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 $3m \times 5m$ 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

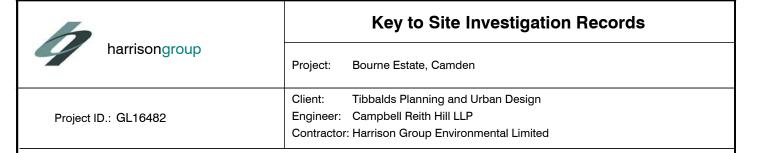
Groundwater monitoring is undertaken in accordance with the Specification for Ground Investigation EJBejb-10907-200212-GI Spec V10.2

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.

www.harrisongroupuk.com

June 2012



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-lonisation 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

SCR Solid Core Recovery, % given on the relevant log sheet.

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

- 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



Percussion Borehole Record

BH B1

Project: Bourne Estate, Camden

Coordinates: 531163.3E Ground Level: 19.53mAOD Project ID.: GL16482

181908.3N Sheet 1 of 1

		181	908.3N			Sheet 1 of 1		
Description	Legend	Depth	O.D.	Samp	oles/ Test	Casing (Water)	Remarks and	
2000.p.101		(m)	Level (m)	Туре	Depth (m)	Depth (m)	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		E		D1 ES2	0.50 0.50			- - - -
SAND. Gravel is angular fine to coarse brick, occasional concrete, rare wood, glass and metal fragments.		Ē		ES3 C B1 ES4	1.00 1.20 1.20-1.65 1.50	1.20	N=13 (2,2,3,3,3,4)	1.00
		Ė.		D2 ES5	1.80 2.00			
Medium dense to dense yellow brown and brown silty fine to coarse SAND and subrounded to		2.90	16.63	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
silty fine to coarse SAND and subrounded to rounded fine to coarse flint GRAVEL. (HACKNEY GRAVEL).				C B3 ES8 D4 ES9	3.50 3.50-3.95 3.50 4.00 4.00	3.50	N=26 (3,4,4,6,7,9)	4.00
				C B4	4.50 4.50-4.95	4.50	N=35 (4,6,8,8,9,10)	
				ES10 D5	5.00 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			
Firm to stiff brown silty CLAY. (LONDON CLAY).	<u> </u>	7.70	11.83	C B6 D7 ES13	7.50 7.50-7.95 7.70 7.90	7.50	N=16 (3,3,4,4,4,4)	
(Firm to stiff) fissured dark grey silty CLAY. Occasional light grey silt laminae and fissure infill. (LONDON CLAY).	X X X X X X X X X X X X X X X X X X X	8.00	11.53	D8 ES14	8.00 8.25			8.00
	X X X X X X X X X X X X X X X X X X X	× - × - × - × - × - × - × - × - × - × -		UT1	9.00-9.45 9.45-9.55		46 blows: 100% recovery	
Rorehole Complete at 10 00 m	× -× ×	-						-

Borehole Complete at 10.00 m

Water Level Observations

Hole	Diameter	Details	Ch	iselling D	etails		Water	Standing	Standing	Casing	Depth
Diameter (mm)	Depth (m)	Casing Depth (m)	From (m)	To (m)	Time (hhmm)	Date	Strike (m)	Time (mins)	Level (m)	Depth (m)	Sealed (m)
150	10.00	8.00									

Client:

Tibbalds Planning and Urban Design

Engineer:

Campbell Reith Hill LLP

Contractor:

Harrison Group Environmental Limited

Dates:

12/03/2012

Plant:

FM-Hn-R-3080

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.

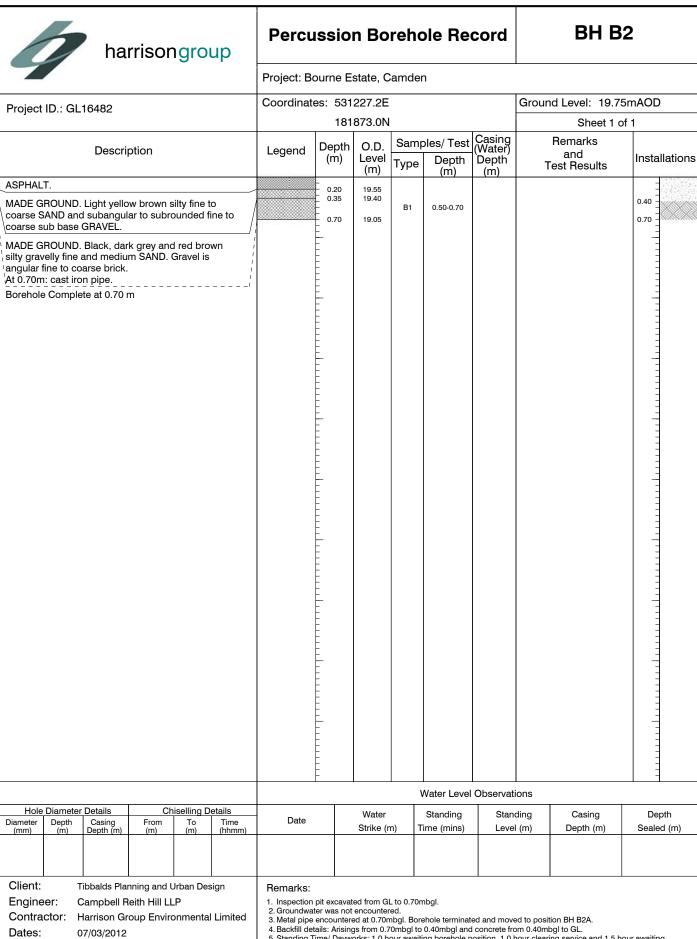
 Geowrap and geosock used.

 Final fitting to the first property and the form 10.00mbgl to 8.00mbgl ground fitter people from 8.00mbgl to 4.00mbgl.
- 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.

Print Date: 28/06/2012 Harrison Group Environmental Ltd, Unit A11, Poplar Business Park, 10 Prestons Road, London E14 9RL



Plant:

M-Hn-R-3080

Dando 2000 Cable Percussive Rig

Print Date: 28/06/2012

Drilled By: K. Gorbould Logged By: G. Dowlen Checked By: J. Keay 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



Percussion Borehole Record

BH B2A

Project: Bourne Estate, Camden

Coordinates: 531227.1E Ground Level: 19.74mAOD Project ID.: GL16482

	181	873.9N					
		070.911	Sheet 1 of 3				
1	Depth	ΩD	Samp	oles/ Test	Casing	Remarks	
Legend	(m)	Level (m)	Туре	Depth (m)	Depth (m)	and Test Results	Installation
	0.20	19.54	F04				0.20
	0.35	19.39	ES2	0.50			
	F		ES3	1.00		N-9 (4.1.1.0.2.0)	1.00
	E		B1 ES4	1.50-1.95 1.50		N=8 (1,1,1,2,3,2)	
	F		D2 ES5	2.00 2.00			
	E		C B2 ES6	2.50 2.50-2.95 2.50	1.50	N=15 (2,4,4,5,3,3)	
	E		D3 ES7	3.00 3.00			
	Ē		C B3 ES8	3.50 3.50-3.95 3.50	3.00	N=12 (2,2,2,3,3,4)	
	E		D4 ES9	4.00 4.00			4.00
			C ES10 B4	4.50 4.50 4.50-4.95	3.00	N=12 (1,2,2,3,3,4)	- - - -
	5.10	14.64	ES11 D5	5.00 5.00			5.00
			ES12	5.50			
	E		C ES13 B5	6.00 6.00 6.00-6.45	6.00	N=33 (3,5,7,7,9,10)	
	E		ES14	6.50			
	E		ES15	7.00			
2-2-7-3-3	7.70	12.04	C ES16 B6	7.50 7.50 7.50-7.95	6.00	N=17 (2,3,4,4,4,5)	
	8.00	11.74	ES17 D6 ES18	7.80 8.00 8.20			8.00
× × × × × × × × × × × × × × × × × × ×			S D7	9.00 9.00-9.45	9.00	N=17 (3,4,4,4,5)	-
	Legend	5 (m) 0.20 0.35	Level (m) 0.20 19.54 0.35 19.39 5.10 14.64	Legend (m) Level (m) Type 0.20	Legeliu (m) Level (m) Type Depth (m) (m)	Legend (m) Level (m) Type Depth (m)	(m) Level (m) Type Depth (m) Depth (m) Test Results 0.20

Continued next sheet

Water Level Observations

Hole	<u>Diameter</u>	Details	Ch	iselling D	etails		Water	Standing	Standing	Casing	Depth
Diameter (mm)	Depth (m)	Casing Depth (m)	From (m)	To (m)	Time (hhmm)	Date	Strike (m)	Time (mins)	Level (m)	Depth (m)	Sealed (m)
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: Dates:

Harrison Group Environmental Limited

07/03/2012-09/03/2012

Plant:

FM-Hn-R-3080

Dando 2000 Cable Percussive Rig

Drilled By: K. Gorbould Logged By: G. Dowlen Checked By: J. Keay

Print Date: 28/06/2012

Remarks:

- Inspection pit excavated from GL to 1.20mbgl.
 Water added to assist drilling from 4.90mbgl to 7.70mbgl (250 litres).
 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.

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

1	hai	rison	aroi	ın	Percu	ıssi	on Bo	reh		BH B2	? A					
	IIQI	110011	grot	ч	Project: Bo	ourne	Estate, C	amde	en							
Project ID.: GL1	6490				Coordinate	es: 53	31227.1E				Ground Level: 19.74mAOD					
Flojectib GL1	0402					18	31873.9N					Sheet 2 o	f 3			
	Descrip	otion			Legend	Dept	h O.D.	_	ples/ Test	Casing (Water)		Remarks and	Installation			
					7/90 DE 379	(m)	Level (m)	Туре	Depth (m)	Depth (m)	7	Test Results	IIIStaliations			
Firm to stiff fissure Occasional light gr infill. (LONDON CL	rey silt lam	y CLAY. ninae and f	issure		X X X X X X X X X X X X X X X X X X X	×		UT1	10.50-10.95		61 blo	ows: 90% recovery	10.00			
Occasional light gr	if closely fissured grey silty CLAY. casional light grey silt laminae and fissure II. Occasional sand size selenite crystals. DNDON CLAY).				X X X X X X X X X X X X X X X X X X X	11.00	8.74	D8	10.95-11.05							
At 12.00m: becom	es stiff.				X X X X X X X X X X X X X X X X X X X			S D9	12.00 12.00-12.45	9.00	N=	24 (3,4,5,6,6,7)				
					X X X X X X X X X X X X X X X X X X X	×		UT2	13.50-13.95		77 blo					
					X X X X X X X X X X X X X X X X X X X	× -		D10	13.95-14.05							
					x x x x x x x x x x x x x x x x x x x			S D11	15.00 15.00-15.45	9.00	N=	28 (4,4,6,7,7,8)				
					X X X X X X X X X X X X X X X X X X X			UT3	16.50-16.95		100 blo	ows: 100% recovery				
					X X X X X X X X X X X X X X X X X X X			D12	16.95-17.05							
Vous stiff to bound along	laadu fias	una al aura e	-1		X X X X X X X X X X X X X X X X X X X	18.60	1.14	S D13	18.00 18.00-18.95	9.00	N=	27 (4,5,5,7,7,8)				
Very stiff to hard cl and brown CLAY.	(LAMBET)	H GROUP)						UT4	19.50-19.95		100 blo	ows: 75% recovery				
	D15 19.95-20.05									01-	<u> </u>					
Hole Diameter [Details	Chi	iselling De	otaile	-	- 1		1	Water Level	1						
	Casing Depth (m)	From (m)	To (m)	Time (hhmm)	Date		Water Strike (r	n)	Standing Time (mins)	Stan Leve	-	Casing Depth (m)	Depth Sealed (m)			
200 18.00 150 30.00	9.00 30.00			. ,	08/03/12		22.50		20	20.4	2	18.50				
Engineer: Ca Contractor: Ha Dates: 07 Plant: Da	ampbell Re arrison Gro 7/03/2012-	nning and U eith Hill LL oup Enviro 09/03/2012 Cable Pere	P onmental 2	Limited	Remarks:											

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

Logged By: G. Dowlen Checked By: J. Keay

Print Date: 28/06/2012

FM-Hn-R-3080

	7	haı	rrisor	ngro	up	Percu	ıssio	n Bo	cord		BH B2	Α		
						Project: Bo	ourne E	state, C	amde	en		•		
						Coordinate	es: 531	227.1E				Grour	nd Level: 19.74	mAOD
Project ID	.: GL1	16482						873.9N				Sheet 3 of 3		
										plos/Tost	Casing		Remarks	
		Descrip	otion			Legend	Depth (m)	O.D. Level (m)	Type	Depth (m)	Casing (Water) Depth (m)	٦	and Fest Results	Installatio
Very stiff to	hard c	losely fissi	ured grey	blue							, ,			
and brown (CLAY.	(LAMBE I I	H GROUP,).			F							
							E							
						======	-		S	21.00	9.00	50/230m	nm (8,17,20,14,15,1)	-
						ļ.		D16	21.00-21.45					
							E							
							F							
						<u> </u>	F							
							Ė							
Blue green	clavev	fine to coa	arse SANI) (LAME	RETH		22.50	-2.76	W1 UT5	22.50 22.50-22.95		100 blo	ws: 100% recovery	
ROUP).							22.90	-3.16						
ery stiff to	hard o	loselv fissi	ured varia	blv		X X X X	-2.30	0.10	D17	22.95-23.05				
ght blue gr	rey, red	d brown ar	nd light gr	ey		× × ×	E							3
lightly silty	CLAY	. (LAMBET	H GROUP	P).		× × × ×	ŧ							
						<u> </u>								
						×-×-×-×	-		S D18	24.00 24.00-24.45	(23.10) 24.00	50/200	mm (7,12,16,18,16)	=
						XX-X	E							
						× × × ×								
						× × × ×	E							
						<u> </u>	E							
						×-×-×-×	E							
						X	Ė		UT6	25.50-25.95		100 blo		
						××-×	-		D19	25.95-26.05				
						× × × ×	E							
						<u> </u>	E							
						×	-							
						× × × ×	E		s	27.00	(20.20)	N=4	8 (3,5,8,12,13,15)	
						× × × × ×	-		D20	27.00-27.45	26.00	'' ''	0 (0,0,0,12,10,10)	
						××_××	E							
						×	-							
						×	E							
						× × × ×	-							
						× × × ×	E		s	28.50	(22.30)	50/265m	nm (5,7,10,13,16,11)	1 3
						×_×_×_×	E		D21	28.50-28.95	`30.00	,	(,,,,,,,,,	
						x-x-x-x-x	L							
						X X X X	F							
						x_x_x_x	E							
						× × × × ×	F							=
Borehole Co	omple	te at 30.00	m			× * -×× * -	Ε			 Water Level	 Observat	ions		
Hole Dia				niselling D		Date		Water		Standing	Stan	ding	Casing	Depth
(mm)	epth (m)	Casing Depth (m)	From (m)	To (m)	Time (hhmm)			Strike (r	n)	Time (mins)	Leve		Depth (m)	Sealed (m)
	8.00 0.00	9.00 30.00				08/03/12		22.50		20	20.4	2	18.50	
Client:	т:	bbalds Plar	ning and I	Irhan Do	l sian	Domorto								
Engineer:		ampbell R	_		9.,	Remarks:								
Contracto		arrison Gr			l I imited									
Dates:		amson Gn 7/03/2012-			. Limiteu									
					Di~									
Plant:		ando 2000		rcussive	nıg									
Drilled By		. Gorbould	1											
Logged E														
Checked	By: J.	Keay												
/I-Hn-R-3080					: 28/06/2012		Н	arrison Gro	un Enviro	nmental Ltd. Llr	nit A11 Ponla	ar Rusines	s Park, 10 Prestons Roa	d Landan E14

