Report Number

230134

Your Project Reference

C12974 Greenwood Place, London NW5

Please find enclosed the results of analysis for the samples received 15 May 2013.

All soil samples will be retained for a period of one month and all water samples will be retained for 7 days following the date of the test report. Should you require an extended retention period then please detail your requirements in an email to customerservices@chemtest.co.uk. Please be aware that charges may be applicable for extended sample storage.

If you require any further assistance, please do not hesitate to contact the Customer Services team.

Yours sincerely

Phil Hellier, Director



2183



Notes to accompany report:

- The sign < means 'less than'
- Tests marked 'U' hold UKAS accreditation
- Tests marked 'M' hold MCertS (and UKAS) accreditation
- Tests marked 'N' do not currently hold UKAS accreditation
- Tests marked 'S' were subcontracted to an approved laboratory
- n/e means 'not evaluated'
- i/s means 'insufficient sample'
- u/s means 'unsuitable sample'
- Comments or interpretations are beyond the scope of UKAS accreditation
- The results relate only to the items tested
- All results are expressed on a dry weight basis
- The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, phenols
- For all other tests the samples were dried at < 37°C prior to analysis
- Uncertainties of measurement for the determinands tested are available upon request
- None of the test results included in this report have been recovery corrected

Test Report 230134 Cover Sheet

FAO James Davies

PE1 5UA

LABORATORY TEST REPORT

Results of analysis of 1 sample

Report Date 23 May 2013

M. Cherring to deliver meals

C12974 Greenwood Place, London NW5

received 15 May 2013

3/5/2013 3.75m WATER 7.0 1100 < 0.05 < 0.05 < 0.05 < 0.05 3400 3400 3400 360 < 0.080 6.5 7.9 < 0.50 8.5 41.0 120 420 BH1 ž < 0.1 < 0.1 mg ⊢ mg L1 mg ⊦¹ r-l £n mg I-1 ۲- ĝr μg I-1 r-l Bd 년 1 r-l 6rl r-i gd .-l gi r-l Brl rg F₁ r-l Bri L- Br rd br r-l 6n rg -Units↓ 4808798 7440428 8496258 440508 7440020 782492 8540299 7440382 440439 439976 302045 7440473 57125 57125 439921 7440666 CAS Not TPH aliphatic >C10-C12 TPH aliphatic >C12-C16 TPH aliphatic >C16-C21 Chromium (hexavalent) TPH aliphatic >C8-C10 1675 TPH aliphatic >C5-C6 TPH aliphatic >C6-C8 1300 Cyanide (total) SOP↓ Determinand↓ Cyanide (free) Thiocyanate Chemiest LIMS ID Chromium Cadmium Selenium Login Batch No Copper Mercury Sulfate Sulfide Arsenic Sampling Date 1180 Sulfur Boron Nickel Lead Zinc Sample No 1010 pH Sample ID 1220 1450 1325 1490 Depth Matrix

'The sample container/fill level was not appropriate for the specified analysis - these results may be compromised. The accreditation for these results remains unaffected.

All tests undertaken between 16/05/2013 and 23/05/2013

* Accreditation status

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

LIMS sample ID range AI68908 to AI68908 Report page 1 of 4 Column page 1

FAO James Davies

PE15UA

LABORATORY TEST REPORT

Results of analysis of 1 sample received 15 May 2013 C12974 Greenwood Place, London NW5

