APPENDIX C: GROUND INVESTIGATION DATA

HARRISON GROUP ENVIRONMENTAL LIMITED

Document: **Ground Investigation Report**

Project: **Bourne Estate, Camden**

Reference No.: **GL16482**

Date: **June 2012**

Prepared for: **Tibbalds Planning and Urban Design**

Instructed By: **Campbell Reith Hill LLP**

REPORT STATUS:

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Revision	**Comments**	**Prepared By**	**Approved By**	**Issued By**	**Audited By**

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Document:	**Ground Investigation Report**
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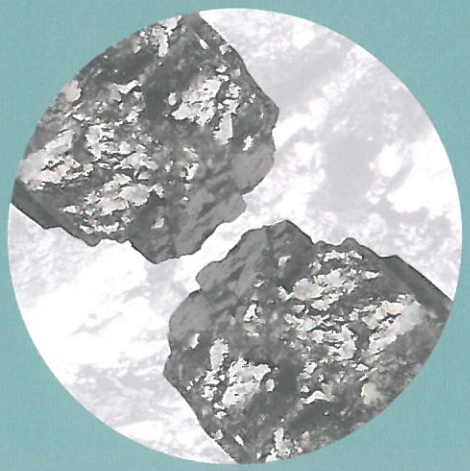

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FOREWORD

General Conditions Relating To Ground Investigation

This investigation has been devised to generally comply with the relevant principles and requirements of BS10175: 2001 “Investigation of potentially contaminated sites - Code of practice” and where directed by the principles and application rules of Eurocode 7 (EC7 – Part 1 and Part 2). The recommendations made and opinions expressed in this report are based on the information obtained from the sources described using a methodology intended to provide reasonable consistency and robustness.

The opinions expressed in this report are based on the ground conditions revealed by the site works, together with an assessment of the site and of laboratory test results. Whilst opinions may be expressed relating to sub-soil conditions in parts of the site not investigated, for example between exploratory positions, these are only for guidance and no liability can be accepted for their accuracy.

Boring and sampling procedures are undertaken in accordance with BS5930:1999+A2:2010, “Code of Practice for Site Investigations”. Likewise in situ and laboratory testing complies with B.S.1377, “Methods of Tests for Soils for Civil Engineering Purposes”, unless stated otherwise in the text. Chemical Testing has been undertaken by UKAS accredited laboratory, ALcontrol.

The groundwater conditions entered on the boring records are those observed at the time of investigation. The normal rate of boring usually does not permit the recording of an equilibrium water level for any one water strike. Moreover, groundwater levels are subject to seasonal variation or changes in local drainage conditions.

Some items of the investigation have been provided by third parties and whilst Harrison Group have no reason to doubt the accuracy, the items relied on have not been verified. No responsibility can be accepted for errors within third party items presented in this report.

This report is produced for the benefit of the client alone. No responsibility can be accepted for any consequences of this information being passed to a third party who may act upon its contents/recommendations.

REPORT

ON A

GROUND INVESTIGATION AT

THE BOURNE ESTATE, LONDON BOROUGH OF CAMDEN.

1 TERMS OF REFERENCE & INTRODUCTION

The work covered by this report was undertaken on behalf of Tibbalds Planning and Urban Design in accordance with the relevant contract documentation (EJBejb10907-200212-GI Spec V10.2) received from Campbell Reith Hill LLP (CampbellReith). CampbellReith also acted as Consulting Engineers for the project.

Consideration is being given to the re-development of the structures currently occupying the site. The investigation was required to provide factual geotechnical and geoenvironmental data, both from field work and from subsequent laboratory testing.

This report presents the results of the fieldwork and laboratory testing, along with a summary of the ground conditions encountered and records of the post-fieldwork monitoring completed to date.

2 SITE DESCRIPTION

The site comprises the various residential blocks of flats identified as being part of the Bourne Estate in the London Borough of Camden.

The site comprises an irregular area of land enclosed within Portpool Lane (north of the site), Baldwin's Gardens (south of the site), existing buildings fronting onto Leather Lane (east of the site) and various structures fronting onto Grays Inn Road (western site boundary).

The site incorporates existing multi-storey blocks of flats (Gooch House and Saint Albans School House), a single storey community building, areas of hardstanding, car parking and access roads, together with two playgrounds, landscaped areas, and a hardstanding sports ground.

The site can be identified by approximate National Grid reference 531250mE, 181900mN, with a general elevation of 20m above Ordnance Datum (aOD) for the majority of the site area. The area immediately surrounding Saint Albans School House was approximately 1.5m to 2.0m lower in elevation.

A site location plan (GL16482-DR001) has been presented in Appendix A.

3 EXPECTED GEOLOGY

The 1:50,000 scale British Geological Survey (BGS) Sheet 156, North London, indicates that the site is underlain by solid geology consisting of the London Clay Formation, which in turn overlies the Lambeth Group. The BGS sheet identifies the presence of superficial Hackney Gravel Deposits beneath the site overlying the London Clay Formation.

4 FIELDWORK

The scope of the site works was generally in accordance with that proposed by CampbellReith and comprised the following:

- 3 no. Cable Percussive Boreholes
- 6 no. Window Sample Boreholes
- Installations

The investigation locations were agreed on site with the Engineer subject to local constraints. The intrusive fieldworks were carried out between 7th to the 12th March 2012 at the locations shown on the appended Exploratory Borehole Location Plan presented in the appendix as drawing GL16482-DR002.

4.1 Cable Percussive Boreholes

Two percussive boreholes, BHB1 to 10.00m and BH B2A to 30.00m below existing ground level (bgl) were drilled using 200mm reducing to150mm diameter casing and equipment. Borehole B2 was replaced by BH B2A due to encountering a service at 0.70m.

The boreholes were required in order to sample, test and log the sub-soils underlying the site. During drilling one falling head test was undertaken in borehole BH B1 and one in borehole BH B2A, the results of which are presented in Appendix B.

Upon completion the boreholes were installed with combined gas and groundwater monitoring wells, as summarised in Table 4.3.

A detailed description of all the strata encountered, position and types of samples taken along with any groundwater observations made at the time of drilling are included on the borehole logs presented in Appendix B.

4.2 Window Sample Boreholes

Six window sample boreholes, WS B1 to WS B6, were undertaken in order to sample, test and log the sub-soils underlying the site. Window sample boreholes WS B1 to WS B4, were drilled by a Premier tracked window sampler rig to a maximum depth of 3.45mbgl. Window sample boreholes WS B5 and WS B6 were drilled using hand held equipment to a maximum depth of 2.50mbgl.

Upon completion window sample boreholes WS B2, WS B3 and WS B4 were installed with combined gas and groundwater monitoring wells, as summarised in Table 4.3.

A detailed description of all the strata encountered, position and types of samples taken along with any groundwater observations made at the time of drilling are included on the window sample borehole records presented in Appendix B.

4.3 Installations

The following boreholes were installed with standpipes for monitoring gas and groundwater. Table 4.3 below summarises these installations.

Monitoring Point I.D	Diameter of Installation (mm)	Base Depth of Installation (m bgl)	Response Zone (m bgl)		Target Strata
			Top	Base	
BH B1 (shallow)	50	3.00	1.00	3.00	Made Ground
BH B1 (deep)	50	8.00	4.00	8.00	Natural Soils (Hackney Gravel)
BH 2A	50	8.00	5.00	8.00	Natural Soils (Hackney Gravel)
WS B2	50	3.00	1.00	3.00	Made Ground
WS B3	50	3.00	1.00	3.00	Made Ground
WS B4	50	2.95	1.00	2.95	Made Ground

Table 4.3: Summary details of the gas and groundwater standpipe installations.

Detailed descriptions of the installations and their corresponding backfill materials are included on the relevant exploratory borehole logs presented in Appendix B.

4.4 Gas and Groundwater Monitoring

A programme of gas and groundwater monitoring has been commissioned.

The results of gas and groundwater monitoring carried out to date are presented in Appendix C.

Gas monitoring

Gas monitoring was undertaken prior to groundwater monitoring and sampling.

Gas monitoring was carried out in accordance with Clause 9.10X of the CampbellReith Specification for Ground Investigation (Reference: EJBejb10907-200212-GI Spec V10.2).

Gas samples, where required, were stored in cool boxes with bubble wrap and were sent to the laboratory within 24 hours of being sampled along with chain of custody sheets.

Groundwater monitoring

Groundwater monitoring was carried out in accordance with Clause 7.8A of the CampbellReith Specification for Ground Investigation (Reference: EJBejb10907-200212-GI Spec V10.2).

Determination of the groundwater levels were derived using an interface dip-meter.

Where sufficient groundwater was encountered the borehole installations were purged prior to obtaining groundwater samples using low flow techniques. The depth to the groundwater level and the depth of the installation were recorded and the required purge volume calculated as follows:

Purge volume (litres) = 3 to 5 x πr^2 x l x 1000

Where, r = radius of installation (millimetres), l = length of water column in installation (metres).

Samples of the groundwater were obtained for subsequent laboratory analysis with use of disposable bailers.

Samples were stored in cool boxes with ice packs and were sent to the laboratory within 24 hours of being sampled along with chain of custody sheets.

5 GROUND CONDITIONS

5.1 Exploratory Hole Lithology

Detailed descriptions of the lithology encountered can be found on the appropriate logs included in Appendix B. It is our understanding that an appraisal of the site's lithology is being presented under separate cover by the consulting engineer.

5.2 Groundwater

Groundwater and any LNAPL levels encountered during the drilling and subsequent monitoring of the exploratory holes to date are summarised in Table 5.2 below.

Exploratory Hole Location	Depth groundwater encountered during drilling (mbgl)	Depth encountered during monitoring (mbgl)		
		Round 1 (23rd March 2012)	Round 2 (5th April 2012)	Round 3 (17th April 2012)
BH B1(shallow)	22.50 rising to 20.42*	Parked car over standpipe cover	Dry at 3.09	Dry at 3.08
BH B1(deep)	22.50 rising to 20.42*	Parked car over standpipe cover	6.04	6.04
BH B2A	Not encountered	6.22	7.01	7.23
WS B2	Not encountered	Dry at 3.00	Dry at 3.00	Dry at 3.00
WS B3	Not encountered	Dry at 3.00	Dry at 3.00	Dry at 2.99
WS B4	Not encountered	Dry at 2.94	Dry at 2.94	Dry at 2.93

***Water added to assist drilling. Groundwater strike may have been obscured.

Table 5.2: Summary of Groundwater levels during drilling/excavation & monitoring

6 LABORATORY TESTING

6.1 Geotechnical Laboratory Testing

Geotechnical laboratory testing on selected soil samples recovered from the exploratory holes was scheduled by CampbellReith and was carried out to identify the physical characteristics of the soils encountered and the requirements for the design of buried concrete.

The geotechnical laboratory testing was undertaken at HGE's UKAS accredited laboratory. Unless otherwise stated the tests were performed to B.S. 1377, "Methods of Test for Soils for Civil Engineering Purposes". The exception being pH, water soluble sulphate, acid soluble sulphate and total sulphur, which were undertaken at ALcontrol using methods prescribed in BRE Digest SD1 "Concrete in aggressive ground" (2005 edition). Organic matter determinants were also undertaken at ALcontrol to B.S. 1377

The schedule of laboratory testing and results available to date are presented in Appendix D.

6.2 Environmental Laboratory Testing

All environmental laboratory testing on the soil, groundwater and gas samples recovered from the exploratory holes was scheduled by CampbellReith in order to facilitate the assessment of the chemical characteristics and potential contamination of the site.

Alcontrol laboratories carried out the analytical chemical testing to UKAS accredited procedures unless stated otherwise.

The schedule of laboratory testing and results available to date are presented in Appendix D.

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REFERENCES

BSI British Standard BS5930:1999 (with Amendment 2:2010), ‘Code of Practice for Site Investigations’.

BSI British Standard, 2001, BS10175:2001, ‘Investigation of Potentially Contaminated Sites’

BSI British Standard. 1990. BS1377:1990, 'Methods of Test for Soils for Civil Engineering Purposes'.

Building Research Establishment, 2005. Special Digest 1:2005, ‘Concrete in Aggressive Ground’.

CampbellReith Specification for Ground Investigation (EJBejb10907-200212-GI Spec V10.2)

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APPENDIX D: LABORATORY TESTING

Summary Geotechnical Laboratory Testing Schedule

Geotechnical Laboratory Results

Summary of Chemical Laboratory Schedule (Soils)

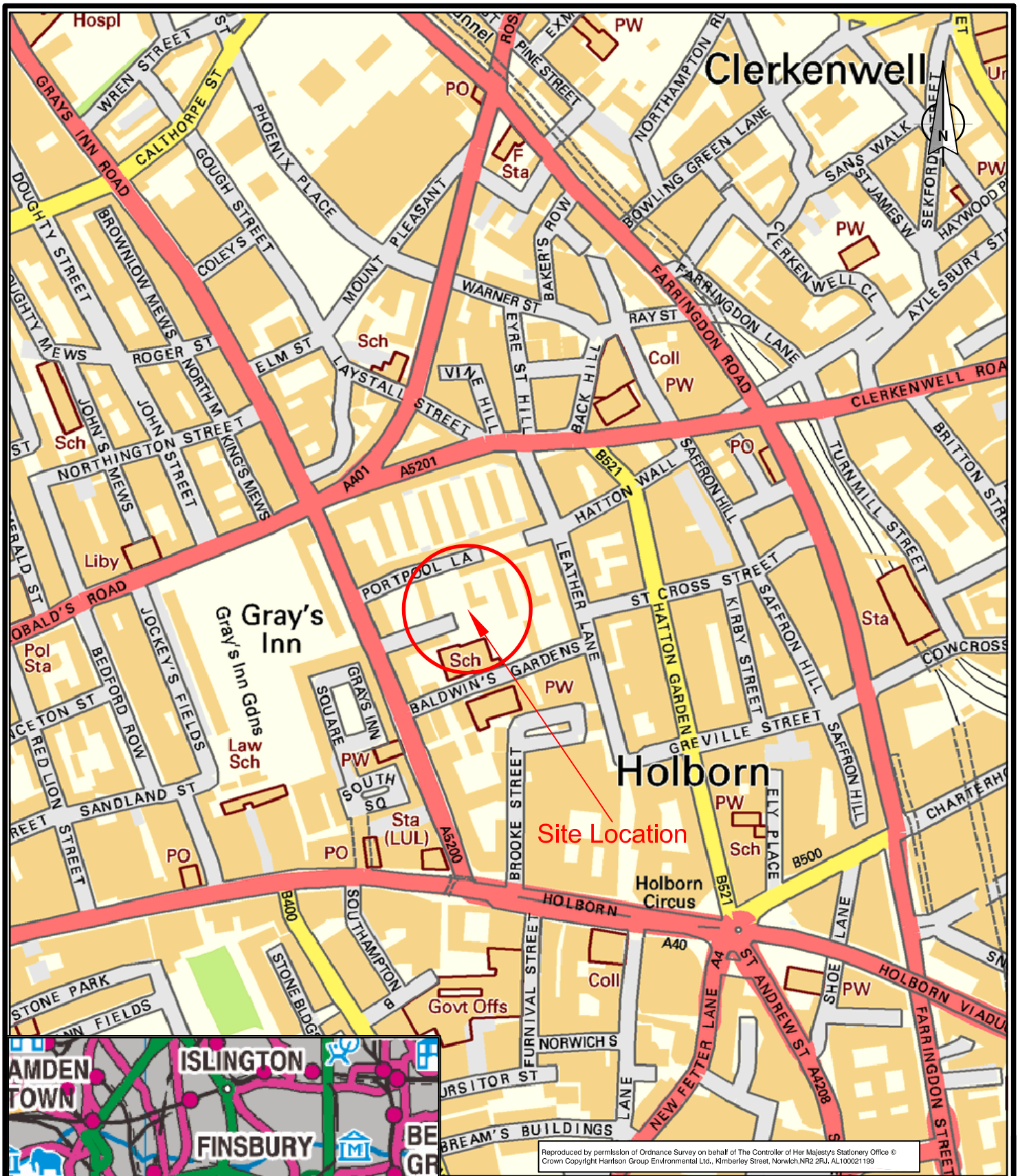
Chemical Laboratory Test Results

Summary of Chemical Laboratory Schedule (Water)

Chemical Laboratory Test Results

APPENDIX A

DRAWINGS



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Project :	Bourne Estate
Job No : GL16482	Date : April 2012
Drawing Title :	Site Location Plan
Drawing No :	GL16482 - DR001
Scale :	1 : 5000 @ A4
Drawn by : YN	Checked by : JK
Eastings : 531151	Northings : 181880

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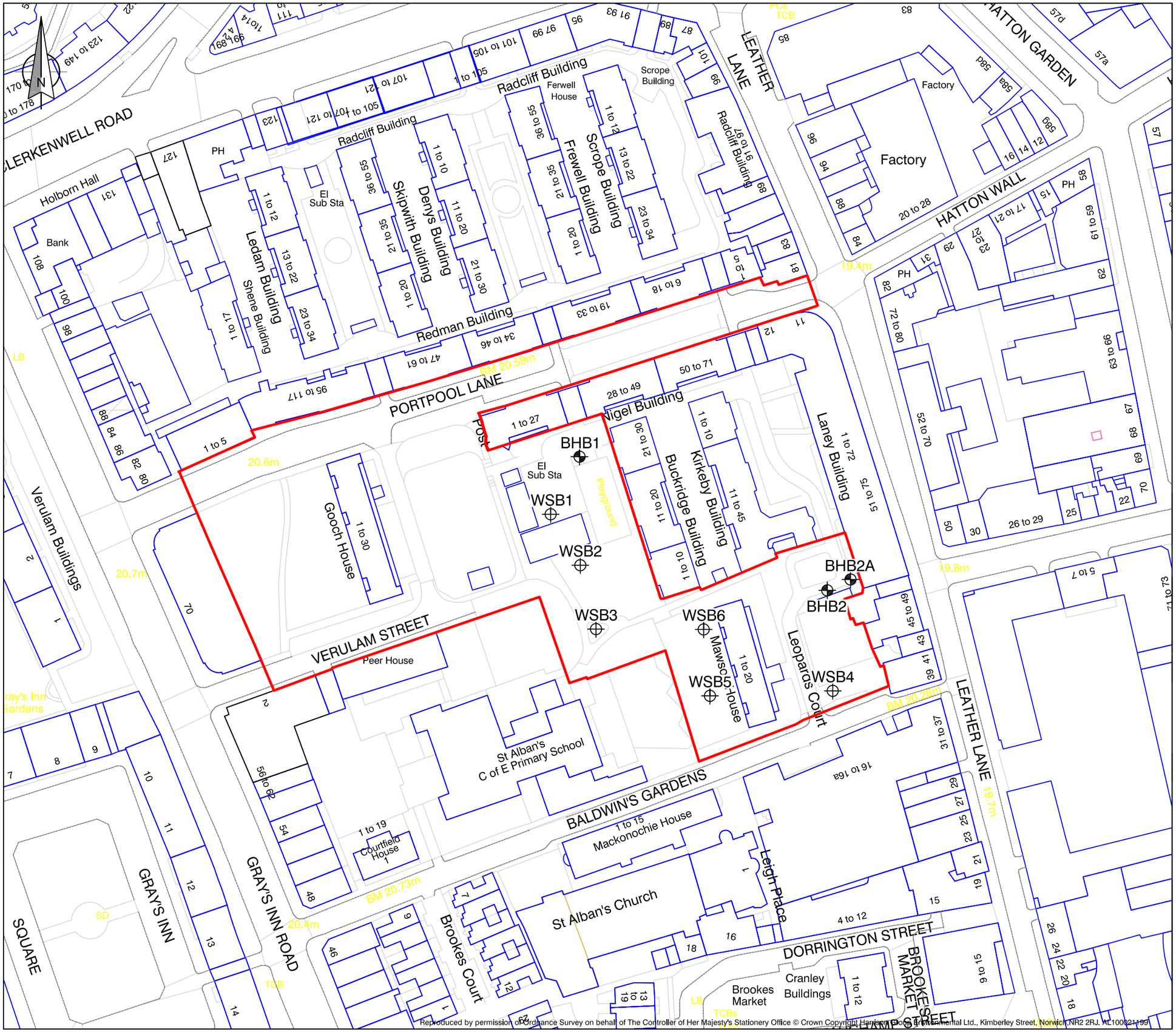

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Key :

- WS1 — Window Sample Borehole
- BH1 — Cable Percussive Borehole
- Site Boundary

Client : Tibbalds Planning and Urban Design

Project : Bourne Estate

Job No : GL16482 Date : April 2012

Drawing Title : Fieldwork Location Plan

Drawing No : GL16482 - DR002

Scale : 1 : 1000 @ A3

Drawn by : YN Checked by : JK

Eastings : 531151 Northings : 181880

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APPENDIX B

EXPLORATORY HOLE RECORDS

DATA SHEET: SITE INVESTIGATION METHODS

The following sheet provides basic details of the site investigation methods employed in the direct investigation phase of this report. Detailed method statements may be provided if, requested, or further information may be obtained from the relevant British Standard, or Environment Agency publications. Prior to any excavation being undertaken, a surface sweep using a cable detector is undertaken, in order to avoid services. Details of the lithology encountered are generally presented on the relevant field record sheets, which also detail the type and depths of samples taken, the results of any in-situ tests, and any groundwater observations noted at the time. Other pertinent information may also be recorded.

CABLE PERCUSSIVE BOREHOLES

The cable percussive borehole drilling rig may be towed by a 4x4 pick up or similar vehicle, and is capable of obtaining disturbed and undisturbed soil samples down to approximately 40m depth. The hole may be formed at a diameter of 200mm or most typically 150mm, with samples obtained direct from the drilling tools. Undisturbed samples (U100) may be obtained, and in-situ testing may include Standard or Cone Penetration Tests (SPT/ CPT) to BSEN ISO22476-3, plus permeability testing as per BS5930:1999. Please note we report raw SPT N values rather than corrected $N_{(60)}$ values. We can report in either format if requested by our client.

The equipment requires a minimum 2m access width, and the rig itself is 6m long (11m including tow). A rough 3m x 5m base area is required for drilling, but each site should be considered on specifics.

The technique can penetrate dense made ground, rubble and concrete or weathered rock/thin bands of rock using a chisel. However, in some cases these materials can form obstructions.

Standpipes can be installed, otherwise the borehole would be backfilled with spoil, or where instructed bentonite, concrete or sand may be used. Excess spoil is either removed from site or left in a tidy heap nearby.

In wet drilling conditions, the spoil can spread over a wide area through splashing and flow of the spoil from the tools, unless precautions are taken to prevent this. Conversely, the system can be very clean for instance when drilling through dry clay soil.

WINDOW SAMPLER BOREHOLES

The window sampler system comprises a series of varying diameter (max 80mm) steel tubes of either 1m or 2m length having a slot or window cut along the side. The tubes are driven into the ground using a light percussive hammer attached to solid rods, and withdrawn by use of a jack. The hammer may be machine mounted, or for restricted access work, hand held. The soil sample is forced up into the tube during the driving, samples being obtained directly through the slot or window. The sampler generally achieves depths of around 3-5m in favourable soils. Use of a super heavy tracked rig allows samples to be retrieved in liners. Greater diameter boreholes are also achievable (<115mm).

STANDPIPE INSTALLATIONS

Window sampler boreholes may be fitted with gas/ water monitoring standpipes, which generally comprise a 38mm diameter upvc slotted and plain casing to the required depths as appropriate, and may be fitted with a gas tap bung or end cap, and lockable cover. Full details of the standpipe installations and associated backfill are given on the relevant borehole records. Other diameters and types of standpipe are available if required.

GROUNDWATER MONITORING

Groundwater monitoring is undertaken in accordance with the Specification for Ground Investigation EJBejb-10907-200212-GI Spec V10.2

GROUND GAS MONITORING

Ground gas composition and flow monitoring is undertaken in accordance with Clause 9.10X of the Specification for Ground Investigation EJBejb-10907-200212-GI Spec V10.2.

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Key to Site Investigation Records

Project: Bourne Estate, Camden

Project ID.: GL16482

Client: Tibbalds Planning and Urban Design
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited

In-situ Testing & Observations

S or C	Standard Penetration Test as per BS1377:1990 'Methods of test for soils for civil engineering purposes'. Uncorrected test result shown on the log at the relevant depth. S - split spoon or C - solid cone.
✳	n100 - dynamic penetration test graphical presentation of the blows taken to drive 100mm.
+	Equivalent SPT 'N' value. Based on standard empirical calculation after Card & Roche for sandy soils unless specificed in the text.
IV	In-situ (down hole) vane shear strength peak - p or remoulded - r
HV	In-situ hand vane test, shear strength reported in kPa peak - p or remoulded - r
PP	Pocket penetrometer test, shear strength reported in kPa
K	In-situ permeability test result, expressed in m/s
PID	In-situ screening by photo-Ionisation detector, expressed as ppm Head space testing undertaken as per contract documents.

TCR	Total Core Recovery, %	As defined in BS5930:1999. Details of flush returns etc. are given on the relevant log sheet.
SCR	Solid Core Recovery, %	
RQD	Rock Quality Designation, %	
If	Fracture spacing, mm	

▽	Groundwater strike	▼	Level to which groundwater has risen after the specified time. (Nominal 20 mins)

Sampling

D / GD	Small / geotechnical disturbed sample, around 1kg
B / GB	Bulk / geotechnical disturbed sample, around 5Kg
LB	Large bulk disturbed sample, around 20Kg for earthworks testing
W	Water sample
ES	Environmental soil sample, in more than one container if appropriate
EW	Environmental water sample, in more than one container if appropriate
U / UT	Undisturbed / Ultra Thin undisturbed driven tube sample. Nominal 100mm diameter, 450mm length in CP boreholes, 38mm diameter, 100mm length in WS borehole. Dimension of trial pit cores to be specfied on the individual records. The number of blows taken to drive the sample tube the full length is reported on the log sheet at the appropriate depth. 'NR' indicates no recovery achieved.
P	Pushed piston sampler, nominal 100mm diameter
LS / C	Liner sample, e.g. from windowless sampler / Core sample, e.g. from rotary core drilling
CBR	California Bearing Ratio (CBR) test - either mould sample taken or in situ testing. See individual record sheet for further information

General comments

1. Samples have been described in accordance with BS5930:1999 'Code of practice for site investigation' unless an alternative material specific weathering classification is considered more appropriate. This will be recorded in the report text.
2. Electronic data provided in relation to this project has been produced using the Association of Geotechnical & Geoenvironmental Specalists (AGS) data transfer format, with specific reference the their publication

Electronic Transfer of Geotechnical and Geoenvironmental Data Edition 3.1, 2004 including addendum May 2005'. All legend and backfill codes are as per this document.

Site specific comments

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Percussion Borehole Record

BH B1

Project: Bourne Estate, Camden

Project ID.: GL16482

Coordinates: 531163.3E 181908.3N

Ground Level: 19.53mAOD

Sheet 1 of 1

Description	Legend	Depth (m)	O.D. Level (m)	Samples/ Test Type	Samples/ Test Depth (m)	Casing (Water) Depth (m)	Remarks and Test Results	Installations
ASPHALT.		0.15	19.38	ES1	0.25			0.20
MADE GROUND. Medium dense brown, dark brown and grey brown locally slightly clayey silty gravelly fine and medium occasionally coarse SAND. Gravel is angular fine to coarse brick, occasional concrete, rare wood, glass and metal fragments.				D1 ES2	0.50 0.50			
				ES3	1.00			1.00
				C B1 ES4	1.20 1.20-1.65 1.50	1.20	N=13 (2,2,3,3,3,4)	
				D2 ES5	1.80 2.00			
				C B2 ES6 D3 ES7	2.50 2.50-2.95 2.50 2.90 3.00	2.50	N=23 (4,7,9,4,3,7)	3.00
Medium dense to dense yellow brown and brown silty fine to coarse SAND and subrounded to rounded fine to coarse flint GRAVEL. (HACKNEY GRAVEL).		2.90	16.63					
				C B3 ES8	3.50 3.50-3.95 3.50	3.50	N=26 (3,4,4,6,7,9)	
				D4 ES9	4.00 4.00			4.00
				C B4	4.50 4.50-4.95	4.50	N=35 (4,6,8,8,9,10)	
				ES10	5.00			
				D5	5.50			
				C ES11 B5	6.00 6.00 6.00-6.45	6.00	N=33 (2,5,7,8,9,9)	
				ES12 D6	7.00 7.00			
				C B6 D7 ES13 D8	7.50 7.50-7.95 7.70 7.90 8.00	7.50	N=16 (3,3,4,4,4,4)	
Firm to stiff brown silty CLAY. (LONDON CLAY).		7.70	11.83					
(Firm to stiff) fissured dark grey silty CLAY. Occasional light grey silt laminae and fissure infill. (LONDON CLAY).		8.00	11.53	ES14	8.25			8.00
				UT1	9.00-9.45		46 blows: 100% recovery	
				D9	9.45-9.55			

Borehole Complete at 10.00 m

Hole Diameter Details			Chiselling Details		
Diameter (mm)	Depth (m)	Casing Depth (m)	From (m)	To (m)	Time (hhmm)
150	10.00	8.00			

Water Level Observations

Date	Water Strike (m)	Standing Time (mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)

Client: Tibbalds Planning and Urban Design

Engineer: Campbell Reith Hill LLP

Contractor: Harrison Group Environmental Limited

Dates: 12/03/2012

Plant: Dando 2000 Cable Percussive Rig

Drilled By: K. Gorbould

Logged By: G. Dowlen

Checked By: J. Keay

Remarks:

1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was not encountered.
3. Water added to assist drilling from 2.90mbgl to 7.70mbgl (300 litres).
4. Installation details (Dual): 50mm diameter HDPE standpipe (A) installed from 8.00mbgl to GL. Slotted from 8.00mbgl to 4.00mbgl, plain from 4.00mbgl to GL. 50mm diameter HDPE standpipe (B) installed from 3.00mbgl to GL. Slotted from 3.00mbgl to 1.00mbgl, plain from 1.00mbgl to GL. Finished with gas taps, end caps and flush fitting cover. Geowrap and geosock used.
5. Backfill details: Bentonite pellets from 10.00mbgl to 8.00mbgl, gravel filter packs from 8.00mbgl to 4.00mbgl, bentonite pellets from 4.00mbgl to 3.00mbgl, gravel filter packs from 3.00mbgl to 1.00mbgl, bentonite pellets from 1.00mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.
6. Standing Time/ Dayworks: 1.0 hour filling bowser, 0.5 hour movong rig, 1.0 hour bagging spoil and cleaning the site, 0.5 hour collecting installation material on 12/03/2012.

Harrison Group Environmental Ltd, Unit A11, Poplar Business Park, 10 Prestons Road, London E14 9RL

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Percussion Borehole Record

BH B2

Project: Bourne Estate, Camden

Project ID.: GL16482

Coordinates: 531227.2E 181873.0N

Ground Level: 19.75mAOD

Sheet 1 of 1

Description	Legend	Depth (m)	O.D. Level (m)	Samples/ Test Type	Samples/ Test Depth (m)	Casing (Water) Depth (m)	Remarks and Test Results	Installations
ASPHALT.		0.20	19.55					0.40
MADE GROUND. Light yellow brown silty fine to coarse SAND and subangular to subrounded fine to coarse sub base GRAVEL.		0.35	19.40	B1	0.50-0.70			0.70
MADE GROUND. Black, dark grey and red brown silty gravelly fine and medium SAND. Gravel is angular fine to coarse brick. At 0.70m: cast iron pipe.		0.70	19.05					
Borehole Complete at 0.70 m								

Water Level Observations

Hole Diameter Details			Chiselling Details			Date	Water Strike (m)	Standing Time (mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	Depth (m)	Casing Depth (m)	From (m)	To (m)	Time (hhmm)						

Client: Tibbalds Planning and Urban Design

Engineer: Campbell Reith Hill LLP

Contractor: Harrison Group Environmental Limited

Dates: 07/03/2012

Plant: Dando 2000 Cable Percussive Rig

Drilled By: K. Gorbould

Logged By: G. Dowlen

Checked By: J. Keay

Remarks:

1. Inspection pit excavated from GL to 0.70mbgl.
2. Groundwater was not encountered.
3. Metal pipe encountered at 0.70mbgl. Borehole terminated and moved to position BH B2A.
4. Backfill details: Arisings from 0.70mbgl to 0.40mbgl and concrete from 0.40mbgl to GL.
5. Standing Time/ Dayworks: 1.0 hour awaiting borehole position, 1.0 hour clearing service and 1.5 hour awaiting instruction on pipe on 07/03/2012.