Window Sample Record WS B1 harrisongroup Sheet 1 of 1 Project: Bourne Estate, Camden Project ID: GL16482 Coordinates: 531151.0E Ground Level: 19.55mAOD 181888.5N O.D. Remarks Sample Test Description Legend Depth Installations Level and **Test Results** (m) (m) Type Depth (m) ASPHALT. 0.08 19.47 ES1 0.10 MADE GROUND. Yellow brown silty gravelly fine and medium occasionally coarse SAND. Gravel is rounded 0.20 19.35 0.30 19.25 fine and medium flint. ES2 0.50 Reinforced CONCRETE. MADE GROUND. Yellow brown silty gravelly fine to coarse SAND. Gravel is angular to rounded fine to coarse flint, brick and rare concrete. ES3 1.00 1.20 1.20 Window Sample Complete at 1.20 m Water Level Observations Standing Standing Time (Mins) Casing Depth (m) Drive Records Water Depth Diameter (mm) From (m) Recovery (%) To (m) Client: Tibbalds Planning and Urban Design Remarks: 1. Inspection pit excavated from GL to 1.20mbgl. Engineer: Campbell Reith Hill LLP Groundwater was not encountered. Obstruction encountered at 1.20mbgl. Window sample hole terminated. Contractor: Harrison Group Environmental Limited 4. Backfill details: Arisings from 1.20mbgl to GL. 07/03/2012 Date: Plant: Terrier Window Sampling Rig Drilled By: M. Rose Logged By: G. Dowlen Checked By: J. Keay M-Hn-R-3081 Print Date:28/06/2012 Harrison Group Environmental Ltd, Unit A11, Poplar Business Park, 10 Prestons Road, London E14 9RL

Window Sample Record WS B2 harrisongroup Sheet 1 of 1 Project: Bourne Estate, Camden Project ID: GL16482 Coordinates: 531161.4E Ground Level: 19.51mAOD 181877.7N O.D. Remarks Sample Test Description Legend Depth Installations Level and **Test Results** (m) (m) Depth (m) Type MADE GROUND. (Soft) dark brown slightly gravelly ES1 0.10 silty sandy CLAY. Gravel is angular to rounded 0.20 19.31 0.20 fine and medium brick and glass fragments. MADE GROUND. (Soft to firm) dark brown and dark grey brown slightly sandy silty gravelly CLAY. ES2 0.50 Gravel is angular to rounded fine and medium occasionally coarse flint, brick and concrete. Rare brick cobbles. ES3 1.00 1.00 1.10 18.41 MADE GROUND. very loose red brown brick GRAVEL 1.20 1.20-1.65 N=3 (2,2,1,1,0,1) and COBBLES. 1.30 18.21 LS₁ 1.20-2.00 MADE GROUND. (Soft to firm) black, dark grey and grey brown slightly sandy silty gravelly CLAY. ES4 1.50 Gravel is angular to rounded fine and medium occasionally coarse flint, occasional brick and charcoal. Occasional oyster shells. 2.00 2.00-2.45 2.00-3.00 N=3 (1,0,0,1,0,2) D2 LS2 ES5 2.00 ES6 2.50 S D3 ES7 3.00 3.00-3.45 N=10 (1,1,1,1,3,5) 3 00 3.45 16.06 3.45 Window Sample Complete at 3.45 m Water Level Observations Standing Time (Mins) Drive Records Standing Water Casing Depth (m) Depth Diameter (mm) Recovery (%) From (m) To (m) 115 115 2.00 100 100 1.20 Client: Tibbalds Planning and Urban Design Remarks: Inspection pit excavated from GL to 1.20mbgl. Campbell Reith Hill LLP Engineer: Groundwater was not encountered. Installation details: 50mm diameter HDPE standpipe installed from 3.45mbgl to GL. Slotted Contractor: Harrison Group Environmental Limited from 3.45mbgl to 1.00mbgl, plain from 1.00mbgl to GL. Finished with gas tap, end cap and Date: 07/03/2012 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. Terrier Window Sampling Rig Plant: M. Rose Drilled By: Logged By: G. Dowlen Checked By: J. Keay M-Hn-R-3081 Print Date:28/06/2012 Harrison Group Environmental Ltd, Unit A11, Poplar Business Park, 10 Prestons Road, London E14 9RI

WS B3 Window Sample Record harrisongroup Sheet 1 of 1 Project: Bourne Estate, Camden Project ID: GL16482 Coordinates: 531163.4E Ground Level: 19.73mAOD 181856.5N O.D. Remarks Sample Test Description Legend Depth Installations Level and **Test Results** (m) (m) Depth (m) Type Grass over TOPSOIL. Dark brown clayey sandy SILT. 0.20 0.30 19.43 MADE GROUND. Medium dense becoming loose brown, grey brown and dark brown silty gravelly fine ES2 0.50 and medium occasionally coarse SAND. Gravel is angular fine and medium occasionally coarse brick and rare concrete. Occasional brick cobbles. ES3 0.90 1.00 ES4 1.10 1.20 1.20-1.45 1.20-2.00 S D1 N=18 (2,3,5,7,3,3) ES5 1.50 2.00 2.00-2.45 2.00-3.00 N=6 (1,2,2,2,1,1) D2 LS2 ES6 2.00 2.30 17.43 MADE GROUND. Very loose dark brown and yellow brown silty gravelly fine and medium occasionally ES7 2.50 coarse SAND. Gravel is angular to rounded fine and medium occasionally coarse flint, occasional brick and charcoal fragments. Occasional oyster shells. S D3 ES8 3.00 3.00-3.45 N=2 (1,0,0,1,0,1) 3 00 3.45 16.28 3.45 Window Sample Complete at 3.45 m Water Level Observations Standing Time (Mins) Drive Records Standing Water Casing Depth (m) Depth Diameter (mm) Recovery (%) From (m) To (m) 115 115 2.00 100 100 1.20 Client: Tibbalds Planning and Urban Design Remarks: Inspection pit excavated from GL to 1.20mbgl. Engineer: Campbell Reith Hill LLP Groundwater was not encountered. Installation details: 50mm diameter HDPE standpipe installed from 3.45mbgl to GL. Slotted Contractor: Harrison Group Environmental Limited from 3.45mbgl to 1.00mbgl, plain from 1.00mbgl to GL. Finished with gas tap, end cap and Date: 07/03/2012 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. Plant: Terrier Window Sampling Rig M. Rose Drilled By: Logged By: G. Dowlen Checked By: J. Keay M-Hn-R-3081 Print Date:28/06/2012 Harrison Group Environmental Ltd, Unit A11, Poplar Business Park, 10 Prestons Road, London E14 9RI

WS B4 Window Sample Record harrisongroup Sheet 1 of 1 Project: Bourne Estate, Camden Project ID: GL16482 Coordinates: 531233.2E Ground Level: 19.95mAOD 181842.9N O.D. Remarks Sample Test Description Legend Depth Installations Level and **Test Results** (m) (m) Depth (m) Type Grass over TOPSOIL. Dark brown organic clayey ES1 0.10 19.80 silty fine SAND. 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. ES3 0.50 Occasional brick cobbles. ES4 1.00 1.00 1.20 18.75 1.20 1.20-1.65 N=12 (2,1,2,3,3,4) MADE GROUND. Medium dense off white and light 1.20-2.00 yellow brown silty gravelly fine and medium SAND. LS₁ Gravel is angular fine to coarse brick and ES5 1.50 concrete. 2.00 2.00-2.45 2.00-2.80 N=12 (1,2,2,3,3,4) D2 LS2 ES6 2.00 ES7 2.50 2.80 50/75mm (25,50) 2.80-2.95 2.80 At 2.80m: becomes very dense. 2.95 17.00 2.95 Window Sample Complete at 2.95 m Water Level Observations Standing Time (Mins) Drive Records Standing Water Casing Depth (m) Depth Diameter (mm) Recovery (%) From (m) To (m) 115 115 2.00 2.95 100 100 1.20 Client: Tibbalds Planning and Urban Design Remarks: Inspection pit excavated from GL to 1.20mbgl. Engineer: Campbell Reith Hill LLP Groundwater was not encountered. Installation details: 50mm diameter HDPE standpipe installed from 2.95mbgl to GL. Slotted Contractor: Harrison Group Environmental Limited from 2.95mbgl to 1.00mbgl, plain from 1.00mbgl to GL. Finished with gas tap, end cap and Date: 07/03/2012 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. Terrier Window Sampling Rig Plant: M. Rose Drilled By: Logged By: G. Dowlen Checked By: J. Keay M-Hn-R-3081 Print Date:28/06/2012 Harrison Group Environmental Ltd, Unit A11, Poplar Business Park, 10 Prestons Road, London E14 9RI

Window Sample Record WS B5 harrisongroup Sheet 1 of 1 Project: Bourne Estate, Camden Project ID: GL16482 Coordinates: 531196.5E Ground Level: 17.76mAOD 181827.8N O.D. Remarks Sample Test Description Legend Depth Installations Level and **Test Results** (m) (m) Туре Depth (m) Grass over TOPSOIL. Dark brown organic clayey 0.00 ES1 17.61 silty fine and medium SAND. 0.25 ES2 MADE GROUND. Brown, grey brown and grey silty gravelly fine and medium occasionally coarse SAND. Gravel is angular fine to coarse brick, rare ES3 0.50 concrete, wood and glass fragments. ES4 1.00 1.10 16.66 Yellow brown silty fine and medium occasionally coarse SAND and subrounded to rounded fine and ES5 1.25 medium occasionally coarse flint GRAVEL. (HACKNEY GRAVEL). 1.60 ES6 1.60 1.60 Window Sample Complete at 1.60 m Water Level Observations Standing Time (Mins) Standing Drive Records Water Casing Depth (m) Depth Recovery (%) Diameter (mm) From (m) To (m) 115 1.20 1.60 100 Client: Tibbalds Planning and Urban Design Remarks: Inspection pit excavated from GL to 1.20mbgl. Engineer: Campbell Reith Hill LLP Groundwater was not encountered. Obstruction encountered at 1.60mbgl. Window sample hole terminated. Contractor: Harrison Group Environmental Limited 4. Backfill details: Arisings from 1.60mbgl to GL. Date: 08/03/0012 Plant: Handheld Window Sampling Rig Drilled By: M. Rose Logged By: G. Dowlen Checked By: J. Keay M-Hn-R-3081 Print Date:28/06/2012 Harrison Group Environmental Ltd, Unit A11, Poplar Business Park, 10 Prestons Road, London E14 9RL

WS B6 Window Sample Record harrisongroup Sheet 1 of 1 Project: Bourne Estate, Camden Project ID: GL16482 Coordinates: 531193.5E Ground Level: 17.91mAOD 181852.5N O.D. Remarks Sample Test Description Legend Depth Installations Level and **Test Results** (m) (m) Type Depth (m) Grass over MADE GROUND. Dark brown slightly ES1 0.10 gravelly sandy SILT. Gravel is angular fine brick ES2 0.25 and rare glass fragments. 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 ES3 0.75 rare concrete fragments. 1.00 16.91 MADE GROUND. (Firm) dark grey and dark grey ES4 1.10 brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to rounded fine to coarse quartz, brick and rare wood fragments. Rare oyster shells. ES5 1.50 2.10 2.40 15.51 MADE GROUND. Yellow brown brick GRAVEL and 2.50 15.41 2.50 Window Sample Complete at 2.50 m Water Level Observations Standing Time (Mins) Standing Drive Records Water Casing Depth (m) Depth Diameter (mm) Recovery (%) From (m) To (m) 115 115 1.20 2.00 2.00 2.50 100 100 Client: Tibbalds Planning and Urban Design Remarks: Inspection pit excavated from GL to 1.20mbgl. Engineer: Campbell Reith Hill LLP Groundwater was not encountered. Obstruction encountered at 2.50mbgl. Window sample hole terminated. Contractor: Harrison Group Environmental Limited 4. Backfill details: Arisings from 2.50mbgl to GL. Date: 08/03/0012-08/03/2012 Plant: Handheld Window Sampling Rig Drilled By: M. Rose Logged By: G. Dowlen Checked By: J. Keay M-Hn-R-3081 Print Date:28/06/2012 Harrison Group Environmental Ltd, Unit A11, Poplar Business Park, 10 Prestons Road, London E14 9RL



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

vvcatrici.		Odriny		
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	
		ĺ	1	

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)



Falling Head Permeability
Test (Borehole)

Job No: GL16482

Test No.: 1 of 1

Date: 12/03/2012 Borehole No./ BH B2A

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

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June 2012

	harrison group	Gas Monitoring Field Record						
	ag.cap	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								

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

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 (I/Hr)
BH B1 (shallow)	23/03/2012	No access due t	o car on cover.															
BH B1 (deep)	23/03/2012	No access due t	o 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 group	Gas Monitoring Field Record						
	g.e.ap	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								