Chemistry to deliver search Report Date

23 May 2013

13/5/2013 3.75m WATER 230134 Al68908 BH1 W1

1675 TPH aliphatic >C21-C35		r∃ Bri	z	< 0.1
TPH aliphatic >C35-C44		µg ⊦¹	z	< 0.1
TPH aromatic >C5-C7		r-l 6rl	z	< 0.1
TPH aromatic >C7-C8	T LANGUAGE	r-l 6rl	z	< 0.1
TPH aromatic >C8-C10		µ9 Г-₁	z	< 0.1
TPH aromatic >C10-C12		µg l-1	z	< 0.1
TPH aromatic >C12-C16		µg ⊢1	z	< 0.1
TPH aromatic >C16-C21		r-l gri	z	< 0.1
TPH aromatic >C21-C35		r-l Brl	z	< 0.1
TPH aromatic >C35-C44		r-l gri	z	< 0.1
Total Petroleum Hydrocarbons		µg l⁻₁	z	< 10
Total Aliphatic Hydrocarbons		µg ⊩¹	z	۸ ئ
Total Aromatic Hydrocarbons		r-l gri	z	۸ ئ
1701 PAH (total EPA 16)		r-l Bri	b	<2
1760 Methyl tert-butylether	1634044	r-I 6rl	z	<1.0.1>
Dichlorodifluoromethane	75718	r-l Bd	Þ	<1.01
Chloromethane	74873	µg ⊢3	>	<1.01
Vinyl chloride	75014	µg ⊡	D	<1.01
Bromomethane	74839	µg ⊩¹	-	<201
Chloroethane	75003	r∃ Bri	Ω	<2.01
Trichlorofluoromethane	75694	hg l⁻¹	_	^<1.01
1,1-Dichloroethene	75354	r- 6rl	_	^1.0
Dichloromethane	75092	hg ⊦₁	z	ne 1
irans-1,2-Dichloroethene	156605	µg ⊢¹	⊃	<1.01
1,1-Dichloroethane	75343	μg I-¹	ם	<1.01

'The sample container/fill level was not appropriate for the specified analysis - these results may be compromised. The accreditation for these results remains unaffected.

All tests undertaken between 16/05/2013 and 23/05/2013

* Accreditation status

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

LIMS sample ID range Alf8908 to Alf8908

Report page 2 of 4 Column page 1

FAO James Davies

PE1 5UA

LABORATORY TEST REPORT

Results of analysis of 1 sample

Par Chemisty to deliver received

received 15 May 2013

C12974 Greenwood Place, London NW5

Report Date 23 May 2013

> 13/5/2013 WATER <1.01 3.75m <10.1 <1.0.1> 230134 <1.01 10.1 <1.0.1> <2.01 101 <5.01 ۸. ۲ <1.01 10.1 <2.01 <1.0.1 101 <10. 101 <101 <5.0 1 BH. <2.01 <1.0.1 ₹ r-i gr μg I-1 rdg ⊦ r-l grl r-l 6rl lug ⊢¹ r-l Brl 년 단 r-l Brl µg ⊦¹ r⊰ gu r-l 6d ug I-1 r-| 6rl rg ⊦¹ µg ⊦¹ r∃ Bd г<u>.</u> L-1 6rl r∃ 6d hg L rg L r-i 6n 0061015 0061026 108883 563586 107062 79016 79005 127184 142289 106934 630206 100414 71556 71432 78875 74953 75274 124481 67663 56235 108907 330207 irans-1,3-Dichloropropene 1,1,1,2-Tetrachloroethane cis-1,3-Dichloropropene Bromodichloromethane Dibromochloromethane 1760 cis-1,2-Dichloroethene Bromochloromethane 1,1,1-Trichloroethane 1,1,2-Trichloroethane 1,1-Dichloropropene **Tetrachloromethane** 1,2-Dichloropropane 1,3-Dichloropropane 1,2-Dibromoethane 1,2-Dichloroethane **Tetrachloroethene** Trichloromethane Dibromomethane Trichloroethene Chlorobenzene m- & p-Xylene **Ethylbenzene** Benzene

Toluene

'The sample container/fill level was not appropriate for the specified analysis - these results may be compromised. The accreditation for these results remains unaffected.

All tests undertaken between 16/05/2013 and 23/05/2013

* Accreditation status

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

LIMS sample ID range AI68908 to AI68908 Report page 3 of 4 Column page 1

FAO James Davies

PE1 5UA

LABORATORY TEST REPORT

Results of analysis of 1 sample received 15 May 2013

Report Date 23 May 2013

Margh Chernitest

C12974 Greenwood Place, London NW5

3/5/2013 230134 A/68908 WATER 70. 3.75m 101 <1.01 <101 <1.0.1 <50 1 <1.0.1> <1.0.1> <10. <1.01 <1.01 1.0.1 1.0.↑ 1.0.↑ <1.0.1> <50 1 照 <1.01 <1.0.1> Š r⊣ gr µg ⊢¹ rd gri µg l-¹ r-l Bri r-l Brl r∃ 6d r-l gd ra Gri r-J 6nd rd Br µg |-₁ 19 P. - 1 rd l µg ⊢¹ µg l-¹ rd Pd rd bd 100425 98828 108861 103651 106434 98086 108678 35988 541731 106467 104518 95498 95636 92866 96184 95501 96128 87683 1,2-Dibromo-3-chloropropane 1,3,5-Trimethylbenzene 1,2,4-Trimethylbenzene 1,2,3-Trichloropropane 1,2,4-Trichlorobenzene Hexachlorobutadiene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene 4-Isopropyltoluene sec-Butylbenzene Tribromomethane tert-Butylbenzene Isopropylbenzene n-Propylbenzene 2-Chlorotoluene 4-Chlorotoluene n-Butylbenzene Bromobenzene Phenois (total) 1760 Styrene

'The sample container/fill level was not appropriate for the specified analysis - these results may be compromised. The accreditation for these results remains unaffected.