Harrison Group Environmental Ltd, Unit A11, Poplar Business Park, 10 Prestons Road, London E14 9RL

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Percussion Borehole Record

BH B2A

Project: Bourne Estate, Camden

Project ID.: GL16482

Coordinates: 531227.1E 181873.9N

Ground Level: 19.74mAOD

Sheet 1 of 3

Description	Depth (m)	O.D. Level (m)	Samples/ Test Type	Samples/ Test Depth (m)	Casing (Water) Depth (m)	Remarks and Test Results
ASPHALT.	0.20	19.54				
MADE GROUND. Light yellow brown silty fine to coarse SAND and subangular to subrounded fine to coarse sub base GRAVEL.	0.35	19.39	ES1	0.30		
			ES2	0.50		
MADE GROUND. Loose becoming medium dense brown, grey brown and dark brown silty gravelly fine to coarse SAND. Gravel is angular fine to coarse brick. Occasional brick cobbles and lenses of grey brown silty sandy gravelly clay.			D1	1.00		
			ES3	1.00		
			C	1.50		N=8 (1,1,1,2,3,2)
			B1	1.50-1.95		
			ES4	1.50		
			D2	2.00		
			ES5	2.00		
			C	2.50	1.50	N=15 (2,4,4,5,3,3)
			B2	2.50-2.95		
			ES6	2.50		
			D3	3.00		
			ES7	3.00		
			C	3.50	3.00	N=12 (2,2,2,3,3,4)
			B3	3.50-3.95		
			ES8	3.50		
			D4	4.00		
			ES9	4.00		
			C	4.50	3.00	N=12 (1,2,2,3,3,4)
			ES10	4.50		
			B4	4.50-4.95		
			ES11	5.00		
	5.10	14.64	D5	5.00		
Dense yellow brown silty fine to coarse SAND and GRAVEL. Gravel is subrounded to rounded fine to coarse flint. (HACKNEY GRAVEL).			ES12	5.50		
			C	6.00	6.00	N=33 (3,5,7,7,9,10)
			ES13	6.00		
			B5	6.00-6.45		
			ES14	6.50		
			ES15	7.00		
			C	7.50	6.00	N=17 (2,3,4,4,4,5)
	7.70	12.04	ES16	7.50		
			B6	7.50-7.95		
(Firm to stiff) brown and grey brown slightlt sandy slightly gravelly silty CLAY. Gravel is rounded fine to coarse flint. (REWORKED LONDON CLAY).	8.00	11.74	ES17	7.80		
			D6	8.00		
			ES18	8.20		
Firm to stiff fissured grey silty CLAY. Occasional light grey silt laminae and fissure infill. (LONDON CLAY).			S	9.00	9.00	N=17 (3,4,4,4,4,5)
			D7	9.00-9.45		

Installations: 0.20, 1.00, 4.00, 5.00, 8.00

Continued next sheet

Water Level Observations

Hole Diameter Details			Chiselling Details			Date	Water Strike (m)	Standing Time (mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	Depth (m)	Casing Depth (m)	From (m)	To (m)	Time (hhmm)						
200 150	18.00 30.00	9.00 30.00				08/03/12	22.50	20	20.42	18.50	

Client: Tibbalds Planning and Urban Design

Engineer: Campbell Reith Hill LLP

Contractor: Harrison Group Environmental Limited

Dates: 07/03/2012-09/03/2012

Plant: Dando 2000 Cable Percussive Rig

Drilled By: K. Gorbould

Logged By: G. Dowlen

Checked By: J. Keay

Remarks:

1. Inspection pit excavated from GL to 1.20mbgl.
2. Water added to assist drilling from 4.90mbgl to 7.70mbgl (250 litres).
3. Installation details: 50mm diameter HDPE standpipe installed from 8.00mbgl to GL. Slotted from 8.00mbgl to 5.00mbgl, plain from 5.00mbgl to GL. Finished with gas tap, end cap and flush fitting cover. Geowrap and geosock used.
4. Backfill details: Arisings from 30.00mbgl to 10.00mbgl, bentonite pellets from 10.00mbgl to 8.00mbgl, gravel filter packs from 8.00mbgl to 5.00mbgl, bentonite pellets from 5.00mbgl to 4.00mbgl, arisings from 4.00mbgl to 1.00mbgl, bentonite pellets from 1.00mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.
5. Standing Time/ Dayworks: 3.0 hours bagging spoil and cleaning the site, 2.0 hours leaving rig set up to give access to the car park on 09/03/2012.

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Percussion Borehole Record

BH B2A

Project: Bourne Estate, Camden

Project ID.: GL16482

Coordinates: 531227.1E 181873.9N

Ground Level: 19.74mAOD

Sheet 2 of 3

Description	Legend	Depth (m)	O.D. Level (m)	Samples/ Test Type	Samples/ Test Depth (m)	Casing (Water) Depth (m)	Remarks and Test Results	Installations
Firm to stiff fissured grey silty CLAY. Occasional light grey silt laminae and fissure infill. (LONDON CLAY).								10.00
				UT1	10.50-10.95		61 blows: 90% recovery	
		11.00	8.74	D8	10.95-11.05			
Stiff closely fissured grey silty CLAY. Occasional light grey silt laminae and fissure infill. Occasional sand size selenite crystals. (LONDON CLAY).								
At 12.00m: becomes stiff.				S D9	12.00 12.00-12.45	9.00	N=24 (3,4,5,6,6,7)	
				UT2	13.50-13.95		77 blows: 100% recovery	
				D10	13.95-14.05			
				S D11	15.00 15.00-15.45	9.00	N=28 (4,4,6,7,7,8)	
				UT3	16.50-16.95		100 blows: 100% recovery	
				D12	16.95-17.05			
				S D13	18.00 18.00-18.95	9.00	N=27 (4,5,5,7,7,8)	
		18.60	1.14	D14	18.60			
Very stiff to hard closely fissured grey blue and brown CLAY. (LAMBETH GROUP).								
				UT4	19.50-19.95		100 blows: 75% recovery	
				D15	19.95-20.05			

Water Level Observations

Hole Diameter Details			Chiselling Details			Date	Water Strike (m)	Standing Time (mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	Depth (m)	Casing Depth (m)	From (m)	To (m)	Time (hhmm)						
200 150	18.00 30.00	9.00 30.00				08/03/12	22.50	20	20.42	18.50	

Client: Tibbalds Planning and Urban Design

Engineer: Campbell Reith Hill LLP

Contractor: Harrison Group Environmental Limited

Dates: 07/03/2012-09/03/2012

Plant: Dando 2000 Cable Percussive Rig

Drilled By: K. Gorbould

Logged By: G. Dowlen

Checked By: J. Keay

Remarks:

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Percussion Borehole Record

BH B2A

Project: Bourne Estate, Camden

Project ID.: GL16482

Coordinates: 531227.1E 181873.9N

Ground Level: 19.74mAOD

Sheet 3 of 3

Description	Depth (m)	O.D. Level (m)	Samples/ Test Type	Samples/ Test Depth (m)	Casing (Water) Depth (m)	Remarks and Test Results
Very stiff to hard closely fissured grey blue and brown CLAY. (LAMBETH GROUP).			S D16	21.00 21.00-21.45	9.00	50/230mm (8,17,20,14,15,1)
Blue green clayey fine to coarse SAND. (LAMBETH GROUP).	22.50	-2.76	W1 UT5	22.50 22.50-22.95		100 blows: 100% recovery
Very stiff to hard closely fissured variably light blue grey, red brown and light grey slightly silty CLAY. (LAMBETH GROUP).	22.90	-3.16	D17	22.95-23.05		
			S D18	24.00 24.00-24.45	(23.10) 24.00	50/200mm (7,12,16,18,16)
			UT6	25.50-25.95		100 blows: 60% recovery
			D19	25.95-26.05		
			S D20	27.00 27.00-27.45	(20.20) 26.00	N=48 (3,5,8,12,13,15)
			S D21	28.50 28.50-28.95	(22.30) 30.00	50/265mm (5,7,10,13,16,11)

Borehole Complete at 30.00 m

Installations

Hole Diameter Details

Diameter (mm)	Depth (m)	Casing Depth (m)
200	18.00	9.00
150	30.00	30.00

Chiselling Details

From (m)	To (m)	Time (hhmm)

Water Level Observations

Date	Water Strike (m)	Standing Time (mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
08/03/12	22.50	20	20.42	18.50	

Client: Tibbalds Planning and Urban Design

Engineer: Campbell Reith Hill LLP

Contractor: Harrison Group Environmental Limited

Dates: 07/03/2012-09/03/2012

Plant: Dando 2000 Cable Percussive Rig

Drilled By: K. Gorbould

Logged By: G. Dowlen

Checked By: J. Keay

Remarks:

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Window Sample Record

WS B1
Sheet 1 of 1

Project: Bourne Estate, Camden

Project ID: GL16482

Coordinates: 531151.0E 181888.5N

Ground Level: 19.55mAOD

Description	Legend	Depth (m)	O.D. Level (m)	Sample Test Type	Sample Test Depth (m)	Remarks and Test Results	Installations
ASPHALT.		0.08	19.47	ES1	0.10		
MADE GROUND. Yellow brown silty gravelly fine and medium occasionally coarse SAND. Gravel is rounded fine and medium flint.		0.20	19.35				
Reinforced CONCRETE.		0.30	19.25				
MADE GROUND. Yellow brown silty gravelly fine to coarse SAND. Gravel is angular to rounded fine to coarse flint, brick and rare concrete.				ES2	0.50		
				ES3	1.00		
Window Sample Complete at 1.20 m		1.20	18.35				1.20

Drive Records

Diameter (mm)	From (m)	To (m)	Recovery (%)

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)

Client: Tibbalds Planning and Urban Design
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 07/03/2012
Plant: Terrier Window Sampling Rig
Drilled By: M. Rose
Logged By: G. Dowlen
Checked By: J. Keay

Remarks:
1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was not encountered.
3. Obstruction encountered at 1.20mbgl. Window sample hole terminated.
4. Backfill details: Arisings from 1.20mbgl to GL.

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Window Sample Record

WS B2
Sheet 1 of 1

Project: Bourne Estate, Camden

Project ID: GL16482

Coordinates: 531161.4E 181877.7N

Ground Level: 19.51mAOD

Description	Legend	Depth (m)	O.D. Level (m)	Sample Test Type	Sample Test Depth (m)	Remarks and Test Results	Installations
MADE GROUND. (Soft) dark brown slightly gravelly silty sandy CLAY. Gravel is angular to rounded fine and medium brick and glass fragments.		0.20	19.31	ES1	0.10		0.20
MADE GROUND. (Soft to firm) dark brown and dark grey brown slightly sandy silty gravelly CLAY. Gravel is angular to rounded fine and medium occasionally coarse flint, brick and concrete. Rare brick cobbles.				ES2	0.50		
				ES3	1.00		1.00
MADE GROUND. very loose red brown brick GRAVEL and COBBLES.		1.10	18.41	S D1 LS1	1.20 1.20-1.65 1.20-2.00	N=3 (2,2,1,1,0,1)	
MADE GROUND. (Soft to firm) black, dark grey and grey brown slightly sandy silty gravelly CLAY. Gravel is angular to rounded fine and medium occasionally coarse flint, occasional brick and charcoal. Occasional oyster shells.		1.30	18.21	ES4	1.50		
				S D2 LS2 ES5	2.00 2.00-2.45 2.00-3.00 2.00	N=3 (1,0,0,1,0,2)	
				ES6	2.50		
				S D3 ES7	3.00 3.00-3.45 3.00	N=10 (1,1,1,1,3,5)	3.00
Window Sample Complete at 3.45 m		3.45	16.06				3.45

Drive Records

Diameter (mm)	From (m)	To (m)	Recovery (%)
115	1.20	2.00	100
115	2.00	3.00	100

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)

Client: Tibbalds Planning and Urban Design
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 07/03/2012
Plant: Terrier Window Sampling Rig
Drilled By: M. Rose
Logged By: G. Dowlen
Checked By: J. Keay

Remarks:
1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was not encountered.
3. Installation details: 50mm diameter HDPE standpipe installed from 3.45mbgl to GL. Slotted from 3.45mbgl to 1.00mbgl, plain from 1.00mbgl to GL. Finished with gas tap, end cap and flush fitting cover. Geowrap and geosock used.
4. Backfill details: Arisings from 3.45mbgl to 3.00mbgl. gravel filter packs from 3.00mbgl to 1.00mbgl, bentonite pellets from 1.00mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.

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Window Sample Record

WS B3
Sheet 1 of 1

Project: Bourne Estate, Camden

Project ID: GL16482

Coordinates: 531163.4E 181856.5N

Ground Level: 19.73mAOD

Description	Legend	Depth (m)	O.D. Level (m)	Sample Test Type	Sample Test Depth (m)	Remarks and Test Results	Installations
Grass over TOPSOIL. Dark brown clayey sandy SILT.				ES1	0.15		0.20
		0.30	19.43				
MADE GROUND. Medium dense becoming loose brown, grey brown and dark brown silty gravelly fine and medium occasionally coarse SAND. Gravel is angular fine and medium occasionally coarse brick and rare concrete. Occasional brick cobbles.				ES2	0.50		
				ES3	0.90		1.00
				ES4	1.10		
				S	1.20	N=18 (2,3,5,7,3,3)	
				D1	1.20-1.45		
				LS1	1.20-2.00		
				ES5	1.50		
				S	2.00	N=6 (1,2,2,2,1,1)	
				D2	2.00-2.45		
				LS2	2.00-3.00		
				ES6	2.00		
		2.30	17.43				
MADE GROUND. Very loose dark brown and yellow brown silty gravelly fine and medium occasionally coarse SAND. Gravel is angular to rounded fine and medium occasionally coarse flint, occasional brick and charcoal fragments. Occasional oyster shells.				ES7	2.50		
				S	3.00	N=2 (1,0,0,1,0,1)	3.00
				D3	3.00-3.45		
				ES8	3.00		
		3.45	16.28				3.45
Window Sample Complete at 3.45 m							

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)

Drive Records

Diameter (mm)	From (m)	To (m)	Recovery (%)
115	1.20	2.00	100
115	2.00	3.00	100

Client: Tibbalds Planning and Urban Design
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 07/03/2012
Plant: Terrier Window Sampling Rig
Drilled By: M. Rose
Logged By: G. Dowlen
Checked By: J. Keay

Remarks:
1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was not encountered.
3. Installation details: 50mm diameter HDPE standpipe installed from 3.45mbgl to GL. Slotted from 3.45mbgl to 1.00mbgl, plain from 1.00mbgl to GL. Finished with gas tap, end cap and flush fitting cover. Geowrap and geosock used.
4. Backfill details: Arisings from 3.45mbgl to 3.00mbgl. gravel filter packs from 3.00mbgl to 1.00mbgl, bentonite pellets from 1.00mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.

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Window Sample Record

WS B4
Sheet 1 of 1

Project: Bourne Estate, Camden

Project ID: GL16482

Coordinates: 531233.2E 181842.9N

Ground Level: 19.95mAOD

Description	Legend	Depth (m)	O.D. Level (m)	Sample Test Type	Sample Test Depth (m)	Remarks and Test Results	Installations
Grass over TOPSOIL. Dark brown organic clayey silty fine SAND.		0.15	19.80	ES1	0.10		0.20
				ES2	0.25		
MADE GROUND. Dark brown silty gravelly fine and medium occasionally coarse SAND. Gravel is subangular fine to coarse brick and concrete. Occasional brick cobbles.				ES3	0.50		
				ES4	1.00		1.00
MADE GROUND. Medium dense off white and light yellow brown silty gravelly fine and medium SAND. Gravel is angular fine to coarse brick and concrete.		1.20	18.75	S D1 LS1	1.20 1.20-1.65 1.20-2.00	N=12 (2,1,2,3,3,4)	
				ES5	1.50		
				S D2 LS2 ES6	2.00 2.00-2.45 2.00-2.80 2.00	N=12 (1,2,2,3,3,4)	
				ES7	2.50		
At 2.80m: becomes very dense.				S D3 ES8	2.80 2.80-2.95 2.80	50/75mm (25,50)	
Window Sample Complete at 2.95 m		2.95	17.00				2.95

Drive Records

Diameter (mm)	From (m)	To (m)	Recovery (%)
115	1.20	2.00	100
115	2.00	2.95	100

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)

Client: Tibbalds Planning and Urban Design
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 07/03/2012
Plant: Terrier Window Sampling Rig
Drilled By: M. Rose
Logged By: G. Dowlen
Checked By: J. Keay

Remarks:
1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was not encountered.
3. Installation details: 50mm diameter HDPE standpipe installed from 2.95mbgl to GL. Slotted from 2.95mbgl to 1.00mbgl, plain from 1.00mbgl to GL. Finished with gas tap, end cap and flush fitting cover. Geowrap and geosock used.
4. Backfill details: Gravel filter packs from 2.95mbgl to 1.00mbgl, bentonite pellets from 1.00mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.

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Window Sample Record

WS B5
Sheet 1 of 1

Project: Bourne Estate, Camden

Project ID: GL16482

Coordinates: 531196.5E 181827.8N

Ground Level: 17.76mAOD

Description	Legend	Depth (m)	O.D. Level (m)	Sample Test Type	Sample Test Depth (m)	Remarks and Test Results	Installations
Grass over TOPSOIL. Dark brown organic clayey silty fine and medium SAND.		0.15	17.61	ES1	0.00 0.10		
MADE GROUND. Brown, grey brown and grey silty gravelly fine and medium occasionally coarse SAND. Gravel is angular fine to coarse brick, rare concrete, wood and glass fragments.				ES2 ES3	0.25 0.50		
Yellow brown silty fine and medium occasionally coarse SAND and subrounded to rounded fine and medium occasionally coarse flint GRAVEL. (HACKNEY GRAVEL).		1.10	16.66	ES4 ES5	1.00 1.25		
Window Sample Complete at 1.60 m		1.60	16.16	ES6	1.60		1.60

Drive Records

Diameter (mm)	From (m)	To (m)	Recovery (%)
115	1.20	1.60	100

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)

Client: Tibbalds Planning and Urban Design
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 08/03/0012
Plant: Handheld Window Sampling Rig
Drilled By: M. Rose
Logged By: G. Dowlen
Checked By: J. Keay

Remarks:
1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was not encountered.
3. Obstruction encountered at 1.60mbgl. Window sample hole terminated.
4. Backfill details: Arisings from 1.60mbgl to GL.

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Window Sample Record

WS B6
Sheet 1 of 1

Project: Bourne Estate, Camden

Project ID: GL16482

Coordinates: 531193.5E 181852.5N

Ground Level: 17.91mAOD

Description	Legend	Depth (m)	O.D. Level (m)	Sample Test Type	Sample Test Depth (m)	Remarks and Test Results	Installations
Grass over MADE GROUND. Dark brown slightly gravelly sandy SILT. Gravel is angular fine brick and rare glass fragments.		0.15	17.76	ES1	0.10		
				ES2	0.25		
MADE GROUND. Brown, grey brown and dark brown silty gravelly fine and medium occasionally coarse SAND. Gravel is angular fine and medium occasionally coarse brick, occasional glass and rare concrete fragments.				ES3	0.75		
MADE GROUND. (Firm) dark grey and dark grey brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to rounded fine to coarse quartz, brick and rare wood fragments. Rare oyster shells.		1.00	16.91	ES4	1.10		
				ES5	1.50		
				ES6	2.10		
MADE GROUND. Yellow brown brick GRAVEL and COBBLES.		2.40	15.51				
Window Sample Complete at 2.50 m		2.50	15.41				2.50

Drive Records

Diameter (mm)	From (m)	To (m)	Recovery (%)
115	1.20	2.00	100
115	2.00	2.50	100

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)

Client: Tibbalds Planning and Urban Design
Engineer: Campbell Reith Hill LLP
Contractor: Harrison Group Environmental Limited
Date: 08/03/0012-08/03/2012
Plant: Handheld Window Sampling Rig
Drilled By: M. Rose
Logged By: G. Dowlen
Checked By: J. Keay

Remarks:
1. Inspection pit excavated from GL to 1.20mbgl.
2. Groundwater was not encountered.
3. Obstruction encountered at 2.50mbgl. Window sample hole terminated.
4. Backfill details: Arisings from 2.50mbgl to GL.

Harrison Group Environmental Ltd, Unit A11, Poplar Business Park, 10 Prestons Road, London E14 9RL

harrisongroup	**Falling Head Permeability Test (Borehole)**	Job No: GL16482
	Date: 12/03/2012	Borehole No./ BH B1 Test No.: 1 of 1

Client: Tibbalds Planning and Urban Design

Location: Bourne Estate, Camden

Description: Medium dense to dense yellow brown and brown silty SAND and GRAVEL

Borehole depth (m):	6.00
Borehole diameter (m):	0.15
Groundwater level before test:	6.00
Depth of casing (m):	5.00
Initial driving head (m) (Ho):	6.00
Top of test zone (m):	5.00
Base of test zone(m):	6.00
Initial water level(m):	0.00
Weather:	Sunny

TIME (sec)	ELAPSED TIME (sec)	DEPTH TO WATER (mb top of casing)	DRIVING HEAD (m)	COMMENTS
0	0	0.00	6.00	
30	30	0.41	5.59	
60	60	0.82	5.18	
90	90	1.21	4.79	
120	120	1.42	4.58	
150	150	1.65	4.35	
180	180	1.89	4.11	
210	210	2.12	3.88	
240	240	2.41	3.59	
270	270	2.73	3.27	
300	300	2.94	3.06	
360	360	3.23	2.77	
420	420	3.64	2.36	
480	480	3.90	2.10	
540	540	4.08	1.92	
600	600	4.19	1.81	
1200	1200	4.23	1.77	
1800	1800	4.23	1.77	
2400	2400	4.23	1.77	
3000	3000	4.23	1.77	
3600	3600	4.23	1.77	

Remarks:

The test has been carried out in general accordance with BS5930:1999+A2:2010. However, it should be noted that the test has been carried out above groundwater level.

Coefficient of Permeability: **7.4E-06** m/s (Using the General Approach - method d)

harrisongroup	**Falling Head Permeability Test (Borehole)**	Job No: GL16482
	Date: 12/03/2012	Borehole No./ BH B2A Test No.: 1 of 1
Client: Tibbalds Planning and Urban Design	Location: Bourne Estate, Camden	

Description: Dense yellow brown silty SAND and GRAVEL

Borehole depth (m):	8.00
Borehole diameter (m):	0.20
Groundwater level before test:	6.22
Depth of casing (m):	4.00
Initial driving head (m) (Ho):	6.22
Top of test zone (m):	4.00
Base of test zone(m):	8.00
Initial water level(m):	0.00
Weather:	Sunny

TIME (sec)	ELAPSED TIME (sec)	DEPTH TO WATER (mb top of casing)	DRIVING HEAD (m)	COMMENTS
0	0	0.00	6.22	
30	30	0.55	5.67	
60	60	0.89	5.33	
90	90	1.36	4.86	
120	120	1.52	4.70	
150	150	1.73	4.49	
180	180	1.94	4.28	
210	210	2.19	4.03	
240	240	2.59	3.63	
270	270	2.99	3.23	
300	300	3.24	2.98	
360	360	3.57	2.65	
420	420	3.96	2.26	
480	480	4.21	2.01	
540	540	4.48	1.74	
600	600	4.73	1.49	
1200	1200	5.01	1.21	
1800	1800	5.23	0.99	
2400	2400	5.65	0.57	
3000	3000	5.93	0.29	
3600	3600	6.15	0.07	

Remarks:

The test has been carried out in general accordance with BS5930:1999+A2:2010.
NB. Test carried out in standpipe post completion of borehole.

Coefficient of Permeability: **1.4E-06** m/s (Using the General Approach - method d)

APPENDIX C

GAS AND GROUNDWATER MONITORING RECORDS

harrisongroup

Gas Monitoring Field Record

Project Name: Bourne Estate, Camden | **Job No:** GL16482

Client: Tibbalds Planning and Urban Design

Equipment	Model	Serial Number	Manufacturer's Calibration Date
Land Gas Analyser	GA2000	GA05814	19/10/2011
PID	PHOCHECK+	06-01410	10/02/2011

Weather Conditions 24hrs Prior to Monitoring	Broken cloud, 13°C, 1027hPa.
Weather Conditions During Monitoring	Broken cloud, 13°C, 1024hPa.

Location I.D	Date	Time (hhmmss)	Temp (°C)	Atmospheric Pressure 72hrs Prior to Sampling (hPa)	Atmospheric Pressure 48hrs Prior to Sampling (hPa)	Atmospheric Pressure 24hrs Prior to Sampling (hPa)	Atmospheric Pressure When Sampled (hPa)	Relative Pressure (hPa)	PID -Peak (ppm)	PID - Stabilised (ppm)	CH4 (%)	Peak CH4 (%)	LEL (%)	CO2 (%)	O2 (%)	H2S (ppm)	CO (ppm)	Flow Pod (l/Hr)
BH B1 (shallow)	23/03/2012	No access due to car on cover.																
BH B1 (deep)	23/03/2012	No access due to car on cover.																
BH B2A	23/03/2012	13:25:00	13	1032	1033	1027	1025	-3.30	0.0	0.0	0.0	0.0	0.0	0.1	18.9	0	0	0.0
WS B2	23/03/2012	13:55:00	13	1032	1033	1027	1024	-3.16	0.0	0.0	0.0	0.0	0.0	0.4	19.1	0	0	<0.1
WS B3	23/03/2012	14:05:00	13	1032	1033	1027	1024	-3.44	0.0	0.0	0.0	0.0	0.0	0.2	19.4	0	0	<0.1
WS B4	23/03/2012	13:40:00	13	1032	1033	1027	1024	-3.72	0.0	0.0	0.0	0.0	0.0	0.0	20.3	0	0	0.0

Field Engineer: G. Pursey

Pump Running Time (sampling): (Standard 120 sec)

Pump Running Time (purge): (Standard 30 sec)

Flow Details (e.g. 5 sec average for 1 min.):

Other Remarks:

PID : Photo-Ionisation Detector

"<" indicates that reading is **under** the limit range,

">" indicates that reading is **over** the limit range,

"*" Level to be determined

Harrison Environmental Group Ltd.
Poplar Business Park, Unit C14, 10 Prestons Road, E14 9RL.

harrisongroup

Gas Monitoring Field Record

Project Name: Bourne Estate, Camden | **Job No:** GL16482

Client: Tibbalds Planning and Urban Design

Equipment	Model	Serial Number	Manufacturer's Calibration Date
Land Gas Analyser	GA2000	GA05814	19/10/2011
PID	PHOCHECK+	06-01410	10/02/2011

Weather Conditions 24hrs Prior to Monitoring	Scattered showers, 10c, 1005mBar
Weather Conditions During Monitoring	Cloudy, 6c, 1019mBar

Location I.D	Date	Time (hhmmss)	Temp (°C)	Atmospheric Pressure 72hrs Prior to Sampling (hPa)	Atmospheric Pressure 48hrs Prior to Sampling (hPa)	Atmospheric Pressure 24hrs Prior to Sampling (hPa)	Atmospheric Pressure When Sampled (hPa)	Relative Pressure (hPa)	PID -Peak (ppm)	PID - Stabilised (ppm)	CH4 (%)	Peak CH4 (%)	LEL (%)	CO2 (%)	O2 (%)	H2S (ppm)	CO (ppm)	Flow Pod (l/Hr)
BH B1 (shallow)	05/04/2012	14:00:00	8	996	1000	1005	1019	-3.30	0.0	0.0	0.0	0.0	0.0	0.0	20.6	0	0	0.0
BH B1 (deep)	05/04/2012	14:05:00	8	996	1000	1005	1019	-3.02	0.0	0.0	0.0	0.0	0.0	0.0	20.6	0	0	0.0
BH B2A	05/04/2012	14:20:00	8	996	1000	1005	1019	-3.02	0.0	0.0	0.0	0.0	0.0	0.2	19.1	0	0	0.0
WS B2	05/04/2012	14:40:00	8	996	1000	1005	1019	-2.64	0.0	0.0	0.0	0.0	0.0	0.3	19.0	0	0	0.0
WS B3	05/04/2012	14:50:00	8	996	1000	1005	1019	-2.57	0.0	0.0	0.0	0.0	0.0	0.5	18.9	0	0	0.0
WS B4	05/04/2012	14:05:00	8	996	1000	1005	1019	-2.88	0.0	0.0	0.0	0.0	0.0	0.1	20.1	0	0	0.0
Field Engineer:	G. Pursey																	

Pump Running Time (sampling): (Standard 120 sec)

Pump Running Time (purge): (Standard 30 sec)

Flow Details (e.g. 5 sec average for 1 min.):

Other Remarks:

PID : Photo-Ionisation Detector

"<" indicates that reading is **under** the limit range,

">" indicates that reading is **over** the limit range,

"*" Level to be determined

Harrison Environmental Group Ltd.
Poplar Business Park, Unit C14, 10 Prestons Road, E14 9RL.

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Gas Monitoring Field Record

Project Name: Bourne Estate, Camden

Job No: GL16482

Client: Tibbalds Planning and Urban Design

Equipment	Model	Serial Number	Manufacturer's Calibration Date
Land Gas Analyser	GA2000	GA05814	19/10/2011
PID	PHOCHECK+	06-01410	10/02/2011

Weather Conditions 24hrs Prior to Monitoring: Cloudy, 11c, 1023mBar

Weather Conditions During Monitoring: Scattered showers, 12c, 998mBar

Location I.D	Date	Time (hhmmss)	Temp (°C)	Atmospheric Pressure 72hrs Prior to Sampling (hPa)	Atmospheric Pressure 48hrs Prior to Sampling (hPa)	Atmospheric Pressure 24hrs Prior to Sampling (hPa)	Atmospheric Pressure When Sampled (hPa)	Relative Pressure (hPa)	PID -Peak (ppm)	PID - Stabilised (ppm)	CH4 (%)	Peak CH4 (%)	LEL (%)	CO2 (%)	O2 (%)	H2S (ppm)	CO (ppm)	Flow Pod (l/Hr)
BH B1 (shallow)	17/04/2012	14:30:00	12	1020	1019	1023	997	-3.09	0.0	0.0	0.0	0.0	0.0	0.0	20.5	0	0	0.0
BH B1 (deep)	17/04/2012	14:20:00	12	1020	1019	1023	997	-2.98	0.0	0.0	0.0	0.0	0.0	0.0	20.3	0	0	0.0
BH B2A	17/04/2012	14:45:00	12	1020	1019	1023	997	-3.12	0.0	0.0	0.0	0.0	0.0	0.3	19.2	0	0	0.0
WS B2	17/04/2012	14:55:00	12	1020	1019	1023	997	-2.84	0.0	0.0	0.0	0.0	0.0	0.4	19.0	0	0	0.0
WS B3	17/04/2012	15:05:00	12	1020	1019	1023	997	-3.09	0.0	0.0	0.0	0.0	0.0	0.1	19.6	0	0	0.0
WS B4	17/04/2012	15:10:00	12	1020	1019	1023	996	-3.14	0.0	0.0	0.0	0.0	0.0	0.0	20.1	0	0	0.0

Field Engineer: G. Pursey

Pump Running Time (sampling): (Standard 120 sec)

Pump Running Time (purge): (Standard 30 sec)

Flow Details (e.g. 5 sec average for 1 min.):

Other Remarks:

PID : Photo-Ionisation Detector

"<" indicates that reading is **under** the limit range,

">" indicates that reading is **over** the limit range,

"*" Level to be determined

Harrison Environmental Group Ltd.
Poplar Business Park, Unit C14, 10 Prestons Road, E14 9RL.

harrisongroup		Water Monitoring Field Record	
		Date: 23/03/2012	Job No : GL16482
Client :	Tibbalds Planning and Urban Design	Project :	Bourne Estate, Camden
Method: Dipmeter		Drawing No.:	
Weather (include Temperature & Pressure)		State of Ground (e.g. Dry, Wet, Snow covered.)	
Broken cloud, 13oC, 1024hPa.		Dry	

Position No.	Time (hh:mm:ss)	Water Level (m)	Comments
BH B1 (shallow)	11:23:00	-	No access due to car on cover.
BH B1 (deep)	11:23:00	-	No access due to car on cover.
BH B2A	11:30:00	6.22	Base of the pipe: 7.90m, purged dry, no sample taken.
WS B2	12:40:00	Dry	Base of the pipe: 3.00m.
WS B3	12:20:00	Dry	Base of the pipe: 3.00m.
WS B4	12:00:00	Dry	Base of the pipe: 2.94m.
		Field Crew:	G. Pursey

harrisongroup		Water Monitoring Field Record	
		Date: 05/04/2012	Job No : GL16482
Client :	Tibbalds Planning and Urban Design	Project :	Bourne Estate, Camden
Method: Dipmeter		Drawing No.:	
Weather (include Temperature & Pressure)		State of Ground (e.g. Dry, Wet, Snow covered.)	
Cloudy, 6c, 1019mBar		Dry	

Position No.	Time (hh:mm:ss)	Water Level (m)	Comments
BH B1 (shallow)	14:00:00	Dry	Base 3.09m.
BH B1 (deep)	14:05:00	6.04	Base 8.00m. Sample taken after purging 10 litres to achieve a steady state. Sample orange brown
BH B2A	14:20:00	7.01	Base 7.90m. Borehole purged dry. No sample
WS B2	14:40:00	Dry	Base 3.00m.
WS B3	14:50:00	Dry	Base 3.00m.
WS B4	14:05:00	Dry	Base 2.94m.
			Field Crew: G. Pursey

harrisongroup		Water Monitoring Field Record	
		Date: 17/04/2012	Job No : GL16482
Client :	Tibbalds Planning and Urban Design	Project :	Bourne Estate, Camden
Method: Dipmeter		Drawing No.:	
Weather (include Temperature & Pressure)		State of Ground (e.g. Dry, Wet, Snow covered.)	
Scattered showers, 12c, 998mBar		Wet	