Scattered showers, 10c, 1005mBar Prior to Monitoring

Weather Conditions During Monitoring

Cloudy, 6c, 1019mBar

Location I.D	Date	Time (hhmmss)	Temp (°C)	Prior to	Prior to	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 (I/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 group	G	as Monitoring F	ield Record
	a.r.se.r.g.c.a.p	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	Cloudy, 11c, 1023mBar			

Prior to Monitoring

Weather Conditions During Monitoring

Scattered showers, 12c, 998mBar

Location I.D	Date	Time (hhmmss)	Temp (°C)	Atmospheric Pressure 72hrs Prior to Sampling (hPa)	Prior to	Prior to	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 (I/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

	harrisongroup	Wa	ter Monitorin	g Field Reco	rd
		Date:	23/03/2012	Job No :	GL16482
Client :	Tibbalds Planning and Urban Design	Project :	Bourne Estate, 0		
Method: Dipmeter	Orban Design	Drawing No.:			
Weather (include T	emperature & Pressure)	State of Ground (e.g. Dry, Wet, Sn	ow covered.)	
Broken cloud, 13o	C, 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 taken.	e: 7.90m, purged	d dry, no sample
WS B2	12:40:00	Dry	Base of the pipe	e: 3.00m.	
WS B3	12:20:00	Dry	Base of the pipe	e: 3.00m.	
WS B4	12:00:00	Dry	Base of the pipe	e: 2.94m.	
	1	1	Field Crew:	G. Pursey	

	harrisongroup	Wa	ter Monitoring	j Field Rec	ord
		Date:	05/04/2012	Job No :	GL16482
Client :	Tibbalds Planning and Urban Design	Project :	Bourne Estate, C	Camden	
Method: Dipmeter		Drawing No.:			
Weather (include T	emperature & Pressure)	State of Ground (e	e.g. Dry, Wet, Sno	w covered.)	
Cloudy, 6c, 1019m	Bar	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. Sar litres to achieve a brown		ter purging 10 e. Sample orange
BH B2A	14:20:00	7.01	Base 7.90m. Bor	ehole purgec	l 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	Wa	ter Monitoring	Field Rec	ord
		Date:	17/04/2012	Job No :	GL16482
Client :	Tibbalds Planning and Urban Design	Project :	Bourne Estate, C		
Method: Dipmeter	Orban Besign	Drawing No.:			
Weather (include T	emperature & Pressure)	State of Ground (e.g. Dry, Wet, Sno	w 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. San litres to achieve a brown	•	
BH B2A	14:20:00	7.23	Base 7.88m. Bor	ehole 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.		
	1	ı	Field Crew:	G. Pursey	

APPENDIX D

LABORATORY TESTING

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June 2012

														GEC	TECH	NICAL	LABOI	RATOR	Y SCH	EDULE							0
		h	arris	ongr	oup					Projec	t Name	e:		Bourne Estate	e, Camo	den											Date Scheduled: 16/03/2012
										Projec	t ID:			GL16482													Lab turn around: 2 Weeks
Project Engineer	r:	Camp	bell Rei	ith Hill L	LP.					Projec	t Client	::		Tibbalds Plan	ning ar	ıd Urba	n Desi	gn									Results Due Date: 30/03/2012
Email Reports to:	GL@h	arrison	groupu	k.com																							
		Sar	nple				Cl	assifica	tion				Che	mical	Co	mpact	ion			Strengt	h			Addi	tional	1	_
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	В	1	1.20	1.65					Х																		
BH B1	D	2	1.80	1.80									Х														
BH B1	D	4	4.00	4.00									Х														
BH B1	В	4	4.50	4.95					Х																		
BH B1	D	8	8.00	8.00	Х		Х																				
BH B1	U	1	9.00	9.45																	Х						Cell pressure 360kPa
BH B1	D	9	9.45	9.55										Х													
BH B2A	D	2	2.00	2.00									Х														
BH B2A	В	2	2.50	2.95					Х																		
BH B2A	В	5	6.00	6.45					Х																		
BH B2A	D	6	8.00	8.00										х													
BH B2A	D	7	9.00	9.45	Х		Х																				
BH B2A	U	1	10.50	10.95																	Х						Cell pressure 420kPa
BH B2A	D	9	12.00	12.45									Х														
BH B2A	U	2	13.50	13.95																	Х						Cell pressure 540kPa
BH B2A	U	3	16.50	16.95																	Х						Cell pressure 660kPa
BH B2A	D	12	16.95	17.05									Х														
BH B2A	U	4	19.50	19.95																	Х						Cell pressure 780kPa
BH B2A	D	16	21.00	21.45									Х														
BH B2A	W	1	22.50	22.50									TR														
BH B2A	D	17	22.95	23.05	Х																						
BH B2A	D	18	24.00	24.45	Х		Х																				
BH B2A	U	6	25.50	25.95																	Х						Cell pressure 1020kPa
	1	1	1	+	1	1	+	+	•		1	1	+				1	1	+	1	1	.	1	1	1	1	

Х

Χ

X

BH B2A

WS B3

WS B4

WS B2A

D

D

D

ES

1

19 25.95 26.05

1 1.20 1.65

3 1.00

1.20 1.45

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Χ

/Z-															GEC	TECH	NICAL	LABOR	RATOR	Y SCHI	EDULE						0
		h	arris	ongr	oup					Projec	t Name			Bourn	e Estate	e, Cam	den									Date Scheduled:	16/03/2012
										Projec	t ID:			GL164	182											Lab turn around:	2 Weeks
Project Enginee	r:	Camp	bell Rei	th Hill L	.LP					Projec	t Client:			Tibba	lds Plan	ning ar	id Urba	n Desi	gn							Results Due Date:	30/03/2012
Email Reports to:	GL@h		groupul	c.com																							
		Sar	nple			1	Cla	assificat	tion				Che	mical		Co	mpacti	ion			Strengt	:h		Addi	tional		
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			Rem	arks
WS B2A	ES	5	2.00		Х		Х																				
WS B2A	ES	6	2.50											Х													
WS B6	ES	4	1.10											Х													
WS B6	ES	5	1.50		Х		Х																				
		To	otal Sch	eduled	7		6		4				9	4	ļ							6					
			Total	Tested	7		6		4				9	4								6					



harrisontesting

SERVICES

Harrison Testing Services

Units 1 & 2 Alston Road Hellesdon Park Industrial Estate Norwich NR6 5DS Tel:+44 (0) 1603 416333 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 Page Number 1 of 12

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	Instructio	n received	03/04/2012				
Your Ref	GL16482	Testing c	ommenced	20/04/2012				
	SUMMARY OF RESULTS ATTACH	HED						
	Test Method and Description		Quantity	UKAS				
	·		-	Accredited				
3S1377: Part 2	: 1990:3.2 Moisture Content		7	Yes				
3S1377: Part 2	: 1990:4.3/4.5 Liquid & Plastic Limits - Definitive Method		6	Yes				
3S1377: Part 2	: 1990:9.3 Particle Size Distribution - Wet Sieve Method		4	Yes				
BS1377: Part 7	: 1990:8.0 Unconsolidated Undrained Shear Strength - Single	e Stage	6	Yes				
Remarks:								
Issued by: M V	Villson							
Approved Signatori	ies:							
И Willson (Laborato	ory 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

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





SERVICES

PROJECT NAME: Bourne Estate, Camden

PROJECT NUMBER: GL

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		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	СН	Brown mottled orange brown and blue grey CLAY
WS B2A	1.00	ES3	22	35	20	15	0.13	59		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		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		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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BH B1

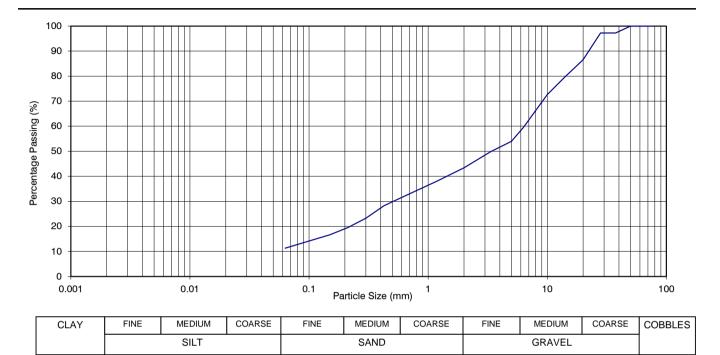


PROJECT NAME: Bourne Estate, Camden

BH/TP No.: GL16482 1.20 PROJECT NUMBER: Depth (m): CLIENT: London Borough of Camden Sample No.: В1

DATE OF ISSUE: 04/05/2012

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



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
MAL	DE GROUND (Brown and reddish brown clayey silty very sandy GRAVEL.
	Gravel is of flint, concrete, brick and slag fragments)
1	

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

Remarks	

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BH B1

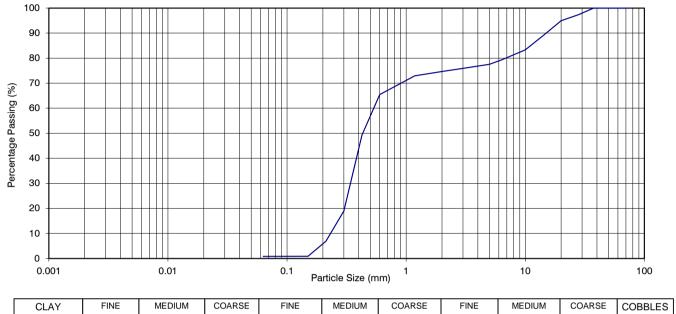


PROJECT NAME: Bourne Estate, Camden

BH/TP No.: GL16482 4.50 PROJECT NUMBER: Depth (m): CLIENT: London Borough of Camden Sample No.: В4

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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BH B2A

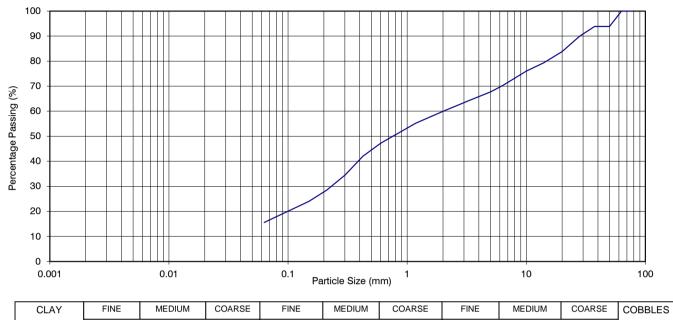


PROJECT NAME: Bourne Estate, Camden

BH/TP No.: GL16482 2.50 PROJECT NUMBER: Depth (m): CLIENT: London Borough of Camden Sample No.: В2

DATE OF ISSUE: 04/05/2012

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



ſ	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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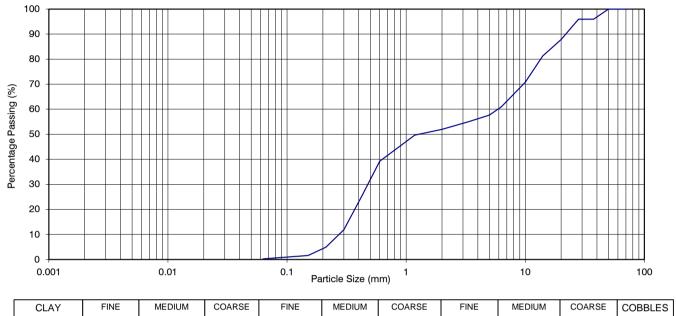


PROJECT NAME: Bourne Estate, Camden

BH/TP No.: BH B2A GL16482 6.00 PROJECT NUMBER: Depth (m): CLIENT: London Borough of Camden Sample No.: В5

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			
	<u> </u>			

Remarks				

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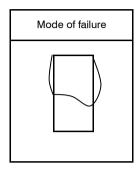


PROJECT NAME: Bourne Estate, Camden BH/TP No.: BH B1
PROJECT NUMBER: GL16482 Depth (m): 9.00
CLIENT: London Borough of Camden Sample No.: U1

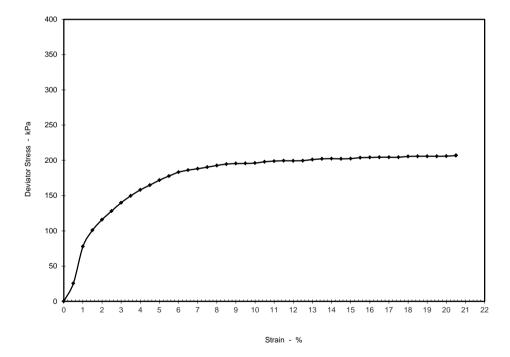
DATE OF ISSUE: 04/05/2012

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/m ³	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	
		High strength da	ark grey brown and occasional
Sample Description		orange brown C	LAY



Shear Strength							
Parameters							
Cu	103 kPa						
Phi	N/A°						



REMARKS (Including any abnormalities or departures from procedure)

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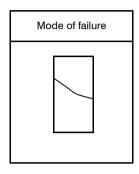


PROJECT NAME: Bourne Estate, Camden BH/TP No.: BH B2A
PROJECT NUMBER: GL16482 Depth (m): 10.50
CLIENT: London Borough of Camden Sample No.: U1

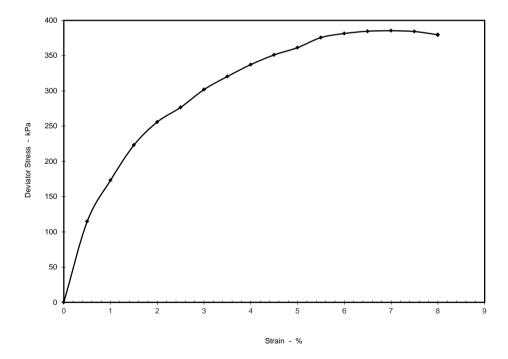
DATE OF ISSUE: 04/05/2012

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/m³	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		
		Very high streng	th dark grey brow	n and
Sample Description		occasional orang	ge brown CLAY	



Shear Strength							
Parameters							
Cu	193 kPa						
Phi N/A °							



REMARKS (Including any abnormalities or departures from procedure)

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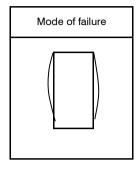


PROJECT NAME:Bourne Estate, CamdenBH/TP No.:BH B2APROJECT NUMBER:GL16482Depth (m):13.50CLIENT:London Borough of CamdenSample No.:U2