All tests undertaken between 16/05/2013 and 23/05/2013

1920

Accreditation status

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

LIMS sample ID range AI68908 to AI68908 Report page 4 of 4 Column page 1



Depot Road Newmarket CB8 0AL Tel: 01038 696070

Ground Engineering Limited Newark Road Peterborough

PE15UA

FAO James Davies 20 June 2013

Dear James Davies

Test Report Number

232404

Your Project Reference

C12974 - Greenwood Place, London NW5

Please find enclosed the results of analysis for the samples received 14 June 2013.

All soil samples will be retained for a period of one month and all water samples will be retained for 7 days following the date of the test report. Should you require an extended retention period then please detail your requirements in an email to customerservices@chemtest.co.uk. Please be aware that charges may be applicable for extended sample storage.

If you require any further assistance, please do not hesitate to contact the Customer Services team.

Yours sincerely

Darrell Hall, Director



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Notes to accompany report:

- The sign < means 'less than'
- Tests marked 'U' hold UKAS accreditation
- Tests marked 'M' hold MCertS (and UKAS) accreditation
- Tests marked 'N' do not currently hold UKAS accreditation
- Tests marked 'S' were subcontracted to an approved laboratory
- n/e means 'not evaluated'
- i/s means 'insufficient sample'
- u's means 'unsuitable sample'
- Comments or interpretations are beyond the scope of UKAS accreditation
- · The results relate only to the items tested
- All results are expressed on a dry weight basis
- The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, phenols
- For all other tests the samples were dried at < 37°C prior to analysis
- Uncertainties of measurement for the determinands tested are available upon request
- None of the test results included in this report have been recovery corrected