Position No.	Time (hh:mm:ss)	Water Level (m)	Comments
BH B1 (shallow)	14:00:00	Dry	Base 3.08m.
BH B1 (deep)	14:05:00	6.04	Base 8.00m. Sample taken after purging 12 litres to achieve a steady state. Sample orange brown
BH B2A	14:20:00	7.23	Base 7.88m. Borehole purged dry. No sample
WS B2	14:40:00	Dry	Base 3.00m.
WS B3	14:50:00	Dry	Base 2.99m.
WS B4	14:05:00	Dry	Base 2.93m.
			Field Crew: G. Pursey

APPENDIX D

LABORATORY TESTING

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GEOTECHNICAL LABORATORY SCHEDULE

0

Project Engineer: Campbell Reith Hill LLP
Email Reports to: GL@harrisongroupuk.com

Project Name: Bourne Estate, Camden
Project ID: GL16482
Project Client: Tibbalds Planning and Urban Design

Date Scheduled: 16/03/2012
Lab turn around: 2 Weeks
Results Due Date: 30/03/2012

	Sample				Classification							Chemical				Compaction			Strength					Additional				
Exploratory Hole No.	Sample Type	Sample Ref	Depth From	Depth To	Moisture Content	Density	Atterberg Limit	Particle Density	Wet Sieve	Dry Sieve	Pipette	Organic Matter	Water soluble sulphate & pH	Initial BRE Special Digest 1 suite for "Brownfield sites"	Initial BRE Special Digest 1 suite for"Pyrite bearing ground"	2.5kg Rammer	4.5kg Rammer	Vibrating Rammer	CBR Test	Oedometer	Unconfined	Triaxial U100	Triaxial U38					Remarks
BH B1	B	1	1.20	1.65					X																			
BH B1	D	2	1.80	1.80									X															
BH B1	D	4	4.00	4.00									X															
BH B1	B	4	4.50	4.95					X																			
BH B1	D	8	8.00	8.00	X		X																					
BH B1	U	1	9.00	9.45																		X						Cell pressure 360kPa
BH B1	D	9	9.45	9.55										X														
BH B2A	D	2	2.00	2.00									X															
BH B2A	B	2	2.50	2.95					X																			
BH B2A	B	5	6.00	6.45					X																			
BH B2A	D	6	8.00	8.00										X														
BH B2A	D	7	9.00	9.45	X		X																					
BH B2A	U	1	10.50	10.95																		X						Cell pressure 420kPa
BH B2A	D	9	12.00	12.45									X															
BH B2A	U	2	13.50	13.95																		X						Cell pressure 540kPa
BH B2A	U	3	16.50	16.95																		X						Cell pressure 660kPa
BH B2A	D	12	16.95	17.05									X															
BH B2A	U	4	19.50	19.95																		X						Cell pressure 780kPa
BH B2A	D	16	21.00	21.45									X															
BH B2A	W	1	22.50	22.50									TR															
BH B2A	D	17	22.95	23.05	X																							
BH B2A	D	18	24.00	24.45	X		X																					
BH B2A	U	6	25.50	25.95																		X						Cell pressure 1020kPa
BH B2A	D	19	25.95	26.05									X															
WS B3	D	1	1.20	1.45									X															
WS B4	D	1	1.20	1.65									X															
WS B2A	ES	3	1.00		X		X																					

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GEOTECHNICAL LABORATORY SCHEDULE

0

Project Engineer: Campbell Reith Hill LLP

Email Reports to: GL@harrisongroupuk.com

Project Name: Bourne Estate, Camden

Project ID: GL16482

Project Client: Tibbalds Planning and Urban Design

Date Scheduled: 16/03/2012

Lab turn around: 2 Weeks

Results Due Date: 30/03/2012

	Sample				Classification							Chemical				Compaction			Strength					Additional				
Exploratory Hole No.	Sample Type	Sample Ref	Depth From	Depth To	Moisture Content	Density	Atterberg Limit	Particle Density	Wet Sieve	Dry Sieve	Pipette	Organic Matter	Water soluble sulphate & pH	Initial BRE Special Digest 1 suite for "Brownfield sites"	Initial BRE Special Digest 1 suite for"Pyrite bearing ground"	2.5kg Rammer	4.5kg Rammer	Vibrating Rammer	CBR Test	Oedometer	Unconfined	Triaxial U100	Triaxial U38					Remarks
WS B2A	ES	5	2.00		X		X																					
WS B2A	ES	6	2.50											X														
WS B6	ES	4	1.10											X														
WS B6	ES	5	1.50		X		X																					
	Total Scheduled				7		6		4				9	4								6						
	Total Tested				7		6		4				9	4								6						

4031

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SERVICES

Harrison Testing Services
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Fax +44 (0) 1603 416443

Client: Harrison Group Environmental
Poplar Business Park
10 Preston Road
London
E14 9RL

For the attention of: Jiban Bajracharya

Date of Issue: 04/05/2012

TEST REPORT TRANSMITTAL

Report Form FMR3000 Rev.C Revision Date 26/11/08

Project	**Bourne Estate, Camden**	**Samples Received**	**11/04/2012**
Report No	**GL16482**	**Instruction received**	**03/04/2012**
Your Ref	**GL16482**	**Testing commenced**	**20/04/2012**

SUMMARY OF RESULTS ATTACHED

Test Method and Description	Quantity	UKAS Accredited
BS1377: Part 2: 1990:3.2 Moisture Content	7	Yes
BS1377: Part 2: 1990:4.3/4.5 Liquid & Plastic Limits - Definitive Method	6	Yes
BS1377: Part 2: 1990:9.3 Particle Size Distribution - Wet Sieve Method	4	Yes
BS1377: Part 7: 1990:8.0 Unconsolidated Undrained Shear Strength - Single Stage	6	Yes

Remarks:

Issued by: M Willson

Approved Signatories:

M Willson (Laboratory Manager), G Bream (Senior Laboratory Technician)

Unless we are notified to the contrary, samples will be disposed after a period of one month from this date

Only those results indicated in this report are UKAS accredited and any opinion or interpretations expressed are outside the scope of UKAS accreditation

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SERVICES

PROJECT NAME: Bourne Estate, Camden
PROJECT NUMBER: GL16482
CLIENT: London Borough of Camden
DATE OF ISSUE: 04/05/2012

SUMMARY OF MOISTURE CONTENT, LIQUID LIMIT (ONE POINT CONE PENETROMETER METHOD), PLASTIC LIMIT, PLASTICITY INDEX AND LIQUIDITY INDEX TO BS1377 : PART 2 : 1990

BH/TP No	Depth (m)	Sample No.	Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index	Liquidity Index	Passing 0.425mm (%)	Soil Class	Sample Description
BH B1	8.00	D8	32	67	26	41	0.15	83	CH	Dark grey mottled orange brown slightly gravelly CLAY. Gravel is of pyrite
BH B2A	9.00	D7	25	75	26	50	-0.01	100	CV	Dark grey mottled orange brown CLAY
BH B2A	22.95	D17	19							Light grey very sandy CLAY
BH B2A	24.00	D18	24	54	23	30	0.02	100	CH	Brown mottled orange brown and blue grey CLAY
WS B2A	1.00	ES3	22	35	20	15	0.13	59	CL	MADE GROUND (Dark brown gravelly CLAY. Gravel is of flint, brick, concrete and shell fragments)
WS B2A	2.00	ES5	22	37	21	16	0.05	61	CI	MADE GROUND (Brown and dark brown slightly sandy gravelly CLAY. Gravel is of flint, brick and shell fragments)
WS B6	1.50	ES5	15	36	23	14	0.58	44	CI	MADE GROUND (Brown slightly sandy gravelly CLAY. Gravel is of flint, chalk and brick fragments)

BS1377 : Part 2 : Clause 3.2 : 1990 Determination of Moisture Content
BS1377 : Part 2 : Clause 4.4 : 1990 Determination of Liquid Limit (Single Point Cone Penetrometer Method)
BS1377 : Part 2 : Clause 5 : 1990 Determination of Plastic Limit and Plasticity Index

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email: laboratory@harrisongroupuk.com

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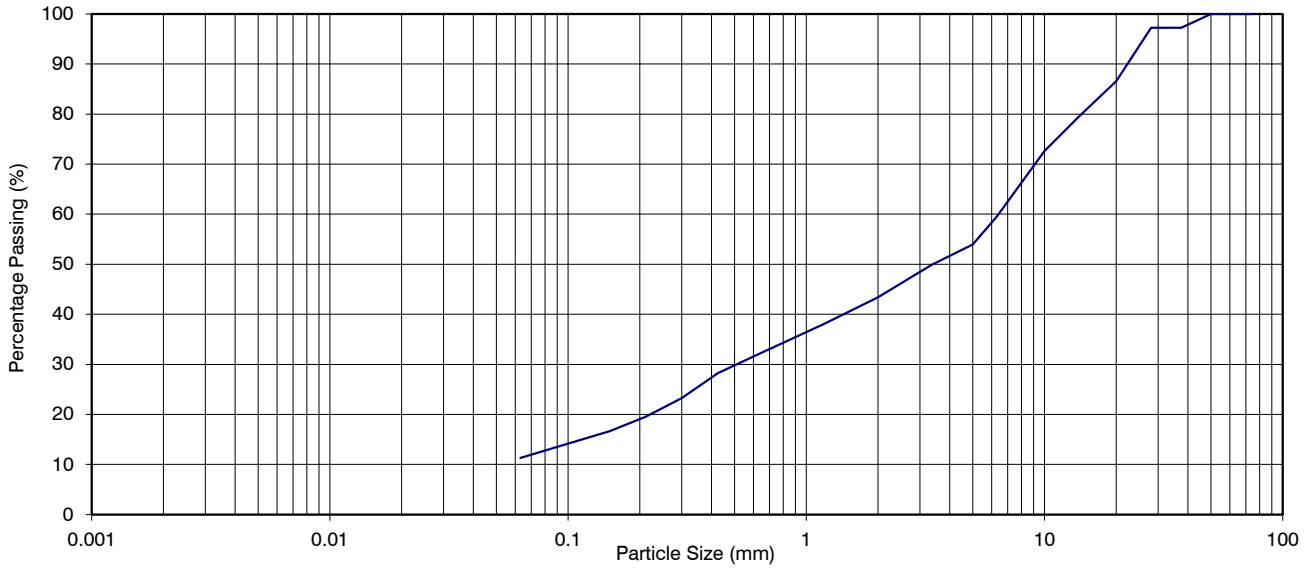
SERVICES

PROJECT NAME:	**Bourne Estate, Camden**	**BH/TP No.:**	**BH B1**
PROJECT NUMBER:	**GL16482**	**Depth (m):**	**1.20**
CLIENT:	**London Borough of Camden**	**Sample No.:**	**B1**
DATE OF ISSUE:	**04/05/2012**		

DETERMINATION OF PARTICLE SIZE DISTRIBUTION TO BS1377 : PART 2 : 1990 : CLAUSE 9.2 - WET SIEVING



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

Particle Size (mm)	Percentage Passing
75.0	100
63.0	100
50.0	100
37.5	97
28.0	97
20.0	87
14.0	80
10.0	73
6.30	59
5.00	54
3.35	50
2.00	43
1.18	38
0.600	32
0.425	28
0.300	23
0.212	20
0.150	17
0.063	11

Sample Description
MADE GROUND (Brown and reddish brown clayey silty very sandy GRAVEL. Gravel is of flint, concrete, brick and slag fragments)

Sample Proportions %	
Cobbles	0.0
Gravel	56.6
Sand	32.1
Silt / Clay	11.3

Remarks

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email: laboratory@harrisongroupuk.com

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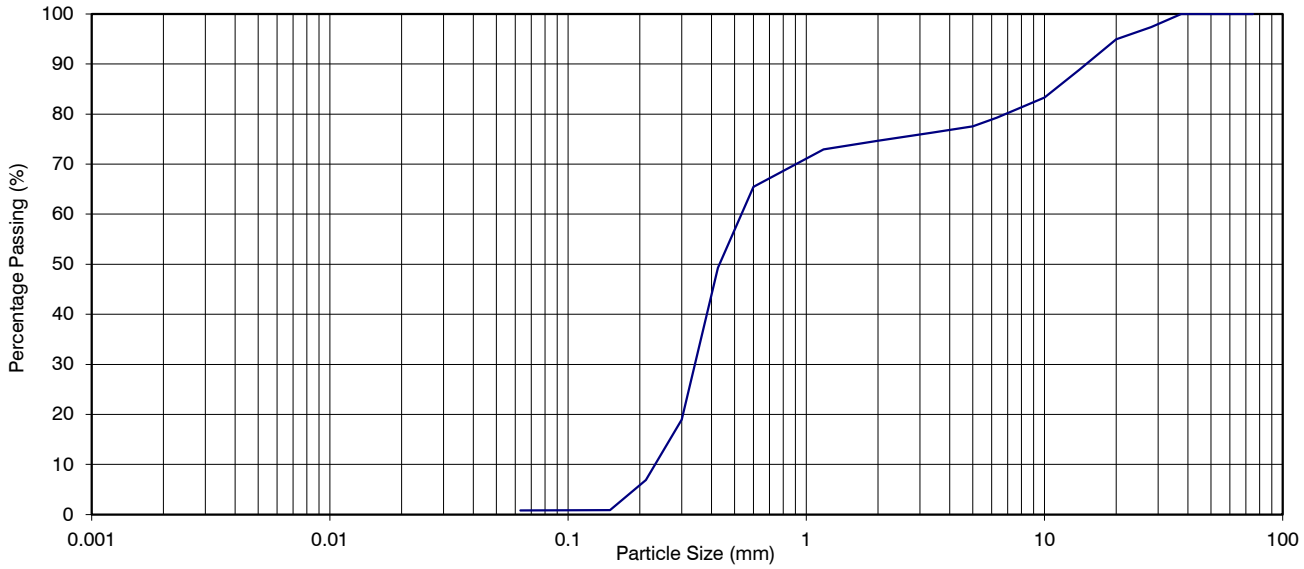
SERVICES

PROJECT NAME:	**Bourne Estate, Camden**	**BH/TP No.:**	**BH B1**
PROJECT NUMBER:	**GL16482**	**Depth (m):**	**4.50**
CLIENT:	**London Borough of Camden**	**Sample No.:**	**B4**
DATE OF ISSUE:	**04/05/2012**		

DETERMINATION OF PARTICLE SIZE DISTRIBUTION TO BS1377 : PART 2 : 1990 : CLAUSE 9.2 - WET SIEVING



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

Particle Size (mm)	Percentage Passing
75.0	100
63.0	100
50.0	100
37.5	100
28.0	97
20.0	95
14.0	89
10.0	83
6.30	79
5.00	78
3.35	76
2.00	75
1.18	73
0.600	65
0.425	49
0.300	19
0.212	7
0.150	1
0.063	1

Sample Description
Orange brown slightly silty very gravelly SAND. Gravel is of flint

Sample Proportions %	
Cobbles	0.0
Gravel	25.4
Sand	73.8
Silt / Clay	0.8

Remarks

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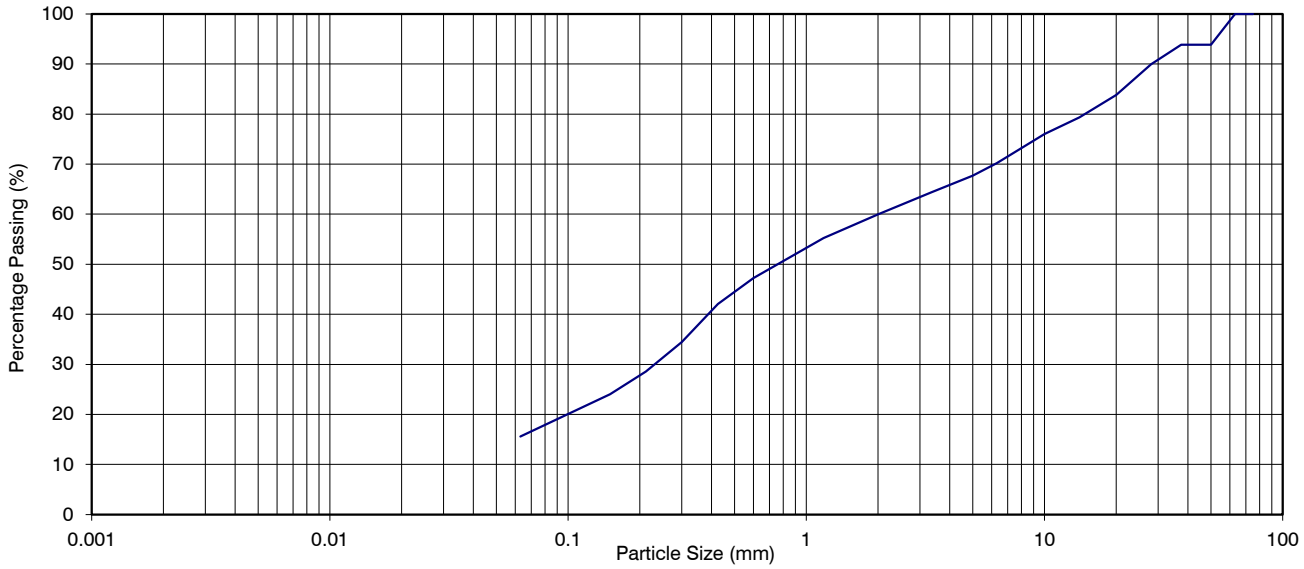
PROJECT NAME:	**Bourne Estate, Camden**	**BH/TP No.:**	**BH B2A**
PROJECT NUMBER:	**GL16482**	**Depth (m):**	**2.50**
CLIENT:	**London Borough of Camden**	**Sample No.:**	**B2**
DATE OF ISSUE:	**04/05/2012**		

DETERMINATION OF PARTICLE SIZE DISTRIBUTION TO BS1377 : PART 2 : 1990 : CLAUSE 9.2 - WET SIEVING



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

Particle Size (mm)	Percentage Passing
75.0	100
63.0	100
50.0	94
37.5	94
28.0	90
20.0	84
14.0	79
10.0	76
6.30	70
5.00	68
3.35	64
2.00	60
1.18	55
0.600	47
0.425	42
0.300	34
0.212	29
0.150	24
0.063	16

Sample Description
MADE GROUND (Brown and reddish brown clayey silty SAND / GRAVEL. Gravel is of flint, brick, concrete and occasional shell fragments)

Sample Proportions %	
Cobbles	0.0
Gravel	40.0
Sand	44.3
Silt / Clay	15.6

Remarks

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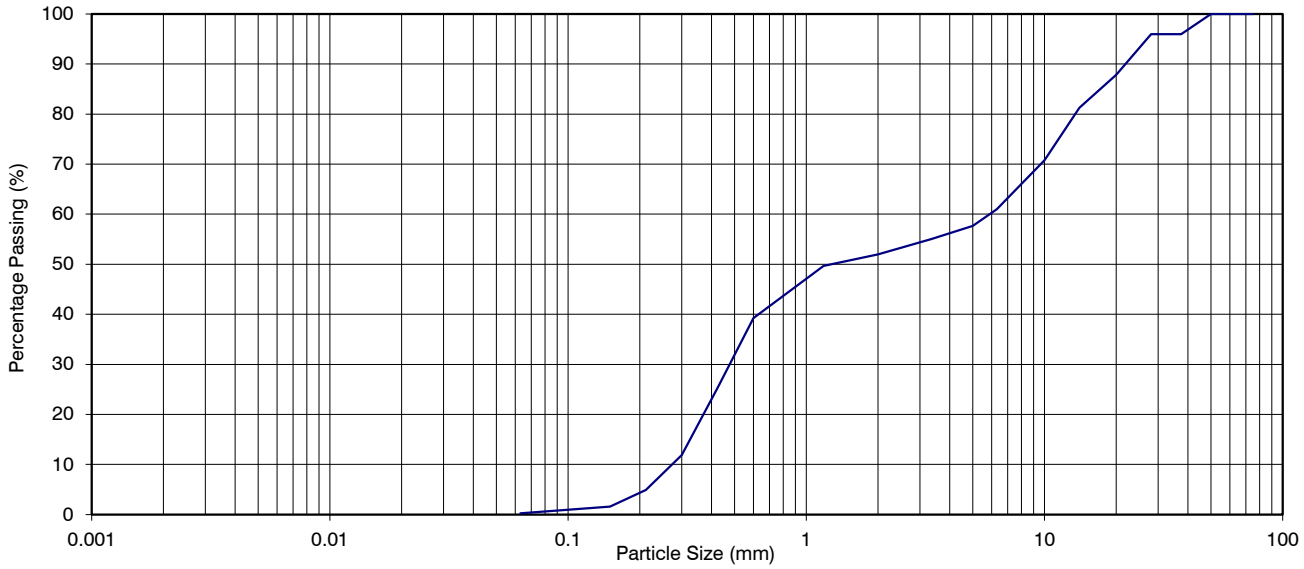
SERVICES

PROJECT NAME:	**Bourne Estate, Camden**	**BH/TP No.:**	**BH B2A**
PROJECT NUMBER:	**GL16482**	**Depth (m):**	**6.00**
CLIENT:	**London Borough of Camden**	**Sample No.:**	**B5**
DATE OF ISSUE:	**04/05/2012**		

DETERMINATION OF PARTICLE SIZE DISTRIBUTION TO BS1377 : PART 2 : 1990 : CLAUSE 9.2 - WET SIEVING



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

Particle Size (mm)	Percentage Passing
75.0	100
63.0	100
50.0	100
37.5	96
28.0	96
20.0	88
14.0	81
10.0	71
6.30	61
5.00	58
3.35	55
2.00	52
1.18	50
0.600	39
0.425	25
0.300	12
0.212	5
0.150	2
0.063	0

Sample Description
Orange brown SAND / GRAVEL. Gravel is of flint and quartzite

Sample Proportions %	
Cobbles	0.0
Gravel	48.0
Sand	51.7
Silt / Clay	0.2

Remarks

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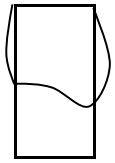
SERVICES

PROJECT NAME:	**Bourne Estate, Camden**	**BH/TP No.:**	**BH B1**
PROJECT NUMBER:	**GL16482**	**Depth (m):**	**9.00**
CLIENT:	**London Borough of Camden**	**Sample No.:**	**U1**
DATE OF ISSUE:	**04/05/2012**		

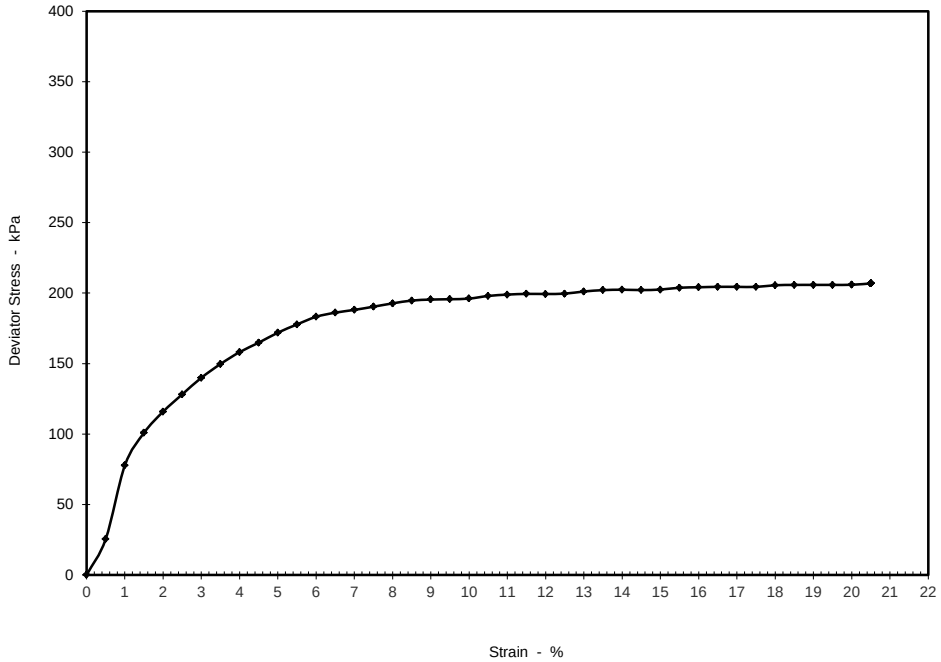
DETERMINATION OF UNCONSOLIDATED UNDRAINED SINGLE STAGE SHEAR STRENGTH TO BS1377 : PART 7 : 1990 : CLAUSE 8

Sample Details		
Sample Condition		Undisturbed
Height	mm	200.0
Diameter	mm	101.5
Moisture Content	%	27
Bulk Density	Mg/m³	2.04
Dry Density	Mg/m³	1.60
Test Details		
Membrane Thickness	mm	0.25
Membrane Correction	kPa	0.95
Rate of Axial Displacement	%/min	2.00
Cell Pressure	kPa	360
Strain at Failure	%	20.5
Maximum Deviator Stress	kPa	207
Shear Strength	kPa	103
Mode of Failure		Compound
Sample Description		High strength dark grey brown and occasional orange brown CLAY

Mode of failure



Shear Strength Parameters	
Cu	103 kPa
Phi	N/A °



REMARKS (Including any abnormalities or departures from procedure)

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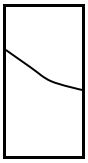
SERVICES

PROJECT NAME:	**Bourne Estate, Camden**	**BH/TP No.:**	**BH B2A**
PROJECT NUMBER:	**GL16482**	**Depth (m):**	**10.50**
CLIENT:	**London Borough of Camden**	**Sample No.:**	**U1**
DATE OF ISSUE:	**04/05/2012**		

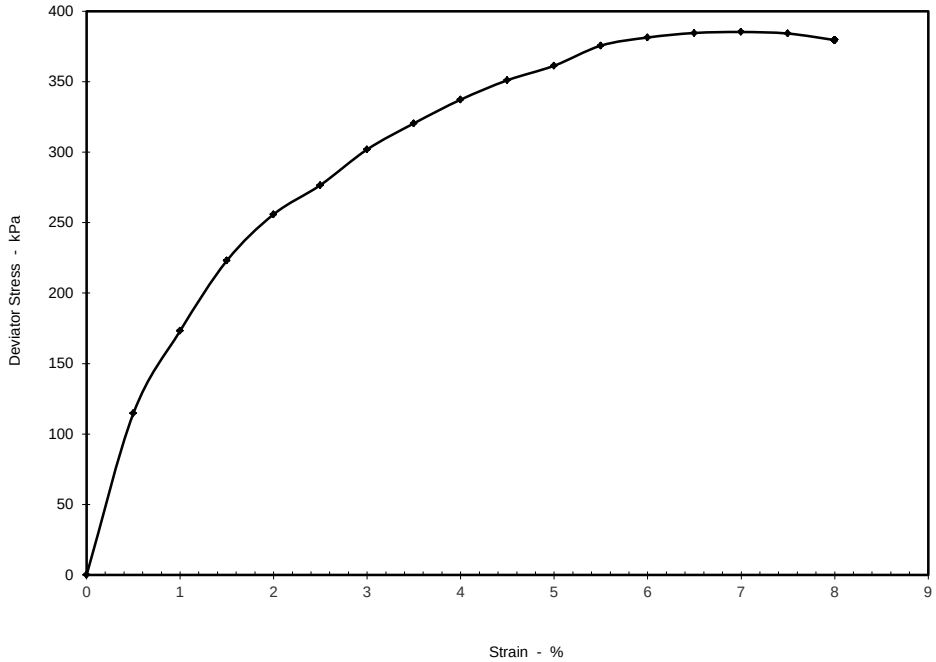
DETERMINATION OF UNCONSOLIDATED UNDRAINED SINGLE STAGE SHEAR STRENGTH TO BS1377 : PART 7 : 1990 : CLAUSE 8

Sample Details				
Sample Condition		Undisturbed		
Height	mm	200.0		
Diameter	mm	103.1		
Moisture Content	%	25		
Bulk Density	Mg/m^3	1.98		
Dry Density	Mg/m^3	1.59		
Test Details				
Membrane Thickness	mm	0.25		
Membrane Correction	kPa	0.41		
Rate of Axial Displacement	%/min	2.00		
Cell Pressure	kPa	420		
Strain at Failure	%	7.0		
Maximum Deviator Stress	kPa	385		
Shear Strength	kPa	193		
Mode of Failure		Brittle		
Sample Description		Very high strength dark grey brown and occasional orange brown CLAY		

Mode of failure



Shear Strength Parameters	
Cu	193 kPa
Phi	N/A °



REMARKS (Including any abnormalities or departures from procedure)

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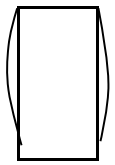
SERVICES

PROJECT NAME:	**Bourne Estate, Camden**	**BH/TP No.:**	**BH B2A**
PROJECT NUMBER:	**GL16482**	**Depth (m):**	**13.50**
CLIENT:	**London Borough of Camden**	**Sample No.:**	**U2**
DATE OF ISSUE:	**04/05/2012**		

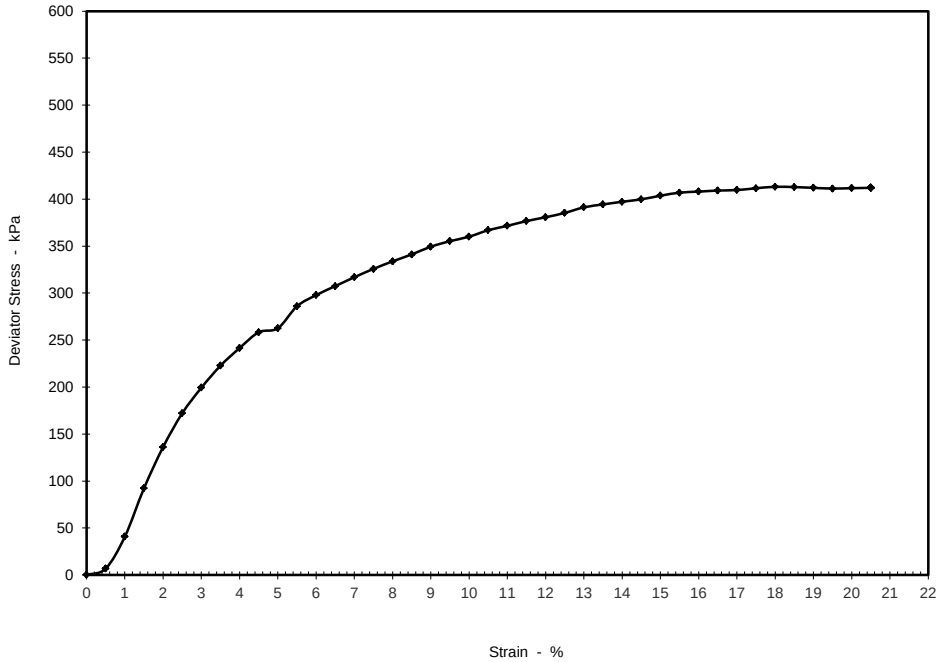
DETERMINATION OF UNCONSOLIDATED UNDRAINED SINGLE STAGE SHEAR STRENGTH TO BS1377 : PART 7 : 1990 : CLAUSE 8

Sample Details		
Sample Condition		Undisturbed
Height	mm	200.0
Diameter	mm	103.1
Moisture Content	%	22
Bulk Density	Mg/m^3	2.02
Dry Density	Mg/m^3	1.65
Test Details		
Membrane Thickness	mm	0.25
Membrane Correction	kPa	0.86
Rate of Axial Displacement	%/min	2.00
Cell Pressure	kPa	540
Strain at Failure	%	18.0
Maximum Deviator Stress	kPa	413
Shear Strength	kPa	207
Mode of Failure		Plastic
Sample Description		Very high strength dark grey brown CLAY

Mode of failure



Shear Strength Parameters	
Cu	207 kPa
Phi	N/A °



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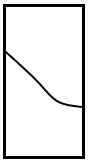
SERVICES

PROJECT NAME:	**Bourne Estate, Camden**	**BH/TP No.:**	**BH B2A**
PROJECT NUMBER:	**GL16482**	**Depth (m):**	**16.50**
CLIENT:	**London Borough of Camden**	**Sample No.:**	**U3**
DATE OF ISSUE:	**04/05/2012**		

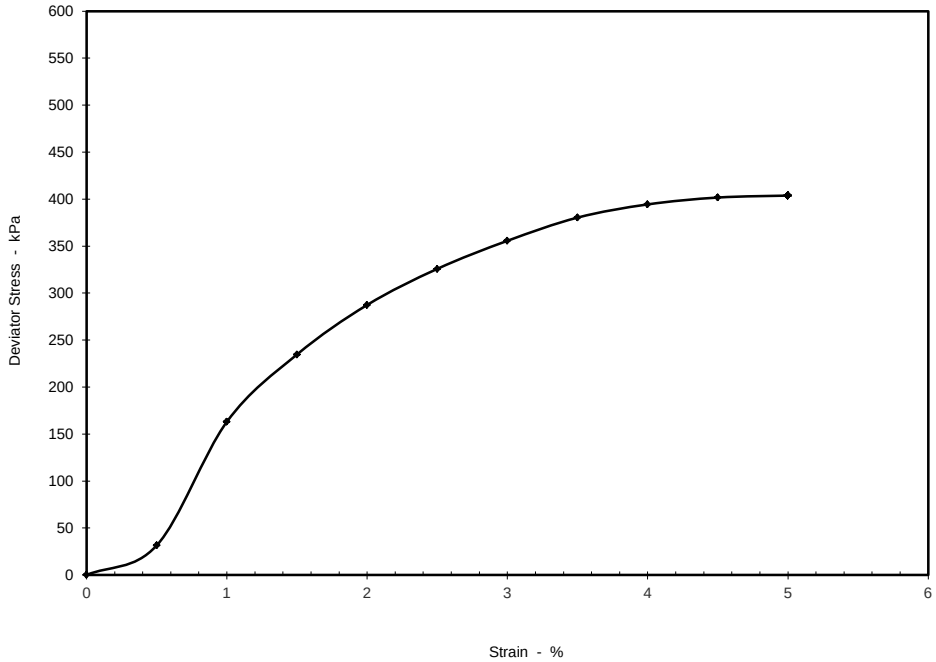
DETERMINATION OF UNCONSOLIDATED UNDRAINED SINGLE STAGE SHEAR STRENGTH TO BS1377 : PART 7 : 1990 : CLAUSE 8