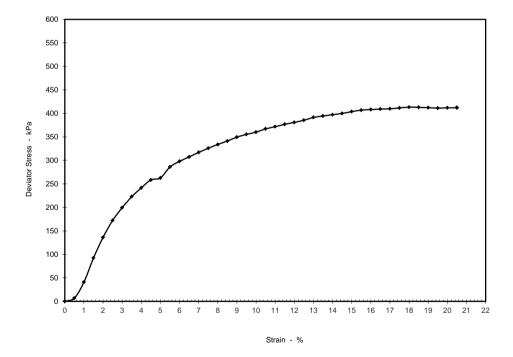
DATE OF ISSUE: 04/05/2012

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/m³	2.02	
Dry Density	Mg/m³	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 streng	th dark grey brown CLAY



Shear Strength							
Parameters							
Cu	207 kPa						
Phi N/A°							



REMARKS (Including any abnormalities or departures from procedure)

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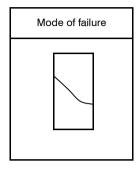


PROJECT NAME:Bourne Estate, CamdenBH/TP No.:BH B2APROJECT NUMBER:GL16482Depth (m):16.50CLIENT:London Borough of CamdenSample No.:U3

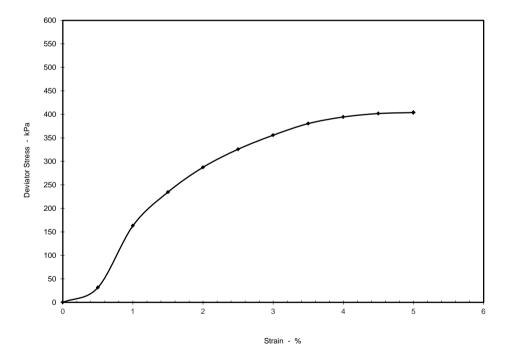
DATE OF ISSUE: 04/05/2012

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/m³	2.06	
Dry Density	Mg/m³	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	
		Very high streng	th dark grey brown CLAY
Sample Description			



Shear Strength			
Parameters			
Cu	202 kPa		
Phi	N/A°		



REMARKS (Including any abnormalities or departures from procedure)

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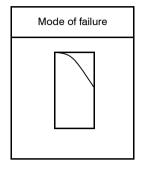


PROJECT NAME:Bourne Estate, CamdenBH/TP No.:BH B2APROJECT NUMBER:GL16482Depth (m):19.50CLIENT:London Borough of CamdenSample No.:U4

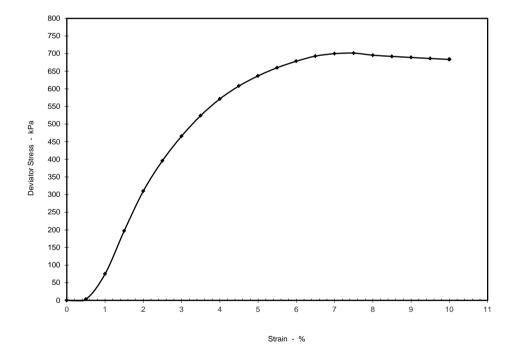
DATE OF ISSUE: 04/05/2012

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/m³	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 CLAY	orange brown mottled blue grey



Shear Strength			
Parameters			
Cu	351 kPa		
Phi	N/A °		



REMARKS (Including any abnormalities or departures from procedure)

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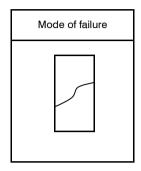


PROJECT NAME: Bourne Estate, Camden BH/TP No.: BH B2A
PROJECT NUMBER: GL16482 Depth (m): 25.50
CLIENT: London Borough of Camden Sample No.: U6

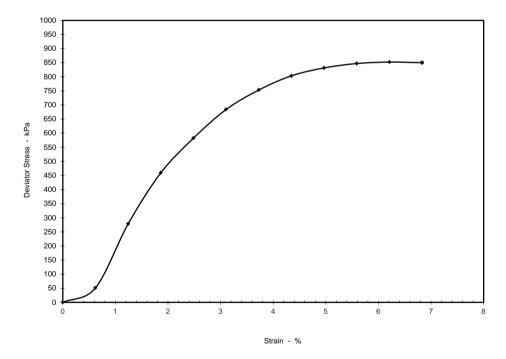
DATE OF ISSUE: 04/05/2012

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/m ³	2.16	
Dry Density	Mg/m ³	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 CLAY	orange brown mottled blue grey



She	ar Strength										
Parameters											
Cu	426 kPa										
Phi	N/A °										



REMARKS (Including any abnormalities or departures from procedure)

Harrison Geotechnical Engineering

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email: laboratory@harrisongroupuk.com



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								Sent from:		rison Gro										act Name:	Jiban Baj					te Sample															
							A	Address:		A11, Po									Ema	l:	GL@ha	rrisong	roupul	k.com		jectCode		GL16482											Sheet:	1	of 1
												_ondon	E14 9RL													mpler ID:															
					Tel: Fax:		-	Fel. No.: Project/Site		7537 92		o Entoto	, Camder						Fax.	No: 020 7	987 0361					ote Refer		GL1	6482			Doto	Requir	od:					One p	roject p	per sheet plea
			Т	T	гах.			-TOJECT/SITE	IVallie	в.	Bouill	ELSIAIE	, Carrider	-			-	-	1					_	Tui	narounu	illie.		1				nequii	eu.	-		-			-	$\overline{}$
iampling Date (dd/mm/yr)	lorehole) Trial Pit No.	ample Type	sample Number	kample Depth in Metres (Top)	kample Depth in Metres (Bottom)	chain of Custody Reference	S)soil or (W)water or (G)gas (specify if other)	iulte Name (from Contract Rates or Quotation) fetals	yanide (free) and (total)	SCMS	henol	МО	sbestos Indentification	РН Ѕαеел			.25 Asbestos screen .26 Asbestos screen and microscopy ID	tion Organic Carbon				A Committee of the Comm	Individual Determinants (GAS)	.58 VOCs inc BTEX. 10ppm			ndividual Determinants (WATER and LEACHATE)	.60 PAH (Total) 61 PAH (Total of USEPA 16)	.62 PAH (16 speciated) (Modified EPA 8100)	.63 TPH - CWG (C5-35) based on TNRCC method 1006	.64 Petrol Range Organics/ BTEX/ MTBE	i. 65 BTEX by GC-MS (Modified US EPA 8150) 1.66 SVOCs target list (one extraction only) (Modified US EPA	2270) 1.67 SVOCs scan (up to 10 peaks, > 80% fft)	list only (Modified US El	1.69 VOCs target list plus TICs (top 10 peaks to 0.01mg/l only) (Modified US EPA 8280)	.70 Phenols (Total) by HPLC		.72 Glycol Suite (See below)			
Ö	<u>m</u>	ő	ő	ιχ	υχ	ō	s) S	ຫ້ ≥	- 0	п.	à	S	ž t		_	드 ,	2 2	- 2	+ 2				= -				드	2 2	+		₽	8	8 ÷	- 2	- ≥		-	=		-	++
07/03/2012	BH B2A			4.00			S	X				x	X)	X						-	-	-		-						-			-		+						\rightarrow
07/03/2012 07/03/2012	BH B2A BH B2A		-	8.20			S	X		X	^	^	^ /	X	+	+	+	+	+		++	+	+-	+	+	+		-	+	-		+-	+	+-	\vdash		-+		+	-+	+++
/00/2012	511551	-	1.5	3.20	3.20		††	-	+	+ *				+^	+		+	+	+				+		-	+			1	l			+	t	1					$-\dagger$	
07/03/2012	WS B1	ES	1	0.10	0.10		S	х	х	х	х	х	x >	х																											
07/03/2012	WS B1	ES	2	0.50	0.50		S	х		х	х		x >																												
			$\perp \mathbb{I}$	T	T		$\perp \Gamma$									[_																					[
07/03/2012	WS B2	ES	1	0.10	0.10		S	х	x	X	x		x >						_													_									
07/03/2012	WS B2			0.50			S	х			X	Х	X)								$\perp \perp$									<u> </u>											\perp
07/03/2012	WS B2		-	1.50	1.50		S	Х			Х		X)						4																1						
07/03/2012	WS B2	ES	7	3.00	3.00		S	Х	X	Х	Х	Х	x >	X																											
07/03/2012	WS B3			0.15			s	х			х	х							-		\perp	_							-	ļ			-	<u> </u>	1				1		
07/03/2012	WS B3		+	0.90	+		S	х			х	х							_											ļ				-	\perp				\perp		\perp
07/03/2012	WS B3	ES	7	2.50	2.50		S	X	X	X	х	х	x >	X	 	-	+	+-	-			-							-	-			-	-	+-		\dashv		+	\dashv	\rightarrow
07/03/2012	WS B4		1	0.10	0.10		S	x	x	x	х	х	x)	×		-+	-	+-			\vdash	-		-		-				-			-	-	\vdash				+-	-	+++
07/03/2012	WS B4		$\rightarrow - +$	0.10			S	X			X		x >			-	+	+	+	+	+-+	-		+	+	+-	+-+		+	-			+	+	+-	\vdash	\dashv		+	-+	+++
07/03/2012	WS B4		-	1.50	+		s	X			-	X				-+	+	+	+-	+		-		-	+	+			+	-		-	+	-	\vdash		-+		+	-+	+++
07/03/2012	WS B4			2.80			S	^	\rightarrow		X	x			-	-	+	+-	+		++	_		+	+	+-	\vdash		+	 			+	-	+		\dashv		+	-+	+++
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08/07/2012	WS B5	ES	1	0.10	0.10		S	х	x	х	х	х	x >	х	_	\top	\top		\top		+			\top		\top			1	1			1		\top		\neg			-	
08/07/2012	WS B5		-	0.50			s	х					x >																												
08/07/2012	WS B5	ES		1.00			S	х	х	х	х		x >	х																											
			\perp				$\perp \perp$												-	-										<u> </u>			-	-	\perp						
08/07/2012	WS B6			0.10	+		S			Х				Х							\vdash	_								<u> </u>				-	1				\perp		
08/07/2012	WS B6			0.75			S	X			х	х				_	-	-	-	-	-			-					-	1			-	-	+				+	-+	\rightarrow
08/07/2012	WS B6	ES	6	2.10			S	_	X				X)	_	_	+	-	-	-				-	+					-			-	-		\vdash		-			+	++
						Total Sched							21 2 21 2		_	_	-		-		+	-	-	-					-	-		-	-		\vdash		_		+		+++
COMMENTS: da	ata required in AGS	S format	t (V3.1).			TOIR I	esteu	22	21	- 22	21	21	£1 Z	42													1 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.

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

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









Validated

120317-4 Location: Redhill - Bourne Estate H_CAMREITH_REH-5 **Customer:**

SDG: Order Number: 183005 Job: Campbell Reith Hill Report Number: 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.

SDG

Job:

120317-4

H_CAMREITH_REH-5

CERTIFICATE OF ANALYSIS

Order Number:

Report Number:

Redhill - Bourne Estate

Campbell Reith Hill

Location:

Customer:

Validated

183005

Superseded Report: Client Reference: Attention: Rhyadd Watkins **SOLID** 5334291 5333255 5333254 5333257 5334290 5334294 **Results Legend** Lab Sample No(s) X Test No Determination Possible Customer BHB2 BHB2 BHB2 WSB2 WSB2 WSB2 WSB5 WSB5 WSB6 WSB6 WSB1 WSB1 WSB2 Sample Reference ES11 ES14 ES9 ES3 ES1 ES ES2 ES2 ES4 ES6 ES7 ES4 ES6 ES7 ES8 **AGS Reference** 0.10 0.10 0.50 0.10 0.50 2.50 3.00 0.10 0.50 1.10 0.75 2.10 8.25 4.00 1.00 1.50 Depth (m) .0 1kg TUB
1kg TUB
1kg TUB
1kg TUB
400g Tub (ALE214)
250g Amber Jar (AL
250g Amber Jar (AL
250g Amber Jar (AL
1kg TUB
250g Amber Jar (AL 400g 250g 400g 250g 250g 400g 250g 250g 250g g Tub (ALE21 g Amber Jar (, g Amber Jar (, 1kg TUB Tub (ALE21 Amber Jar (Tub (ALE21 Amber Jar (Amber Jar (Container (AL (AL (AL (AL (AL (AL (AL (AL Anions by Kone (soil) All NDPs: 0 Tests: 2 Asbestos Identification (Soil) All NDPs: 0 Tests: 13 хх Asbestos Quant. - Waste Limit* All NDPs: 0 Tests: 3 Cyanide All NDPs: 0 Comp/Free/Total/Thiocyanate 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 X Magnesium (BRE) All NDPs: 0 Tests: 2 Metals by iCap-OES (Soil) Arsenic NDPs: 0 Tests: 15 ХХ x x хх X X Cadmium NDPs: 0 Tests: 15 ХХ XX ХХ X X Chromium NDPs: 0 Tests: 15 ХХ X X X X Copper NDPs: 0 Tests: 15 ХХ X X X X Lead NDPs: 0 Tests: 15 X X X X X X X Mercury NDPs: 0 Tests: 15 ΧХ XX Х X XX XX Х X Nickel NDPs: 0 Tests: 15 XX X X ΧХ

SDG

120317-4

CERTIFICATE OF ANALYSIS

Order Number:

Redhill - Bourne Estate

Location:

Validated

183005

Job: H_CAMREITH_REH-5 **Customer:** Campbell Reith Hill Report Number: Attention: Rhyadd Watkins Superseded Report: Client Reference: **SOLID** 5334291 5333255 5333254 5333257 5334290 5334294 **Results Legend** Lab Sample No(s) X Test No Determination Possible Customer BHB2 BHB2 BHB2 WSB2 WSB1 WSB2 WSB5 WSB6 WSB6 WSB1 Sample Reference ES11 ES14 ES9 ES3 ES ES1 ES2 ES4 ES6 ES2 ES7 ES4 ES6 ES7 ES8 **AGS Reference** 0.10 0.50 0.10 0.50 0.10 2.50 3.00 0.10 0.50 1.10 0.75 2.10 8.25 4.00 1.00 1.50 Depth (m) .0 1kg TUB
1kg TUB
1kg TUB
1kg TUB
400g Tub (ALE214)
250g Amber Jar (AL
250g Amber Jar (AL
250g Amber Jar (AL
1kg TUB
250g Amber Jar (AL 400g 250g 400g 250g 250g 400g 250g 250g 250g g Tub (ALE21 g Amber Jar (, g Amber Jar (, 1kg TUB Tub (ALE21 Amber Jar (Tub (ALE21 Amber Jar (Amber Jar (Container (AL (AL (AL (AL (AL (AL (AL (AL Metals by iCap-OES (Soil) Selenium NDPs: 0 Tests: 15 XX x x Zinc NDPs: 0 Tests: 15 хх x x X X NO3, NO2 and TON by KONE (s) All NDPs: 0 Tests: 2 PAH by GCMS All NDPs: 0 Tests: 15 рΗ All NDPs: 0 Tests: 15 X X X X Phenols by HPLC (S) All NDPs: 0 Tests: 13 XX Sample description All NDPs: 0 Tests: 17 XX X XX XX XX 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 X X X X X X TPH CWG GC (S) All NDPs: 0 Tests: 2