Test Report 232404 Cover Sheet

PE15UA

FAO James Davies

LABORATORY TEST REPORT Results of analysis of 3 samples

received 14 June 2013

C12974 - Greenwood Place, London NW5

20 June 2013 Report Date

Managements to deliver marks

Sample ID DCS1 Sample No W1 Sample No W1 Sample No W1 Sample No PM W1 Depth W4 MATER SOPU Depth W4 TMO PH Depth W4 TMO PH Depth W4 TMO PH Depth Depth W4 TMO Cyanide (free) T704349 Mg L ¹ U C.0.05 TMO Cyanide (free) T740380 Mg L ¹ U C.0.05 U C.0.05 TMO Cyanide (free) T7404028 Mg L ¹ U C.0.05 U C.0.05 U C.0.05 U C.0.05 U C.0.05 U C.0.05 U				232404	
terminand the minimand to the free total) anide (total) anide (total) anide (total) 57125 BPH BPH U 57125 mg L-1 U 7704349 mg L-1 U 7440428 mg L-1 U 7440429 mg L-1 U 7440429 mg L-1 U 7440439 mg L-1 U 7440439 mg L-1 U 7440439 mg L-1 U 7440439 mg L-1 U 7440429 mg L-1 U 7440429 mg L-1 U 7440608 mg L-1 U			At82511 DCS1	AI82512 BH1	A/82513 BH2
Ing Date CAS No↓ Units↓ * Determinand↓ CAS No↓ Units↓ * PH PH U Cyanide (free) 57125 mg L¹ U Cyanide (free) 302045 mg L¹ U Thocyanate 302045 mg L¹ U Sulfur 7704349 mg L¹ U Sulfate 14806258 mg L¹ U Sulfate 7440428 µg L¹ U Arsenic 7440428 µg L¹ U Boron 7440428 µg L¹ U Cadmium 7440439 µg L¹ U Chromium 7440439 µg L¹ U Chromium 7440439 µg L¹ U Mercury 7440403 µg L¹ U Nickel 7440403 µg L¹ U Lead 7440403 µg L¹ U Nickel 7440666 µg L¹ U Chromium (hexavalent) 1			W1	W1	W1
Determinand J CAS Not Units J * pH PH U U Cyanide (total) 57125 mg L¹ U Cyanide (tree) 372045 mg L¹ U Thiocyanate 3302045 mg L¹ U Sulfar 7704349 mg L¹ U Sulfate 14808798 mg L¹ U Arsenic 7440382 µg L¹ U Arsenic 7440428 µg L¹ U Arsenic 7440439 µg L¹ U Copper 7440439 µg L¹ U Chromium 7440408 µg L¹ U Mercury 7440408 µg L¹ U Nickel 7440409 µg L¹ U Nickel 744040 µg L¹ U Lead 744040 µg L¹ U Selentium 744050 µg L¹ U Selentium 744066 µg L¹ U Chromium (hexavale			29/5/2013	3/6/2013	13/6/2013
pH CAS No↓ Units↓ * pH PH U U Cyanide (tree) 57125 mg l²¹ U Cyanide (tree) 302045 mg l²¹ U Sulfur 7704349 mg l²¹ U Sulfide 7704349 mg l²¹ U Sulfide 7440349 mg l²¹ U Sulfide 7440382 mg l²¹ U Arsenic 7440428 mg l²¹ U Chromium 7440439 µg l²¹ U Chromium 7440403 µg l²¹ U Mercury 7440403 µg l²¹ U Mercury 7440403 µg l²¹ U Nickel 7440403 µg l²¹ U Lead 74404020 µg l²¹ U Selenium 74406020 µg l²¹ U Selenium 7440666 µg l²¹ U Zinc Chromium (hexavalent) 744066 µg l²¹ U			1.21m	2.56m	1.53m
PH CAS No↓ Units↓ * pH PH U U Cyanide (total) 57125 mg l² U Cyanide (free) 302045 mg l² U Thiccyanate 302045 mg l² U Sulfine 7704349 mg l² U Sulfiate 7440382 mg l² U Arsenic 7440428 mg l² U Boron 7440439 mg l² U Cadmium 7440439 mg l² U Chromium 74404020 mg l² U Chromium 7440508 mg l² U Chromium 7440508 mg l² U Chromium 7782492 µg l² U Selenium 7782492 µg l² U Chromium (hexavalent) 7440666 µg l² U Chromium (hexavalent) 7440666 µg l² U TPH aliphatic >C6-C8 µg l² U U			WATER	WATER	WATER
pH PH U Cyanide (total) 57125 mg I-¹ U Cyanide (free) 302045 mg I-¹ U Thiocyanate 7704349 mg I-¹ U Sulfur 7704349 mg I-¹ U Sulfide 14408798 mg I-¹ U Sulfide 7440428 µg I-¹ U Sulfide 7440439 µg I-¹ U Arsenic 7440439 µg I-¹ U Copper 7440473 µg I-¹ U Copper 7440473 µg I-¹ U Mercury 74404020 µg I-¹ U Nickel 7782492 µg I-¹ U Chromium 7440666 µg I-¹ U Selenium 7782492 µg I-¹ U Chromium (hexavalent) 7782492 µg I-¹ U TPH aliphatic >C6-C6 µg I-¹ U U TPH aliphatic >C10-C12 µg I-¹ U N	_	*			