Sample Details				
Sample Condition		Undisturbed		
Height	mm	200.0		
Diameter	mm	101.8		
Moisture Content	%	24		
Bulk Density	Mg/m^3	2.06		
Dry Density	Mg/m^3	1.66		
Test Details				
Membrane Thickness	mm	0.25		
Membrane Correction	kPa	0.32		
Rate of Axial Displacement	%/min	2.00		
Cell Pressure	kPa	660		
Strain at Failure	%	5.0		
Maximum Deviator Stress	kPa	404		
Shear Strength	kPa	202		
Mode of Failure		Brittle		
Sample Description		Very high strength dark grey brown CLAY		

Mode of failure



Shear Strength Parameters	
Cu	202 kPa
Phi	N/A °



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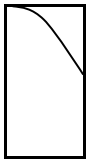
SERVICES

PROJECT NAME:	**Bourne Estate, Camden**	**BH/TP No.:**	**BH B2A**
PROJECT NUMBER:	**GL16482**	**Depth (m):**	**19.50**
CLIENT:	**London Borough of Camden**	**Sample No.:**	**U4**
DATE OF ISSUE:	**04/05/2012**		

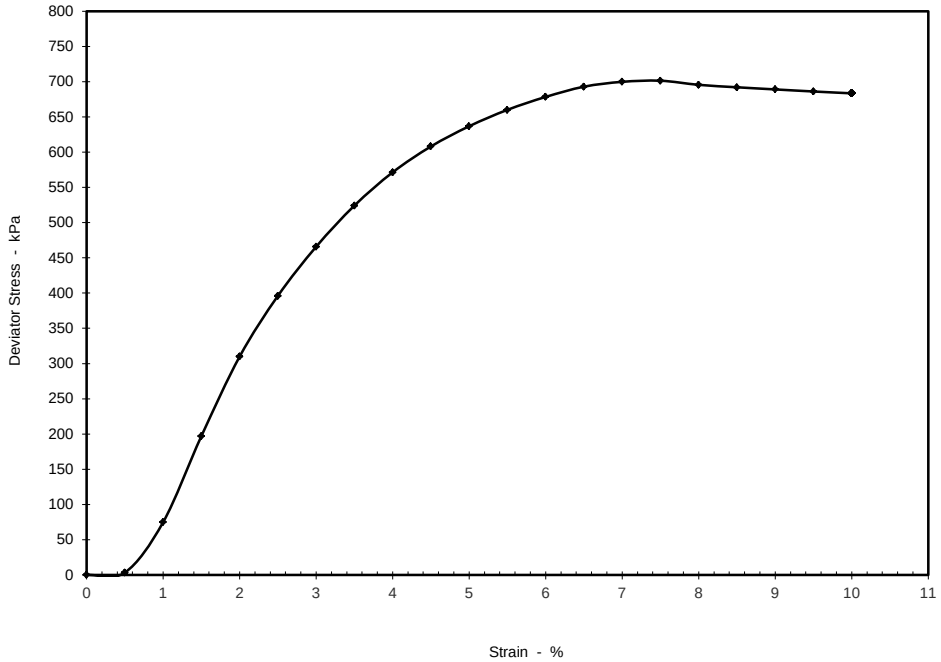
DETERMINATION OF UNCONSOLIDATED UNDRAINED SINGLE STAGE SHEAR STRENGTH TO BS1377 : PART 7 : 1990 : CLAUSE 8

Sample Details		
Sample Condition		Undisturbed
Height	mm	200.0
Diameter	mm	102.8
Moisture Content	%	17
Bulk Density	Mg/m^3	2.13
Dry Density	Mg/m^3	1.81
Test Details		
Membrane Thickness	mm	0.25
Membrane Correction	kPa	0.44
Rate of Axial Displacement	%/min	2.00
Cell Pressure	kPa	780
Strain at Failure	%	7.5
Maximum Deviator Stress	kPa	701
Shear Strength	kPa	351
Mode of Failure		Brittle
Sample Description		Extremely high orange brown mottled blue grey CLAY

Mode of failure



Shear Strength Parameters	
Cu	351 kPa
Phi	N/A °



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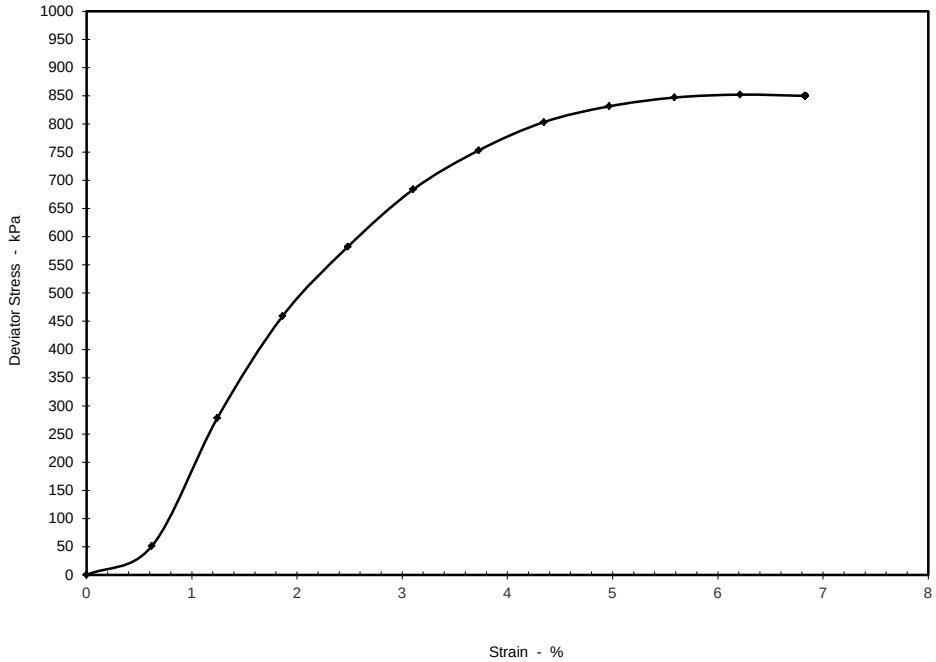
PROJECT NAME:	**Bourne Estate, Camden**	**BH/TP No.:**	**BH B2A**
PROJECT NUMBER:	**GL16482**	**Depth (m):**	**25.50**
CLIENT:	**London Borough of Camden**	**Sample No.:**	**U6**
DATE OF ISSUE:	**04/05/2012**		

DETERMINATION OF UNCONSOLIDATED UNDRAINED SINGLE STAGE SHEAR STRENGTH TO BS1377 : PART 7 : 1990 : CLAUSE 8

Sample Details		
Sample Condition		Undisturbed
Height	mm	161.0
Diameter	mm	102.6
Moisture Content	%	19
Bulk Density	Mg/m³	2.16
Dry Density	Mg/m³	1.82
Test Details		
Membrane Thickness	mm	0.25
Membrane Correction	kPa	0.38
Rate of Axial Displacement	%/min	2.48
Cell Pressure	kPa	1020
Strain at Failure	%	6.2
Maximum Deviator Stress	kPa	852
Shear Strength	kPa	426
Mode of Failure		Brittle
Sample Description		Extremely high orange brown mottled blue grey CLAY

Mode of failure

Shear Strength Parameters	
Cu	426 kPa
Phi	N/A °



REMARKS (Including any abnormalities or departures from procedure)

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email: laboratory@harrisongroupuk.com

Lab address:

GEOTRACE - ANALYSIS REQUEST FORM AND SAMPLE CUSTODY SHEET

Tel:
Fax:

Sent from: Harrison Group Environmental Ltd.
Address: Unit A11, Poplar Business Park
10 Prestons Road, London, E14 9RL
Tel. No.: 020 7537 9233
Project/Site Name: Bourne Estate, Camden

Contact Name: Jiban Bajracharya
Email: GL@harrisongroupuk.com
Fax. No: 020 7987 0361

Date Samples Scheduled:
ProjectCode: GL16482
Sampler ID:
Quote Reference: GL16482
Turnaround Time:
Date Required:

Sheet: 1 of 1

One project per sheet please

Sampling Date (dd/mm/yr)	**Borehole/ Trial Pit No.**	Sample Type	Sample Number	Sample Depth in Metres (Top)	Sample Depth in Metres (Bottom)	Chain of Custody Reference	(S)soil or (W)water or (G)gas (specify if other)	**Suite Name (from Contract Rates or Quotation)**	Metals	Cyanide (free) and (total)	PAH by GCMS	Phenol	SOM	Asbestos Indentification	pH	TPH Screen	**Individual Determinants (SOIL)**	1.25 Asbestos screen	1.26 Asbestos screen and microscopy ID	1.32 Fraction Organic Carbon	1.36 TPH - CWG (C5-C35) based on TNRCC method 1006	**Individual Determinants (GAS)**	1.57 C1-C7 (As listed below)	1.58 VOCs inc BTEX. 10ppm	**Individual Determinants (WATER and LEACHATE)**	1.60 PAH (Total)	1.61 PAH (Total of USEPA 16)	1.62 PAH (16 speciated) (Modified EPA 8100)	1.63 TPH - CWG (C5-35) based on TNRCC method 1006	1.64 Petrol Range Organics/ BTEX/ MTBE	1.65 BTEX by GC-MS (Modified US EPA 8150)	1.66 SVOCs target list (one extraction only) (Modified US EPA 8270)	1.67 SVOCs scan (up to 10 peaks, >80% fit)	1.68 VOCs target list only (Modified US EPA 8260)	1.69 VOCs target list plus TICs (top 10 peaks to 0.01mg/l only) (Modified US EPA 8260)	1.70 Phenols (Total) by HPLC	1.71 Phenols (Speciated)	1.72 Glycol Suite (See below)
07/03/2012	BH B2A	ES	3	1.00	1.00		S		X	X	X	X	X	X	X	X																						
07/03/2012	BH B2A	ES	9	4.00	4.00		S		X	X	X	X	X	X	X	X																						
07/03/2012	BH B2A	ES	18	8.20	8.20		S		X		X					X																						
07/03/2012	WS B1	ES	1	0.10	0.10		S		X	X	X	X	X	X	X	X																						
07/03/2012	WS B1	ES	2	0.50	0.50		S		X	X	X	X	X	X	X	X																						
07/03/2012	WS B2	ES	1	0.10	0.10		S		X	X	X	X	X	X	X	X																						
07/03/2012	WS B2	ES	2	0.50	0.50		S		X	X	X	X	X	X	X	X																						
07/03/2012	WS B2	ES	4	1.50	1.50		S		X	X	X	X	X	X	X	X																						
07/03/2012	WS B2	ES	7	3.00	3.00		S		X	X	X	X	X	X	X	X																						
07/03/2012	WS B3	ES	1	0.15	0.15		S		X	X	X	X	X	X	X	X																						
07/03/2012	WS B3	ES	3	0.90	0.90		S		X	X	X	X	X	X	X	X																						
07/03/2012	WS B3	ES	7	2.50	2.50		S		X	X	X	X	X	X	X	X																						
07/03/2012	WS B4	ES	1	0.10	0.10		S		X	X	X	X	X	X	X	X																						
07/03/2012	WS B4	ES	3	0.50	0.50		S		X	X	X	X	X	X	X	X																						
07/03/2012	WS B4	ES	5	1.50	1.50		S		X	X	X	X	X	X	X	X																						
07/03/2012	WS B4	ES	8	2.80	2.80		S		X	X	X	X	X	X	X	X																						
08/07/2012	WS B5	ES	1	0.10	0.10		S		X	X	X	X	X	X	X	X																						
08/07/2012	WS B5	ES	3	0.50	0.50		S		X	X	X	X	X	X	X	X																						
08/07/2012	WS B5	ES	4	1.00	1.00		S		X	X	X	X	X	X	X	X																						
08/07/2012	WS B6	ES	1	0.10	0.10		S		X	X	X	X	X	X	X	X																						
08/07/2012	WS B6	ES	3	0.75	0.75		S		X	X	X	X	X	X	X	X																						
08/07/2012	WS B6	ES	6	2.10	2.10		S		X	X	X	X	X	X	X	X																						
							Total Scheduled		22	21	22	21	21	21	21	22																						
							Total Tested		22	21	22	21	21	21	21	22																						

COMMENTS: data required in AGS format (V3.1).

1.71 Speciated Phenol Suite: 2-methylphenol (o-cresol); 4-methylphenol (p-cresol); 2, 4-Dimethylphenol; Napthols; 3-methyphenol (m-cresol).

1.72 Glycol Suite: Monoethylene glycol, Propylene glycol, Diethylene glycol, Triethylene glycol.

PCB (WHO 12) Congener: 77, 81, 105, 114, 118, 123, 126, 156, 157, 167, 169, 189.

Special Instructions / Known Hazards:

Intended Use of Results:

Required for Environment Agency? Y / (N) **(Please Circle as Applicable)** ***Date Recieved:*** ***Time:*** **Signature:** ***Report No.***

ALcontrol Laboratories

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Fax: (01244) 528701
email: mkt@alcontrol.com
Website: www.alcontrol.com

Campbell Reith Hill
Somerset House
47-49 London Road
Redhill
Surrey
RH1 1LV

Attention: Rhyadd Watkins

CERTIFICATE OF ANALYSIS

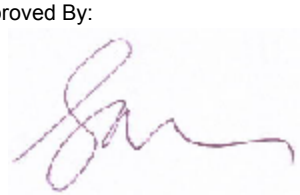
Date:	31 May 2012
Customer:	H_CAMREITH_REH
Sample Delivery Group (SDG):	120317-4
Your Reference:	
Location:	Redhill - Bourne Estate
Report No:	183005

We received 36 samples on Thursday March 15, 2012 and 17 of these samples were scheduled for analysis which was completed on Thursday May 31, 2012. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	120317-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-5	**Customer:**	Campbell Reith Hill	**Report Number:**	183005
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
5333440	BHB2	ES1	0.25	08/03/2012
5333441	BHB2	ES2	0.50	08/03/2012
5333442	BHB2	ES3	1.00	08/03/2012
5333443	BHB2	ES4	1.50	08/03/2012
5333445	BHB2	ES5	2.00	08/03/2012
5333446	BHB2	ES6	2.50	08/03/2012
5333447	BHB2	ES7	3.00	08/03/2012
5333448	BHB2	ES8	3.50	08/03/2012
5333449	BHB2	ES9	4.00	08/03/2012
5333450	BHB2	ES10	5.00	08/03/2012
5333451	BHB2	ES11	6.00	08/03/2012
5333452	BHB2	ES12	7.00	08/03/2012
5333453	BHB2	ES13	7.90	08/03/2012
5333454	BHB2	ES14	8.25	08/03/2012
5334285	WSB1	ES1	0.10	08/03/2012
5334286	WSB1	ES2	0.50	08/03/2012
5334287	WSB1	ES3	1.00	08/03/2012
5333017	WSB2	ES1	0.10	08/03/2012
5333018	WSB2	ES2	0.50	08/03/2012
5333019	WSB2	ES3	1.00	08/03/2012
5333020	WSB2	ES4	1.50	08/03/2012
5333021	WSB2	ES5	2.00	08/03/2012
5333022	WSB2	ES6	2.50	08/03/2012
5333024	WSB2	ES7	3.00	08/03/2012
5334288	WSB5	ES4	0.10	09/03/2012
5334289	WSB5	ES5	0.25	09/03/2012
5334290	WSB5	ES6	0.50	09/03/2012
5334291	WSB5	ES7	1.00	09/03/2012
5334292	WSB5	ES8	1.25	09/03/2012
5334293	WSB5	ES9	1.60	09/03/2012
5334294	WSB6	ES10	0.10	09/03/2012
5334295	WSB6	ES11	0.25	09/03/2012
5333254	WSB6	ES8	0.75	09/03/2012
5333255	WSB6	ES9	1.10	09/03/2012
5333256	WSB6	ES10	1.50	09/03/2012
5333257	WSB6	ES11	2.10	09/03/2012

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	120317-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-5	**Customer:**	Campbell Reith Hill	**Report Number:**	183005
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

SOLID

Results Legend

X Test

N No Determination Possible

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			5334285	WSB1	ES1	0.10	1kg TUB
			5334286	WSB1	ES2	0.50	250g Amber Jar (AL
			5333442	BHB2	ES3	1.00	1kg TUB
			5333449	BHB2	ES9	4.00	250g Amber Jar (AL
			5333454	BHB2	ES14	8.25	250g Amber Jar (AL
			5333017	WSB2	ES1	0.10	400g Tub (ALE214)
			5333018	WSB2	ES2	0.50	250g Amber Jar (AL
			5333020	WSB2	ES4	1.50	1kg TUB
			5333022	WSB2	ES6	2.50	250g Amber Jar (AL
			5333024	WSB2	ES7	3.00	1kg TUB
			5334288	WSB5	ES4	0.10	250g Amber Jar (AL
			5334290	WSB5	ES6	0.50	400g Tub (ALE214)
			5334291	WSB5	ES7	1.00	1kg TUB
			5333254	WSB6	ES8	0.75	250g Amber Jar (AL
			5333255	WSB6	ES9	1.10	250g Amber Jar (AL
			5333257	WSB6	ES11	2.10	400g Tub (ALE214)
			5334294	WSB6	ES10	0.10	250g Amber Jar (AL
Anions by Kone (soil)	All	NDPs: 0 Tests: 2					
Asbestos Identification (Soil)	All	NDPs: 0 Tests: 13					
Asbestos Quant. - Waste Limit*	All	NDPs: 0 Tests: 3					
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 13					
EPH CWG (Aliphatic) GC (S)	All	NDPs: 0 Tests: 2					
EPH CWG (Aromatic) GC (S)	All	NDPs: 0 Tests: 2					
GRO by GC-FID (S)	All	NDPs: 0 Tests: 2					
Magnesium (BRE)	All	NDPs: 0 Tests: 2					
Metals by iCap-OES (Soil)	Arsenic	NDPs: 0 Tests: 15					
	Cadmium	NDPs: 0 Tests: 15					
	Chromium	NDPs: 0 Tests: 15					
	Copper	NDPs: 0 Tests: 15					
	Lead	NDPs: 0 Tests: 15					
	Mercury	NDPs: 0 Tests: 15					
	Nickel	NDPs: 0 Tests: 15					

Validated

CERTIFICATE OF ANALYSIS

SDG:	120317-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-5	**Customer:**	Campbell Reith Hill	**Report Number:**	183005
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

SOLID

Results Legend

- **X** Test
- **N** No Determination Possible

Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container	Metals by iCap-OES (Soil): Selenium (NDPs: 0 Tests: 15)	Metals by iCap-OES (Soil): Zinc (NDPs: 0 Tests: 15)	NO3, NO2 and TON by KONE (s): All (NDPs: 0 Tests: 2)	PAH by GCMS: All (NDPs: 0 Tests: 15)	pH: All (NDPs: 0 Tests: 15)	Phenols by HPLC (S): All (NDPs: 0 Tests: 13)	Sample description: All (NDPs: 0 Tests: 17)	Total Organic Carbon: All (NDPs: 3 Tests: 10)	Total Organic Carbon (Asb): All (NDPs: 0 Tests: 3)	TPH c6-40 Value of soil: All (NDPs: 0 Tests: 15)	TPH CWG GC (S): All (NDPs: 0 Tests: 2)
5334285	WSB1	ES1	0.10	1kg TUB					X	X					
				250g Amber Jar (AL	X	X		X			X	X		X	X
5334286	WSB1	ES2	0.50	1kg TUB					X	X					
				250g Amber Jar (AL	X	X		X			X	X		X	
5333442	BHB2	ES3	1.00	250g Amber Jar (AL	X	X		X			X	X		X	X
				400g Tub (ALE214)					X	X					
5333449	BHB2	ES9	4.00	250g Amber Jar (AL	X	X		X			X			X	
5333454	BHB2	ES14	8.25	250g Amber Jar (AL	X	X		X			X			X	
5333017	WSB2	ES1	0.10	1kg TUB					X	X					
				250g Amber Jar (AL	X	X		X			X	X		X	
5333018	WSB2	ES2	0.50	1kg TUB					X	X					
				250g Amber Jar (AL	X	X		X			X	X		X	
5333020	WSB2	ES4	1.50	1kg TUB					X	X					
				250g Amber Jar (AL	X	X		X			X	X		X	
5333022	WSB2	ES6	2.50	1kg TUB					X						
				250g Amber Jar (AL			X				X				
5333024	WSB2	ES7	3.00	1kg TUB					X	X					
				250g Amber Jar (AL	X	X		X			X	X		X	
5334288	WSB5	ES4	0.10	250g Amber Jar (AL	X	X		X			X	X		X	
				400g Tub (ALE214)					X	X					
5334290	WSB5	ES6	0.50	1kg TUB					X	X					
				250g Amber Jar (AL	X	X		X			X	N	X	X	
5334291	WSB5	ES7	1.00	1kg TUB					X	X					
				250g Amber Jar (AL	X	X		X			X	N	X	X	
5333254	WSB6	ES8	0.75	250g Amber Jar (AL	X	X		X			X	X		X	
				400g Tub (ALE214)					X	X					
5333255	WSB6	ES9	1.10	250g Amber Jar (AL			X		X		X				
5333257	WSB6	ES11	2.10	250g Amber Jar (AL	X	X		X			X	N	X	X	
				400g Tub (ALE214)					X	X					
5334294	WSB6	ES10	0.10	250g Amber Jar (AL	X	X		X			X	X		X	
				400g Tub (ALE214)					X	X					

CERTIFICATE OF ANALYSIS

SDG:	120317-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-5	**Customer:**	Campbell Reith Hill	**Report Number:**	183005
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Grain size	Inclusions	Inclusions 2
5333442	BHB2	1.00	Dark Brown	Sand	0.063 - 0.1 mm	Stones	Brick
5333449	BHB2	4.00	Light Brown	Sand	0.1 - 2 mm	Stones	N/A
5333454	BHB2	8.25	Dark Brown	Silty Clay Loam	<0.063 mm	None	None
5334285	WSB1	0.10	Light Brown	Loamy Sand	0.1 - 2 mm	Stones	None
5334286	WSB1	0.50	Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	Vegetation
5333017	WSB2	0.10	Dark Brown	Silt Loam	0.063 - 0.1 mm	Glass & Stones	Vegetation
5333018	WSB2	0.50	Dark Brown	Silty Clay Loam	0.063 - 0.1 mm	Stones	Vegetation
5333020	WSB2	1.50	Dark Brown	Silt Loam	0.063 - 0.1 mm	Stones	Brick
5333022	WSB2	2.50	Dark Brown	Silty Clay	0.063 - 0.1 mm	None	None
5333024	WSB2	3.00	Light Brown	Sandy Clay	0.063 - 0.1 mm	Stones	Vegetation
5334288	WSB5	0.10	Dark Brown	Silty Clay Loam	0.063 - 0.1 mm	Stones	Vegetation
5334290	WSB5	0.50	Dark Brown	Sandy Silt Loam	0.063 - 0.1 mm	Stones	Vegetation
5334291	WSB5	1.00	Dark Brown	Silty Clay Loam	0.063 - 0.1 mm	Stones	Vegetation
5333254	WSB6	0.75	Dark Brown	Loamy Sand	0.063 - 0.1 mm	Brick	Stones
5333255	WSB6	1.10	Dark Brown	Sandy Clay Loam	0.1 - 2 mm	Stones	None
5333257	WSB6	2.10	Dark Brown	Loamy Sand	0.063 - 0.1 mm	Brick	Stones
5334294	WSB6	0.10	Dark Brown	Silty Clay Loam	0.063 - 0.1 mm	Stones	Vegetation

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

CERTIFICATE OF ANALYSIS

SDG:	120317-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-5	**Customer:**	Campbell Reith Hill	**Report Number:**	183005
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	BHB2	BHB2	BHB2	WSB1	WSB1	WSB2
			Depth (m)	1.00	4.00	8.25	0.10	0.50	0.10
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
			Date Sampled	08/03/2012	08/03/2012	08/03/2012	08/03/2012	08/03/2012	08/03/2012
			Sample Time	.	.	.	.	.	.
			Date Received	15/03/2012	15/03/2012	15/03/2012	15/03/2012	15/03/2012	15/03/2012
			SDG Ref	120317-4	120317-4	120317-4	120317-4	120317-4	120317-4
			Lab Sample No.(s)	5333442	5333449	5333454	5334285	5334286	5333017
			AGS Reference	ES3	ES9	ES14	ES1	ES2	ES1
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 § M			<0.01 § M	<0.01 § M	<0.01 § M
Soil Organic Matter (SOM)	<0.35 %	TM132		5.02 #			4.97 #	4.34 #	4.1 #
pH	1 pH Units	TM133		10.7 M			11.8 M	11.5 M	7.74 M
Cyanide, Total	<1 mg/kg	TM153		<1 § M			<1 § M	<1 § M	2.38 § M
Cyanide, Free	<1 mg/kg	TM153		<1 § M			<1 § M	<1 § M	<1 § M
TPH >C6-C40	<10 mg/kg	TM154		1140 § #	12.1 § #	50.3 § #	727 § #	349 § #	409 § #
Arsenic	<0.6 mg/kg	TM181		11.7 M	7.91 M	13.8 M	11.6 M	14.4 M	13.6 M
Cadmium	<0.02 mg/kg	TM181		0.173 M	<0.02 M	0.216 M	<0.02 M	0.0558 M	4.66 M
Chromium	<0.9 mg/kg	TM181		15 M	10.3 M	38.9 M	28.5 M	17.1 M	60.8 M
Copper	<1.4 mg/kg	TM181		57 M	5.64 M	29 M	35.8 M	58.2 M	99.8 M
Lead	<0.7 mg/kg	TM181		329 M	5.14 M	13.9 M	215 M	652 M	381 M
Mercury	<0.14 mg/kg	TM181		1.8 M	<0.14 M	<0.14 M	1.01 M	2.6 M	1.23 M
Nickel	<0.2 mg/kg	TM181		15.3 M	12.9 M	39.3 M	11.3 M	13.8 M	28.3 M
Selenium	<1 mg/kg	TM181		<1 #	<1 #	1.75 #	<1 #	<1 #	1.03 #
Zinc	<1.9 mg/kg	TM181		89.7 M	13.1 M	89.3 M	84.5 M	134 M	432 M

CERTIFICATE OF ANALYSIS

SDG:	120317-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-5	**Customer:**	Campbell Reith Hill	**Report Number:**	183005
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	WSB2	WSB2	WSB2	WSB2	WSB5	WSB5
			Depth (m)	0.50	1.50	2.50	3.00	0.10	0.50
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
			Date Sampled	08/03/2012	08/03/2012	08/03/2012	08/03/2012	09/03/2012	09/03/2012
			Sample Time	.	.	.	.	.	.
			Date Received	15/03/2012	15/03/2012	15/03/2012	15/03/2012	15/03/2012	15/03/2012
			SDG Ref	120317-4	120317-4	120317-4	120317-4	120317-4	120317-4
			Lab Sample No.(s)	5333018	5333020	5333022	5333024	5334288	5334290
			AGS Reference	ES2	ES4	ES6	ES7	ES4	ES6
Waste Limit, Gravimetric - %*	<0.001 %	SUB (ASB)							<0.001 (F) #
Waste Limit, PCOM evaluation - %*	<0.001 %	SUB (ASB)							<0.001
Waste Limit, Total - %*	<0.001 %	SUB (ASB)							<0.001 #
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 § M	<0.01 § M		<0.01 § M	<0.01 § M	<0.01 § M
Soil Organic Matter (SOM)	<0.35 %	TM132		2.1 #	9.74 #		0.781 #	2.93 #	
pH	1 pH Units	TM133		8.68 M	8.14 M	8.12 § M	8.04 M	7.76 M	8.41 M
Cyanide, Total	<1 mg/kg	TM153		<1 § M	<1 § M		<1 § M	<1 § M	<1 § M
Cyanide, Free	<1 mg/kg	TM153		<1 § M	<1 § M		<1 § M	<1 § M	<1 § M
TPH >C6-C40	<10 mg/kg	TM154		66.5 § #	94.2 #		<10 § #	147 #	167 #
Arsenic	<0.6 mg/kg	TM181		18.7 M	15 M		9.28 M	10.2 M	16.8 M
Cadmium	<0.02 mg/kg	TM181		0.373 M	<0.02 M		<0.02 M	0.296 M	0.0737 M
Chromium	<0.9 mg/kg	TM181		19.6 M	15.1 M		18.6 M	17.7 M	14.9 M
Copper	<1.4 mg/kg	TM181		88.3 M	184 M		22 M	47.7 M	139 M
Lead	<0.7 mg/kg	TM181		631 M	1090 M		55.3 M	129 M	393 M
Mercury	<0.14 mg/kg	TM181		1.36 M	2.61 M		0.27 M	0.769 M	3.27 M
Nickel	<0.2 mg/kg	TM181		21 M	21.5 M		17.4 M	17 M	16.6 M
Selenium	<1 mg/kg	TM181		<1 #	<1 #		<1 #	<1 #	<1 #
Zinc	<1.9 mg/kg	TM181		89.4 M	113 M		39.8 M	108 M	205 M
Soluble Sulphate 2:1 extract as SO4 BRE	<0.003 g/l	TM243				<0.003 § M			
Chloride 2:1 water/soil extract BRE	<0.001 g/l	TM243				0.0019 § M			
Nitrate as NO3, 2:1 water soluble (BRE)	<0.0003 g/l	TM243				0.012			
Magnesium (BRE)	<0.008 g/l	TM282				<0.008			
Soil Organic Matter (SOM)	<0.1 %	TM321							1.44 #

CERTIFICATE OF ANALYSIS

SDG:	120317-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-5	**Customer:**	Campbell Reith Hill	**Report Number:**	183005
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	WSB5	WSB6	WSB6	WSB6	WSB6
			Depth (m)	1.00	0.10	0.75	1.10	2.10
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
			Date Sampled	09/03/2012	09/03/2012	09/03/2012	09/03/2012	09/03/2012
			Sample Time	.	.	.	.	.
			Date Received	15/03/2012	15/03/2012	15/03/2012	15/03/2012	15/03/2012
			SDG Ref	120317-4	120317-4	120317-4	120317-4	120317-4
			Lab Sample No.(s)	5334291	5334294	5333254	5333255	5333257
			AGS Reference	ES7	ES10	ES8	ES9	ES11
Waste Limit, Gravimetric - %*	<0.001 %	SUB (ASB)		<0.001 (F) #				<0.001 (F) #
Waste Limit, PCOM evaluation - %*	<0.001 %	SUB (ASB)						<0.001
Waste Limit, Total - %*	<0.001 %	SUB (ASB)		<0.001 #				<0.001 #
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 § M	<0.01 § M	<0.01 § M		<0.01 § M
Soil Organic Matter (SOM)	<0.35 %	TM132			4.41 #	2.22 #		
pH	1 pH Units	TM133		8.28 M	7.29 M	8.51 M	8.54 § M	8.62 M
Cyanide, Total	<1 mg/kg	TM153		<1 § M	<1 § M	<1 § M		<1 § M
Cyanide, Free	<1 mg/kg	TM153		<1 § M	<1 § M	<1 § M		<1 § M
TPH >C6-C40	<10 mg/kg	TM154		207 § #	280 § #	70.1 #		<10 #
Arsenic	<0.6 mg/kg	TM181		14.3 M	12.4 M	9.58 M		13.9 M
Cadmium	<0.02 mg/kg	TM181		0.157 M	0.543 M	0.279 M		0.41 M
Chromium	<0.9 mg/kg	TM181		15.5 M	21 M	13.2 M		25.2 M
Copper	<1.4 mg/kg	TM181		150 M	61.5 M	34.4 M		7550 M
Lead	<0.7 mg/kg	TM181		370 M	327 M	95.7 M		327 M
Mercury	<0.14 mg/kg	TM181		2.66 M	0.734 M	0.942 M		2.05 M
Nickel	<0.2 mg/kg	TM181		17.3 M	17.4 M	12.5 M		24.2 M
Selenium	<1 mg/kg	TM181		<1 #	<1 #	<1 #		<1 #
Zinc	<1.9 mg/kg	TM181		219 M	188 M	89.2 M		493 M
Soluble Sulphate 2:1 extract as SO4 BRE	<0.003 g/l	TM243					0.017 § M	
Chloride 2:1 water/soil extract BRE	<0.001 g/l	TM243					0.0021 § M	
Nitrate as NO3, 2:1 water soluble (BRE)	<0.0003 g/l	TM243					0.0139	
Magnesium (BRE)	<0.008 g/l	TM282					<0.008	
Soil Organic Matter (SOM)	<0.1 %	TM321		1.29 #				1.58 #