Validated

SDG: 120317-4 **Job:** H_CAMR

H_CAMREITH_REH-5

Location: Redh Customer: Cam Attention: Rhya

Redhill - Bourne Estate Campbell Reith Hill Rhyadd Watkins Order Number: Report Number: Superseded Report:

183005

Sample Descriptions

Grain Sizes

Client Reference:

very fine <	0.063mm	fine	0.063mm - 0.1mm	medi	um 0.1mn	n - 2mm	coars	e 2mm - 10)mm	very coar	se >10m
Lab Sample No(s)	Custon	ner Sample R	ef. Depth (m)		Colour	Description	1	Grain size	Inclu	sions	Inclusions 2
5333442		BHB2	1.00		Dark Brown	Sand		0.063 - 0.1 mm	Sto	nes	Brick
5333449		BHB2	4.00		Light Brown	Sand		0.1 - 2 mm	Sto	nes	N/A
5333454		BHB2	8.25		Dark Brown	Silty Clay Loa	am	<0.063 mm	No	one	None
5334285		WSB1	0.10		Light Brown	Loamy Sand	d	0.1 - 2 mm	Sto	nes	None
5334286		WSB1	0.50		Dark Brown	Sandy Loan	n	0.1 - 2 mm	Sto	nes	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 Loa	am	0.063 - 0.1 mm	Sto	nes	Vegetation
5333020		WSB2	1.50		Dark Brown	Silt Loam		0.063 - 0.1 mm	Sto	nes	Brick
5333022		WSB2	2.50		Dark Brown	Silty Clay		0.063 - 0.1 mm	No	one	None
5333024		WSB2	3.00		Light Brown	Sandy Clay	,	0.063 - 0.1 mm	Sto	nes	Vegetation
5334288		WSB5	0.10		Dark Brown	Silty Clay Loa	am	0.063 - 0.1 mm	Sto	nes	Vegetation
5334290		WSB5	0.50		Dark Brown	Sandy Silt Loa	am	0.063 - 0.1 mm	Sto	nes	Vegetation
5334291		WSB5	1.00		Dark Brown	Silty Clay Loa	am	0.063 - 0.1 mm	Sto	nes	Vegetation
5333254		WSB6	0.75		Dark Brown	Loamy Sand	d	0.063 - 0.1 mm	Br	ick	Stones
5333255		WSB6	1.10		Dark Brown	Sandy Clay		0.1 - 2 mm	Sto	nes	None
5333257		WSB6	2.10		Dark Brown	Loam Loamy Sand	d	0.063 - 0.1 mm	Br	ick	Stones
5334294		WSB6	0.10		Dark Brown	Silty Clay Loa	am	0.063 - 0.1 mm	Sto	nes	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 occurring 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.

Validated

120317-4 SDG:

Client Reference:

Job: H_CAMREITH_REH-5 **Customer:** Attention:

Location:

Redhill - Bourne Estate Campbell Reith Hill Rhyadd Watkins

Order Number: Report Number:

183005 Superseded Report:

Customer Sample R BHB2 BHB2 WSB1 WSB1 WSB2 BHB2 ISO17025 accredited mCERTS accredited Deviating sample Depth (m) 1.00 4.00 8.25 0.10 0.50 0.10 Aqueous / settled sample Aqueous / settled sample.
Dissolved / filtered sample.
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 dies filt 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 15/03/2012 15/03/2012 15/03/2012 15/03/2012 15/03/2012 15/03/2012 120317-4 120317-4 120317-4 SDG Ref 120317-4 120317-4 120317-4 5333442 5333449 5333454 5334285 5334286 5333017 Lab Sample No.(s) Trigger breach confirmed ES3 ES9 ES14 ES2 ES1 (F) AGS Reference ES1 LOD/Units Method Component TM062 (S) <0.01 <0.01 <0.01 <0.01 Phenol < 0.01 mg/kg § M §Μ § M §Μ Soil Organic Matter (SOM) <0.35 % TM132 5.02 4.97 4.34 4.1 # # рΗ Hq 1 TM133 10.7 11.8 11.5 7 74 Units M Μ Μ M Cyanide, Total TM153 <1 <1 <1 2.38 <1 mg/kg § M §Μ § M §Μ TM153 <1 <1 <1 Cvanide. Free <1 mg/kg <1 §Μ §Μ §Μ §Μ TPH >C6-C40 <10 TM154 1140 12.1 50.3 727 349 409 ma/ka § # § # § # § # § # § # 7.91 TM181 117 138 11 6 14 4 136 Arsenic < 0.6 mg/kg Μ М Μ Μ M Μ Cadmium <0.02 TM181 0.173 <0.02 0.216 <0.02 0.0558 4.66 Μ mg/kg Μ Μ Μ Μ М Chromium TM181 10.3 38.9 28.5 17.1 60.8 < 0.9 15 mg/kg Μ M Μ М Μ М Copper <1.4 TM181 57 5.64 29 35.8 58.2 99.8 Μ Μ Μ Μ Μ Μ ma/ka Lead TM181 329 13.9 215 652 381 5 14 < 0.7 mg/kg M M Μ M M M Mercury <0.14 TM181 1.8 <0.14 <0.14 1.01 2.6 1.23 ma/ka Μ М Μ М Μ М Nickel TM181 15.3 12.9 39.3 11.3 13.8 28.3 < 0.2 mg/kg M M M M M M Selenium <1 mg/kg TM181 <1 <1 1.75 <1 <1 1.03 # Zinc <1.9 TM181 89.7 13.1 89.3 84.5 134 432 М Μ М Μ М Μ mg/kg

Validated

SDG: 120317-4

Client Reference:

Job: H_CAMREITH_REH-5

Location: Customer: Attention: Redhill - Bourne Estate Campbell Reith Hill Rhyadd Watkins Order Number: Report Number: Superseded Report:

	Results Legend	Cu	stomer Sample R	WSB2	WSB2	WSB2	WSB2	WSB5	WSB5
#	ISO17025 accredited.	- 0	Stomer Sample K	W2B2	W9B2	WSBZ	W5B2	Mogo	MSR2
M	mCERTS accredited.								
§ aq	Deviating sample. Aqueous / settled sample.		Depth (m)	0.50	1.50	2.50	3.00	0.10	0.50
diss.filt	Dissolved / filtered sample. Total / unfiltered sample.		Sample Type	Soil/Solid 08/03/2012	Soil/Solid 08/03/2012	Soil/Solid 08/03/2012	Soil/Solid 08/03/2012	Soil/Solid 09/03/2012	Soil/Solid 09/03/2012
tot.unfilt	Subcontracted test.		Date Sampled Sample Time	00/03/2012	00/03/2012	00/03/2012	06/03/2012	09/03/2012	09/03/2012
**	% recovery of the surrogate standar		Date Received	15/03/2012	15/03/2012	15/03/2012	15/03/2012	15/03/2012	15/03/2012
	check the efficiency of the method. results of individual compounds wit		SDG Ref	120317-4	120317-4	120317-4	120317-4	120317-4	120317-4
(5)	samples aren't corrected for the rec	overy L	.ab Sample No.(s)	5333018 ES2	5333020 ES4	5333022 ES6	5333024 ES7	5334288 ES4	5334290 ES6
(F)	Trigger breach confirmed	10001111	AGS Reference	L02	204	250	207	204	250
Compo		LOD/Units	Method						2 224 (E)
	Limit, Gravimetric -	<0.001 %							<0.001 (F)
%*	Limit DOOM	-0.004.0/	(ASB)						#
	Limit, PCOM	<0.001 %							<0.001
	ation - %*	0.004.00	(ASB)						2 224
waste	Limit, Total - %*	<0.001 %							<0.001
DI		2.24	(ASB)	2.24	2.24		2.24	2.24	#
Pheno)I	<0.01	TM062 (S)	<0.01	<0.01		<0.01	<0.01	<0.01
0 11 0	. 11 (((0.014)	mg/kg	T14400	§ M	§ M		§ M	§ M	§ M
Soli O	rganic Matter (SOM)	<0.35 %	TM132	2.1	9.74		0.781	2.93	
		4 ::11	T14400	#	#		#	#	0.44
pН		1 pH	TM133	8.68	8.14	8.12	8.04	7.76	8.41
C	do Total	Units	T84450	M	M	§ M	M	M	M
Cyanic	de, Total	<1 mg/kg	TM153	<1	<1 S.M.		<1 S.M.	<1 S.M.	<1
C	do Fron	-4 ·· //	T84450	§ M	§ M		§ M	§ M	§ M
Cyanic	de, Free	<1 mg/kg	TM153	<1 8 M	<1 \$ M		1> M.2	<1 × M	<1 8 M
TDU	-C6 C40	-40	TN4454	§ M	§ M		§ M	§ M	§ M
IPH >	·C6-C40	<10	TM154	66.5	94.2		<10	147	167
A	in .	mg/kg	TN4404	§ #	45		§ #	40.0	46.9
Arseni	IC	<0.6	TM181	18.7	15		9.28	10.2	16.8
01	·	mg/kg	TN/404	M	M		M M	M	M
Cadm	ium	<0.02	TM181	0.373	<0.02		<0.02	0.296	0.0737
01		mg/kg	T11101	M	M		M	M	M
Chron	nium	<0.9	TM181	19.6	15.1		18.6	17.7	14.9
		mg/kg	T11101	M	M		M	M	M
Coppe	er	<1.4	TM181	88.3	184		22	47.7	139
		mg/kg	T11101	M	M		M	M	M
Lead		<0.7	TM181	631	1090		55.3	129	393
		mg/kg		M	M		M	M	M
Mercu	ry	<0.14	TM181	1.36	2.61		0.27	0.769	3.27
N		mg/kg	T11101	M	M		M	M	M
Nickel		<0.2	TM181	21	21.5		17.4	17	16.6
0.1.	,	mg/kg	T11101	M	M		M	M	M
Seleni	um	<1 mg/kg	TM181	<1	<1		<1	<1	<1 ,,
			T11101	#	#		#	#	#
Zinc		<1.9	TM181	89.4	113		39.8	108	205
0.1.1.	0.1.1.0.4	mg/kg	T14040	M	M		M	M	M
	e Sulphate 2:1	<0.003	TM243			<0.003			
	t as SO4 BRE	g/l	TN4040			§ M			
	de 2:1 water/soil	<0.001	TM243			0.0019			
extrac	e as NO3, 2:1 water	g/l <0.0003	TM243			0.012			
	e (BRE)		1101243			0.012			
	e (BRE) esium (BRE)	g/l <0.008	TM282			<0.008			
Iviagrie	esiuiii (DRE)	q/l	1 101202			<0.006			
Soil O	rganic Matter (SOM)	<0.1 %	TM321						1.44
3011 0	I garno ivialio (OOIVI)	NO. 1 70	1 IVIOZ I						1.44
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Validated

SDG: 120317-4

Client Reference:

Job: H_CAMREITH_REH-5 Location: **Customer:** Attention:

Redhill - Bourne Estate Campbell Reith Hill Rhyadd Watkins

Order Number: Report Number:

183005 Superseded Report:

Results Legend # ISO17025 accredited.	Cu	ıstomer Sample R	WSB5	WSB6	WSB6	WSB6	WSB6	
M mCERTS accredited.								
§ Deviating sample. aq Aqueous / settled sample.		Depth (m)	1.00	0.10	0.75	1.10	2.10	
diss.filt Dissolved / filtered sample.		Sample Type	Soil/Solid 09/03/2012	Soil/Solid 09/03/2012	Soil/Solid 09/03/2012	Soil/Solid 09/03/2012	Soil/Solid 09/03/2012	
tot.unfilt Total / unfiltered sample. * Subcontracted test.		Date Sampled Sample Time	09/03/2012	09/03/2012	09/03/2012	09/03/2012	09/03/2012	
** % recovery of the surrogate standar check the efficiency of the method.		Date Received	15/03/2012	15/03/2012	15/03/2012	15/03/2012	15/03/2012	
results of individual compounds wit	thin	SDG Ref	120317-4 5334291	120317-4 5334294	120317-4 5333254	120317-4 5333255	120317-4 5333257	
samples aren't corrected for the rec (F) Trigger breach confirmed	overy L	ab Sample No.(s) AGS Reference	ES7	ES10	ES8	ES9	ES11	
Component	LOD/Units							
Waste Limit, Gravimetric -	<0.001 %		<0.001 (F)				<0.001 (F)	
%*		(ASB)	`´ #				`´#	
Waste Limit, PCOM	<0.001 %	SUB					<0.001	
evaluation - %*		(ASB)						
Waste Limit, Total - %*	<0.001 %		<0.001				<0.001	
	2.24	(ASB)	#	2.24	0.04		#	
Phenol	<0.01	TM062 (S)	<0.01 § M	<0.01 § M	<0.01 § M		<0.01 § M	
Soil Organic Matter (SOM)	mg/kg <0.35 %	TM132	S IVI	4.41	2.22		3 IVI	
Soli Organic Matter (SOM)	V0.55 /6	1101132		#.41	Z.ZZ #			
pH	1 pH	TM133	8.28	7.29	8.51	8.54	8.62	
<u>'</u>	Units		M	M	M	§ M	M	
Cyanide, Total	<1 mg/kg	TM153	<1	<1	<1		<1	
			§ M	§ M	§ M		§ M	
Cyanide, Free	<1 mg/kg	TM153	<1	<1	<1		<1	
TDU - 00 C 10	.4.5	T144-1	§ M	§ M	§ M		§ M	
TPH >C6-C40	<10	TM154	207	280	70.1		<10	
Arconic	mg/kg	TM404	§ #	§#	0.58		13.0	
Arsenic	<0.6 mg/kg	TM181	14.3 M	12.4 M	9.58 M		13.9 M	
Cadmium	<0.02	TM181	0.157	0.543	0.279		0.41	
	mg/kg	1	0.157 M	0.545 M	0.279 M		M	
Chromium	<0.9	TM181	15.5	21	13.2		25.2	
	mg/kg		М	M	M		M	
Copper	<1.4	TM181	150	61.5	34.4		7550	
	mg/kg		M	M	M		M	
Lead	<0.7	TM181	370	327	95.7		327	
NA	mg/kg	T1404	M	M	M		M	
Mercury	<0.14 mg/kg	TM181	2.66 M	0.734 M	0.942 M		2.05 M	
Nickel	<0.2	TM181	17.3	17.4	12.5		24.2	
THORE	mg/kg	1	M	м	12.0 M		M	
Selenium	<1 mg/kg	TM181	<1	<1	<1		<1	
			#	#	#		#	
Zinc	<1.9	TM181	219	188	89.2		493	
	mg/kg		M	M	M		M	
Soluble Sulphate 2:1	<0.003	TM243				0.017		
extract as SO4 BRE	g/l	TM243				§ M 0.0021		
Chloride 2:1 water/soil extract BRE	<0.001 g/l	1 101243				0.0021 § M		
Nitrate as NO3, 2:1 water	<0.0003	TM243				0.0139		
soluble (BRE)	g/l					3.0100		
Magnesium (BRE)	<0.008	TM282				<0.008		
	g/l							
Soil Organic Matter (SOM)	<0.1 %	TM321	1.29				1.58	
			#				#	