Cyanide (free) 57125 mg L² U Cyanide (free) 302045 mg L² U Thiocyanate 7704349 mg L² U Sulfur 18496258 mg L² U Sulfide 14808798 mg L² U Sulfide 7440382 µg L² U Arsenic 7440428 µg L² U Boron 7440439 µg L² U Cohromium 74404039 µg L² U Chromium 7440403 µg L² U Mercury 7440408 µg L² U Mercury 7440409 µg L² U Nickel 7782492 µg L² U Chromium 7782492 µg L² U Zinc 7782492 µg L² U Chromium 7782492 µg L² U TPH aliphatic >C5-C6 µg L² U TPH aliphatic >C6-C8 µg L² N TPH aliphatic >C10-C12	H)	6.5	6.9	8.9
Cyanide (free) 57125 mg l²¹ U Thiocyanate 7704349 mg l²¹ U Sulfur 18496258 mg l²¹ U Sulfate 14808798 mg l²¹ U Arsenic 7440428 µg l²¹ U Arsenic 7440428 µg l²¹ U Boron 7440439 µg l²¹ U Chromium 7440473 µg l²¹ U Chromium 7440408 µg l²¹ U Nickel 7440020 µg l²¹ U Chromium (hexavalent) 7440066 µg l²¹ U Zinc Chromium (hexavalent) 18540299 µg l²¹ N TPH aliphatic >C5-C6 µg l²¹ N N TPH aliphatic >C8-C10 µg l²¹ N N TPH aliphatic >C12-C16 µg l²			< 0.05		< 0.05
Thiocyanate 302045 mg 1-¹ U Sulfur Sulfur Sulface T440382 mg 1-¹ U T440428 mg 1-¹ U T440428 mg 1-¹ U T440428 mg 1-¹ U T440439 mg 1-¹ U T44066 mg 1-¹ U T440439 mg 1-¹ U T743927 mg 1-¹ U TPH aliphatic >C5-C6 mg 1-¹ U TPH aliphatic >C5-C6 mg 1-¹ U TPH aliphatic >C6-C8 mg 1-¹ N TPH aliphatic >C6-C10 mg 1-¹ N TPH aliphatic >C10-C12 TPH aliphatic >C12-C16		JF. U	< 0.05		< 0.05
Sulfur 7704349 mg l-¹ N Sulfide 18496258 mg l-¹ U Sulfate 14808798 mg l-¹ U Arsenic 7440428 µg l-¹ U Arsenic 7440428 µg l-¹ U Cadmium 7440439 µg l-¹ U Chromium 7440473 µg l-¹ U Copper 7440473 µg l-¹ U Nickel 7440508 µg l-¹ U Nickel 7440508 µg l-¹ U Nickel 7440020 µg l-¹ U Selenium 748092 µg l-¹ U Chromium (hexavalent) 744066 µg l-¹ U TPH aliphatic >C5-C6 µg l-¹ N TPH aliphatic >C8-C10 µg l-¹ N TPH aliphatic >C8-C10 µg l-¹ N TPH aliphatic >C10-C12 µg l-¹ N TPH aliphatic >C10-C12 µg l-¹ N		J-1	< 0.5	74	< 0.5
Sulfide 18496258 mg L² U Sulfate 14808798 mg L² U Arsenic 7440382 µg L² U Boron 7440428 µg L² U Cadmium 7440439 µg L² U Chromium 7440473 µg L² U Copper 7440508 µg L² U Nickel 7440020 µg L² U Nickel 7480976 µg L² U Nickel 7480920 µg L² U Selenium 7782492 µg L² U Zinc Lead 7782492 µg L² U TPH aliphatic >C5-C6 µg L² N N TPH aliphatic >C8-C10 µg L² N N TPH aliphatic >C10-C12 µg L² N N TPH aliphatic >C12-C16 µg L² N N		Z	63		80
Sulfate 14808798 mg l-¹ U Arsenic 7440382 µg l-¹ U Boron 7440428 µg l-¹ U Cadmium 7440439 µg l-¹ U Chromium 7440403 µg l-¹ U Mercury 7440508 µg l-¹ U Nickel 7439976 µg l-¹ U Nickel 743997 µg l-¹ U Nickel 7440020 µg l-¹ U Selenium 7782492 µg l-¹ U Zinc rg l-¹ U TRA0666 µg l-¹ U Chromium (hexavalent) 78540299 µg l-¹ U U TPH aliphatic > C5-C6 µg l-¹ N N L TPH aliphatic > C6-C8 µg l-¹ N N L TPH aliphatic > C10-C12 µg l-¹ N N N TPH aliphatic > C10-C12 µg l-¹ N N N		JF. U	<0.050		<0.050
Arsenic 7440382 μg l-¹ U Boron 7440428 μg l-¹ U Cadmium 7440439 μg l-¹ U Chromium 7440508 μg l-¹ U Mercury 7439976 μg l-¹ U Nickel 7439976 μg l-¹ U Nickel 7439971 μg l-¹ U Selemium 7782492 μg l-¹ U Selemium 7782492 μg l-¹ U Chromium (hexavalent) 18540299 μg l-¹ U TPH aliphatic > C5-C6 μg l-¹ N TPH aliphatic > C6-C8 μg l-¹ N TPH aliphatic > C8-C10 μg l-¹ N TPH aliphatic > C10-C12 μg l-¹ N TPH aliphatic > C10-C12 μg l-¹ N		J-1 0	190	1700	240