CERTIFICATE OF ANALYSIS

SDG:	120317-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-5	**Customer:**	Campbell Reith Hill	**Report Number:**	183005
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	BHB2	BHB2	BHB2	WSB1	WSB1	WSB2
			Depth (m)	1.00	4.00	8.25	0.10	0.50	0.10
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
			Date Sampled	08/03/2012	08/03/2012	08/03/2012	08/03/2012	08/03/2012	08/03/2012
			Sample Time	.	.	.	.	.	.
			Date Received	15/03/2012	15/03/2012	15/03/2012	15/03/2012	15/03/2012	15/03/2012
			SDG Ref	120317-4	120317-4	120317-4	120317-4	120317-4	120317-4
			Lab Sample No.(s)	5333442	5333449	5333454	5334285	5334286	5333017
			AGS Reference	ES3	ES9	ES14	ES1	ES2	ES1
Naphthalene-d8 % recovery**	%	TM218		99.1	94.2	87	94.9 §	101 §	98.4 §
Acenaphthene-d10 % recovery**	%	TM218		101	93.6	81.6	87.5 §	96 §	99.6 §
Phenanthrene-d10 % recovery**	%	TM218		100	92.5	78.5	86.2 §	95.6 §	96.9 §
Chrysene-d12 % recovery**	%	TM218		91.8	91.3	68.9	83.5 §	99.6 §	96.2 §
Perylene-d12 % recovery**	%	TM218		101	90.3	65	86.3 §	107 §	100 §
Naphthalene	<9 µg/kg	TM218		122 § M	<9 § M	<9 § M	31.5 § M	79 § M	134 § M
Acenaphthylene	<12 µg/kg	TM218		<12 § M	<12 § M	<12 § M	<24 § M	23.1 § M	218 § M
Acenaphthene	<8 µg/kg	TM218		24.8 § M	<8 § M	<8 § M	<16 § M	<8 § M	46.2 § M
Fluorene	<10 µg/kg	TM218		22 § M	<10 § M	<10 § M	<20 § M	<10 § M	52.4 § M
Phenanthrene	<15 µg/kg	TM218		375 § M	<15 § M	<15 § M	126 § M	180 § M	1070 § M
Anthracene	<16 µg/kg	TM218		47 § M	<16 § M	<16 § M	45.7 § M	47.6 § M	298 § M
Fluoranthene	<17 µg/kg	TM218		241 § M	<17 § M	<17 § M	143 § M	132 § M	2730 § M
Pyrene	<15 µg/kg	TM218		218 § M	<15 § M	<15 § M	179 § M	152 § M	2260 § M
Benz(a)anthracene	<14 µg/kg	TM218		147 § M	<14 § M	<14 § M	87.5 § M	121 § M	1500 § M
Chrysene	<10 µg/kg	TM218		141 § M	<10 § M	<10 § M	137 § M	167 § M	1290 § M
Benzo(b)fluoranthene	<15 µg/kg	TM218		199 § M	<15 § M	<15 § M	315 § M	419 § M	2210 § M
Benzo(k)fluoranthene	<14 µg/kg	TM218		61.1 § M	<14 § M	<14 § M	128 § M	139 § M	751 § M
Benzo(a)pyrene	<15 µg/kg	TM218		157 § M	<15 § M	<15 § M	222 § M	304 § M	1750 § M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		79.5 § M	<18 § M	<18 § M	101 § M	146 § M	1090 § M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		37.6 § M	<23 § M	<23 § M	<46 § M	55.4 § M	299 § M
Benzo(g,h,i)perylene	<24 µg/kg	TM218		154 § M	<24 § M	<24 § M	141 § M	195 § M	1340 § M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		2030	<118	<118	1660 §	2160 §	17000 §

CERTIFICATE OF ANALYSIS

SDG:	120317-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-5	**Customer:**	Campbell Reith Hill	**Report Number:**	183005
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	WSB2	WSB2	WSB2	WSB5	WSB5	WSB5
			Depth (m)	0.50	1.50	3.00	0.10	0.50	1.00
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
			Date Sampled	08/03/2012	08/03/2012	08/03/2012	09/03/2012	09/03/2012	09/03/2012
			Sample Time	.	.	.	.	.	.
			Date Received	15/03/2012	15/03/2012	15/03/2012	15/03/2012	15/03/2012	15/03/2012
			SDG Ref	120317-4	120317-4	120317-4	120317-4	120317-4	120317-4
			Lab Sample No.(s)	5333018	5333020	5333024	5334288	5334290	5334291
			AGS Reference	ES2	ES4	ES7	ES4	ES6	ES7
Naphthalene-d8 % recovery**	%	TM218		97.9	91.6	89.8 §	93.6	94.9 §	98.9
Acenaphthene-d10 % recovery**	%	TM218		95.7	91.5 §	81.2 §	91.7	92.9 §	97.2
Phenanthrene-d10 % recovery**	%	TM218		92.8	86.6	80 §	89.4	90.9	94.8
Chrysene-d12 % recovery**	%	TM218		83.6	82.1 §	74.3 §	81.2	85.9 §	89.3
Perylene-d12 % recovery**	%	TM218		82.7	81.4	74 §	81.9	85.6 §	89.8
Naphthalene	<9 µg/kg	TM218		13.5 M	64.8 M	12.6 § M	23.6 M	103 § M	75.3 M
Acenaphthylene	<12 µg/kg	TM218		<12 M	<12 § M	<12 § M	<12 M	<12 § M	17.1 M
Acenaphthene	<8 µg/kg	TM218		<8 M	<8 § M	<8 § M	<8 M	<8 § M	14.7 M
Fluorene	<10 µg/kg	TM218		<10 M	<10 § M	<10 § M	<10 M	<10 § M	12.2 M
Phenanthrene	<15 µg/kg	TM218		36.7 M	245 M	<15 § M	109 M	176 M	204 M
Anthracene	<16 µg/kg	TM218		<16 M	<16 § M	<16 § M	23 M	26.5 § M	42.4 M
Fluoranthene	<17 µg/kg	TM218		60.7 M	48.2 § M	<17 § M	208 M	198 § M	297 M
Pyrene	<15 µg/kg	TM218		52.4 M	53.1 M	<15 § M	179 M	211 M	306 M
Benz(a)anthracene	<14 µg/kg	TM218		36.6 M	65.4 § M	<14 § M	119 M	161 § M	231 M
Chrysene	<10 µg/kg	TM218		31.9 M	74.8 § M	<10 § M	108 M	166 § M	209 M
Benzo(b)fluoranthene	<15 µg/kg	TM218		58.2 M	92.5 § M	<15 § M	191 M	269 § M	352 M
Benzo(k)fluoranthene	<14 µg/kg	TM218		22.9 M	22.3 § M	<14 § M	64.2 M	78 § M	115 M
Benzo(a)pyrene	<15 µg/kg	TM218		39.9 M	32.3 § M	<15 § M	123 M	165 § M	229 M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		25.6 M	26.2 M	<18 § M	84.3 M	111 § M	144 M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		<23 M	<23 § M	<23 § M	<23 M	36.6 § M	51.8 M
Benzo(g,h,i)perylene	<24 µg/kg	TM218		37.3 M	44.3 § M	<24 § M	91 M	145 § M	183 M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		416	768	<118 §	1320	1850 §	2480

CERTIFICATE OF ANALYSIS

SDG:	120317-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-5	**Customer:**	Campbell Reith Hill	**Report Number:**	183005
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	WSB6	WSB6	WSB6			
			Depth (m)	0.10	0.75	2.10			
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid			
			Date Sampled	09/03/2012	09/03/2012	09/03/2012			
			Sample Time	.	.	.			
			Date Received	15/03/2012	15/03/2012	15/03/2012			
			SDG Ref	120317-4	120317-4	120317-4			
			Lab Sample No.(s)	5334294	5333254	5333257			
			AGS Reference	ES10	ES8	ES11			
Naphthalene-d8 % recovery**	%	TM218		95.7	102	87.3			
Acenaphthene-d10 % recovery**	%	TM218		93.6	104	85.6			
Phenanthrene-d10 % recovery**	%	TM218		91.5	104	82.4			
Chrysene-d12 % recovery**	%	TM218		85.1	93.4	76			
Perylene-d12 % recovery**	%	TM218		88.2	101	69.1			
Naphthalene	<9 µg/kg	TM218		41.7 M	36.3 § M	27.5 M			
Acenaphthylene	<12 µg/kg	TM218		39 M	17.3 § M	<12 M			
Acenaphthene	<8 µg/kg	TM218		12.9 M	<8 § M	<8 M			
Fluorene	<10 µg/kg	TM218		<10 M	<10 § M	<10 M			
Phenanthrene	<15 µg/kg	TM218		210 M	121 § M	59.3 M			
Anthracene	<16 µg/kg	TM218		49.4 M	26.7 § M	<16 M			
Fluoranthene	<17 µg/kg	TM218		563 M	249 § M	52 M			
Pyrene	<15 µg/kg	TM218		467 M	212 § M	46.9 M			
Benz(a)anthracene	<14 µg/kg	TM218		331 M	136 § M	39.6 M			
Chrysene	<10 µg/kg	TM218		323 M	133 § M	38.5 M			
Benzo(b)fluoranthene	<15 µg/kg	TM218		589 M	210 § M	54.9 M			
Benzo(k)fluoranthene	<14 µg/kg	TM218		210 M	67.2 § M	<14 M			
Benzo(a)pyrene	<15 µg/kg	TM218		370 M	145 § M	25.7 M			
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		259 M	94.1 § M	24.6 M			
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		69.8 M	27.4 § M	<23 M			
Benzo(g,h,i)perylene	<24 µg/kg	TM218		319 M	123 § M	36.9 M			
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		3850	1600	406			

CERTIFICATE OF ANALYSIS

SDG:	120317-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-5	**Customer:**	Campbell Reith Hill	**Report Number:**	183005
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	BHB2	WSB1				
			Depth (m)	1.00	0.10				
			Sample Type	Soil/Solid	Soil/Solid				
			Date Sampled	08/03/2012	08/03/2012				
			Sample Time	.	.				
			Date Received	15/03/2012	15/03/2012				
			SDG Ref	120317-4	120317-4				
			Lab Sample No.(s)	5333442	5334285				
			AGS Reference	ES3	ES1				
GRO Surrogate % recovery**	%	TM089		38 §	74				
GRO >C5-C12	<44 µg/kg	TM089		92.3 §	<44				
Methyl tertiary butyl ether (MTBE)	<5 µg/kg	TM089		<5 § #	<5 #				
Benzene	<10 µg/kg	TM089		<10 § M	<10 M				
Toluene	<2 µg/kg	TM089		5.7 § M	<2 M				
Ethylbenzene	<3 µg/kg	TM089		4.56 § M	<3 M				
m,p-Xylene	<6 µg/kg	TM089		12.5 § M	<6 M				
o-Xylene	<3 µg/kg	TM089		6.84 § M	<3 M				
sum of detected mpo xylene by GC	<9 µg/kg	TM089		19.3 §	<9				
sum of detected BTEX by GC	<24 µg/kg	TM089		29.6 §	<24				
Aliphatics >C5-C6	<10 µg/kg	TM089		<10 §	<10				
Aliphatics >C6-C8	<10 µg/kg	TM089		10.3 §	<10				
Aliphatics >C8-C10	<10 µg/kg	TM089		16 §	<10				
Aliphatics >C10-C12	<10 µg/kg	TM089		12.5 §	<10				
Aliphatics >C12-C16	<100 µg/kg	TM173		7040	2760				
Aliphatics >C16-C21	<100 µg/kg	TM173		5070	1220				
Aliphatics >C21-C35	<100 µg/kg	TM173		31800	7480				
Aliphatics >C35-C44	<100 µg/kg	TM173		35600	5340				
Total Aliphatics >C12-C44	<100 µg/kg	TM173		79600	16800				
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10 §	<10				
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10 §	<10				
Aromatics >EC8-EC10	<10 µg/kg	TM089		35.3 §	<10				
Aromatics >EC10-EC12	<10 µg/kg	TM089		<10 §	<10				
Aromatics >EC12-EC16	<100 µg/kg	TM173		4820	5040				
Aromatics >EC16-EC21	<100 µg/kg	TM173		4690	3340				
Aromatics >EC21-EC35	<100 µg/kg	TM173		61500	15900				
Aromatics >EC35-EC44	<100 µg/kg	TM173		96000	23200				
Aromatics >EC40-EC44	<100 µg/kg	TM173		50300	11900				
Total Aromatics >EC12-EC44	<100 µg/kg	TM173		167000	47500				
Total Aliphatics >C5-35	<100 µg/kg	TM173		44000	11500				
Total Aromatics >C5-35	<100 µg/kg	TM173		71100	24300				
Total Aliphatics & Aromatics >C5-35	<100 µg/kg	TM173		115000	35700				
Total Aliphatics & Aromatics >C5-C44	<100 µg/kg	TM173		247000	64300				

CERTIFICATE OF ANALYSIS

SDG:	120317-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-5	**Customer:**	Campbell Reith Hill	**Report Number:**	183005
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

Asbestos Identification - Soil

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	BHB2 ES 3 1.00 SOLID 08/03/2012 00:00:00 120317-4 5333442 TM048	05/04/12	Tomasz Pawlikowski	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Detected
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	WSB1 ES 1 0.10 SOLID 08/03/2012 00:00:00 120317-4 5334285 TM048	04/05/12	Tomasz Pawlikowski	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	WSB1 ES 2 0.50 SOLID 08/03/2012 00:00:00 120317-4 5334286 TM048	04/05/12	Martin Cotterell	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	WSB2 ES 1 0.10 SOLID 08/03/2012 00:00:00 120317-4 5333017 TM048	05/04/12	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	WSB2 ES 2 0.50 SOLID 08/03/2012 00:00:00 120317-4 5333018 TM048	04/04/12	Martin Cotterell	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Detected

CERTIFICATE OF ANALYSIS

SDG: 120317-4 **Location:** Redhill - Bourne Estate **Order Number:**
Job: H_CAMREITH_REH-5 **Customer:** Campbell Reith Hill **Report Number:** 183005
Client Reference: **Attention:** Rhyadd Watkins **Superseded Report:**

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	WSB2 ES 4 1.50 SOLID 08/03/2012 00:00:00 120317-4 5333020 TM048	05/04/12	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	WSB2 ES 7 3.00 SOLID 08/03/2012 00:00:00 120317-4 5333024 TM048	04/04/12	Lauren Sargeant	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	WSB5 ES 4 0.10 SOLID 09/03/2012 00:00:00 120317-4 5334288 TM048	04/05/12	Tomasz Pawlikowski	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	WSB5 ES 6 0.50 SOLID 09/03/2012 00:00:00 120317-4 5334290 TM048	04/05/12	Tomasz Pawlikowski	Loose fibres in soil	Not Detected (#)	Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	WSB5 ES 7 1.00 SOLID 09/03/2012 00:00:00 120317-4 5334291 TM048	04/04/12	Lauren Sargeant	Loose fibres in soil.	Not Detected (#)	Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	WSB6 ES 10 0.10 SOLID 09/03/2012 00:00:00 120317-4 5334294 TM048	05/04/12	Tomasz Pawlikowski	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Detected

CERTIFICATE OF ANALYSIS

SDG:	120317-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-5	**Customer:**	Campbell Reith Hill	**Report Number:**	183005
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	WSB6 ES 11 2.10 SOLID 09/03/2012 00:00:00 120317-4 5333257 TM048	05/04/12	Martin Cotterell	Loose fibres in soil.	Not Detected (#)	Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	WSB6 ES 8 0.75 SOLID 09/03/2012 00:00:00 120317-4 5333254 TM048	05/04/12	Martin Cotterell	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

CERTIFICATE OF ANALYSIS

SDG:	120317-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-5	**Customer:**	Campbell Reith Hill	**Report Number:**	183005
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

Notification of Deviating Samples

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
5397077	WSB5 ES6	0.50	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Free	Sample holding time exceeded
5397077	WSB5 ES6	0.50	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Total	Sample holding time exceeded
5397098	WSB5 ES6	0.50	SOLID	Phenols by HPLC (S)	Phenol	Sample holding time exceeded
5397163	WSB5 ES4	0.10	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Free	Sample holding time exceeded
5397163	WSB5 ES4	0.10	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Total	Sample holding time exceeded
5397249	WSB5 ES4	0.10	SOLID	Phenols by HPLC (S)	Phenol	Sample holding time exceeded
5397527	WSB1 ES2	0.50	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Free	Sample holding time exceeded
5397527	WSB1 ES2	0.50	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Total	Sample holding time exceeded
5397567	WSB1 ES2	0.50	SOLID	Phenols by HPLC (S)	Phenol	Sample holding time exceeded
5400875	WSB2 ES1	0.10	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Free	Sample holding time exceeded
5400875	WSB2 ES1	0.10	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Total	Sample holding time exceeded
5400886	WSB2 ES1	0.10	SOLID	Phenols by HPLC (S)	Phenol	Sample holding time exceeded
5400950	WSB2 ES7	3.00	SOLID	PAH by GCMS	Acenaphthene	Sample holding time exceeded
5400950	WSB2 ES7	3.00	SOLID	PAH by GCMS	Acenaphthene-d10 % recovery**	Sample holding time exceeded
5400950	WSB2 ES7	3.00	SOLID	PAH by GCMS	Acenaphthylene	Sample holding time exceeded
5400950	WSB2 ES7	3.00	SOLID	PAH by GCMS	Anthracene	Sample holding time exceeded
5400950	WSB2 ES7	3.00	SOLID	PAH by GCMS	Benz(a)anthracene	Sample holding time exceeded
5400950	WSB2 ES7	3.00	SOLID	PAH by GCMS	Benzo(a)pyrene	Sample holding time exceeded
5400950	WSB2 ES7	3.00	SOLID	PAH by GCMS	Benzo(b)fluoranthene	Sample holding time exceeded
5400950	WSB2 ES7	3.00	SOLID	PAH by GCMS	Benzo(g,h,i)perylene	Sample holding time exceeded
5400950	WSB2 ES7	3.00	SOLID	PAH by GCMS	Benzo(k)fluoranthene	Sample holding time exceeded
5400950	WSB2 ES7	3.00	SOLID	PAH by GCMS	Chrysene	Sample holding time exceeded
5400950	WSB2 ES7	3.00	SOLID	PAH by GCMS	Chrysene-d12 % recovery**	Sample holding time exceeded
5400950	WSB2 ES7	3.00	SOLID	PAH by GCMS	Dibenzo(a,h)anthracene	Sample holding time exceeded
5400950	WSB2 ES7	3.00	SOLID	PAH by GCMS	Fluoranthene	Sample holding time exceeded
5400950	WSB2 ES7	3.00	SOLID	PAH by GCMS	Fluorene	Sample holding time exceeded
5400950	WSB2 ES7	3.00	SOLID	PAH by GCMS	Indeno(1,2,3-cd)pyrene	Sample holding time exceeded
5400950	WSB2 ES7	3.00	SOLID	PAH by GCMS	Naphthalene	Sample holding time exceeded
5400950	WSB2 ES7	3.00	SOLID	PAH by GCMS	Naphthalene-d8 % recovery**	Sample holding time exceeded
5400950	WSB2 ES7	3.00	SOLID	PAH by GCMS	PAH, Total Detected USEPA 16	Sample holding time exceeded
5400950	WSB2 ES7	3.00	SOLID	PAH by GCMS	Perylene-d12 % recovery**	Sample holding time exceeded
5400950	WSB2 ES7	3.00	SOLID	PAH by GCMS	Phenanthrene	Sample holding time exceeded
5400950	WSB2 ES7	3.00	SOLID	PAH by GCMS	Phenanthrene-d10 % recovery**	Sample holding time exceeded
5400950	WSB2 ES7	3.00	SOLID	PAH by GCMS	Pyrene	Sample holding time exceeded
5401062	WSB6 ES10	0.10	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Free	Sample holding time exceeded
5401062	WSB6 ES10	0.10	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Total	Sample holding time exceeded
5401064	WSB6 ES10	0.10	SOLID	Phenols by HPLC (S)	Phenol	Sample holding time exceeded
5401074	WSB1 ES2	0.50	SOLID	PAH by GCMS	Acenaphthene	Sample holding time exceeded
5401074	WSB1 ES2	0.50	SOLID	PAH by GCMS	Acenaphthene-d10 % recovery**	Sample holding time exceeded
5401074	WSB1 ES2	0.50	SOLID	PAH by GCMS	Acenaphthylene	Sample holding time exceeded
5401074	WSB1 ES2	0.50	SOLID	PAH by GCMS	Anthracene	Sample holding time exceeded
5401074	WSB1 ES2	0.50	SOLID	PAH by GCMS	Benz(a)anthracene	Sample holding time exceeded
5401074	WSB1 ES2	0.50	SOLID	PAH by GCMS	Benzo(a)pyrene	Sample holding time exceeded
5401074	WSB1 ES2	0.50	SOLID	PAH by GCMS	Benzo(b)fluoranthene	Sample holding time exceeded
5401074	WSB1 ES2	0.50	SOLID	PAH by GCMS	Benzo(g,h,i)perylene	Sample holding time exceeded
5401074	WSB1 ES2	0.50	SOLID	PAH by GCMS	Benzo(k)fluoranthene	Sample holding time exceeded
5401074	WSB1 ES2	0.50	SOLID	PAH by GCMS	Chrysene	Sample holding time exceeded
5401074	WSB1 ES2	0.50	SOLID	PAH by GCMS	Chrysene-d12 % recovery**	Sample holding time exceeded
5401074	WSB1 ES2	0.50	SOLID	PAH by GCMS	Dibenzo(a,h)anthracene	Sample holding time exceeded
5401074	WSB1 ES2	0.50	SOLID	PAH by GCMS	Fluoranthene	Sample holding time exceeded
5401074	WSB1 ES2	0.50	SOLID	PAH by GCMS	Fluorene	Sample holding time exceeded
5401074	WSB1 ES2	0.50	SOLID	PAH by GCMS	Indeno(1,2,3-cd)pyrene	Sample holding time exceeded
5401074	WSB1 ES2	0.50	SOLID	PAH by GCMS	Naphthalene	Sample holding time exceeded
5401074	WSB1 ES2	0.50	SOLID	PAH by GCMS	Naphthalene-d8 % recovery**	Sample holding time exceeded
5401074	WSB1 ES2	0.50	SOLID	PAH by GCMS	PAH, Total Detected USEPA 16	Sample holding time exceeded
5401074	WSB1 ES2	0.50	SOLID	PAH by GCMS	Perylene-d12 % recovery**	Sample holding time exceeded
5401074	WSB1 ES2	0.50	SOLID	PAH by GCMS	Phenanthrene	Sample holding time exceeded
5401074	WSB1 ES2	0.50	SOLID	PAH by GCMS	Phenanthrene-d10 % recovery**	Sample holding time exceeded
5401074	WSB1 ES2	0.50	SOLID	PAH by GCMS	Pyrene	Sample holding time exceeded

CERTIFICATE OF ANALYSIS

SDG: 120317-4 **Location:** Redhill - Bourne Estate **Order Number:**
Job: H_CAMREITH_REH-5 **Customer:** Campbell Reith Hill **Report Number:** 183005
Client Reference: **Attention:** Rhyadd Watkins **Superseded Report:**

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
5401098	WSB1 ES1	0.10	SOLID	PAH by GCMS	Acenaphthene	Sample holding time exceeded
5401098	WSB1 ES1	0.10	SOLID	PAH by GCMS	Acenaphthene-d10 % recovery**	Sample holding time exceeded
5401098	WSB1 ES1	0.10	SOLID	PAH by GCMS	Acenaphthylene	Sample holding time exceeded
5401098	WSB1 ES1	0.10	SOLID	PAH by GCMS	Anthracene	Sample holding time exceeded
5401098	WSB1 ES1	0.10	SOLID	PAH by GCMS	Benz(a)anthracene	Sample holding time exceeded
5401098	WSB1 ES1	0.10	SOLID	PAH by GCMS	Benzo(a)pyrene	Sample holding time exceeded
5401098	WSB1 ES1	0.10	SOLID	PAH by GCMS	Benzo(b)fluoranthene	Sample holding time exceeded
5401098	WSB1 ES1	0.10	SOLID	PAH by GCMS	Benzo(g,h,i)perylene	Sample holding time exceeded
5401098	WSB1 ES1	0.10	SOLID	PAH by GCMS	Benzo(k)fluoranthene	Sample holding time exceeded
5401098	WSB1 ES1	0.10	SOLID	PAH by GCMS	Chrysene	Sample holding time exceeded
5401098	WSB1 ES1	0.10	SOLID	PAH by GCMS	Chrysene-d12 % recovery**	Sample holding time exceeded
5401098	WSB1 ES1	0.10	SOLID	PAH by GCMS	Dibenzo(a,h)anthracene	Sample holding time exceeded
5401098	WSB1 ES1	0.10	SOLID	PAH by GCMS	Fluoranthene	Sample holding time exceeded
5401098	WSB1 ES1	0.10	SOLID	PAH by GCMS	Fluorene	Sample holding time exceeded
5401098	WSB1 ES1	0.10	SOLID	PAH by GCMS	Indeno(1,2,3-cd)pyrene	Sample holding time exceeded
5401098	WSB1 ES1	0.10	SOLID	PAH by GCMS	Naphthalene	Sample holding time exceeded
5401098	WSB1 ES1	0.10	SOLID	PAH by GCMS	Naphthalene-d8 % recovery**	Sample holding time exceeded
5401098	WSB1 ES1	0.10	SOLID	PAH by GCMS	PAH, Total Detected USEPA 16	Sample holding time exceeded
5401098	WSB1 ES1	0.10	SOLID	PAH by GCMS	Perylene-d12 % recovery**	Sample holding time exceeded
5401098	WSB1 ES1	0.10	SOLID	PAH by GCMS	Phenanthrene	Sample holding time exceeded
5401098	WSB1 ES1	0.10	SOLID	PAH by GCMS	Phenanthrene-d10 % recovery**	Sample holding time exceeded
5401098	WSB1 ES1	0.10	SOLID	PAH by GCMS	Pyrene	Sample holding time exceeded
5401409	WSB1 ES1	0.10	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Free	Sample holding time exceeded
5401409	WSB1 ES1	0.10	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Total	Sample holding time exceeded
5401443	WSB1 ES1	0.10	SOLID	Phenols by HPLC (S)	Phenol	Sample holding time exceeded
5401462	WSB5 ES7	1.00	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Free	Sample holding time exceeded
5401462	WSB5 ES7	1.00	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Total	Sample holding time exceeded
5401486	WSB5 ES7	1.00	SOLID	Phenols by HPLC (S)	Phenol	Sample holding time exceeded
5402407	WSB2 ES7	3.00	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Free	Sample holding time exceeded
5402407	WSB2 ES7	3.00	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Total	Sample holding time exceeded
5402434	WSB2 ES7	3.00	SOLID	Phenols by HPLC (S)	Phenol	Sample holding time exceeded
5402638	WSB6 ES11	2.10	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Free	Sample holding time exceeded
5402638	WSB6 ES11	2.10	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Total	Sample holding time exceeded
5402663	WSB6 ES11	2.10	SOLID	Phenols by HPLC (S)	Phenol	Sample holding time exceeded
5402823	WSB6 ES8	0.75	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Free	Sample holding time exceeded
5402823	WSB6 ES8	0.75	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Total	Sample holding time exceeded
5402855	WSB6 ES8	0.75	SOLID	Phenols by HPLC (S)	Phenol	Sample holding time exceeded
5403679	WSB2 ES4	1.50	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Free	Sample holding time exceeded
5403679	WSB2 ES4	1.50	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Total	Sample holding time exceeded
5403725	WSB2 ES4	1.50	SOLID	Phenols by HPLC (S)	Phenol	Sample holding time exceeded
5403774	WSB2 ES2	0.50	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Free	Sample holding time exceeded
5403774	WSB2 ES2	0.50	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Total	Sample holding time exceeded
5403815	WSB2 ES2	0.50	SOLID	Phenols by HPLC (S)	Phenol	Sample holding time exceeded
5404905	BHB2 ES14	8.25	SOLID	TPH c6-40 Value of soil	TPH >C6-C40	Sample holding time exceeded
5410146	BHB2 ES9	4.00	SOLID	TPH c6-40 Value of soil	TPH >C6-C40	Sample holding time exceeded
5413362	BHB2 ES3	1.00	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Free	Sample holding time exceeded
5413362	BHB2 ES3	1.00	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Total	Sample holding time exceeded
5413370	BHB2 ES3	1.00	SOLID	Phenols by HPLC (S)	Phenol	Sample holding time exceeded
5414757	BHB2 ES9	4.00	SOLID	PAH by GCMS	Acenaphthene	Sample holding time exceeded
5414757	BHB2 ES9	4.00	SOLID	PAH by GCMS	Acenaphthylene	Sample holding time exceeded
5414757	BHB2 ES9	4.00	SOLID	PAH by GCMS	Anthracene	Sample holding time exceeded
5414757	BHB2 ES9	4.00	SOLID	PAH by GCMS	Benz(a)anthracene	Sample holding time exceeded
5414757	BHB2 ES9	4.00	SOLID	PAH by GCMS	Benzo(a)pyrene	Sample holding time exceeded
5414757	BHB2 ES9	4.00	SOLID	PAH by GCMS	Benzo(b)fluoranthene	Sample holding time exceeded
5414757	BHB2 ES9	4.00	SOLID	PAH by GCMS	Benzo(g,h,i)perylene	Sample holding time exceeded
5414757	BHB2 ES9	4.00	SOLID	PAH by GCMS	Benzo(k)fluoranthene	Sample holding time exceeded
5414757	BHB2 ES9	4.00	SOLID	PAH by GCMS	Chrysene	Sample holding time exceeded
5414757	BHB2 ES9	4.00	SOLID	PAH by GCMS	Dibenzo(a,h)anthracene	Sample holding time exceeded
5414757	BHB2 ES9	4.00	SOLID	PAH by GCMS	Fluoranthene	Sample holding time exceeded
5414757	BHB2 ES9	4.00	SOLID	PAH by GCMS	Fluorene	Sample holding time exceeded

CERTIFICATE OF ANALYSIS

SDG: 120317-4 **Location:** Redhill - Bourne Estate **Order Number:**
Job: H_CAMREITH_REH-5 **Customer:** Campbell Reith Hill **Report Number:** 183005
Client Reference: **Attention:** Rhyadd Watkins **Superseded Report:**