Validated

SDG: 120317-4

Job: H_CAMREITH_REH-5 Client Reference:

Location: **Customer:** Attention:

Redhill - Bourne Estate Campbell Reith Hill Rhyadd Watkins

Order Number: Report Number: Superseded Report:

DALL by CCMC			Attention. 101	yadd Watkins		Ouperscaed Repo	-	
PAH by GCMS Results Legend	Cu	stomer Sample R	BHB2	BHB2	BHB2	WSB1	WSB1	WSB2
# ISO17025 accredited.	- Cu	istomer Sample K	BHBZ	BHB2	BHB2	M2R1	M2R1	WSBZ
M mCERTS accredited. § Deviating sample.								
aq Aqueous / settled sample.		Depth (m) Sample Type	1.00 Soil/Solid	4.00 Soil/Solid	8.25 Soil/Solid	0.10 Soil/Solid	0.50 Soil/Solid	0.10 Soil/Solid
diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample.		Date Sampled	08/03/2012	08/03/2012	08/03/2012	08/03/2012	08/03/2012	08/03/2012
* Subcontracted test. ** % recovery of the surrogate standar	rd to	Sample Time						
check the efficiency of the method.	The	Date Received SDG Ref	15/03/2012 120317-4	15/03/2012 120317-4	15/03/2012 120317-4	15/03/2012 120317-4	15/03/2012 120317-4	15/03/2012 120317-4
results of individual compounds wit samples aren't corrected for the rec		ab Sample No.(s)	5333442	5333449	5333454	5334285	5334286	5333017
(F) Trigger breach confirmed		AGS Reference	ES3	ES9	ES14	ES1	ES2	ES1
Component	LOD/Units	Method	00.4	04.0	07	04.0	101	22.4
Naphthalene-d8 %	%	TM218	99.1	94.2	87	94.9	101	98.4
recovery** Acenaphthene-d10 %	%	TM218	101	93.6	81.6	87.5	§ 96	99.6
recovery**	70	1101210	101	93.0	01.0	67.5 §	90 §	99.0 §
Phenanthrene-d10 %	%	TM218	100	92.5	78.5	86.2	95.6	96.9
recovery**	/*	1111210	100	02.0	70.0	§	§	§
Chrysene-d12 %	%	TM218	91.8	91.3	68.9	83.5	99.6	96.2
recovery**						§	§	§
Perylene-d12 % recovery**	%	TM218	101	90.3	65	86.3	107	100
						§	§	§
Naphthalene	<9 µg/kg	TM218	122	<9	<9	31.5	79	134
	.10	T14040	§ M	§ M	§ M	§ M	§ M	§ M
Acenaphthylene	<12	TM218	<12	<12	<12	<24 § M	23.1 8 M	218 8 M
Acenaphthene	μg/kg <8 μg/kg	TM218	§ M 24.8	§ M <8	§ M <8	\$ IVI <16	§ M <8	§ M 46.2
/ wellaphulelle	-ο μg/kg	1 IVIZ 10	24.0 § M	~o § M	~o § M	\$ M	~ o § M	46.2 § M
Fluorene	<10	TM218	22	<10	<10	<20	<10	52.4
	μg/kg		§ M	§ M	§ M	§ M	§ M	§ M
Phenanthrene	<15	TM218	375	<15	<15	126	180	1070
	μg/kg		§ M	§ M	§ M	§ M	§ M	§ M
Anthracene	<16	TM218	47	<16	<16	45.7	47.6	298
	µg/kg		§ M	§ M	§ M	§ M	§ M	§ M
Fluoranthene	<17	TM218	241	<17	<17	143	132	2730
	µg/kg	T14040	§ M	§ M	§ M	§ M	§ M	§ M
Pyrene	<15	TM218	218	<15 § M	<15	179 S.M.	152	2260
Ponz/a)anthracona	μg/kg <14	TM218	§ M	<14	§ M	§ M 87.5	§ M 121	§ M
Benz(a)anthracene	μg/kg	1101210	147 § M	~14 § M	~14 § M	87.5 § M	121 § M	1500 § M
Chrysene	μ <u>α/κα</u> <10	TM218	141	<10	<10	137	167	1290
Onlysene	μg/kg	1101210	§ M	§ M	§ M	§ M	§ M	§ M
Benzo(b)fluoranthene	<15	TM218	199	<15	<15	315	419	2210
` '	μg/kg		§ M	§ M	§ M	§ M	§ M	§ M
Benzo(k)fluoranthene	<14	TM218	61.1	<14	<14	128	139	751
	μg/kg		§ M	§ M	§ M	§ M	§ M	§ M
Benzo(a)pyrene	<15	TM218	157	<15	<15	222	304	1750
1 1 (100)	µg/kg	T14040	§ M	§ M	§ M	§ M	§ M	§ M
Indeno(1,2,3-cd)pyrene	<18	TM218	79.5	<18	<18	101 8 M	146 S.M.	1090
Dibenzo(a,h)anthracene	μg/kg <23	TM218	§ M 37.6	§ M	§ M <23	§ M <46	§ M 55.4	§ M
Dibenzo(a,rr)antinacene	μg/kg	1101210	8 M		§ M	§ M	§ M	§ M
Benzo(g,h,i)perylene	<24	TM218	154	<24	<24	141	195	1340
G. V.	μg/kg		§ M	§ M	§ M	§ M	§ M	§ M
PAH, Total Detected	<118	TM218	2030	<118	<118	1660	2160	17000
USEPA 16	µg/kg					§	§	§
		+						
		1						
		+ +						
		1						
		1						
		1						
		1						
		1						
		+						
		1						

Validated

SDG: 120317-4

Job: H_CAMREITH_REH-5 Client Reference:

Location: **Customer:** Attention:

Redhill - Bourne Estate Campbell Reith Hill Rhyadd Watkins

Order Number: Report Number: Superseded Report:

PAH by GCMS	3				-				
	Its Legend		Customer Sample R	WSB2	WSB2	WSB2	WSB5	WSB5	WSB5
M mCERTS accre	dited.								
§ Deviating samp aq Aqueous / settl			Depth (m)		1.50	3.00	0.10	0.50	1.00
diss.filt Dissolved / filte tot.unfilt Total / unfiltere			Sample Type Date Sampled		Soil/Solid 08/03/2012	Soil/Solid 08/03/2012	Soil/Solid 09/03/2012	Soil/Solid 09/03/2012	Soil/Solid 09/03/2012
* Subcontracted		rd to	Sample Time						
check the effici	iency of the method.	The	Date Received SDG Ref	15/03/2012 120317-4	15/03/2012 120317-4	15/03/2012 120317-4	15/03/2012 120317-4	15/03/2012 120317-4	15/03/2012 120317-4
	idual compounds wit corrected for the rec		Lab Sample No.(s)	5333018	5333020	5333024	5334288	5334290	5334291
(F) Trigger breach	confirmed		AGS Reference	ES2	ES4	ES7	ES4	ES6	ES7
Component		LOD/Ur	_						
Naphthalene-d8	%	%	TM218	97.9	91.6	89.8	93.6	94.9	98.9
recovery** Acenaphthene-d	10 %	%	TM218	95.7	91.5	§ 81.2	91.7	\$ 92.9	97.2
recovery**	10 /0	/"	TIVIZIO	33.1	91.5 §	§	91.7	92.9 §	31.2
Phenanthrene-d1	10 %	%	TM218	92.8	86.6	80	89.4	90.9	94.8
recovery**						§			
Chrysene-d12 %		%	TM218	83.6	82.1	74.3	81.2	85.9	89.3
recovery**					§	§	21.2	§	
Perylene-d12 %	recovery**	%	TM218	82.7	81.4	74 §	81.9	85.6	89.8
Naphthalene		<9 µg.	/kg TM218	13.5	64.8	12.6	23.6	§ 103	75.3
Naphthalene		- νο μφ.	rkg IWZ 10	M	04.0 M	12.0 § M	25.0 M	105 § M	7 J. J
Acenaphthylene		<12	TM218	<12	<12	<12	<12	<12	17.1
		μg/kg	1	M	§ M	§ M	M	§ M	М
Acenaphthene		<8 µg	/kg TM218	<8	<8	<8	<8	<8	14.7
				M	§ M	§ M	M	§ M	M
Fluorene		<10		<10	<10	<10	<10	<10	12.2
Dhananthrana		µg/kg		36.7	§ M 245	§ M	109	§ M 176	204
Phenanthrene		<15 μg/kg		30.7 M	245 M	~15 § M	109 M	176 M	204 M
Anthracene		×16		<16	<16	<16	23	26.5	42.4
		μg/kg		M	§ M	§ M	М	§ M	М
Fluoranthene		<17	TM218	60.7	48.2	<17	208	198	297
		µg/kg		M	§ M	§ M	M	§ M	М
Pyrene		<15		52.4	53.1	<15	179	211	306
D (-) H		µg/kg		M	M	§ M	M	M	M
Benz(a)anthrace	ne	<14 µg/kg		36.6 M	65.4 § M	<14 § M	119 M	161 § M	231 M
Chrysene		μ <u>α/κα</u> <10		31.9	74.8	<10	108	166	209
Onlysone		µg/kg		M	7 Т .О § М	§ M	M	§ M	200
Benzo(b)fluorant	hene	<15		58.2	92.5	<15	191	269	352
		μg/kg		M	§ M	§ M	M	§ M	M
Benzo(k)fluoranti	hene	<14		22.9	22.3	<14	64.2	78	115
Danas (a) as mana		µg/kg		M	§ M	§ M	M	§ M	229
Benzo(a)pyrene		<15 µg/kg		39.9 M	32.3 § M	< 15 § M	123 M	165 § M	229 M
Indeno(1,2,3-cd)	ovrene	μ <u>α/κ</u> ς		25.6	26.2	<18	84.3	111	144
11146116(1,2,6 64)	pyrono	µg/kg		M	M	§ M	M	§ M	
Dibenzo(a,h)anth	racene	<23	TM218	<23	<23	<23	<23	36.6	51.8
		μg/kg		M	§ M	§ M	M	§ M	M
Benzo(g,h,i)peryl	ene	<24		37.3	44.3	<24	91	145	183
PAH, Total Detec	nto.d	μg/kg <118		416	§ M 768	§ M <118	1320 M	§ M 1850	2480
USEPA 16	cieu	µg/kg		410	700	<116 §	1320	1650 §	2400
OOLITTIO		ругку	1			3		3	
		L							

Validated

SDG: 120317-4

H_CAMREITH_REH-5 Job: Client Reference:

Location: **Customer:** Attention:

Redhill - Bourne Estate Campbell Reith Hill Rhyadd Watkins

Order Number: Report Number: Superseded Report:

PAH by GCMS							
Results Legend # ISO17025 accredited.	•	Customer Sample R	WSB6	WSB6	WSB6		
M mCERTS accredited. § Deviating sample.		Double (m)	0.40	0.75	0.40		
aq Aqueous / settled sample. diss.filt Dissolved / filtered sample.		Depth (m) Sample Type	0.10 Soil/Solid	0.75 Soil/Solid	2.10 Soil/Solid		
tot.unfilt Total / unfiltered sample. * Subcontracted test.		Date Sampled	09/03/2012	09/03/2012	09/03/2012		
** % recovery of the surrogate standar check the efficiency of the method.		Sample Time Date Received	15/03/2012	15/03/2012	15/03/2012		
results of individual compounds wit	thin	SDG Ref	120317-4 5334294	120317-4 5333254	120317-4 5333257		
samples aren't corrected for the rec (F) Trigger breach confirmed	covery	Lab Sample No.(s) AGS Reference	ES10	ES8	ES11		
Component	LOD/Unit						
Naphthalene-d8 % recovery**	%	TM218	95.7	102	87.3		
Acenaphthene-d10 %	%	TM218	93.6	104	85.6		
recovery**	0/	T14040	04.5	40.4			
Phenanthrene-d10 % recovery**	%	TM218	91.5	104	82.4		
Chrysene-d12 %	%	TM218	85.1	93.4	76		
recovery**	-						
Perylene-d12 % recovery**	%	TM218	88.2	101	69.1		
Naphthalene	<9 µg/k	kg TM218	41.7	36.3	27.5		
Acenaphthylene	<12	TM218	39	§ M 17.3	<12		
	μg/kg		M	§ M	M		
Acenaphthene	<8 µg/k	kg TM218	12.9	8>	<8 M		
Fluorene	<10	TM218	<10	§ M	<10		
	μg/kg		M	§ M	M		
Phenanthrene	<15	TM218	210	121	59.3		
Anthracene	μg/kg <16	TM218	49.4	§ M 26.7	M_		
	μg/kg		M	§ M	M		
Fluoranthene	<17	TM218	563 M	249 § M	52 M		
Pyrene	µg/kg <15	TM218	467	212	46.9		
. ,	μg/kg		M	§ M	M		
Benz(a)anthracene	<14	TM218	331	136	39.6		
Chrysene	μg/kg <10	TM218	323	§ M 133	M 38.5		
	μg/kg		M	§ M	M		
Benzo(b)fluoranthene	<15	TM218	589 M	210 § M	54.9 M		
Benzo(k)fluoranthene	μg/kg <14	TM218	210	67.2	<14		
	μg/kg		M	§ M	M		
Benzo(a)pyrene	<15 µg/kg	TM218	370 M	145 § M	25.7 M		
Indeno(1,2,3-cd)pyrene	μ <u>α/κα</u> <18	TM218	259	94.1	24.6		
	μg/kg		M	§ M	M		
Dibenzo(a,h)anthracene	<23 µg/kg	TM218	69.8 M	27.4 § M	<23 M		
Benzo(g,h,i)perylene	<24	TM218	319	123	36.9		
DALL T. (ID. ()	μg/kg		M	§ M	M		
PAH, Total Detected USEPA 16	<118 µg/kg		3850	1600	406		
OOL! /\ IO	ругку						