Boron 7440428 μg -¹ U Cadmium 7440439 μg -¹ U Chromium 7440473 μg -¹ U Copper 7430976 μg -¹ U Mercury 743097 μg -¹ U Nickel 743092 μg -¹ U Lead 743092 μg -¹ U Selenium 7782492 μg -¹ U Zinc 7440666 μg -¹ U Chromium (hexavalent) 18540299 μg -¹ U TPH aliphatic >C5-C6 μg -¹ U U TPH aliphatic >C6-C8 μg -¹ N N TPH aliphatic >C6-C8 μg -¹ N N TPH aliphatic >C6-C6 μg -¹ N N TPH aliphatic >C6-C6 μg -¹ N N TPH aliphatic >C10-C12 μg -¹ N N		ر ا	9.6		3.0
Cadmium 7440439 µg -¹ U Chromium 7440473 µg -¹ U Copper 7440508 µg -¹ U Mercury 7439976 µg -¹ U Nickel 7440020 µg -¹ U Lead 7782492 µg -¹ U Selenium 7782492 µg -¹ U Zinc TPH aliphatic > C5-C6 µg -¹ U TPH aliphatic > C6-C8 µg -¹ U TPH aliphatic > C8-C10 µg -¹ N TPH aliphatic > C10-C12 µg -¹ N TPH aliphatic > C10-C12 µg -¹ N TPH aliphatic > C10-C12 µg -¹ N		<u>1-1</u>	320		210
Chromium 7440473 µg -¹ U Copper 7440508 µg -¹ U Mercury 7439976 µg -¹ U Nickel 7440020 µg -¹ U Lead 7782492 µg -¹ U Zinc 7782492 µg -¹ U Chromium (hexavalent) 7440666 µg -¹ U TPH aliphatic >C5-C6 µg -¹ U U TPH aliphatic >C6-C8 µg -¹ N TPH aliphatic >C10-C12 µg -¹ N TPH aliphatic >C10-C12 µg -¹ N TPH aliphatic >C12-C16 µg -¹ N		ا <u>ت</u> ت	<0.080		<0.080
Copper 7440508 µg -¹ U Mercury 7439976 µg -¹ U Nickel 7440020 µg -¹ U Lead 7439921 µg -¹ U Selenium 7782492 µg -¹ U Zinc 7782492 µg -¹ U Chromium (hexavalent) 18540299 µg -¹ U TPH aliphatic >C5-C6 µg -¹ U U TPH aliphatic >C6-C8 µg -¹ N U TPH aliphatic >C10-C12 µg -¹ N N TPH aliphatic >C12-C16 µg -¹ N N		ا <u>۔</u> 0	13		8.3
Mercury 7439976 µg l-¹ U Nickel 7440020 µg l-¹ U Lead 7439921 µg l-¹ U Selenium 7782492 µg l-¹ U Zinc 7782492 µg l-¹ U Chromium (hexavalent) 18540299 µg l-¹ U TPH aliphatic >C5-C6 µg l-¹ N TPH aliphatic >C6-C8 µg l-¹ N TPH aliphatic >C10-C12 µg l-¹ N TPH aliphatic >C12-C16 µg l-¹ N		<u>-</u>	3.1		3.1
Nickel 7440020 µg -¹ U Lead 7439921 µg -¹ U Selenium 7782492 µg -¹ U Zinc 7440666 µg -¹ U Chromium (hexavalent) 18540299 µg -¹ U TPH aliphatic >C5-C6 µg -¹ N TPH aliphatic >C6-C8 µg -¹ N TPH aliphatic >C10-C12 µg -¹ N TPH aliphatic >C12-C16 µg -¹ N		ر ا	<0.50		<0.50
Lead 7439921 µg l-¹ U Selenium 7782492 µg l-¹ U Zinc 7440666 µg l-¹ U Chromium (hexavalent) 18540299 µg l-¹ U TPH aliphatic >C6-C8 µg l-¹ N TPH aliphatic >C8-C10 µg l-¹ N TPH aliphatic >C10-C12 µg l-¹ N TPH aliphatic >C12-C16 µg l-¹ N		ار ا	25		13
Selenium 7782492 µg -¹ U Zinc 7440666 µg -¹ U Chromium (hexavalent) 18540299 µg -¹ U TPH aliphatic >C5-C6 µg -¹ N TPH aliphatic >C8-C10 µg -¹ N TPH aliphatic >C10-C12 µg -¹ N TPH aliphatic >C12-C16 µg -¹ N		ار. ا	<1.0		×1.0
Zinc 7440666 µg -¹ U Chromium (hexavalent) 18540299 µg -¹ U TPH aliphatic >C6-C8 µg -¹ N TPH aliphatic >C8-C10 µg -¹ N TPH aliphatic >C10-C12 µg -¹ N TPH aliphatic >C12-C16 µg -¹ N			5.5		3.6
Chromium (hexavalent) 18540299 µg -¹ U TPH aliphatic >C6-C8 µg -¹ N TPH aliphatic >C8-C10 µg -¹ N TPH aliphatic >C10-C12 µg -¹ N TPH aliphatic >C12-C16 µg -¹ N			17		<u>;</u>
TPH aliphatic > C5-C6 TPH aliphatic > C6-C8 TPH aliphatic > C8-C10 TPH aliphatic > C10-C12 TPH aliphatic > C12-C16		<u>-</u>	<20 1		<20
Z Z Z Z	Si	Z	< 0.11		< 0.1
Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z	34	z	< 0.1		< 0.1
Z	34	Z Z	< 0.1		< 0.1
Z -1 pri	31	Z	< 0.11		< 0.1
	Sr.	Z Z	< 0.11		< 0.1
TPH aliphatic > C16-C21	SH .	Z	< 0.11		< 0.1