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
5414757	BHB2 ES9	4.00	SOLID	PAH by GCMS	Indeno(1,2,3-cd)pyrene	Sample holding time exceeded
5414757	BHB2 ES9	4.00	SOLID	PAH by GCMS	Naphthalene	Sample holding time exceeded
5414757	BHB2 ES9	4.00	SOLID	PAH by GCMS	Phenanthrene	Sample holding time exceeded
5414757	BHB2 ES9	4.00	SOLID	PAH by GCMS	Pyrene	Sample holding time exceeded
5414776	BHB2 ES14	8.25	SOLID	PAH by GCMS	Acenaphthene	Sample holding time exceeded
5414776	BHB2 ES14	8.25	SOLID	PAH by GCMS	Acenaphthylene	Sample holding time exceeded
5414776	BHB2 ES14	8.25	SOLID	PAH by GCMS	Anthracene	Sample holding time exceeded
5414776	BHB2 ES14	8.25	SOLID	PAH by GCMS	Benz(a)anthracene	Sample holding time exceeded
5414776	BHB2 ES14	8.25	SOLID	PAH by GCMS	Benzo(a)pyrene	Sample holding time exceeded
5414776	BHB2 ES14	8.25	SOLID	PAH by GCMS	Benzo(b)fluoranthene	Sample holding time exceeded
5414776	BHB2 ES14	8.25	SOLID	PAH by GCMS	Benzo(g,h,i)perylene	Sample holding time exceeded
5414776	BHB2 ES14	8.25	SOLID	PAH by GCMS	Benzo(k)fluoranthene	Sample holding time exceeded
5414776	BHB2 ES14	8.25	SOLID	PAH by GCMS	Chrysene	Sample holding time exceeded
5414776	BHB2 ES14	8.25	SOLID	PAH by GCMS	Dibenzo(a,h)anthracene	Sample holding time exceeded
5414776	BHB2 ES14	8.25	SOLID	PAH by GCMS	Fluoranthene	Sample holding time exceeded
5414776	BHB2 ES14	8.25	SOLID	PAH by GCMS	Fluorene	Sample holding time exceeded
5414776	BHB2 ES14	8.25	SOLID	PAH by GCMS	Indeno(1,2,3-cd)pyrene	Sample holding time exceeded
5414776	BHB2 ES14	8.25	SOLID	PAH by GCMS	Naphthalene	Sample holding time exceeded
5414776	BHB2 ES14	8.25	SOLID	PAH by GCMS	Phenanthrene	Sample holding time exceeded
5414776	BHB2 ES14	8.25	SOLID	PAH by GCMS	Pyrene	Sample holding time exceeded
5418768	WSB2 ES7	3.00	SOLID	TPH c6-40 Value of soil	TPH >C6-C40	Sample holding time exceeded
5418783	WSB2 ES2	0.50	SOLID	TPH c6-40 Value of soil	TPH >C6-C40	Sample holding time exceeded
5418813	WSB1 ES1	0.10	SOLID	TPH c6-40 Value of soil	TPH >C6-C40	Sample holding time exceeded
5418825	WSB1 ES2	0.50	SOLID	TPH c6-40 Value of soil	TPH >C6-C40	Sample holding time exceeded
5419061	WSB6 ES10	0.10	SOLID	TPH c6-40 Value of soil	TPH >C6-C40	Sample holding time exceeded
5419326	WSB2 ES1	0.10	SOLID	PAH by GCMS	Acenaphthene	Sample holding time exceeded
5419326	WSB2 ES1	0.10	SOLID	PAH by GCMS	Acenaphthene-d10 % recovery**	Sample holding time exceeded
5419326	WSB2 ES1	0.10	SOLID	PAH by GCMS	Acenaphthylene	Sample holding time exceeded
5419326	WSB2 ES1	0.10	SOLID	PAH by GCMS	Anthracene	Sample holding time exceeded
5419326	WSB2 ES1	0.10	SOLID	PAH by GCMS	Benz(a)anthracene	Sample holding time exceeded
5419326	WSB2 ES1	0.10	SOLID	PAH by GCMS	Benzo(a)pyrene	Sample holding time exceeded
5419326	WSB2 ES1	0.10	SOLID	PAH by GCMS	Benzo(b)fluoranthene	Sample holding time exceeded
5419326	WSB2 ES1	0.10	SOLID	PAH by GCMS	Benzo(g,h,i)perylene	Sample holding time exceeded
5419326	WSB2 ES1	0.10	SOLID	PAH by GCMS	Benzo(k)fluoranthene	Sample holding time exceeded
5419326	WSB2 ES1	0.10	SOLID	PAH by GCMS	Chrysene	Sample holding time exceeded
5419326	WSB2 ES1	0.10	SOLID	PAH by GCMS	Chrysene-d12 % recovery**	Sample holding time exceeded
5419326	WSB2 ES1	0.10	SOLID	PAH by GCMS	Dibenzo(a,h)anthracene	Sample holding time exceeded
5419326	WSB2 ES1	0.10	SOLID	PAH by GCMS	Fluoranthene	Sample holding time exceeded
5419326	WSB2 ES1	0.10	SOLID	PAH by GCMS	Fluorene	Sample holding time exceeded
5419326	WSB2 ES1	0.10	SOLID	PAH by GCMS	Indeno(1,2,3-cd)pyrene	Sample holding time exceeded
5419326	WSB2 ES1	0.10	SOLID	PAH by GCMS	Naphthalene	Sample holding time exceeded
5419326	WSB2 ES1	0.10	SOLID	PAH by GCMS	Naphthalene-d8 % recovery**	Sample holding time exceeded
5419326	WSB2 ES1	0.10	SOLID	PAH by GCMS	PAH, Total Detected USEPA 16	Sample holding time exceeded
5419326	WSB2 ES1	0.10	SOLID	PAH by GCMS	Perylene-d12 % recovery**	Sample holding time exceeded
5419326	WSB2 ES1	0.10	SOLID	PAH by GCMS	Phenanthrene	Sample holding time exceeded
5419326	WSB2 ES1	0.10	SOLID	PAH by GCMS	Phenanthrene-d10 % recovery**	Sample holding time exceeded
5419326	WSB2 ES1	0.10	SOLID	PAH by GCMS	Pyrene	Sample holding time exceeded
5419347	WSB2 ES1	0.10	SOLID	TPH c6-40 Value of soil	TPH >C6-C40	Sample holding time exceeded
5419371	WSB2 ES4	1.50	SOLID	PAH by GCMS	Acenaphthene	Sample holding time exceeded
5419371	WSB2 ES4	1.50	SOLID	PAH by GCMS	Acenaphthene-d10 % recovery**	Sample holding time exceeded
5419371	WSB2 ES4	1.50	SOLID	PAH by GCMS	Acenaphthylene	Sample holding time exceeded
5419371	WSB2 ES4	1.50	SOLID	PAH by GCMS	Anthracene	Sample holding time exceeded
5419371	WSB2 ES4	1.50	SOLID	PAH by GCMS	Benz(a)anthracene	Sample holding time exceeded
5419371	WSB2 ES4	1.50	SOLID	PAH by GCMS	Benzo(a)pyrene	Sample holding time exceeded
5419371	WSB2 ES4	1.50	SOLID	PAH by GCMS	Benzo(b)fluoranthene	Sample holding time exceeded
5419371	WSB2 ES4	1.50	SOLID	PAH by GCMS	Benzo(g,h,i)perylene	Sample holding time exceeded
5419371	WSB2 ES4	1.50	SOLID	PAH by GCMS	Benzo(k)fluoranthene	Sample holding time exceeded
5419371	WSB2 ES4	1.50	SOLID	PAH by GCMS	Chrysene	Sample holding time exceeded
5419371	WSB2 ES4	1.50	SOLID	PAH by GCMS	Chrysene-d12 % recovery**	Sample holding time exceeded
5419371	WSB2 ES4	1.50	SOLID	PAH by GCMS	Dibenzo(a,h)anthracene	Sample holding time exceeded

CERTIFICATE OF ANALYSIS

SDG: 120317-4 **Location:** Redhill - Bourne Estate **Order Number:**
Job: H_CAMREITH_REH-5 **Customer:** Campbell Reith Hill **Report Number:** 183005
Client Reference: **Attention:** Rhyadd Watkins **Superseded Report:**

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
5419371	WSB2 ES4	1.50	SOLID	PAH by GCMS	Fluoranthene	Sample holding time exceeded
5419371	WSB2 ES4	1.50	SOLID	PAH by GCMS	Fluorene	Sample holding time exceeded
5419707	WSB5 ES6	0.50	SOLID	PAH by GCMS	Acenaphthene	Sample holding time exceeded
5419707	WSB5 ES6	0.50	SOLID	PAH by GCMS	Acenaphthene-d10 % recovery**	Sample holding time exceeded
5419707	WSB5 ES6	0.50	SOLID	PAH by GCMS	Acenaphthylene	Sample holding time exceeded
5419707	WSB5 ES6	0.50	SOLID	PAH by GCMS	Anthracene	Sample holding time exceeded
5419707	WSB5 ES6	0.50	SOLID	PAH by GCMS	Benz(a)anthracene	Sample holding time exceeded
5419707	WSB5 ES6	0.50	SOLID	PAH by GCMS	Benzo(a)pyrene	Sample holding time exceeded
5419707	WSB5 ES6	0.50	SOLID	PAH by GCMS	Benzo(b)fluoranthene	Sample holding time exceeded
5419707	WSB5 ES6	0.50	SOLID	PAH by GCMS	Benzo(g,h,i)perylene	Sample holding time exceeded
5419707	WSB5 ES6	0.50	SOLID	PAH by GCMS	Benzo(k)fluoranthene	Sample holding time exceeded
5419707	WSB5 ES6	0.50	SOLID	PAH by GCMS	Chrysene	Sample holding time exceeded
5419707	WSB5 ES6	0.50	SOLID	PAH by GCMS	Chrysene-d12 % recovery**	Sample holding time exceeded
5419707	WSB5 ES6	0.50	SOLID	PAH by GCMS	Dibenzo(a,h)anthracene	Sample holding time exceeded
5419707	WSB5 ES6	0.50	SOLID	PAH by GCMS	Fluoranthene	Sample holding time exceeded
5419707	WSB5 ES6	0.50	SOLID	PAH by GCMS	Fluorene	Sample holding time exceeded
5419707	WSB5 ES6	0.50	SOLID	PAH by GCMS	Indeno(1,2,3-cd)pyrene	Sample holding time exceeded
5419707	WSB5 ES6	0.50	SOLID	PAH by GCMS	Naphthalene	Sample holding time exceeded
5419707	WSB5 ES6	0.50	SOLID	PAH by GCMS	Naphthalene-d8 % recovery**	Sample holding time exceeded
5419707	WSB5 ES6	0.50	SOLID	PAH by GCMS	PAH, Total Detected USEPA 16	Sample holding time exceeded
5419707	WSB5 ES6	0.50	SOLID	PAH by GCMS	Perylene-d12 % recovery**	Sample holding time exceeded
5419768	WSB5 ES7	1.00	SOLID	TPH c6-40 Value of soil	TPH >C6-C40	Sample holding time exceeded
5429882	BHB2 ES3	1.00	SOLID	TPH c6-40 Value of soil	TPH >C6-C40	Sample holding time exceeded
5430074	BHB2 ES3	1.00	SOLID	PAH by GCMS	Acenaphthene	Sample holding time exceeded
5430074	BHB2 ES3	1.00	SOLID	PAH by GCMS	Acenaphthylene	Sample holding time exceeded
5430074	BHB2 ES3	1.00	SOLID	PAH by GCMS	Anthracene	Sample holding time exceeded
5430074	BHB2 ES3	1.00	SOLID	PAH by GCMS	Benz(a)anthracene	Sample holding time exceeded
5430074	BHB2 ES3	1.00	SOLID	PAH by GCMS	Benzo(a)pyrene	Sample holding time exceeded
5430074	BHB2 ES3	1.00	SOLID	PAH by GCMS	Benzo(b)fluoranthene	Sample holding time exceeded
5430074	BHB2 ES3	1.00	SOLID	PAH by GCMS	Benzo(g,h,i)perylene	Sample holding time exceeded
5430074	BHB2 ES3	1.00	SOLID	PAH by GCMS	Benzo(k)fluoranthene	Sample holding time exceeded
5430074	BHB2 ES3	1.00	SOLID	PAH by GCMS	Chrysene	Sample holding time exceeded
5430074	BHB2 ES3	1.00	SOLID	PAH by GCMS	Dibenzo(a,h)anthracene	Sample holding time exceeded
5430074	BHB2 ES3	1.00	SOLID	PAH by GCMS	Fluoranthene	Sample holding time exceeded
5430074	BHB2 ES3	1.00	SOLID	PAH by GCMS	Fluorene	Sample holding time exceeded
5430074	BHB2 ES3	1.00	SOLID	PAH by GCMS	Indeno(1,2,3-cd)pyrene	Sample holding time exceeded
5430074	BHB2 ES3	1.00	SOLID	PAH by GCMS	Naphthalene	Sample holding time exceeded
5430074	BHB2 ES3	1.00	SOLID	PAH by GCMS	Phenanthrene	Sample holding time exceeded
5430074	BHB2 ES3	1.00	SOLID	PAH by GCMS	Pyrene	Sample holding time exceeded
5430448	WSB6 ES8	0.75	SOLID	PAH by GCMS	Acenaphthene	Sample holding time exceeded
5430448	WSB6 ES8	0.75	SOLID	PAH by GCMS	Acenaphthylene	Sample holding time exceeded
5430448	WSB6 ES8	0.75	SOLID	PAH by GCMS	Anthracene	Sample holding time exceeded
5430448	WSB6 ES8	0.75	SOLID	PAH by GCMS	Benz(a)anthracene	Sample holding time exceeded
5430448	WSB6 ES8	0.75	SOLID	PAH by GCMS	Benzo(a)pyrene	Sample holding time exceeded
5430448	WSB6 ES8	0.75	SOLID	PAH by GCMS	Benzo(b)fluoranthene	Sample holding time exceeded
5430448	WSB6 ES8	0.75	SOLID	PAH by GCMS	Benzo(g,h,i)perylene	Sample holding time exceeded
5430448	WSB6 ES8	0.75	SOLID	PAH by GCMS	Benzo(k)fluoranthene	Sample holding time exceeded
5430448	WSB6 ES8	0.75	SOLID	PAH by GCMS	Chrysene	Sample holding time exceeded
5430448	WSB6 ES8	0.75	SOLID	PAH by GCMS	Dibenzo(a,h)anthracene	Sample holding time exceeded
5430448	WSB6 ES8	0.75	SOLID	PAH by GCMS	Fluoranthene	Sample holding time exceeded
5430448	WSB6 ES8	0.75	SOLID	PAH by GCMS	Fluorene	Sample holding time exceeded
5430448	WSB6 ES8	0.75	SOLID	PAH by GCMS	Indeno(1,2,3-cd)pyrene	Sample holding time exceeded
5430448	WSB6 ES8	0.75	SOLID	PAH by GCMS	Naphthalene	Sample holding time exceeded
5430448	WSB6 ES8	0.75	SOLID	PAH by GCMS	Phenanthrene	Sample holding time exceeded
5430448	WSB6 ES8	0.75	SOLID	PAH by GCMS	Pyrene	Sample holding time exceeded
5660343	WSB2 ES6	2.50	SOLID	pH	pH	Sample holding time exceeded
5661245	WSB6 ES9	1.10	SOLID	pH	pH	Sample holding time exceeded
5667203	WSB6	1.10	SOLID	Anions by Kone (soil)	Chloride 2:1 water/soil extract BRE	Sample holding time exceeded
5667203	WSB6	1.10	SOLID	Anions by Kone (soil)	Soluble Sulphate 2:1 extract as SO4 BRE	Sample holding time exceeded
5667210	WSB2	2.50	SOLID	Anions by Kone (soil)	Chloride 2:1 water/soil extract BRE	Sample holding time exceeded

CERTIFICATE OF ANALYSIS

SDG:	120317-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-5	**Customer:**	Campbell Reith Hill	**Report Number:**	183005
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
5667210	WSB2	2.50	SOLID	Anions by Kone (soil)	Soluble Sulphate 2:1 extract as SO4 BRE	Sample holding time exceeded
5506717	BHB2 ES3	1.00	SOLID	GRO by GC-FID (S)	Aliphatics >C10-C12	Volatile container not received
5506717	BHB2 ES3	1.00	SOLID	GRO by GC-FID (S)	Aliphatics >C5-C6	Volatile container not received
5506717	BHB2 ES3	1.00	SOLID	GRO by GC-FID (S)	Aliphatics >C6-C8	Volatile container not received
5506717	BHB2 ES3	1.00	SOLID	GRO by GC-FID (S)	Aliphatics >C8-C10	Volatile container not received
5506717	BHB2 ES3	1.00	SOLID	GRO by GC-FID (S)	Aromatics >EC10-EC12	Volatile container not received
5506717	BHB2 ES3	1.00	SOLID	GRO by GC-FID (S)	Aromatics >EC5-EC7	Volatile container not received
5506717	BHB2 ES3	1.00	SOLID	GRO by GC-FID (S)	Aromatics >EC7-EC8	Volatile container not received
5506717	BHB2 ES3	1.00	SOLID	GRO by GC-FID (S)	Aromatics >EC8-EC10	Volatile container not received
5506717	BHB2 ES3	1.00	SOLID	GRO by GC-FID (S)	Benzene	Volatile container not received
5506717	BHB2 ES3	1.00	SOLID	GRO by GC-FID (S)	Ethylbenzene	Volatile container not received
5506717	BHB2 ES3	1.00	SOLID	GRO by GC-FID (S)	GRO >C5-C12	Volatile container not received
5506717	BHB2 ES3	1.00	SOLID	GRO by GC-FID (S)	GRO Surrogate % recovery**	Volatile container not received
5506717	BHB2 ES3	1.00	SOLID	GRO by GC-FID (S)	m,p-Xylene	Volatile container not received
5506717	BHB2 ES3	1.00	SOLID	GRO by GC-FID (S)	Methyl tertiary butyl ether (MTBE)	Volatile container not received
5506717	BHB2 ES3	1.00	SOLID	GRO by GC-FID (S)	o-Xylene	Volatile container not received
5506717	BHB2 ES3	1.00	SOLID	GRO by GC-FID (S)	sum of detected BTEX by GC	Volatile container not received
5506717	BHB2 ES3	1.00	SOLID	GRO by GC-FID (S)	sum of detected mpo xylene by GC	Volatile container not received
5506717	BHB2 ES3	1.00	SOLID	GRO by GC-FID (S)	Toluene	Volatile container not received

Note : Test results may be compromised

CERTIFICATE OF ANALYSIS

SDG:	120317-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-5	**Customer:**	Campbell Reith Hill	**Report Number:**	183005
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

Notification of NDPs (No determination possible)

Date Received : 17/03/2012 08:25:04

Sample No	Customer Sample Ref.	Depth (m)	Test	Comment
5333257	WSB6 ES11	2.10	Total Organic Carbon	Test unsuitable for analysis - Asbestos
5333257	WSB6 ES11	2.10	Total Organic Carbon	Test unsuitable for analysis - Asbestos
5333257	WSB6 ES11	2.10	Total Organic Carbon	Test unsuitable for analysis - Asbestos
5334290	WSB5 ES6	0.50	Total Organic Carbon	Test unsuitable for analysis - Asbestos
5334290	WSB5 ES6	0.50	Total Organic Carbon	Test unsuitable for analysis - Asbestos
5334290	WSB5 ES6	0.50	Total Organic Carbon	Test unsuitable for analysis - Asbestos
5334291	WSB5 ES7	1.00	Total Organic Carbon	Test unsuitable for analysis - Asbestos
5334291	WSB5 ES7	1.00	Total Organic Carbon	Test unsuitable for analysis - Asbestos
5334291	WSB5 ES7	1.00	Total Organic Carbon	Test unsuitable for analysis - Asbestos

CERTIFICATE OF ANALYSIS

SDG:	120317-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-5	**Customer:**	Campbell Reith Hill	**Report Number:**	183005
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
PM001		Preparation of Samples for Metals Analysis		
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material		
SUB (ASB)				
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material		
TM062 (S)	National Grid Property Holdings Methods for the Collection & Analysis of Samples from National Grid Sites version 1 Sec 3.9	Determination of Phenols in Soils by HPLC		
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)		
TM132	In - house Method	ELTRA CS800 Operators Guide		
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter		
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser		
TM154	In - house Method	Determination of Petroleum Hydrocarbons by EZ Flash GC-FID in the Carbon range C6- C40		
TM173	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID		
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES		
TM218	Microwave extraction – EPA method 3546	Microwave extraction - EPA method 3546		
TM243		Mixed Anions In Soils By Kone		
TM282		Extraction of Magnesium by BRE Method		
TM321		Organic matter Content of Soil By Titration		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	120317-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-5	**Customer:**	Campbell Reith Hill	**Report Number:**	183005
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	5333442	5333449	5333454	5334285	5334286	5333017	5333018	5333020	5333022	5333024
Customer Sample Ref.	BHB2	BHB2	BHB2	WSB1	WSB1	WSB2	WSB2	WSB2	WSB2	WSB2
AGS Ref.	ES3	ES9	ES14	ES1	ES2	ES1	ES2	ES4	ES6	ES7
Depth	1.00	4.00	8.25	0.10	0.50	0.10	0.50	1.50	2.50	3.00
Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
Anions by Kone (soil)									31-May-2012	
Asbestos Identification (Soil)	05-Apr-2012			04-Apr-2012	04-Apr-2012	05-Apr-2012	04-Apr-2012	05-Apr-2012		04-Apr-2012
Cyanide Comp/Free/Total/Thiocyanate	11-Apr-2012			05-Apr-2012	04-Apr-2012	04-Apr-2012	05-Apr-2012	05-Apr-2012		05-Apr-2012
EPH CWG (Aliphatic) GC (S)	25-Apr-2012			25-Apr-2012						
EPH CWG (Aromatic) GC (S)	25-Apr-2012			25-Apr-2012						
GRO by GC-FID (S)	28-Apr-2012			26-Apr-2012						
Magnesium (BRE)									31-May-2012	
Metals by iCap-OES (Soil)	11-Apr-2012	06-Apr-2012	06-Apr-2012	05-Apr-2012	05-Apr-2012	05-Apr-2012	05-Apr-2012	05-Apr-2012		05-Apr-2012
NO3, NO2 and TON by KONE (s)									31-May-2012	
PAH by GCMS	12-Apr-2012	12-Apr-2012	11-Apr-2012	05-Apr-2012	05-Apr-2012	08-Apr-2012	08-Apr-2012	08-Apr-2012		05-Apr-2012
pH	10-Apr-2012			05-Apr-2012	05-Apr-2012	05-Apr-2012	05-Apr-2012	05-Apr-2012	30-May-2012	05-Apr-2012
Phenols by HPLC (S)	11-Apr-2012			05-Apr-2012	04-Apr-2012	05-Apr-2012	05-Apr-2012	05-Apr-2012		05-Apr-2012
Sample description	05-Apr-2012	04-Apr-2012	03-Apr-2012	02-Apr-2012	02-Apr-2012	02-Apr-2012	02-Apr-2012	02-Apr-2012	30-May-2012	02-Apr-2012
Total Organic Carbon	11-Apr-2012			11-Apr-2012	11-Apr-2012	11-Apr-2012	10-Apr-2012	11-Apr-2012		11-Apr-2012
TPH c6-40 Value of soil	11-Apr-2012	11-Apr-2012	11-Apr-2012	11-Apr-2012	25-Apr-2012	11-Apr-2012	25-Apr-2012	25-Apr-2012		11-Apr-2012
TPH CWG GC (S)	28-Apr-2012			26-Apr-2012						

Lab Sample No(s)	5334288	5334290	5334291	5333254	5333255	5333257	5334294
Customer Sample Ref.	WSB5	WSB5	WSB5	WSB6	WSB6	WSB6	WSB6
AGS Ref.	ES4	ES6	ES7	ES8	ES9	ES11	ES10
Depth	0.10	0.50	1.00	0.75	1.10	2.10	0.10
Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
Anions by Kone (soil)					31-May-2012		
Asbestos Identification (Soil)	04-Apr-2012	04-Apr-2012	04-Apr-2012	05-Apr-2012		05-Apr-2012	05-Apr-2012
Asbestos Quant. - Waste Limit*		04-May-2012	04-May-2012			04-May-2012	
Cyanide Comp/Free/Total/Thiocyanate	04-Apr-2012	04-Apr-2012	05-Apr-2012	05-Apr-2012		05-Apr-2012	04-Apr-2012
Magnesium (BRE)					31-May-2012		
Metals by iCap-OES (Soil)	05-Apr-2012	05-Apr-2012	05-Apr-2012	05-Apr-2012		05-Apr-2012	05-Apr-2012
NO3, NO2 and TON by KONE (s)					31-May-2012		
PAH by GCMS	08-Apr-2012	08-Apr-2012	08-Apr-2012	12-Apr-2012		08-Apr-2012	08-Apr-2012
pH	05-Apr-2012	05-Apr-2012	05-Apr-2012	05-Apr-2012	30-May-2012	05-Apr-2012	05-Apr-2012
Phenols by HPLC (S)	04-Apr-2012	04-Apr-2012	05-Apr-2012	05-Apr-2012		05-Apr-2012	05-Apr-2012
Sample description	02-Apr-2012	02-Apr-2012	02-Apr-2012	02-Apr-2012	30-May-2012	02-Apr-2012	02-Apr-2012
Total Organic Carbon	11-Apr-2012			10-Apr-2012			11-Apr-2012
Total Organic Carbon (Asb)		10-Apr-2012	10-Apr-2012			10-Apr-2012	
TPH c6-40 Value of soil	25-Apr-2012	26-Apr-2012	26-Apr-2012	25-Apr-2012		05-Apr-2012	25-Apr-2012

QUALITY FORM	QF.5.10.1
ALCONTROL LABORATORIES	SHEET 1 OF 1 ISSUE NO: 2 ISSUED BY: J Howard
Title of Form **Notification of No Determination Possible**	ISSUE DATE: 22/04/10 APPROVED BY: Vicky Muir

ISSUED BY:

SDG Number : 120317-4 LAB AREA : RASPA

Client : H_CAMREITH_REH ANALYST :

Sample Type : Solid DATE : 25/04/2012

SDG no	Sample No.	Depth	Sample ID.	Analyte(s)	Reason
120317-4	5332872	0.5	FTP4	TPH_C6-C40_S	Sample sent back to client.
120317-4	5332872	0.5	FTP4	Moisture	Sample sent back to client.
120317-4	5332872	0.5	FTP4	Description	Sample sent back to client.

Derwentside Environmental Testing Services

2139

Certificate of Analysis

Date: 30/04/2012

Certificate Number: 12-61870

Client:	Alcontrol Laboratories Units 7 & 8 Hawarden Business Park Manor Road Hawarden Deeside CH5 3US
Our Reference:	12-61870
Client Reference:	SDG 120317-4
Contract Title:	SDG 120317-4
Description:	8 soil samples
Date Received:	18 April 2012
Date Started:	18 April 2012
Date Completed:	30 April 2012
Test Procedures:	Asbestos Analysis (DETS 082)
Notes:	Observations and interpretations are outside the scope of UKAS accreditation
Approved By:	Paul Woodbridge, Senior Operations Manager

Information in Support of the Analytical Results

Analysis

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425um sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample.

Key

*	Denotes test not included in laboratory scope of accreditation
#	Denotes test that holds MCERTS accreditation, however, MCERTS accreditation is only implied if the report carries the MCERTS logo
$	Denotes tests completed by an approved subcontractor
I/S	Denotes insufficient sample to carry out test
U/S	Denotes that the sample is not suitable for testing

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month
Liquids - 2 weeks
Asbestos (test portion) - 6 months

Summary of Asbestos Analysis
Soil Samples

Our Ref: 12-61870
Client Ref: SDG 120317-4
Contract Title: SDG 120317-4

Lab No	Sample Ref	Material Type*	Result	Comment	Analyst
404298	5461988	Soil	Chrysotile	Contains Small Clumps & Loose Fibre Bundles	Jeff Cruddas
404299	5462026	Soil	Chrysotile Amosite	Contains Bundles of Unbound Asbestos Fibres	Jeff Cruddas
404300	5462042	Soil	Chrysotile	Contains Bundle of Unbound Asbestos Fibres	Jeff Cruddas
404301	5462067	Soil	Chrysotile	Contains Bundle of Unbound Asbestos Fibres	Jeff Cruddas
404302	5462097	Soil	Chrysotile Amosite	Contains Bundles of Unbound Asbestos Fibres	Jeff Cruddas
404303	5462111	Soil	Chrysotile	Contains Bundle of Unbound Asbestos Fibres	Jeff Cruddas
404304	5462120	Soil	Chrysotile	Contains Bundles of Unbound Asbestos Fibres	Jeff Cruddas
404305	5462130	Soil	Chrysotile	Contains Bundles of Unbound Asbestos Fibres	Jeff Cruddas

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. NAD = No Asbestos Detected. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETS 082 using polarised light microscopy in accordance with HSG248 and documented in-house methods. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'.

Summary of Asbestos Analysis
Soil Samples

Our Ref: 12-61870
Client Ref: SDG 120317-4
Contract Title: SDG 120317-4

		Lab No.	404298	404299	404300	404301
		Sample Ref	5461988	5462026	5462042	5462067
		Depth				
		Other Ref				
		Sample Type	Soil	Soil	Soil	Soil
Test	**Units**	**DETSxx**				
Asbestos ID		**DETS 082**	**Chrysotile**	**Amosite, Chrysotile**	**Chrysotile**	**Chrysotile**
Total Mass% Asbestos (i+ii)	Mass %		**<0.001**	**<0.001**	**<0.001**	**<0.001**
Quantification by Phase Contrast Optical Microscopy (i)	Mass %	DETSC 1102	<0.001	<0.001	<0.001	<0.001
Gravimetric Quantification (ii)	Mass %	DETSC 1102	na	na	na	na
Breakdown of Gravimetric Analysis						
Mass of Sample	g		589.98	351.28	507.13	405.54
ACMs present*						
Mass of ACM in sample	g					
% ACM by mass	%					
% asbestos in ACM	%					
% asbestos in sample	%					
Potentially Respirable Fibres	Fibres/g	DETSC 1102	na	na	na	na

* Denotes test or material description outside of UKAS accreditation.
% asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264.
Recommended sample size for quantification is approximately 1kg
# denotes deviating sample

Summary of Asbestos Analysis
Soil Samples

Our Ref: 12-61870
Client Ref: SDG 120317-4
Contract Title: SDG 120317-4

		Lab No.	404302	404303	404304	404305
		Sample Ref	5462097	5462111	5462120	5462130
		Depth				
		Other Ref				
		Sample Type	Soil	Soil	Soil	Soil
Test	**Units**	**DETSxx**				
Asbestos ID		**DETS 082**	**Amosite, Chrysotile**	**Chrysotile**	**Chrysotile**	**Chrysotile**
Total Mass% Asbestos (i+ii)	Mass %		**<0.001**	**<0.001**	**0.005**	**0.002**
Quantification by Phase Contrast Optical Microscopy (i)	Mass %	DETSC 1102	<0.001	<0.001	0.005	0.002
Gravimetric Quantification (ii)	Mass %	DETSC 1102	na	na	na	na
Breakdown of Gravimetric Analysis						
Mass of Sample	g		754.75	361.18	117.23	164.45
ACMs present*						
Mass of ACM in sample	g					
% ACM by mass	%					
% asbestos in ACM	%					
% asbestos in sample	%					
Potentially Respirable Fibres	Fibres/g	DETSC 1102	na	na	na	na

* Denotes test or material description outside of UKAS accreditation.
% asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264.
Recommended sample size for quantification is approximately 1kg
# denotes deviating sample

Derwentside Environmental Testing Services

2139

Certificate of Analysis

Date: 03/05/2012

Certificate Number: 12-62276

Client: Alcontrol Laboratories
Units 7 & 8
Hawarden Business Park
Manor Road
Hawarden
Deeside
CH5 3US

Our Reference:	12-62276
Client Reference:	SDG 120317-4
Contract Title:	SDG 120317-4
Description:	1 soil sample
Date Received:	27 April 2012
Date Started:	27 April 2012
Date Completed:	03 May 2012
Test Procedures:	Asbestos Analysis (DETS 082)
Notes:	Observations and interpretations are outside the scope of UKAS accreditation
Approved By:	Paul Woodbridge, Senior Operations Manager

Information in Support of the Analytical Results

Analysis

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425um sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample.

Key

*	Denotes test not included in laboratory scope of accreditation
#	Denotes test that holds MCERTS accreditation, however, MCERTS accreditation is only implied if the report carries the MCERTS logo
$	Denotes tests completed by an approved subcontractor
I/S	Denotes insufficient sample to carry out test
U/S	Denotes that the sample is not suitable for testing

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month
Liquids - 2 weeks
Asbestos (test portion) - 6 months

Summary of Asbestos Analysis
Soil Samples

Our Ref: 12-62276
Client Ref: SDG 120317-4
Contract Title: SDG 120317-4

Lab No	Sample Ref	Material Type*	Result	Comment	Analyst
406778	5502714	Soil	Chrysotile	Contains Bundle of Unbound Asbestos Fibres	Jeff Cruddas

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. NAD = No Asbestos Detected. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETS 082 using polarised light microscopy in accordance with HSG248 and documented in-house methods. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'.

Summary of Asbestos Analysis
Soil Samples

Our Ref: 12-62276

Client Ref: SDG 120317-4

Contract Title: SDG 120317-4

		Lab No.	406778
		Sample Ref	5502714
		Depth	
		Other Ref	
		Sample Type	Soil
Test	**Units**	**DETSxx**	
Asbestos ID		**DETS 082**	**Chrysotile**
Total Mass% Asbestos (i+ii)	Mass %		**<0.001**
Quantification by Phase Contrast Optical Microscopy (i)	Mass %	DETSC 1102	<0.001
Gravimetric Quantification (ii)	Mass %	DETSC 1102	na
Breakdown of Gravimetric Analysis			
Mass of Sample	g		290.69
ACMs present*			
Mass of ACM in sample	g		
% ACM by mass	%		
% asbestos in ACM	%		
% asbestos in sample	%		
Potentially Respirable Fibres	Fibres/g	DETSC 1102	na

* Denotes test or material description outside of UKAS accreditation.

% asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264.