Validated

183005

SDG: 120317-4 Location: Redhill - Bourne Estate Order Number:

H_CAMREITH_REH-5 Campbell Reith Hill Job: **Customer:** Report Number: Attention: Rhyadd Watkins Superseded Report:

Client Reference:

Client Reference:			Attention: Rh	iyadd Watkins	Superseded Report:
TPH CWG (S)					
Results Legend # ISO17025 accredited.	Cu	stomer Sample R	BHB2	WSB1	
M mCERTS accredited.					
§ Deviating sample. aq Aqueous / settled sample.		Depth (m)	1.00	0.10	
diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample.		Sample Type Date Sampled	Soil/Solid 08/03/2012	Soil/Solid 08/03/2012	
* Subcontracted test.		Sample Time			
check the efficiency of the meth	od. The	Date Received SDG Ref	15/03/2012 120317-4	15/03/2012 120317-4	
results of individual compounds samples aren't corrected for the	within recovery L	ab Sample No.(s)	5333442	5334285	
(F) Trigger breach confirmed		AGS Reference	ES3	ES1	
Component	LOD/Units				
GRO Surrogate %	%	TM089	38	74	
recovery** GRO >C5-C12	<44	TM089	92.3	<44	
GRO 203-012	μg/kg	110000	92.5 §	777	
Methyl tertiary butyl ether	<5 µg/kg	TM089	<5	<5	
(MTBE)			§ #	#	
Benzene	<10	TM089	<10	<10	
- -	μg/kg	T14000	§ M	M	
Toluene	<2 μg/kg	TM089	5.7 S.M.	<2 M	
Ethylbenzene	<3 μg/kg	TM089	4.56	<3	
Luiyiberizerie	<5 μg/kg	110009	4.50 § M	M	
m,p-Xylene	<6 µg/kg	TM089	12.5	<6	
· ·	,,,,,		§ M	М	
o-Xylene	<3 µg/kg	TM089	6.84	<3	
			§ M	M	
sum of detected mpo	<9 µg/kg	TM089	19.3	<9	
xylene by GC sum of detected BTEX by	<24	TM089	§ 29.6	<24	
GC	×24 μg/kg	1 101009	29.6 §	<u>\</u>	
Aliphatics >C5-C6	μg/kg <10	TM089	<10	<10	
	μg/kg		§		
Aliphatics >C6-C8	<10	TM089	10.3	<10	
	μg/kg		§		
Aliphatics >C8-C10	<10	TM089	16	<10	
Aliabatian > C40 C40	µg/kg	TM000	§	-110	
Aliphatics >C10-C12	<10 µg/kg	TM089	12.5 §	<10	
Aliphatics >C12-C16	μ <u>μ</u> γ/κ <u>μ</u>	TM173	7040	2760	
7 11 11 11 11 11 11 11 11 11 11 11 11 11	μg/kg	11	7010	2700	
Aliphatics >C16-C21	<100	TM173	5070	1220	
	μg/kg				
Aliphatics >C21-C35	<100	TM173	31800	7480	
Aliahatiaa 2005 O44	µg/kg	T14470	05000	5040	
Aliphatics >C35-C44	<100	TM173	35600	5340	
Total Aliphatics >C12-C44	μg/kg <100	TM173	79600	16800	
Total / iliphatics / O12 O44	μg/kg	1111170	73000	10000	
Aromatics >EC5-EC7	<10	TM089	<10	<10	
	μg/kg		§		
Aromatics >EC7-EC8	<10	TM089	<10	<10	
A 500 5040	μg/kg	T14000	§	40	
Aromatics >EC8-EC10	<10	TM089	35.3	<10	
Aromatics >EC10-EC12	μg/kg <10	TM089	§	<10	
, a smallos - EO 10-EO 12	μg/kg	110000	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	-10	
Aromatics >EC12-EC16	<100	TM173	4820	5040	
	μg/kg				
Aromatics >EC16-EC21	<100	TM173	4690	3340	
A	µg/kg	T1115	0.1505	45000	
Aromatics >EC21-EC35	<100	TM173	61500	15900	
Aromatics >EC35-EC44	μg/kg <100	TM173	96000	23200	
AIUIIIalius /EU33-EU44	νη/kg	11011/3	90000	23200	
Aromatics >EC40-EC44	<100	TM173	50300	11900	
	μg/kg				
Total Aromatics	<100	TM173	167000	47500	
>EC12-EC44	µg/kg	 _ 			
Total Aliphatics >C5-35	<100	TM173	44000	11500	
Total Aromatics > 05.05	µg/kg ∠100	TM4470	74400	24200	
Total Aromatics >C5-35	<100 µg/kg	TM173	71100	24300	
Total Aliphatics &	μg/kg <100	TM173	115000	35700	
Aromatics >C5-35	μg/kg	1,141,173	. 10000	307.00	
Total Aliphatics &	<100	TM173	247000	64300	
Aromatics >C5-C44	μg/kg				
		+			



Job: Client Reference:

SDG:

120317-4 H_CAMREITH_REH-5

Campbell Reith Hill **Customer:** Attention: Rhyadd Watkins

Location:

Order Number: Report Number:

183005

Validated

Superseded Report:

Redhill - Bourne Estate

			As	bestos	Identi	ficatio	n - Soi	i l			
	·	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

Validated

120317-4 Location: Redhill - Bourne Estate Order Number:

SDG: Job: H_CAMREITH_REH-5 Customer: Campbell Reith Hill Report Number: 183005 Client Reference: Attention: Rhyadd Watkins Superseded Report:

Client Referer	nce:		Atte	ention: Rh	yadd Watkins			Supersede	d 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	WSBS 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	WSBS 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



Validated

 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:

Olicili Referen	ent Reference. Attention. Nilyaud 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 Received 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	

Validated

SDG: 120317-4
Job: H_CAMREIT
Client Reference:

H_CAMREITH_REH-5 Custor

Location:Redhill - Bourne EstateCustomer:Campbell Reith HillAttention:Rhyadd Watkins

Order Number: Report Number: Superseded Report:

183005

Notification of Deviating Samples

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	Phenois by HPLC (S)	Phenol	Sample holding time exceeded	
5401074	WSB1 ES2 WSB1 ES2	0.50	SOLID	PAH by GCMS	Acenaphthene d10 % recover ***	Sample holding time exceeded	
5401074	WSB1 ES2	0.50	SOLID	PAH by GCMS	Acenaphthene-d10 % recovery** Acenaphthylene	Sample holding time exceeded	
5401074 5401074	WSB1 ES2	0.50	SOLID	PAH by GCMS PAH by GCMS	Anthracene	Sample holding time exceeded 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

120317-4 Location: Redhill - Bourne Estate Order Number: H_CAMREITH_REH-5 Campbell Reith Hill Report Number:

SDG: Job: 183005 Client Reference: Attention: Rhyadd Watkins Superseded Report:

Sample	Customer	-				
Number	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	•	Indeno(1,2,3-cd)pyrene	
				PAH by GCMS		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		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	Phenois 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) TPH c6-40 Value of soil	Phenol	Sample holding time exceeded
5404905	BHB2 ES14	8.25	SOLID		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

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

Client Reference:

Client Refere	ence:		Attentio	on: Rhyadd Watkins	Superseded Repor	t:
Sample	Customer	Depth (m)	Matrix	Test Name	Component Name	Comment
Number 5414757	Sample Ref. BHB2 ES9	4.00	SOLID	PAH by GCMS		
	BHB2 ES9			•	Indeno(1,2,3-cd)pyrene	Sample holding time exceeded
5414757		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
	BHB2 ES14		SOLID	•	Fluorene	
5414776	BHB2 ES14	8.25		PAH by GCMS		Sample holding time exceeded
5414776		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		
	WSB2 ES1			•	Benz(a)anthracene	Sample holding time exceeded
5419326		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		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
0-10071		1.00	JOLID	1 / 11 by GOIVIG	Dibonzo(a,n)anunacene	Cample 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	Customer			,		
Number	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
	WSB5 ES6			•		
5419707		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
	BHB2 ES3			•		•
5430074		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		SOLID	•	Phenanthrene	, ,
		1.00		PAH by GCMS		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
	WSB6 ES8			•		· -
5430448		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	рН	рН	Sample holding time exceeded
5661245	WSB6 ES9	1.10	SOLID	рН	рН	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	Sample holding time exceeded
			-		SO4 BRE	F F F Francy and State of
5667210	WSB2	2.50	SOLID	Anions by Kone (soil)	Chloride 2:1 water/soil extract BRE	Sample holding time exceeded

Validated

 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:

Ciletit Kelei	ence.			terition. Innyadu watkins	Superseded Nepor	· ·
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



SDG:

CERTIFICATE OF ANALYSIS

Validated

183005

120317-4 Location: Redhill - Bourne Estate Order Number: H_CAMREITH_REH-5 Customer: Campbell Reith Hill Report Number:

 Job:
 H_CAMREITH_REH-5
 Customer:
 Campbell Reith Hill
 Report Number:

 Client Reference:
 Attention:
 Attention:
 Superseded Report:

Notification of NDPs (No determination possible)

Notification of NDI 3 (No determination poss

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



Validated

SDG: Job: Client Reference:

120317-4 H_CAMREITH_REH-5 Location: Customer: Attention:

Redhill - Bourne Estate Campbell Reith Hill Rhyadd Watkins Order Number: Report Number: Superseded Report:

183005

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample ¹	Surrogat Correcte
PM001		Preparation of Samples for Metals Analysis	Gample	Oorrecte
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.

Validated

SDG: 120317-4

Job: H_CAMREITH_REH-5 Client Reference:

Location: Redhill - Customer: Campbel Attention: Rhyadd \

Redhill - Bourne Estate Campbell Reith Hill Rhyadd Watkins Order Number: Report Number: Superseded Report:

183005

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
Туре	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						
	E224200	E224200	F224204	E2222E4	E2222E	E2222E7	F004004	t		

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
Туре	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
рН	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		
ALCONTROL LABORATORIES	ISSUE NO: 2		
	ISSUED BY: J Howard		
Title of Form	ISSUE DATE: 22/04/10		
Notification of No Determination Possible	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.	





Certificate of Analysis

Date: 30/04/2012

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

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

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.

Recommended sample size for quantification is approximately 1kg

denotes deviating sample

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

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.

Recommended sample size for quantification is approximately 1kg

denotes deviating sample

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





Certificate of Analysis

Date: 03/05/2012

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

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

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	Jeff Cruddas
				Unbound Asbestos	
				Fibres	

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
			5502714
		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*	9		230.03
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

CERTIFICATE OF ANALYSIS

120317-4 Location: Redhill - Bourne Estate Order Number: H CAMREITH REH-5 Customer: Campbell Reith Hill Report Number:

 Job:
 H_CAMREITH_REH-5
 Customer:
 Campbell Reith Hill

 Client Reference:
 Attention:
 Rhyadd Watkins

Appendix

SDG

 Results are expressed on a dry weight basis (dried at 35°C) 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 Dimethylphenol, 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 beginning 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	FXTRACT	ION	SUMMARY
SOLID	MALINICES		IOIN	COMMENT

Superseded Report:

183005

ANALYSIS	D&C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENTEXTRACTABLE MATTER	D&C	DOM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLCHEXANE	SOXTHERM	GRAVIMETRIC
ELEMENTAL SULPHUR	D&C	DOM	SOXTHERM	HPLC
PHENOLS BY GOMS	WET	DOM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANEACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANEACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANEACETONE	ENDOVEREND	GC-FID
EPH (MIN OL)	D&C	HEXANEACETONE	BND OVER END	GC-FID
EPH(CLEANED UP)	D&C	HEXANE ACETONE	ENDOVEREND	GC-FID
EPH CWGBY GC	D&C	HEXANEACETONE	BND OVER END	GC-FID
PCBAROCLOR 1254/ PCBCON	D&C	HEXANEACETONE	ENDOVEREND	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANEACETONE	MICROWAVE TM218.	GC-MS
>06C40	WET	HEXANEACETONE	SHAKER	GC-FID
POLYAROMATIC HYDROCARBONS RAFID GC	WET	HEXANEACETONE	SHAKER	GC-FID
SEMIVOLATILEORGANIC COMPOUNDS	WET	DOMACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAHMS	HEXANE	STRRED EXTRACTION (STIR-BAR)	GC MS
BPH BPH	HEXANE	STRRED EXTRACTION (STIR-BAR)	CC FID
EPH CWG	HEXANE	STRRED EXTRACTION (STIR-BAR)	CC FID
MNERALOL	HEXANE	STRRED EXTRACTION (STIR-BAR)	CC FID
PCB7 CONGENERS	HEXANE	STRRED EXTRACTION (STIR-BAR)	GC MS
PCBAROCLOR 1254	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
svoc	DCM	LIQUID/LIQUID/SHAKE	GC MS
FREESULPHUR	DCM	SOLID PHASEEXTRACTION	HPLC
PESTOCPOPP	DCM	LIQUID/LIQUID/SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID/SHAKE	GC MS
PHENOLSMS	ACETONE	SOLID PHASEEXTRACTION	GC MS
TPH byINFRARED (IR)	TCE	STIRRED EXTRACTION (STIR-BAR)	R
MNERALOLbyIR	TCE	STIRRED EXTRACTION (STIR-BAR)	R
GLYCOLS	NONE	DRECTINJECTION	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
Chrysofile	White Asbestos
Amoste	BrownAsbestos
Orodolite	Blue Asbestos
Fibrous Adindite	=
Florous Anhaphylite	=
Fibrous Trendile	-

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.