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All tests undertaken between 14/06/2013 and 20/06/2013

* Accreditation status

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

LIMS sample ID range AI82511 to AI82513 Report page 1 of 4 Column page 1

FAO James Davies

PE15UA

LABORATORY TEST REPORT

Results of analysis of 3 samples received 14 June 2013 C12974 - Greenwood Place, London NW5

The right chemistry to deliver results

20 June 2013 Report Date

	AI82513	BH2	W1	13/6/2013	1.53m	WATER	
232404	A182512	BH1	W1	3/6/2013	2.56m	WATER	
	AI82511	DCS1	W1	29/5/2013	1.21m	WATER	

1675 TPH aliphatic >C21-C35		rd gri	z	< 0.11	< 0.1
TPH aliphatic >C35-C44		rd Bu	z	< 0.1 1	< 0.1
TPH aromatic >C5-C7		-l Bri	z	< 0.1	< 0.1
TPH aromatic >C7-C8		r→ grl	z	1.61	< 0.1
TPH aromatic >C8-C10	About the second	µg ⊢	z	8.51	< 0.1
TPH aromatic >C10-C12		µg l−1	z	121	< 0.1
TPH aromatic >C12-C16		µg l-¹	z	8.0 1	< 0.1
PH aromatic >C16-C21		µg ⊢¹	z	< 0.1 1	< 0.1
PH aromatic >C21-C35		r-l gd	z	< 0.1	< 0.1
PH aromatic >C35-C44		r-l Bri	z	< 0.1	< 0.1
Fotal Petroleum Hydrocarbons		r-l grl	z	33.1	< 10
Fotal Aliphatic Hydrocarbons		µg ⊢¹	z	. v	, ,
Fotal Aromatic Hydrocarbons		rg L1	z	33 1	< 5
1701 PAH (total EPA 16)		µg ⊦¹	>	\$, &
Methyl tert-butylether	1634044	µg l−1	z	<1.01	<1.0
Dichlorodifluoromethane	75718	-1 Brt	: >	************************************	0. 0.
Chloromethane	74873	r-l Brl	_	<1,01	₹ 0.0
Vinyl chloride	75014	r-l grl	>	61001	V 0.10
Bromomethane	74839	r-i gri	כ	<20 1	<20
Chloroethane	75003	µg L¹	n	<2.0 1	<2.0
Trichlorofluoromethane	75694	1-1 g⊔	n	<1.01	<1.0
I,1-Dichloroethene	75354	r-l 6rl	5	190 1	0. 0.
Dichloromethane	75092	µg l−1	z	ne ¹	e L
irans-1,2-Dichloroethene	156605	r-l grl	>	180 1	1.4
1.1-Dichloroethane	75343	- T	-		

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All tests undertaken between 14/06/2013 and 20/06/2013