Recommended sample size for quantification is approximately 1kg

# denotes deviating sample

SDG:	120317-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-5	**Customer:**	Campbell Reith Hill	**Report Number:**	183005
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 2 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5 -C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D&C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE:ACETONE	END OVER END	GC-FID
PCB AROCLOR 1254 / PCB CON	D&C	HEXANE:ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE:ACETONE	MICROWAVE TM218.	GC-MS
>C6-C40	WET	HEXANE:ACETONE	SHAKER	GC-FID
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE:ACETONE	SHAKER	GC-FID
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM:ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCB AROCLOR 1254	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PESTOC PROPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	ACETONE	SOLID PHASE EXTRACTION	GC MS
TPH by INFRARED (IR)	TCE	STIRRED EXTRACTION (STIR-BAR)	IR
MINERAL OIL by IR	TCE	STIRRED EXTRACTION (STIR-BAR)	IR
GLYCOLS	NONE	DIRECT INJECTION	GC FID

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials or those identified as potentially asbestos containing during sample description which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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Campbell Reith Hill
Somerset House
47-49 London Road
Redhill
Surrey
RH1 1LV

Attention: Rhyadd Watkins

CERTIFICATE OF ANALYSIS

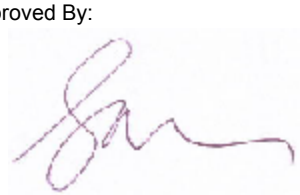
Date:	22 May 2012
Customer:	H_CAMREITH_REH
Sample Delivery Group (SDG):	120312-4
Your Reference:	
Location:	Redhill - Bourne Estate
Report No:	181857

We received 45 samples on Saturday March 10, 2012 and 20 of these samples were scheduled for analysis which was completed on Tuesday May 22, 2012. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	120312-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-4	**Customer:**	Campbell Reith Hill	**Report Number:**	181857
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
5308454	BH2A	ES4	4.50	08/03/2012
5490776	BHB1	D2	1.80	12/03/2012
5490783	BHB1	D4	4.00	12/03/2012
5490773	BHB1	D9	9.44 - 9.55	12/03/2012
5308512	BHB2A	ES	0.30	08/03/2012
5308513	BHB2A	ES	0.50	08/03/2012
5308514	BHB2A	ES	1.00	08/03/2012
5308515	BHB2A	ES	1.50	08/03/2012
5490789	BHB2A	D9	12.00 - 12.45	08/03/2012
5490791	BHB2A	D12	16.95 - 17.05	08/03/2012
5308516	BHB2A	ES	2.00	08/03/2012
5490779	BHB2A	D2	2.00	07/03/2012
5308517	BHB2A	ES	2.50	08/03/2012
5490784	BHB2A	D16	21.00 - 21.45	08/03/2012
5490787	BHB2A	D19	25.95 - 26.05	08/03/2012
5308518	BHB2A	ES	3.00	08/03/2012
5308520	BHB2A	ES	3.50	08/03/2012
5308521	BHB2A	ES	4.00	08/03/2012
5308994	BHB2A	ES	5.00	08/03/2012
5308999	BHB2A	ES	5.50	08/03/2012
5309000	BHB2A	ES	6.00	08/03/2012
5309003	BHB2A	ES	6.50	08/03/2012
5309004	BHB2A	ES	7.00	08/03/2012
5309005	BHB2A	ES	7.50	08/03/2012
5309007	BHB2A	ES	7.80	08/03/2012
5490781	BHB2A	D6	8.00	08/03/2012
5309008	BHB2A	ES	8.20	08/03/2012
5308501	WS B3	ES	0.15	08/03/2012
5308502	WS B3	ES	0.50	08/03/2012
5308503	WS B3	ES	0.90	08/03/2012
5308504	WS B3	ES	1.10	08/03/2012
5308505	WS B3	ES	1.50	08/03/2012
5308508	WS B3	ES	2.00	08/03/2012
5308509	WS B3	ES	2.50	08/03/2012
5308510	WS B3	ES	3.00	08/03/2012
5308486	WS B4	ES1	0.10	08/03/2012
5308487	WS B4	ES2	0.25	08/03/2012
5308492	WS B4	ES3	0.50	08/03/2012
5308493	WS B4	ES4	1.00	08/03/2012
5308495	WS B4	ES5	1.50	08/03/2012
5308496	WS B4	ES6	2.00	08/03/2012
5308497	WS B4	ES7	2.50	08/03/2012
5308499	WS B4	ES8	2.80	08/03/2012
5490793	WSB3	D1	1.20 - 1.65	
5490792	WSB4	D1	1.20 - 1.65	

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	120312-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-4	**Customer:**	Campbell Reith Hill	**Report Number:**	181857
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

SOLID

Results Legend

X Test

N No Determination Possible

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			5490773	BHB1	D9	9.44 - 9.55	BAG
			5490776	BHB1	D2	1.80	BAG
			5490783	BHB1	D4	4.00	BAG
			5308514	BHB2A	ES	1.00	250g Amber Jar (AL
			5308521	BHB2A	ES	4.00	400g Tub (ALE214)
			5490779	BHB2A	D2	2.00	400g Tub (ALE214)
			5490781	BHB2A	D6	8.00	BAG
			5490784	BHB2A	D16	21.00 - 21.45	BAG
			5490787	BHB2A	D19	25.95 - 26.05	BAG
			5490789	BHB2A	D9	12.00 - 12.45	BAG
			5490791	BHB2A	D12	16.95 - 17.05	BAG
			5308501	WS B3	ES	0.15	250g Amber Jar (AL
			5308503	WS B3	ES	0.90	400g Tub (ALE214)
			5308509	WS B3	ES	2.50	250g Amber Jar (AL
			5490793	WSB3	D1	1.20 - 1.65	400g Tub (ALE214)
			5308486	WS B4	ES1	0.10	1kg TUB
			5308492	WS B4	ES3	0.50	250g Amber Jar (AL
			5308495	WS B4	ES5	1.50	400g Tub (ALE214)
			5308499	WS B4	ES8	2.80	250g Amber Jar (AL
			5490792	WSB4	D1	1.20 - 1.65	400g Tub (ALE214)
Anions by Kone (soil)	All	NDPs: 0 Tests: 11	X	X	X					X	X	X	X	X	X					X									X
Asbestos Identification (Soil)	All	NDPs: 0 Tests: 13		X			X		X	X						X		X	X	X		X		X		X		X	X
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 9					X		X							X		X	X			X		X		X		X	
Magnesium (BRE)	All	NDPs: 0 Tests: 2	X								X																		
Metals by iCap-OES (Soil)	Arsenic	NDPs: 0 Tests: 9				X		X							X		X		X		X		X		X		X		
	Cadmium	NDPs: 0 Tests: 9				X		X							X		X		X		X		X		X		X		
	Chromium	NDPs: 0 Tests: 9				X		X							X		X		X		X		X		X		X		
	Copper	NDPs: 0 Tests: 9				X		X							X		X		X		X		X		X		X		
	Lead	NDPs: 0 Tests: 9				X		X							X		X		X		X		X		X		X		
	Mercury	NDPs: 0 Tests: 9				X		X							X		X		X		X		X		X		X		
	Nickel	NDPs: 0 Tests: 9				X		X							X		X		X		X		X		X		X		
	Selenium	NDPs: 0 Tests: 9				X		X							X		X		X		X		X		X		X		
	Zinc	NDPs: 0 Tests: 9				X		X							X		X		X		X		X		X		X		
NO3, NO2 and TON by KONE (s)	All	NDPs: 0 Tests: 2	X								X																		
PAH by GCMS	All	NDPs: 0 Tests: 9				X		X							X		X		X		X		X		X		X		

CERTIFICATE OF ANALYSIS

SDG:	120312-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-4	**Customer:**	Campbell Reith Hill	**Report Number:**	181857
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

SOLID

Results Legend

X **Test**

N **No Determination Possible**

Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container	pH	Phenols by HPLC (S)	Sample description	Total Organic Carbon	TPH c6-40 Value of soil
					All	All	All	All	All
					NDPs: 0 Tests: 20	NDPs: 0 Tests: 9	NDPs: 0 Tests: 20	NDPs: 0 Tests: 9	NDPs: 0 Tests: 9
5490773	BHB1	D9	9.44 - 9.55	BAG	X		X		
5490776	BHB1	D2	1.80	BAG	X		X		
5490783	BHB1	D4	4.00	BAG	X		X		
5308514	BHB2A	ES	1.00	250g Amber Jar (AL	X		X	X	X
				400g Tub (ALE214)		X			
5308521	BHB2A	ES	4.00	250g Amber Jar (AL	X		X	X	X
				400g Tub (ALE214)		X			
5490779	BHB2A	D2	2.00	BAG	X		X		
5490781	BHB2A	D6	8.00	BAG	X		X		
5490784	BHB2A	D16	21.00 - 21.45	BAG	X		X		
5490787	BHB2A	D19	25.95 - 26.05	BAG	X		X		
5490789	BHB2A	D9	12.00 - 12.45	BAG	X		X		
5490791	BHB2A	D12	16.95 - 17.05	BAG	X		X		
5308501	WS B3	ES	0.15	250g Amber Jar (AL				X	X
				400g Tub (ALE214)	X	X	X		
5308503	WS B3	ES	0.90	250g Amber Jar (AL				X	X
				400g Tub (ALE214)	X	X	X		
5308509	WS B3	ES	2.50	400g Tub (ALE214)	X	X	X	X	X
5490793	WSB3	D1	1.20 - 1.65	1kg TUB	X		X		
5308486	WS B4	ES1	0.10	250g Amber Jar (AL				X	X
				400g Tub (ALE214)	X	X	X		
5308492	WS B4	ES3	0.50	250g Amber Jar (AL				X	X
				400g Tub (ALE214)	X	X	X		
5308495	WS B4	ES5	1.50	250g Amber Jar (AL				X	X
				400g Tub (ALE214)	X	X	X		
5308499	WS B4	ES8	2.80	250g Amber Jar (AL				X	X
				400g Tub (ALE214)	X	X	X		
5490792	WSB4	D1	1.20 - 1.65	1kg TUB	X		X		

CERTIFICATE OF ANALYSIS

SDG:	120312-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-4	**Customer:**	Campbell Reith Hill	**Report Number:**	181857
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Grain size	Inclusions	Inclusions 2
5490773	BHB1	9.44 - 9.55	Dark Brown	Clay	<0.063 mm	None	None
5490776	BHB1	1.80	Dark Brown	Loamy Sand	0.063 - 0.1 mm	Crushed Brick	Stones
5490783	BHB1	4.00	Light Brown	Sand	0.1 - 2 mm	Stones	None
5308514	BHB2A	1.00	Dark Brown	Sandy Loam	0.063 - 0.1 mm	Stones	Brick
5308521	BHB2A	4.00	Dark Brown	Sandy Clay Loam	0.1 - 2 mm	Brick	Stones
5490779	BHB2A	2.00	Dark Brown	Sand	0.1 - 2 mm	Brick	Stones
5490781	BHB2A	8.00	Dark Brown	Clay	<0.063 mm	N/A	N/A
5490784	BHB2A	21.00 - 21.45	Grey	Clay	<0.063 mm	Stones	None
5490787	BHB2A	25.95 - 26.05	Dark Brown	Clay	<0.063 mm	None	None
5490789	BHB2A	12.00 - 12.45	Dark Brown	Clay	<0.063 mm	None	None
5490791	BHB2A	16.95 - 17.05	Dark Brown	Clay	<0.063 mm	None	None
5308501	WS B3	0.15	Dark Brown	Sandy Clay Loam	0.1 - 2 mm	Stones	Vegetation
5308503	WS B3	0.90	Dark Brown	Sandy Clay Loam	0.063 - 0.1 mm	Stones	None
5308509	WS B3	2.50	Dark Brown	Silty Clay	0.063 - 0.1 mm	Stones	N/A
5308486	WS B4	0.10	Dark Brown	Sandy Clay Loam	0.063 - 0.1 mm	Stones	None
5308492	WS B4	0.50	Dark Brown	Sandy Clay Loam	0.1 - 2 mm	Brick	Stones
5308495	WS B4	1.50	Light Brown	Sand	0.1 - 2 mm	Stones	None
5308499	WS B4	2.80	Beige	Sand	0.1 - 2 mm	Stones	None
5490793	WSB3	1.20 - 1.65	Dark Brown	Top Soil	0.063 - 0.1 mm	Brick	Stones
5490792	WSB4	1.20 - 1.65	Yellow	Sand	0.1 - 2 mm	Crushed Brick	Ash/Soot

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

CERTIFICATE OF ANALYSIS

SDG:	120312-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-4	**Customer:**	Campbell Reith Hill	**Report Number:**	181857
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	BHB1	BHB1	BHB1	BHB2A	BHB2A	BHB2A
			Depth (m)	1.80	4.00	9.44 - 9.55	1.00	12.00 - 12.45	16.95 - 17.05
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
			Date Sampled	12/03/2012	12/03/2012	12/03/2012	08/03/2012	08/03/2012	08/03/2012
			Sample Time	.	.	.	.	.	.
			Date Received	10/03/2012	10/03/2012	10/03/2012	10/03/2012	10/03/2012	10/03/2012
			SDG Ref	120312-4	120312-4	120312-4	120312-4	120312-4	120312-4
			Lab Sample No.(s)	5490776	5490783	5490773	5308514	5490789	5490791
			AGS Reference	D2	D4	D9	ES	D9	D12
Phenol	<0.01 mg/kg	TM062 (S)					<0.01 § M		
Soil Organic Matter (SOM)	<0.35 %	TM132					7.53 #		
pH	1 pH Units	TM133	10.8 § M	8.77 § M	4.42 § M	8.22 M	7.15 § M	9.1 § M	
Cyanide, Total	<1 mg/kg	TM153					<1 § M		
Cyanide, Free	<1 mg/kg	TM153					<1 § M		
TPH >C6-C40	<10 mg/kg	TM154					<10 #		
Arsenic	<0.6 mg/kg	TM181					14.5 M		
Cadmium	<0.02 mg/kg	TM181					0.341 M		
Chromium	<0.9 mg/kg	TM181					14.7 M		
Copper	<1.4 mg/kg	TM181					163 M		
Lead	<0.7 mg/kg	TM181					323 M		
Mercury	<0.14 mg/kg	TM181					2.8 M		
Nickel	<0.2 mg/kg	TM181					18.4 M		
Selenium	<1 mg/kg	TM181					<1 #		
Zinc	<1.9 mg/kg	TM181					106 M		
Soluble Sulphate 2:1 extract as SO4 BRE	<0.003 g/l	TM243	0.316 § M	0.009 § M	1.73 § M		0.592 § M	0.307 § M	
Chloride 2:1 water/soil extract BRE	<0.001 g/l	TM243			0.0315 § M				
Nitrate as NO3, 2:1 water soluble (BRE)	<0.0003 g/l	TM243			<0.0003				
Magnesium (BRE)	<0.008 g/l	TM282			0.0441				

CERTIFICATE OF ANALYSIS

SDG:	120312-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-4	**Customer:**	Campbell Reith Hill	**Report Number:**	181857
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	BHB2A	BHB2A	BHB2A	BHB2A	BHB2A	WS B3
			Depth (m)	2.00	21.00 - 21.45	25.95 - 26.05	4.00	8.00	0.15
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
			Date Sampled	07/03/2012	08/03/2012	08/03/2012	08/03/2012	08/03/2012	08/03/2012
			Sample Time	.	.	.	.	.	.
			Date Received	10/03/2012	10/03/2012	10/03/2012	10/03/2012	10/03/2012	10/03/2012
			SDG Ref	120312-4	120312-4	120312-4	120312-4	120312-4	120312-4
			Lab Sample No.(s)	5490779	5490784	5490787	5308521	5490781	5308501
			AGS Reference	D2	D16	D19	ES	D6	ES
Phenol	<0.01 mg/kg	TM062 (S)					<0.01 § M		0.013 § M
Soil Organic Matter (SOM)	<0.35 %	TM132					6.38 #		10.4 #
pH	1 pH Units	TM133	8.34 § M	8.73 § M	9.49 § M		8.52 M	5.44 § M	7.45 M
Cyanide, Total	<1 mg/kg	TM153					<1 § M		<1 M
Cyanide, Free	<1 mg/kg	TM153					<1 § M		<1 M
TPH >C6-C40	<10 mg/kg	TM154					15.5 #		237 #
Arsenic	<0.6 mg/kg	TM181					16.3 M		27.3 M
Cadmium	<0.02 mg/kg	TM181					0.391 M		7.2 M
Chromium	<0.9 mg/kg	TM181					14.8 M		84.1 M
Copper	<1.4 mg/kg	TM181					151 M		533 M
Lead	<0.7 mg/kg	TM181					471 M		1940 M
Mercury	<0.14 mg/kg	TM181					2.91 M		0.508 M
Nickel	<0.2 mg/kg	TM181					18.7 M		40.6 M
Selenium	<1 mg/kg	TM181					<1 #		1.14 #
Zinc	<1.9 mg/kg	TM181					142 M		834 M
Soluble Sulphate 2:1 extract as SO4 BRE	<0.003 g/l	TM243	0.133 § M	0.293 § M	0.0377 § M			0.797 § M	
Chloride 2:1 water/soil extract BRE	<0.001 g/l	TM243						0.0284 § M	
Nitrate as NO3, 2:1 water soluble (BRE)	<0.0003 g/l	TM243						0.00265	
Magnesium (BRE)	<0.008 g/l	TM282						0.0147	

CERTIFICATE OF ANALYSIS

SDG:	120312-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-4	**Customer:**	Campbell Reith Hill	**Report Number:**	181857
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	WS B3	WS B3	WS B4	WS B4	WS B4	WSB3
			Depth (m)	0.90	2.50	0.10	0.50	1.50	1.20 - 1.65
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
			Date Sampled	08/03/2012	08/03/2012	08/03/2012	08/03/2012	08/03/2012	-
			Sample Time	.	.	.	.	.	.
			Date Received	10/03/2012	10/03/2012	10/03/2012	10/03/2012	10/03/2012	10/03/2012
			SDG Ref	120312-4	120312-4	120312-4	120312-4	120312-4	120312-4
			Lab Sample No.(s)	5308503	5308509	5308486	5308492	5308495	5490793
			AGS Reference	ES	ES	ES1	ES3	ES5	D1
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 § M	<0.01 § M	<0.01 § M	<0.01 § M	<0.01 § M	
Soil Organic Matter (SOM)	<0.35 %	TM132		3.84 #	5.78 #	7.84 #	6.52 #	0.784 #	
pH	1 pH Units	TM133		7.67 M	7.84 M	7.69 M	8.58 M	8.87 M	8.57 § M
Cyanide, Total	<1 mg/kg	TM153		1.22 § M	<1 M	<1 § M	<1 § M	<1 § M	
Cyanide, Free	<1 mg/kg	TM153		<1 § M	<1 M	<1 § M	<1 § M	<1 § M	
TPH >C6-C40	<10 mg/kg	TM154		219 #	23.3 #	318 #	156 #	127 #	
Arsenic	<0.6 mg/kg	TM181		15.5 M	23.1 M	14.7 M	17 M	8.66 M	
Cadmium	<0.02 mg/kg	TM181		4.74 M	0.478 M	2.57 M	0.571 M	0.192 M	
Chromium	<0.9 mg/kg	TM181		57 M	14.8 M	30 M	23.2 M	13.6 M	
Copper	<1.4 mg/kg	TM181		124 M	321 M	61.2 M	144 M	54.5 M	
Lead	<0.7 mg/kg	TM181		595 M	563 M	227 M	297 M	42.3 M	
Mercury	<0.14 mg/kg	TM181		1.14 M	3.14 M	1.27 M	1.32 M	0.191 M	
Nickel	<0.2 mg/kg	TM181		26.6 M	37.7 M	30.5 M	22.5 M	14.5 M	
Selenium	<1 mg/kg	TM181		1.02 #	1.08 #	1.2 #	<1 #	<1 #	
Zinc	<1.9 mg/kg	TM181		417 M	214 M	292 M	254 M	39.8 M	
Soluble Sulphate 2:1 extract as SO4 BRE	<0.003 g/l	TM243							0.0518 § M

CERTIFICATE OF ANALYSIS

SDG:	120312-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-4	**Customer:**	Campbell Reith Hill	**Report Number:**	181857
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	WS B4	WSB4
			Depth (m)	2.80	1.20 - 1.65
			Sample Type	Soil/Solid	Soil/Solid
			Date Sampled	08/03/2012	-
			Sample Time	.	.
			Date Received	10/03/2012	10/03/2012
			SDG Ref	120312-4	120312-4
			Lab Sample No.(s)	5308499	5490792
			AGS Reference	ES8	D1
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 § M	
Soil Organic Matter (SOM)	<0.35 %	TM132		2.12 #	
pH	1 pH Units	TM133		10.6 M	9.21 § M
Cyanide, Total	<1 mg/kg	TM153		<1 § M	
Cyanide, Free	<1 mg/kg	TM153		<1 § M	
TPH >C6-C40	<10 mg/kg	TM154		197 #	
Arsenic	<0.6 mg/kg	TM181		18.3 M	
Cadmium	<0.02 mg/kg	TM181		0.318 M	
Chromium	<0.9 mg/kg	TM181		18.5 M	
Copper	<1.4 mg/kg	TM181		33.9 M	
Lead	<0.7 mg/kg	TM181		373 M	
Mercury	<0.14 mg/kg	TM181		0.531 M	
Nickel	<0.2 mg/kg	TM181		18.5 M	
Selenium	<1 mg/kg	TM181		<1 #	
Zinc	<1.9 mg/kg	TM181		141 M	
Soluble Sulphate 2:1 extract as SO4 BRE	<0.003 g/l	TM243			1.04 § M

CERTIFICATE OF ANALYSIS

SDG:	120312-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-4	**Customer:**	Campbell Reith Hill	**Report Number:**	181857
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	BHB2A	BHB2A	WS B3	WS B3	WS B3	WS B4
			Depth (m)	1.00	4.00	0.15	0.90	2.50	0.10
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
			Date Sampled	08/03/2012	08/03/2012	08/03/2012	08/03/2012	08/03/2012	08/03/2012
			Sample Time	.	.	.	.	.	.
			Date Received	10/03/2012	10/03/2012	10/03/2012	10/03/2012	10/03/2012	10/03/2012
			SDG Ref	120312-4	120312-4	120312-4	120312-4	120312-4	120312-4
			Lab Sample No.(s)	5308514	5308521	5308501	5308503	5308509	5308486
			AGS Reference	ES	ES	ES	ES	ES	ES1
Naphthalene-d8 % recovery**	%	TM218		91.4	99	97.3 §	93.8 §	98.4	99.9 §
Acenaphthene-d10 % recovery**	%	TM218		89.1	96.9	96.2 §	94.2 §	94.9	97.4 §
Phenanthrene-d10 % recovery**	%	TM218		85.9	93.7	92.6 §	92.6 §	95.2	94.9 §
Chrysene-d12 % recovery**	%	TM218		83	84.5	91.1 §	90.6 §	89	94.7 §
Perylene-d12 % recovery**	%	TM218		77.4	84.6	92.4 §	97.3 §	90.5	97.9 §
Naphthalene	<9 µg/kg	TM218		45.6 M	230 M	139 § M	95.2 § M	48 § M	104 § M
Acenaphthylene	<12 µg/kg	TM218		<12 M	<12 M	108 § M	105 § M	<12 § M	102 § M
Acenaphthene	<8 µg/kg	TM218		<8 M	<8 M	76.9 § M	43.9 § M	<8 § M	34.2 § M
Fluorene	<10 µg/kg	TM218		<10 M	<10 M	64.7 § M	44.5 § M	<10 § M	35.7 § M
Phenanthrene	<15 µg/kg	TM218		176 M	154 M	1220 § M	802 § M	47.6 § M	759 § M
Anthracene	<16 µg/kg	TM218		<16 M	<16 M	234 § M	188 § M	<16 § M	191 § M
Fluoranthene	<17 µg/kg	TM218		40.1 M	39.7 M	2500 § M	1930 § M	<17 § M	1840 § M
Pyrene	<15 µg/kg	TM218		42.1 M	44.6 M	2030 § M	1600 § M	<15 § M	1610 § M
Benz(a)anthracene	<14 µg/kg	TM218		46 M	48.7 M	1110 § M	938 § M	28.1 § M	934 § M
Chrysene	<10 µg/kg	TM218		63.4 M	44.5 M	1100 § M	910 § M	17.8 § M	915 § M
Benzo(b)fluoranthene	<15 µg/kg	TM218		69.4 M	61.8 M	1760 § M	1570 § M	20.2 § M	1570 § M
Benzo(k)fluoranthene	<14 µg/kg	TM218		<14 M	<14 M	580 § M	538 § M	<14 § M	519 § M
Benzo(a)pyrene	<15 µg/kg	TM218		28.6 M	28.5 M	1240 § M	1220 § M	<15 § M	1090 § M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		24.1 M	23 M	748 § M	825 § M	<18 § M	680 § M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		<23 M	<23 M	219 § M	223 § M	<23 § M	199 § M
Benzo(g,h,i)perylene	<24 µg/kg	TM218		41.1 M	45.1 M	887 § M	997 § M	<24 § M	863 § M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		576	720	14000 §	12000 §	162	11400 §

CERTIFICATE OF ANALYSIS

SDG:	120312-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-4	**Customer:**	Campbell Reith Hill	**Report Number:**	181857
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	WS B4	WS B4	WS B4			
			Depth (m)	0.50	1.50	2.80			
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid			
			Date Sampled	08/03/2012	08/03/2012	08/03/2012			
			Sample Time	.	.	.			
			Date Received	10/03/2012	10/03/2012	10/03/2012			
			SDG Ref	120312-4	120312-4	120312-4			
			Lab Sample No.(s)	5308492	5308495	5308499			
			AGS Reference	ES3	ES5	ES8			
Naphthalene-d8 % recovery**	%	TM218		97.9 §	99.5 §	96.8			
Acenaphthene-d10 % recovery**	%	TM218		96.3 §	99.7 §	95 §			
Phenanthrene-d10 % recovery**	%	TM218		93.7 §	93.9 §	93.1			
Chrysene-d12 % recovery**	%	TM218		93.3 §	93.6 §	92.7 §			
Perylene-d12 % recovery**	%	TM218		95.5 §	97.9 §	96			
Naphthalene	<9 µg/kg	TM218		325 § M	<9 § M	290 M			
Acenaphthylene	<12 µg/kg	TM218		34.1 § M	<12 § M	35.2 § M			
Acenaphthene	<8 µg/kg	TM218		12.5 § M	<8 § M	35.5 § M			
Fluorene	<10 µg/kg	TM218		15.7 § M	<10 § M	49.3 M			
Phenanthrene	<15 µg/kg	TM218		451 § M	<15 § M	852 M			
Anthracene	<16 µg/kg	TM218		75 § M	<16 § M	152 § M			
Fluoranthene	<17 µg/kg	TM218		565 § M	<17 § M	1040 M			
Pyrene	<15 µg/kg	TM218		507 § M	<15 § M	848 M			
Benz(a)anthracene	<14 µg/kg	TM218		369 § M	<14 § M	440 § M			
Chrysene	<10 µg/kg	TM218		352 § M	<10 § M	390 § M			
Benzo(b)fluoranthene	<15 µg/kg	TM218		568 § M	<15 § M	546 § M			
Benzo(k)fluoranthene	<14 µg/kg	TM218		174 § M	<14 § M	181 § M			
Benzo(a)pyrene	<15 µg/kg	TM218		375 § M	<15 § M	421 § M			
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		217 § M	<18 § M	232 M			
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		75.8 § M	<23 § M	65.8 M			
Benzo(g,h,i)perylene	<24 µg/kg	TM218		277 § M	<24 § M	298 § M			
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		4390 §	<118 §	5870			

CERTIFICATE OF ANALYSIS

SDG:	120312-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-4	**Customer:**	Campbell Reith Hill	**Report Number:**	181857
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

Asbestos Identification - Soil

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number		03/04/12	Martin Cotterell	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	BHB1 D 2 1.80 SOLID 12/03/2012 00:00:00 120312-4 5490776 TM048	27/04/12	Kevin Bowron	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	BHB2A D 2 2.00 SOLID 07/03/2012 00:00:00 120312-4 5490779 TM048	26/04/12	Kevin Bowron	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Detected
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	BHB2A ES 1.00 SOLID 08/03/2012 00:00:00 120312-4 5308514 TM048	03/04/12	Martin Cotterell	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Detected
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	BHB2A ES 4.00 SOLID 08/03/2012 00:00:00 120312-4 5308521 TM048	03/04/12	Martin Cotterell	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

CERTIFICATE OF ANALYSIS

SDG:	120312-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-4	**Customer:**	Campbell Reith Hill	**Report Number:**	181857
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	WS B4 ES 1 0.10 SOLID 08/03/2012 00:00:00 120312-4 5308486 TM048	03/04/12	Lauren Sargeant	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	WS B4 ES 3 0.50 SOLID 08/03/2012 00:00:00 120312-4 5308492 TM048	03/04/12	Martin Cotterell	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Detected
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	WS B4 ES 5 1.50 SOLID 08/03/2012 00:00:00 120312-4 5308495 TM048	03/04/12	Martin Cotterell	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	WS B4 ES 8 2.80 SOLID 08/03/2012 00:00:00 120312-4 5308499 TM048	03/04/12	Lauren Sargeant	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	WSB3 D 1 1.20 - 1.65 SOLID 120312-4 5490793 TM048	27/04/12	Kevin Bowron	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Detected
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	WSB4 D 1 1.20 - 1.65 SOLID 120312-4 5490792 TM048	26/04/12	Kevin Bowron	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

CERTIFICATE OF ANALYSIS

SDG:	120312-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-4	**Customer:**	Campbell Reith Hill	**Report Number:**	181857
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

Notification of Deviating Samples

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
5388493	WS B4 ES5	1.50	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Free	Sample holding time exceeded
5388493	WS B4 ES5	1.50	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Total	Sample holding time exceeded
5388515	WS B4 ES5	1.50	SOLID	Phenols by HPLC (S)	Phenol	Sample holding time exceeded
5388534	WS B4 ES3	0.50	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Free	Sample holding time exceeded
5388534	WS B4 ES3	0.50	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Total	Sample holding time exceeded
5388554	WS B4 ES3	0.50	SOLID	Phenols by HPLC (S)	Phenol	Sample holding time exceeded
5393228	WS B4 ES1	0.10	SOLID	PAH by GCMS	Acenaphthene	Sample holding time exceeded
5393228	WS B4 ES1	0.10	SOLID	PAH by GCMS	Acenaphthene-d10 % recovery**	Sample holding time exceeded
5393228	WS B4 ES1	0.10	SOLID	PAH by GCMS	Acenaphthylene	Sample holding time exceeded
5393228	WS B4 ES1	0.10	SOLID	PAH by GCMS	Anthracene	Sample holding time exceeded
5393228	WS B4 ES1	0.10	SOLID	PAH by GCMS	Benz(a)anthracene	Sample holding time exceeded
5393228	WS B4 ES1	0.10	SOLID	PAH by GCMS	Benzo(a)pyrene	Sample holding time exceeded
5393228	WS B4 ES1	0.10	SOLID	PAH by GCMS	Benzo(b)fluoranthene	Sample holding time exceeded
5393228	WS B4 ES1	0.10	SOLID	PAH by GCMS	Benzo(g,h,i)perylene	Sample holding time exceeded
5393228	WS B4 ES1	0.10	SOLID	PAH by GCMS	Benzo(k)fluoranthene	Sample holding time exceeded
5393228	WS B4 ES1	0.10	SOLID	PAH by GCMS	Chrysene	Sample holding time exceeded
5393228	WS B4 ES1	0.10	SOLID	PAH by GCMS	Chrysene-d12 % recovery**	Sample holding time exceeded
5393228	WS B4 ES1	0.10	SOLID	PAH by GCMS	Dibenzo(a,h)anthracene	Sample holding time exceeded
5393228	WS B4 ES1	0.10	SOLID	PAH by GCMS	Fluoranthene	Sample holding time exceeded
5393228	WS B4 ES1	0.10	SOLID	PAH by GCMS	Fluorene	Sample holding time exceeded
5393228	WS B4 ES1	0.10	SOLID	PAH by GCMS	Indeno(1,2,3-cd)pyrene	Sample holding time exceeded
5393228	WS B4 ES1	0.10	SOLID	PAH by GCMS	Naphthalene	Sample holding time exceeded
5393228	WS B4 ES1	0.10	SOLID	PAH by GCMS	Naphthalene-d8 % recovery**	Sample holding time exceeded
5393228	WS B4 ES1	0.10	SOLID	PAH by GCMS	PAH, Total Detected USEPA 16	Sample holding time exceeded
5393228	WS B4 ES1	0.10	SOLID	PAH by GCMS	Perylene-d12 % recovery**	Sample holding time exceeded
5393228	WS B4 ES1	0.10	SOLID	PAH by GCMS	Phenanthrene	Sample holding time exceeded
5393228	WS B4 ES1	0.10	SOLID	PAH by GCMS	Phenanthrene-d10 % recovery**	Sample holding time exceeded
5393228	WS B4 ES1	0.10	SOLID	PAH by GCMS	Pyrene	Sample holding time exceeded
5393342	WS B4 ES1	0.10	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Free	Sample holding time exceeded
5393342	WS B4 ES1	0.10	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Total	Sample holding time exceeded
5393356	WS B4 ES1	0.10	SOLID	Phenols by HPLC (S)	Phenol	Sample holding time exceeded
5393360	WS B3 ES	0.90	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Free	Sample holding time exceeded
5393360	WS B3 ES	0.90	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Total	Sample holding time exceeded
5393363	WS B3 ES	0.90	SOLID	Phenols by HPLC (S)	Phenol	Sample holding time exceeded
5393509	WS B4 ES3	0.50	SOLID	PAH by GCMS	Acenaphthene	Sample holding time exceeded
5393509	WS B4 ES3	0.50	SOLID	PAH by GCMS	Acenaphthene-d10 % recovery**	Sample holding time exceeded
5393509	WS B4 ES3	0.50	SOLID	PAH by GCMS	Acenaphthylene	Sample holding time exceeded
5393509	WS B4 ES3	0.50	SOLID	PAH by GCMS	Anthracene	Sample holding time exceeded
5393509	WS B4 ES3	0.50	SOLID	PAH by GCMS	Benz(a)anthracene	Sample holding time exceeded
5393509	WS B4 ES3	0.50	SOLID	PAH by GCMS	Benzo(a)pyrene	Sample holding time exceeded
5393509	WS B4 ES3	0.50	SOLID	PAH by GCMS	Benzo(b)fluoranthene	Sample holding time exceeded
5393509	WS B4 ES3	0.50	SOLID	PAH by GCMS	Benzo(g,h,i)perylene	Sample holding time exceeded
5393509	WS B4 ES3	0.50	SOLID	PAH by GCMS	Benzo(k)fluoranthene	Sample holding time exceeded
5393509	WS B4 ES3	0.50	SOLID	PAH by GCMS	Chrysene	Sample holding time exceeded
5393509	WS B4 ES3	0.50	SOLID	PAH by GCMS	Chrysene-d12 % recovery**	Sample holding time exceeded
5393509	WS B4 ES3	0.50	SOLID	PAH by GCMS	Dibenzo(a,h)anthracene	Sample holding time exceeded
5393509	WS B4 ES3	0.50	SOLID	PAH by GCMS	Fluoranthene	Sample holding time exceeded
5393509	WS B4 ES3	0.50	SOLID	PAH by GCMS	Fluorene	Sample holding time exceeded
5393509	WS B4 ES3	0.50	SOLID	PAH by GCMS	Indeno(1,2,3-cd)pyrene	Sample holding time exceeded
5393509	WS B4 ES3	0.50	SOLID	PAH by GCMS	Naphthalene	Sample holding time exceeded
5393509	WS B4 ES3	0.50	SOLID	PAH by GCMS	Naphthalene-d8 % recovery**	Sample holding time exceeded
5393509	WS B4 ES3	0.50	SOLID	PAH by GCMS	PAH, Total Detected USEPA 16	Sample holding time exceeded
5393509	WS B4 ES3	0.50	SOLID	PAH by GCMS	Perylene-d12 % recovery**	Sample holding time exceeded
5393509	WS B4 ES3	0.50	SOLID	PAH by GCMS	Phenanthrene	Sample holding time exceeded
5393509	WS B4 ES3	0.50	SOLID	PAH by GCMS	Phenanthrene-d10 % recovery**	Sample holding time exceeded
5393509	WS B4 ES3	0.50	SOLID	PAH by GCMS	Pyrene	Sample holding time exceeded
5393523	WS B3 ES	0.15	SOLID	PAH by GCMS	Acenaphthene	Sample holding time exceeded
5393523	WS B3 ES	0.15	SOLID	PAH by GCMS	Acenaphthene-d10 % recovery**	Sample holding time exceeded
5393523	WS B3 ES	0.15	SOLID	PAH by GCMS	Acenaphthylene	Sample holding time exceeded