* Accreditation status

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

LIMS sample ID range Af82511 to Al82513

Report page 2 of 4 Column page 1

LABORATORY TEST REPORT

Results of analysis of 3 samples

received 14 June 2013

20 June 2013 Report Date

Chemisty to deliver mealth

FAO James Davies

PE1 5UA

C12974 - Greenwood Place, London NW5

BH2 W1 13/6/2013 1.53m WATER A182513 BH1 W1 3/6/2013 2.56m WATER 232404 182512 29/5/2013 WATER 1.21m A(82511 DCS1 ×

1760 cis-1,2-Dichloroethene	156592	μg I-1	-	140000 1	36
Bromochloromethane	74975	µg l−¹	⊃	<1.01	<1.0
Trichloromethane	67663	µg l−1	כ	<1.01	0.12
I,1,1-Trichloroethane	71556	r-l 6rl	∵⊃	<1.0 1	<1.0
Tetrachloromethane	56235	µg ⊢¹	n	<1.01	<1.0
I,1-Dichloropropene	563586	µg ⊢¹	· >	<1.01	<1.0
	71432	µg F¹	o	8.11	<1.0
I,2-Dichloroethane	107062	r-l Brl	n	6.2 1	<2.0
Trichloroethene	79016	µg ⊢¹	z	5600 1	59
1,2-Dichloropropane	78875	r-l Brl	⊃	<1.0 1	<1.0
Dibromomethane	74953	r-l 6rl	⊃	<101	<10
Bromodichloromethane	75274	µg ⊦¹	>	<5.0 1	<5.0
ropropene	10061015	⊧-l gd	>	<101	<10
	108883	µg I⁻¹	Þ	27 1	<1.0
trans-1,3-Dichloropropene	10061026	µg l-¹	כ	<10 1	<10
oethane	79005	µg ⊢1	-	<101	<10
etrachloroethene	127184	r-l Brl		120 1	3.4
1,3-Dichloropropane	142289	r-l 6n	>	<2.0 1	<2.0
Dibromochloromethane	124481	µg l-¹	5	<101	<10
1,2-Dibromoethane	106934	µg ⊦¹	⊃	<5.0 1	<5.0
Chlorobenzene	108907	r-l grl	>	^ \ \	₩ V
1,1,1,2-Tetrachloroethane	630206	rg F.	n	<2.0 1	<2.0
Ethylbenzene	100414	µg f⁻¹	D	1.01	<1.0
m- & p-Xylene	1330207	µg l-¹	כ	3.4 1	< 4.0
	05470		-	,	

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All tests undertaken between 14/06/2013 and 20/06/2013

* Accreditation status

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LIMS sample ID range Al82511 to Al82513 Report page 3 of 4 Column page 1

Ground Engineering Limited Newark Road

Peterborough

FAO James Davies

PE15UA

LABORATORY TEST REPORT

Results of analysis of 3 samples received 14 June 2013 C12974 - Greenwood Place, London NW5



20 June 2013 Report Date

	AI82513	BH2	W1	13/6/2013	1.53m	WATER	
232404	AI82512	BH1	W1	3/6/2013	2.56m	WATER	
	A182511	DCS1	W1	29/5/2013	1.21m	WATER	

Styrene Fribromomethane	100425 75252	- 64 - 5	> >	<1.0 ¹ <10 ¹	↑.0 1.0
	98828	6rl	J	<1.01	0.10
	108861	µg ⊦¹	D	<1.01	<1.0
1,2,3-Trichloropropane	96184	r-l grl	⊃	<50 +	: 0 <u>0</u>
	103651	r-l gri	D	<1.01	<1.0
	95498	µg ⊦¹	>	<1.01	
1,2,4-Trimethylbenzene	95636	r-l βrl	_	1.31	
	106434	r-l grl	⊃	<1.0 1	2.0
	98086	r-i gri	⊃	<1.01>	:: ∇ 0 ₽
1,3,5-Trimethylbenzene	108678	r-i gri	⊃	<1.01	 210
	135988	µg ⊢¹	⊃	<1.01	<1.0
,3-Dichlorobenzene	541731	µg l-₁	⊃	<1.01	<1.0
	99876	r-l gµ	Þ	<1.01	<1.0
,4-Dichlorobenzene	106467	r-l br	5	<1.01	
	104518	r-l grl	J	<1.0 1	<1.0
,2-Dichlorobenzene	95501	r-i bd	⊃	<1.01>	₹ 5
,2-Dibromo-3-chloropropane	96128	r-i bri	⊃	<50 1	<50
1,2,4-Trichlorobenzene	120821	rd br	⊃	<1.01	<1.0
O	87683	µg I-¹	⊃	<1.01	<1.0
		mg l⁻¹	Z	< 0.03	< 0.03

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LIMS sample ID range Al82511 to Al82513 Report page 4 of 4 Column page 1



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