CERTIFICATE OF ANALYSIS

SDG:	120312-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-4	**Customer:**	Campbell Reith Hill	**Report Number:**	181857
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
5393523	WS B3 ES	0.15	SOLID	PAH by GCMS	Anthracene	Sample holding time exceeded
5393523	WS B3 ES	0.15	SOLID	PAH by GCMS	Benz(a)anthracene	Sample holding time exceeded
5393523	WS B3 ES	0.15	SOLID	PAH by GCMS	Benzo(a)pyrene	Sample holding time exceeded
5393523	WS B3 ES	0.15	SOLID	PAH by GCMS	Benzo(b)fluoranthene	Sample holding time exceeded
5393523	WS B3 ES	0.15	SOLID	PAH by GCMS	Benzo(g,h,i)perylene	Sample holding time exceeded
5393523	WS B3 ES	0.15	SOLID	PAH by GCMS	Benzo(k)fluoranthene	Sample holding time exceeded
5393523	WS B3 ES	0.15	SOLID	PAH by GCMS	Chrysene	Sample holding time exceeded
5393523	WS B3 ES	0.15	SOLID	PAH by GCMS	Chrysene-d12 % recovery**	Sample holding time exceeded
5393523	WS B3 ES	0.15	SOLID	PAH by GCMS	Dibenzo(a,h)anthracene	Sample holding time exceeded
5393523	WS B3 ES	0.15	SOLID	PAH by GCMS	Fluoranthene	Sample holding time exceeded
5393523	WS B3 ES	0.15	SOLID	PAH by GCMS	Fluorene	Sample holding time exceeded
5393523	WS B3 ES	0.15	SOLID	PAH by GCMS	Indeno(1,2,3-cd)pyrene	Sample holding time exceeded
5393523	WS B3 ES	0.15	SOLID	PAH by GCMS	Naphthalene	Sample holding time exceeded
5393523	WS B3 ES	0.15	SOLID	PAH by GCMS	Naphthalene-d8 % recovery**	Sample holding time exceeded
5393523	WS B3 ES	0.15	SOLID	PAH by GCMS	PAH, Total Detected USEPA 16	Sample holding time exceeded
5393523	WS B3 ES	0.15	SOLID	PAH by GCMS	Perylene-d12 % recovery**	Sample holding time exceeded
5393523	WS B3 ES	0.15	SOLID	PAH by GCMS	Phenanthrene	Sample holding time exceeded
5393523	WS B3 ES	0.15	SOLID	PAH by GCMS	Phenanthrene-d10 % recovery**	Sample holding time exceeded
5393523	WS B3 ES	0.15	SOLID	PAH by GCMS	Pyrene	Sample holding time exceeded
5393613	WS B3 ES	2.50	SOLID	Phenols by HPLC (S)	Phenol	Sample holding time exceeded
5393623	WS B4 ES8	2.80	SOLID	PAH by GCMS	Acenaphthene	Sample holding time exceeded
5393623	WS B4 ES8	2.80	SOLID	PAH by GCMS	Acenaphthene-d10 % recovery**	Sample holding time exceeded
5393623	WS B4 ES8	2.80	SOLID	PAH by GCMS	Acenaphthylene	Sample holding time exceeded
5393623	WS B4 ES8	2.80	SOLID	PAH by GCMS	Anthracene	Sample holding time exceeded
5393623	WS B4 ES8	2.80	SOLID	PAH by GCMS	Benz(a)anthracene	Sample holding time exceeded
5393623	WS B4 ES8	2.80	SOLID	PAH by GCMS	Benzo(a)pyrene	Sample holding time exceeded
5393623	WS B4 ES8	2.80	SOLID	PAH by GCMS	Benzo(b)fluoranthene	Sample holding time exceeded
5393623	WS B4 ES8	2.80	SOLID	PAH by GCMS	Benzo(g,h,i)perylene	Sample holding time exceeded
5393623	WS B4 ES8	2.80	SOLID	PAH by GCMS	Benzo(k)fluoranthene	Sample holding time exceeded
5393623	WS B4 ES8	2.80	SOLID	PAH by GCMS	Chrysene	Sample holding time exceeded
5393623	WS B4 ES8	2.80	SOLID	PAH by GCMS	Chrysene-d12 % recovery**	Sample holding time exceeded
5393639	WS B3 ES	0.15	SOLID	Phenols by HPLC (S)	Phenol	Sample holding time exceeded
5393667	WS B4 ES8	2.80	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Free	Sample holding time exceeded
5393667	WS B4 ES8	2.80	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Total	Sample holding time exceeded
5393671	WS B4 ES8	2.80	SOLID	Phenols by HPLC (S)	Phenol	Sample holding time exceeded
5393675	BHB2A ESZ	4.00	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Free	Sample holding time exceeded
5393675	BHB2A ESZ	4.00	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Total	Sample holding time exceeded
5393680	BHB2A ESZ	4.00	SOLID	Phenols by HPLC (S)	Phenol	Sample holding time exceeded
5393720	BHB2A ESZ	1.00	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Free	Sample holding time exceeded
5393720	BHB2A ESZ	1.00	SOLID	yanide Comp/Free/Total/Thiocyanat	Cyanide, Total	Sample holding time exceeded
5393724	BHB2A ESZ	1.00	SOLID	Phenols by HPLC (S)	Phenol	Sample holding time exceeded
5417701	WS B3 ES	0.90	SOLID	PAH by GCMS	Acenaphthene	Sample holding time exceeded
5417701	WS B3 ES	0.90	SOLID	PAH by GCMS	Acenaphthene-d10 % recovery**	Sample holding time exceeded
5417701	WS B3 ES	0.90	SOLID	PAH by GCMS	Acenaphthylene	Sample holding time exceeded
5417701	WS B3 ES	0.90	SOLID	PAH by GCMS	Anthracene	Sample holding time exceeded
5417701	WS B3 ES	0.90	SOLID	PAH by GCMS	Benz(a)anthracene	Sample holding time exceeded
5417701	WS B3 ES	0.90	SOLID	PAH by GCMS	Benzo(a)pyrene	Sample holding time exceeded
5417701	WS B3 ES	0.90	SOLID	PAH by GCMS	Benzo(b)fluoranthene	Sample holding time exceeded
5417701	WS B3 ES	0.90	SOLID	PAH by GCMS	Benzo(g,h,i)perylene	Sample holding time exceeded
5417701	WS B3 ES	0.90	SOLID	PAH by GCMS	Benzo(k)fluoranthene	Sample holding time exceeded
5417701	WS B3 ES	0.90	SOLID	PAH by GCMS	Chrysene	Sample holding time exceeded
5417701	WS B3 ES	0.90	SOLID	PAH by GCMS	Chrysene-d12 % recovery**	Sample holding time exceeded
5417701	WS B3 ES	0.90	SOLID	PAH by GCMS	Dibenzo(a,h)anthracene	Sample holding time exceeded
5417701	WS B3 ES	0.90	SOLID	PAH by GCMS	Fluoranthene	Sample holding time exceeded
5417701	WS B3 ES	0.90	SOLID	PAH by GCMS	Fluorene	Sample holding time exceeded
5417701	WS B3 ES	0.90	SOLID	PAH by GCMS	Indeno(1,2,3-cd)pyrene	Sample holding time exceeded
5417701	WS B3 ES	0.90	SOLID	PAH by GCMS	Naphthalene	Sample holding time exceeded
5417701	WS B3 ES	0.90	SOLID	PAH by GCMS	Naphthalene-d8 % recovery**	Sample holding time exceeded
5417701	WS B3 ES	0.90	SOLID	PAH by GCMS	PAH, Total Detected USEPA 16	Sample holding time exceeded
5417701	WS B3 ES	0.90	SOLID	PAH by GCMS	Perylene-d12 % recovery**	Sample holding time exceeded

CERTIFICATE OF ANALYSIS

SDG: 120312-4 **Location:** Redhill - Bourne Estate **Order Number:**
Job: H_CAMREITH_REH-4 **Customer:** Campbell Reith Hill **Report Number:** 181857
Client Reference: **Attention:** Rhyadd Watkins **Superseded Report:**

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
5417701	WS B3 ES	0.90	SOLID	PAH by GCMS	Phenanthrene	Sample holding time exceeded
5417701	WS B3 ES	0.90	SOLID	PAH by GCMS	Phenanthrene-d10 % recovery**	Sample holding time exceeded
5417701	WS B3 ES	0.90	SOLID	PAH by GCMS	Pyrene	Sample holding time exceeded
5418261	WS B4 ES5	1.50	SOLID	PAH by GCMS	Acenaphthene	Sample holding time exceeded
5418261	WS B4 ES5	1.50	SOLID	PAH by GCMS	Acenaphthene-d10 % recovery**	Sample holding time exceeded
5418261	WS B4 ES5	1.50	SOLID	PAH by GCMS	Acenaphthylene	Sample holding time exceeded
5418261	WS B4 ES5	1.50	SOLID	PAH by GCMS	Anthracene	Sample holding time exceeded
5418261	WS B4 ES5	1.50	SOLID	PAH by GCMS	Benz(a)anthracene	Sample holding time exceeded
5418261	WS B4 ES5	1.50	SOLID	PAH by GCMS	Benzo(a)pyrene	Sample holding time exceeded
5418261	WS B4 ES5	1.50	SOLID	PAH by GCMS	Benzo(b)fluoranthene	Sample holding time exceeded
5418261	WS B4 ES5	1.50	SOLID	PAH by GCMS	Benzo(g,h,i)perylene	Sample holding time exceeded
5418261	WS B4 ES5	1.50	SOLID	PAH by GCMS	Benzo(k)fluoranthene	Sample holding time exceeded
5418261	WS B4 ES5	1.50	SOLID	PAH by GCMS	Chrysene	Sample holding time exceeded
5418261	WS B4 ES5	1.50	SOLID	PAH by GCMS	Chrysene-d12 % recovery**	Sample holding time exceeded
5418261	WS B4 ES5	1.50	SOLID	PAH by GCMS	Dibenzo(a,h)anthracene	Sample holding time exceeded
5418261	WS B4 ES5	1.50	SOLID	PAH by GCMS	Fluoranthene	Sample holding time exceeded
5418261	WS B4 ES5	1.50	SOLID	PAH by GCMS	Fluorene	Sample holding time exceeded
5418261	WS B4 ES5	1.50	SOLID	PAH by GCMS	Indeno(1,2,3-cd)pyrene	Sample holding time exceeded
5418261	WS B4 ES5	1.50	SOLID	PAH by GCMS	Naphthalene	Sample holding time exceeded
5418261	WS B4 ES5	1.50	SOLID	PAH by GCMS	Naphthalene-d8 % recovery**	Sample holding time exceeded
5418261	WS B4 ES5	1.50	SOLID	PAH by GCMS	PAH, Total Detected USEPA 16	Sample holding time exceeded
5418261	WS B4 ES5	1.50	SOLID	PAH by GCMS	Perylene-d12 % recovery**	Sample holding time exceeded
5418261	WS B4 ES5	1.50	SOLID	PAH by GCMS	Phenanthrene	Sample holding time exceeded
5418261	WS B4 ES5	1.50	SOLID	PAH by GCMS	Phenanthrene-d10 % recovery**	Sample holding time exceeded
5418261	WS B4 ES5	1.50	SOLID	PAH by GCMS	Pyrene	Sample holding time exceeded
5422074	WS B3 ES	2.50	SOLID	PAH by GCMS	Acenaphthene	Sample holding time exceeded
5422074	WS B3 ES	2.50	SOLID	PAH by GCMS	Acenaphthylene	Sample holding time exceeded
5422074	WS B3 ES	2.50	SOLID	PAH by GCMS	Anthracene	Sample holding time exceeded
5422074	WS B3 ES	2.50	SOLID	PAH by GCMS	Benz(a)anthracene	Sample holding time exceeded
5422074	WS B3 ES	2.50	SOLID	PAH by GCMS	Benzo(a)pyrene	Sample holding time exceeded
5422074	WS B3 ES	2.50	SOLID	PAH by GCMS	Benzo(b)fluoranthene	Sample holding time exceeded
5422074	WS B3 ES	2.50	SOLID	PAH by GCMS	Benzo(g,h,i)perylene	Sample holding time exceeded
5422074	WS B3 ES	2.50	SOLID	PAH by GCMS	Benzo(k)fluoranthene	Sample holding time exceeded
5422074	WS B3 ES	2.50	SOLID	PAH by GCMS	Chrysene	Sample holding time exceeded
5422074	WS B3 ES	2.50	SOLID	PAH by GCMS	Dibenzo(a,h)anthracene	Sample holding time exceeded
5422074	WS B3 ES	2.50	SOLID	PAH by GCMS	Fluoranthene	Sample holding time exceeded
5422074	WS B3 ES	2.50	SOLID	PAH by GCMS	Fluorene	Sample holding time exceeded
5422074	WS B3 ES	2.50	SOLID	PAH by GCMS	Indeno(1,2,3-cd)pyrene	Sample holding time exceeded
5422074	WS B3 ES	2.50	SOLID	PAH by GCMS	Naphthalene	Sample holding time exceeded
5422074	WS B3 ES	2.50	SOLID	PAH by GCMS	Phenanthrene	Sample holding time exceeded
5422074	WS B3 ES	2.50	SOLID	PAH by GCMS	Pyrene	Sample holding time exceeded
5498508	BHB2A D6	8.00	SOLID	pH	pH	Sample holding time exceeded
5498528	BHB1 D4	4.00	SOLID	pH	pH	Sample holding time exceeded
5498579	BHB2A D9	12.00 - 12.45	SOLID	pH	pH	Sample holding time exceeded
5498620	BHB2A D19	25.95 - 26.05	SOLID	pH	pH	Sample holding time exceeded
5498726	BHB2A D12	16.95 - 17.05	SOLID	pH	pH	Sample holding time exceeded
5498837	BHB1 D9	9.44 - 9.55	SOLID	pH	pH	Sample holding time exceeded
5498872	BHB2A D16	21.00 - 21.45	SOLID	pH	pH	Sample holding time exceeded
5500460	WSB4 D1	1.20 - 1.65	SOLID	pH	pH	Sample holding time exceeded
5500592	BHB2A D2	2.00	SOLID	pH	pH	Sample holding time exceeded
5500734	BHB1 D2	1.80	SOLID	pH	pH	Sample holding time exceeded
5500738	WSB3 D1	1.20 - 1.65	SOLID	pH	pH	Sample holding time exceeded
5505169	BHB2A	8.00	SOLID	Anions by Kone (soil)	Chloride 2:1 water/soil extract BRE	Sample holding time exceeded
5505169	BHB2A	8.00	SOLID	Anions by Kone (soil)	Soluble Sulphate 2:1 extract as SO4 BRE	Sample holding time exceeded
5505907	BHB2A	16.95 - 17.05	SOLID	Anions by Kone (soil)	Soluble Sulphate 2:1 extract as SO4 BRE	Sample holding time exceeded
5505924	BHB2A	21.00 - 21.45	SOLID	Anions by Kone (soil)	Soluble Sulphate 2:1 extract as SO4 BRE	Sample holding time exceeded
5505935	BHB2A	25.95 - 26.05	SOLID	Anions by Kone (soil)	Soluble Sulphate 2:1 extract as SO4 BRE	Sample holding time exceeded

CERTIFICATE OF ANALYSIS

SDG:	120312-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-4	**Customer:**	Campbell Reith Hill	**Report Number:**	181857
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
5505948	BHB2A	12.00 - 12.45	SOLID	Anions by Kone (soil)	Soluble Sulphate 2:1 extract as SO4 BRE	Sample holding time exceeded
5505966	BHB1	4.00	SOLID	Anions by Kone (soil)	Soluble Sulphate 2:1 extract as SO4 BRE	Sample holding time exceeded
5520550	BHB1	9.44 - 9.55	SOLID	Anions by Kone (soil)	Chloride 2:1 water/soil extract BRE	Sample holding time exceeded
5520550	BHB1	9.44 - 9.55	SOLID	Anions by Kone (soil)	Soluble Sulphate 2:1 extract as SO4 BRE	Sample holding time exceeded
5520844	WSB4	1.20 - 1.65	SOLID	Anions by Kone (soil)	Soluble Sulphate 2:1 extract as SO4 BRE	Sample holding time exceeded
5520883	BHB1	1.80	SOLID	Anions by Kone (soil)	Soluble Sulphate 2:1 extract as SO4 BRE	Sample holding time exceeded
5520899	BHB2A	2.00	SOLID	Anions by Kone (soil)	Soluble Sulphate 2:1 extract as SO4 BRE	Sample holding time exceeded
5520921	WSB3	1.20 - 1.65	SOLID	Anions by Kone (soil)	Soluble Sulphate 2:1 extract as SO4 BRE	Sample holding time exceeded

Note : Test results may be compromised

CERTIFICATE OF ANALYSIS

SDG:	120312-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-4	**Customer:**	Campbell Reith Hill	**Report Number:**	181857
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
PM001		Preparation of Samples for Metals Analysis		
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material		
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material		
TM062 (S)	National Grid Property Holdings Methods for the Collection & Analysis of Samples from National Grid Sites version 1 Sec 3.9	Determination of Phenols in Soils by HPLC		
TM132	In - house Method	ELTRA CS800 Operators Guide		
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter		
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser		
TM154	In - house Method	Determination of Petroleum Hydrocarbons by EZ Flash GC-FID in the Carbon range C6- C40		
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES		
TM218	Microwave extraction – EPA method 3546	Microwave extraction - EPA method 3546		
TM243		Mixed Anions In Soils By Kone		
TM282		Extraction of Magnesium by BRE Method		
TM321		Organic matter Content of Soil By Titration		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	120312-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-4	**Customer:**	Campbell Reith Hill	**Report Number:**	181857
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	5490773	5490776	5490783	5308514	5308521	5490779	5490781	5490784	5490787	5490789
Customer Sample Ref.	BHB1	BHB1	BHB1	BHB2A	BHB2A	BHB2A	BHB2A	BHB2A	BHB2A	BHB2A
AGS Ref.	D9	D2	D4	ES	ES	D2	D6	D16	D19	D9
Depth	9.44 - 9.55	1.80	4.00	1.00	4.00	2.00	8.00	21.00 - 21.45	25.95 - 26.05	12.00 - 12.45
Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
Anions by Kone (soil)	01-May-2012	01-May-2012	30-Apr-2012			01-May-2012	30-Apr-2012	30-Apr-2012	30-Apr-2012	30-Apr-2012
Asbestos Identification (Soil)		27-Apr-2012		03-Apr-2012	03-Apr-2012	26-Apr-2012				
Cyanide Comp/Free/Total/Thiocyanate				04-Apr-2012	04-Apr-2012					
Magnesium (BRE)	27-Apr-2012						01-May-2012			
Metals by iCap-OES (Soil)				05-Apr-2012	05-Apr-2012					
NO3, NO2 and TON by KONE (s)	01-May-2012						01-May-2012			
PAH by GCMS				05-Apr-2012	08-Apr-2012					
pH	27-Apr-2012	30-Apr-2012	27-Apr-2012	05-Apr-2012	05-Apr-2012	27-Apr-2012	27-Apr-2012	27-Apr-2012	27-Apr-2012	27-Apr-2012
Phenols by HPLC (S)				05-Apr-2012	05-Apr-2012					
Sample description	25-Apr-2012	25-Apr-2012	25-Apr-2012	03-Apr-2012	01-Apr-2012	25-Apr-2012	25-Apr-2012	25-Apr-2012	25-Apr-2012	25-Apr-2012
Total Organic Carbon				05-Apr-2012	04-Apr-2012					
TPH c6-40 Value of soil				05-Apr-2012	05-Apr-2012					

Lab Sample No(s)	5490791	5308501	5308503	5308509	5308486	5308492	5308495	5308499	5490793	5490792
Customer Sample Ref.	BHB2A	WS B3	WS B3	WS B3	WS B4	WS B4	WS B4	WS B4	WSB3	WSB4
AGS Ref.	D12	ES	ES	ES	ES1	ES3	ES5	ES8	D1	D1
Depth	16.95 - 17.05	0.15	0.90	2.50	0.10	0.50	1.50	2.80	1.20 - 1.65	1.20 - 1.65
Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
Anions by Kone (soil)	30-Apr-2012								01-May-2012	01-May-2012
Asbestos Identification (Soil)		03-Apr-2012	03-Apr-2012	03-Apr-2012	03-Apr-2012	03-Apr-2012	03-Apr-2012	03-Apr-2012	27-Apr-2012	26-Apr-2012
Cyanide Comp/Free/Total/Thiocyanate		05-Apr-2012	04-Apr-2012	05-Apr-2012	04-Apr-2012	04-Apr-2012	04-Apr-2012	04-Apr-2012		
Metals by iCap-OES (Soil)		05-Apr-2012	05-Apr-2012	04-Apr-2012	04-Apr-2012	04-Apr-2012	04-Apr-2012	04-Apr-2012		
PAH by GCMS		05-Apr-2012	10-Apr-2012	11-Apr-2012	05-Apr-2012	05-Apr-2012	10-Apr-2012	05-Apr-2012		
pH	27-Apr-2012	05-Apr-2012	05-Apr-2012	05-Apr-2012	05-Apr-2012	05-Apr-2012	05-Apr-2012	05-Apr-2012	30-Apr-2012	27-Apr-2012
Phenols by HPLC (S)		05-Apr-2012	05-Apr-2012	05-Apr-2012	05-Apr-2012	05-Apr-2012	04-Apr-2012	04-Apr-2012		
Sample description	25-Apr-2012	01-Apr-2012	01-Apr-2012	01-Apr-2012	01-Apr-2012	01-Apr-2012	01-Apr-2012	01-Apr-2012	25-Apr-2012	25-Apr-2012
Total Organic Carbon		05-Apr-2012	05-Apr-2012	05-Apr-2012	05-Apr-2012	05-Apr-2012	05-Apr-2012	05-Apr-2012		
TPH c6-40 Value of soil		05-Apr-2012	05-Apr-2012	05-Apr-2012	05-Apr-2012	05-Apr-2012	05-Apr-2012	05-Apr-2012		

SDG:	120312-4	**Location:**	Redhill - Bourne Estate	**Order Number:**	
Job:	H_CAMREITH_REH-4	**Customer:**	Campbell Reith Hill	**Report Number:**	181857
Client Reference:		**Attention:**	Rhyadd Watkins	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 2 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5 -C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D&C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE:ACETONE	END OVER END	GC-FID
PCB AROCLOR 1254 / PCB CON	D&C	HEXANE:ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE:ACETONE	MICROWAVE TM218.	GC-MS
>C6-C40	WET	HEXANE:ACETONE	SHAKER	GC-FID
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE:ACETONE	SHAKER	GC-FID
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM:ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCB AROCLOR 1254	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OC POP P	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	ACETONE	SOLID PHASE EXTRACTION	GC MS
TPH by INFRARED (IR)	TCE	STIRRED EXTRACTION (STIR-BAR)	IR
MINERAL OIL by IR	TCE	STIRRED EXTRACTION (STIR-BAR)	IR
GLYCOLS	NONE	DIRECT INJECTION	GC FID

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials or those identified as potentially asbestos containing during sample description which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Lab address:

GEOTRACE - ANALYSIS REQUEST FORM AND SAMPLE CUSTODY SHEET

Tel:
Fax:

Sent from: Harrison Group Environmental Ltd.
Address: Unit A11, Poplar Business Park
10 Prestons Road, London, E14 9RL
Tel. No.: 020 7537 9233
Project/Site Name: Bourne Estate, Camden

Contact Name: Jiban Bajracharya
Email: GL@harrisongroupuk.com
Fax. No: 020 7987 0361

Date Samples Scheduled:
ProjectCode: GL16481
Sampler ID: GP
Quote Reference:
Turnaround Time: Date Required:

Sheet: 1 of 1

One project per sheet please

Sampling Date (dd/mm/yr)	Borehole/ Trial Pit No.	Sample Type	Sample Number	Sample Depth in Metres (Top)	Sample Depth in Metres (Bottom)	Chain of Custody Reference	(S)soil or (W)water or (G)gas (specify if other)	**Suite Name (from Contract Rates or Quotation)**	pH & sulphate							**Individual Determinants (SOIL)**	1.25 Asbestos screen	1.26 Asbestos screen and microscopy ID	1.32 Fraction Organic Carbon	1.36 TPH - CWG (C5-C35) based on TNRCC method 1006					**Individual Determinants (GAS)**	1.57 C1-C7 (As listed below)	1.58 VOCs inc BTEX. 10ppm				**Individual Determinants (WATER and LEACHATE)**	1.60 PAH (Total)	1.61 PAH (Total of USEPA 16)	1.62 PAH (16 speciated) (Modified EPA 8100)	1.63 TPH - CWG (C5-35) based on TNRCC method 1006	1.64 Petrol Range Organics/ BTEX/ MTBE	1.65 BTEX by GC-MS (Modified US EPA 8150)	1.66 SVOCs target list (one extraction only) (Modified US EPA 8270)	1.67 SVOCs scan (up to 10 peaks, >80% fit)	1.68 VOCs target list only (Modified US EPA 8260)	1.69 VOCs target list plus TICs (top 10 peaks to 0.01mg/l only) (Modified US EPA 8260)	1.70 Phenols (Total) by HPLC						
17/04/2012	BHB1 (d)	EW	1	7.00	7.00		W		X																																					

COMMENTS: data required in AGS format (V3.1).

1.1A Mandatory Soil Suite includes: As, Cd, Cr, Cu, Ni, Pb, Hg, Se, Zn, Cyanide (total), Phenols (total), TPH screen (C6-40), PAH (total), pH.

1.1Bi Waste Categorisation (HPA) soils suite includes: pH, Moisture Content, Total Sulphate, Sulphide, Phenols Monohydric, Total Cyanide, As, Cd, Cr, Ni, Pb, Hg, Se, Cu, Zn, PAHs USEPA 16 (plus addition of benzo(J)fluoranthene) by GC-MS GRO (C6-C10), EPH Banded (C10-C25, C25-C40).

1.1Bii WAC Leachates Suite includes: Waste Acceptance Criteria Thresholds for Leachates, Leachate Prep BS EN 12457-3 (CEN Stage 2.:1 and 10:1), As, Ba, Cd, Cr, Cu, Hg, Mo, Ni, Pb, Sb, Se, Zn, Cl, F, SO4, TDS Phenol Index, DOC.

1.1Biii WAC Solid Suite-Full includes: TOC, LOI, BTEX, PCBs, Mineral Oil C10-C40, pH, Acid Neutralisation Capacity, PAHs-total 17 GC-MS.

1.1Biv WAC Solid Suite-Inert includes: TOC, BTEX, PCBs, Mineral Oil C10-C40, Acid Neutralisation Capacity, PAHs-total 17 GC-MS.

1.1Bv WAC Solid Suite-Hazardous includes: TOC, LOI.

1.56 Bulk Gas includes: Methane (0.05%), Carbon Dioxide (0.05%), Oxygen (0.5%), Nitrogen (0.5%), Hydrogen (0.5%), Carbon Monoxide (1ppm), Hydrogen Sulphide (1ppm).

1.57 C1-C7 includes: (Methane, Ethane, Ethene, Butane, Propane, Pentane, Hexane, Heptane) 1ppm.

1.59 Mandatory Water Suite includes: As, Cd, Cr, Cu, Ni, Zn, Pb, Hg, B, Se, Hex Chromium, Total Cyanide, Free Cyanide, Soluble Sulphate, Sulphide, Free Sulphur, Speciated (16) PAHs, Phenols, Thiocyanate, Total TPH, pH.

1.71 Speciated Phenol Suite: 2-methylphenol (o-cresol); 4-methylphenol (p-cresol); 2, 4-Dimethylphenol; Napthols; 3-methyphenol (m-cresol).

1.72 Glycol Suite: Monoethylene glycol, Propylene glycol, Diethylene glycol, Triethylene glycol.

PCB (WHO 12) Congener: 77, 81, 105, 114, 118, 123, 126, 156, 157, 167, 169, 189.

Special Instructions / Known Hazards:

Intended Use of Results:

Required for Environment Agency? Y /(N) **(Please Circle as Applicable)** ***Date Recieved:*** ***Time:*** **Signature:** ***Report No.***

ALcontrol Laboratories

Unit 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528700
Fax: (01244) 528701
email: mkt@alcontrol.com
Website: www.alcontrol.com

Harrison Group Ltd
Unit C14
Poplar Business Park
10 Prestons Road
London
E14 9RL

Attention: Jiban Bajracharya

CERTIFICATE OF ANALYSIS

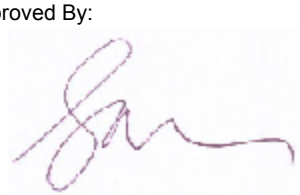
Date:	25 April 2012
Customer:	H_HARRIS_LON
Sample Delivery Group (SDG):	120423-4
Your Reference:	GL16482
Location:	Bourne Estate
Report No:	178963

We received 1 sample on Saturday April 21, 2012 and 1 of these samples were scheduled for analysis which was completed on Wednesday April 25, 2012. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	120423-4	**Location:**	Bourne Estate	**Order Number:**	
Job:	H_HARRIS_LON-73	**Customer:**	Harrison Group Ltd	**Report Number:**	178963
Client Reference:	GL16482	**Attention:**	Jiban Bajracharya	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			5487511	BHB1(d)			1l green glass bottle
Anions by Kone (w)	All	NDPs: 0 Tests: 1	X				
pH Value	All	NDPs: 0 Tests: 1	X				

CERTIFICATE OF ANALYSIS

SDG:	120423-4	**Location:**	Bourne Estate	**Order Number:**	
Job:	H_HARRIS_LON-73	**Customer:**	Harrison Group Ltd	**Report Number:**	178963
Client Reference:	GL16482	**Attention:**	Jiban Bajracharya	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	BHB1(d)
			Depth (m)	.
			Sample Type	Water(GW/SW)
			Date Sampled	17/04/2012
			Sample Time	.
			Date Received	21/04/2012
			SDG Ref	120423-4
			Lab Sample No.(s)	5487511
			AGS Reference	
Sulphate	<2 mg/l	TM184		64.8 #
pH	<1 pH Units	TM256		7.37 #

CERTIFICATE OF ANALYSIS

SDG:	120423-4	**Location:**	Bourne Estate	**Order Number:**	
Job:	H_HARRIS_LON-73	**Customer:**	Harrison Group Ltd	**Report Number:**	178963
Client Reference:	GL16482	**Attention:**	Jiban Bajracharya	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers		
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.	Determination of pH in Water and Leachate using the GLpH pH Meter		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	120423-4	**Location:**	Bourne Estate	**Order Number:**	
Job:	H_HARRIS_LON-73	**Customer:**	Harrison Group Ltd	**Report Number:**	178963
Client Reference:	GL16482	**Attention:**	Jiban Bajracharya	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	5487511
Customer Sample Ref.	BHB1(d)
AGS Ref.	
Depth	
Type	LIQUID
Anions by Kone (w)	25-Apr-2012
pH Value	24-Apr-2012

SDG:	120423-4	**Location:**	Bourne Estate	**Order Number:**	
Job:	H_HARRIS_LON-73	**Customer:**	Harrison Group Ltd	**Report Number:**	178963
Client Reference:	GL16482	**Attention:**	Jiban Bajracharya	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 2 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

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22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

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EPH CWG BY GC	D&C	HEXANE:ACETONE	END OVER END	GC-FID
PCB AROCLOR 1254 / PCB CON	D&C	HEXANE:ACETONE	END OVER END	GC-MS
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The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

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Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

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Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.