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

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







Validated

SDG: Job: Client Reference: 120312-4 H_CAMREITH_REH-4 Location: Customer: Attention:

Redhill - Bourne Estate Campbell Reith Hill Rhyadd Watkins Order Number: Report Number: Superseded Report:

181857

Received Sample Overview

	Neceived 5a	inple 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	
0.00.02	11051		1.23 1.00	

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

Validated

 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:

Client Reference:		Attentior	÷		XII	yau	a v	vau	VII 1-	_							_		_	Т	-013	Jour	ea r	- C
SOLID Results Legend X Test	Lab Sample	No(s)	5490773	5490776	5490783	1	T 0000 T 1	5308521	5490779	5490784	5490787	5490789	5490791	5308501	5308503	E 200000	5490793		5308486	5308492	2000	5308495	5308499	5490792
No Determination Possible	Custome Sample Refe		BHB1	BHB1	BHB1	5	D E DO	BHB2A	BHR2A	BHB2A	BHB2A	BHB2A	BHB2A	WS B3	Wo Bo	W/S D3	WSB3		WS B4	WS B4	500	WS B4	WS B4	WSB4
	AGS Refere	ence	D9	D2	D4	5	П	ES	7 8	D16	D19	D9	D12	ES	E C	ק ק	ES D1	! !	ES1	ES3	7 2 2	ES5	ES8	D1
	Depth (m	1)	9.44 - 9.55		4.00		3	4.00	200	21.00 - 21.45	25.95 - 26.05	12.00 - 12.45	16.95 - 17.05	0.15			1.20 - 1.65		0.10	0.50		1.50		1.20 - 1.65
	Containe	er	BAG	BAG	BAG	250g Amber Jar (AL	250g Amber Jar (AL	400g Tub (ALE214)		BAG			_	400g Tub (ALE214) 250g Amber Jar (AL	250g Amber Jar (AL	400g Tub (ALE214)	1kg TUB	250g Amber Jar (AL	400g Tub (ALE214)	250g Amber Jar (Al	250g Amber Jar (AL	400g Tub (ALE214)	400g Tub (ALE214)	1kg TUB
Anions by Kone (soil)	All	NDPs: 0 Tests: 11	L	X					x 2	x x	X	x	X				X			Ī	Ī			X
Asbestos Identification (Soil)	All	NDPs: 0 Tests: 13	ŀ	X		 <mark>;</mark>	(X	x					X	>	()	x x	1	X	X	(X	X	X
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 9				,	(X						X)	()	x		X	×	(X	X	
Magnesium (BRE)	All	NDPs: 0 Tests: 2	x							X							_				Ī			
Metals by iCap-OES (Soil)	Arsenic	NDPs: 0 Tests: 9				X	X							X	X	2	X	X	7	X	X		X	
	Cadmium	NDPs: 0 Tests: 9	F			X	X							X	X	2	X	X	7	x	X		X	
	Chromium	NDPs: 0 Tests: 9	F			X	X							X	X	2	X	X	7	x	X		X	
	Copper	NDPs: 0 Tests: 9	F			X	X							X	X	2	X	X	2	x	X		X	
	Lead	NDPs: 0 Tests: 9				X	X							X	X	2	X	X	2	X	X		X	
	Mercury	NDPs: 0 Tests: 9				X	X							X	X	2	X	X	2	x	X	2	X	
	Nickel	NDPs: 0 Tests: 9				X	X							X	X	2	X	X	2	x	X		X	
	Selenium	NDPs: 0 Tests: 9				X	X							X	X	2	X	X	2	x	X		X	
	Zinc	NDPs: 0 Tests: 9				X	X							X	X	2	X	X	2	x	X		X	
NO3, NO2 and TON by KONE (s)	All	NDPs: 0 Tests: 2	x						1	X							<u> </u>							
PAH by GCMS	All	NDPs: 0 Tests: 9	F			X	X							X	X	2	X	X	2	x	X		X	

SDG:

120312-4

CERTIFICATE OF ANALYSIS

Order Number:

Redhill - Bourne Estate

Validated

181857

Job: H_CAMREITH_REH-4 **Customer:** Campbell Reith Hill Report Number: Attention: Rhyadd Watkins Superseded Report: Client Reference: **SOLID** 5490791 5490789 5490787 5490784 5490781 5490779 5308521 5308492 5308495 5490792 5308499 5490783 5490776 5490773 5308501 5490793 5308509 5308503 Results Legend Lab Sample No(s) X Test No Determination Possible Customer BHB2A BHB2A BHB2A BHB2A BHB2A BHB2A BHB2A WS B3 WS B4 WS B4 BHB1 BHB1 BHB1 WSB3 WS B3 WS B3 WS B4 WSB4 Sample Reference D12 D9 D19 D16 D6 D2 ES ES3 ES5 D1 **AGS Reference** D D D ES ES ES D1 ES1 16.95 -12.00 -25.95 -21.00 -8.0 4.00 1.80 9.44 - 9.55 1.20 - 1.65 2.50 0.90 1.20 - 1.65 2.80 5-17.0 5-12.5 5-26.0 8.00 2.00 0.10 0.50 .8 1.50 Depth (m) .45 Container рΗ All NDPs: 0 Tests: 20 XXXXXX XXX XXX XX Phenols by HPLC (S) All NDPs: 0 Tests: 9 Sample description All NDPs: 0 Tests: 20 X XXXX XXXXXX XXX Total Organic Carbon All NDPs: 0 Tests: 9

> NDPs: 0 Tests: 9

Location:

TPH c6-40 Value of soil

All

X X

X

X

Validated

SDG: 120312-4 **Job:** H_CAMR

H_CAMREITH_REH-4

Location: Customer: Attention:

: Redhill - Bourne Estate r: Campbell Reith Hill n: Rhyadd Watkins Order Number: Report Number: Superseded Report:

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Sample Descriptions

Grain Sizes

Client Reference:

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm	n - 2mm C	oarse	2mm - 10	0mm	very coarse	>10mm
Lab Sample I	No(s) Cus	stomer Sample R	ef. Depth (m)	С	olour	Description		Grain size	Inclus	sions	Inclusions 2
5490773		BHB1	9.44 - 9.55	Dar	k Brown	Clay	<	0.063 mm	No	ne	None
5490776		BHB1	1.80	Dar	k Brown	Loamy Sand	0.0	163 - 0.1 mm	Crushe	d Brick	Stones
5490783		BHB1	4.00	Ligh	t Brown	Sand	().1 - 2 mm	Stones		None
5308514		BHB2A	1.00	Dar	k Brown	Sandy Loam	0.0	163 - 0.1 mm	Stor	nes	Brick
5308521		BHB2A	4.00	Dar	k Brown	Sandy Clay Loam	().1 - 2 mm	Bri	ck	Stones
5490779		BHB2A	2.00	Dar	k Brown	Sand	().1 - 2 mm	Bri	ck	Stones
5490781		BHB2A	8.00	Dar	k Brown	Clay	<	0.063 mm	N/	Ά	N/A
5490784		BHB2A	21.00 - 21.45	. (Grey	Clay	<	0.063 mm	Stor	nes	None
5490787		BHB2A	25.95 - 26.05	Dar	k Brown	Clay	<	0.063 mm	No	ne	None
5490789		BHB2A	12.00 - 12.45	Dar	k Brown	Clay	<	0.063 mm	No	ne	None
5490791		BHB2A	16.95 - 17.05	Dar	k Brown	Clay	<	0.063 mm	No	ne	None
5308501		WS B3	0.15	Dar	k Brown	Sandy Clay Loam	().1 - 2 mm	Stor	nes	Vegetation
5308503		WS B3	0.90	Dar	k Brown	Sandy Clay Loam	0.0	063 - 0.1 mm	Stor	nes	None
5308509		WS B3	2.50	Dar	k Brown	Silty Clay	0.0	063 - 0.1 mm	Stor	nes	N/A
5308486		WS B4	0.10	Dar	k Brown	Sandy Clay Loam	0.0	063 - 0.1 mm	Stor	nes	None
5308492		WS B4	0.50	Dar	k Brown	Sandy Clay Loam	().1 - 2 mm	Bri	ck	Stones
5308495		WS B4	1.50	Ligh	t Brown	Sand	().1 - 2 mm	Stor	nes	None
5308499		WS B4	2.80	E	Beige	Sand	().1 - 2 mm	Stor	nes	None
5490793		WSB3	1.20 - 1.65	Dar	k Brown	Top Soil	0.0	163 - 0.1 mm	Bri	ck	Stones
5490792		WSB4	1.20 - 1.65	Y	ellow	Sand	().1 - 2 mm	Crushe	d 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.

Validated

SDG: 120312-4

Job:

Client Reference:

H_CAMREITH_REH-4

Location: Customer: Attention: Redhill - Bourne Estate Campbell Reith Hill Rhyadd Watkins Order Number: Report Number: Superseded Report:

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Customer Sample R BHB1 BHB1 BHB1 BHB2A BHB2A BHB2A ISO17025 accredited.

mCERTS accredited.

Deviating sample. Depth (m) 1.80 4.00 9.44 - 9.55 1.00 12.00 - 12.45 16.95 - 17.05 Aqueous / settled sample Aqueous / settled sample.
Dissolved / filtered sample.
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 Trigger breach confirmed dies filt 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 10/03/2012 10/03/2012 10/03/2012 10/03/2012 10/03/2012 10/03/2012 120312-4 120312-4 SDG Ref 120312-4 120312-4 120312-4 120312-4 5490776 D2 5490783 D4 5490773 D9 5490789 D9 5490791 D12 5308514 Lab Sample No.(s) ES (F) AGS Reference LOD/Units Method Component TM062 (S) <0.01 Phenol < 0.01 mg/kg §Μ Soil Organic Matter (SOM) <0.35 % TM132 7.53 рΗ Ha 1 TM133 10.8 8.77 4 42 8 22 7.15 9.1 Units §Μ §Μ §Μ M §Μ §Μ Cyanide, Total TM153 <1 <1 mg/kg §Μ TM153 Cyanide, Free <1 <1 mg/kg §Μ TPH >C6-C40 <10 TM154 <10 ma/ka TM181 14 5 Arsenic < 0.6 mg/kg Μ Cadmium <0.02 TM181 0.341 М mg/kg Chromium TM181 14.7 < 0.9 mg/kg M Copper <1.4 TM181 163 Μ mg/kg Lead TM181 323 < 0.7 mg/kg M Mercury <0.14 TM181 2.8 ma/ka М Nickel TM181 18.4 < 0.2 mg/kg M Selenium <1 mg/kg TM181 <1 Zinc <1.9 TM181 106 Μ mg/kg Soluble Sulphate 2:1 < 0.003 TM243 0.316 0.009 1.73 0.592 0.307 extract as SO4 BRE g/l § M § M § M § M § M <0.001 TM243 0.0315 Chloride 2:1 water/soil extract BRE g/l §Μ Nitrate as NO3, 2:1 water <0.0003 TM243 <0.0003 soluble (BRE) g/l Magnesium (BRE) <0.008 TM282 0.0441 g/l



120312-4

SDG:

CERTIFICATE OF ANALYSIS

Job: H_CAMREITH_REH-4 **Customer:**

Client Reference: Attention: Rhyadd Watkins

Location: Redhill - Bourne Estate Order Number:

Campbell Reith Hill 181857 Report Number: Superseded Report:

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# ISO17025 accredited.	С	Customer Sample R	BHB2A	BHB2A	BHB2A	BHB2A	BHB2A	WS B3
# ISO17025 accredited. M mCERTS accredited.								
§ Deviating sample.		Depth (m)	2.00	21.00 - 21.45	25.95 - 26.05	4.00	8.00	0.15
aq Aqueous / settled sample.		Sample Type	Soil/Solid	Soil/Solid	25.95 - 26.05 Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample.		Date Sampled	07/03/2012	08/03/2012	08/03/2012	08/03/2012	08/03/2012	08/03/2012
* Subcontracted test.		Sample Time						
** % recovery of the surrogate standar		Date Received	10/03/2012	10/03/2012	10/03/2012	10/03/2012	10/03/2012	10/03/2012
check the efficiency of the method.' results of individual compounds wit		SDG Ref	120312-4	120312-4	120312-4	120312-4	120312-4	120312-4
samples aren't corrected for the rec	overy	Lab Sample No.(s)	5490779	5490784	5490787	5308521	5490781	5308501
(F) Trigger breach confirmed		AGS Reference	D2	D16	D19	ES	D6	ES
Component	LOD/Units	s Method						
Phenol	<0.01	TM062 (S)				<0.01		0.013
	mg/kg					§ M		§ M
Soil Organic Matter (SOM)	<0.35 %	6 TM132				6.38		10.4
Soil Organic Matter (SOM)	\0.35 %	0 1101132						
						#		#
pH	1 pH	TM133	8.34	8.73	9.49	8.52	5.44	7.45
	Units		§ M	§ M	§ M	M	§ M	M
Cyanide, Total	<1 mg/k	g TM153				<1		<1
,		~				§ M		М
Cyanide, Free	<1 mg/k	g TM153				<1		<1
Cyanide, Tiee	- Tillg/K	ig TWT155				§ M		M
TDU. 00 040	.10	T14454						
TPH >C6-C40	<10	TM154				15.5		237
	mg/kg					#		#
Arsenic	<0.6	TM181				16.3		27.3
	mg/kg					М		М
Cadmium	<0.02	TM181				0.391		7.2
I	mg/kg					М		M
Chromium	<0.9	TM181				14.8		84.1
	mg/kg					14.0 M		M
Conner	T	T84404						
Copper	<1.4	TM181				151		533
	mg/kg					M		M
Lead	<0.7	TM181				471		1940
	mg/kg					M		M
Mercury	<0.14	TM181				2.91		0.508
	mg/kg					М		M
Nickel	<0.2	TM181				18.7		40.6
	mg/kg					М		М
Selenium	<1 mg/kg	q TM181				<1		1.14
Selemum	~ i ilig/k	y IIVIIOI						
						#		#
Zinc	<1.9	TM181				142		834
	mg/kg					M		M
Soluble Sulphate 2:1	<0.003	TM243	0.133	0.293	0.0377		0.797	
extract as SO4 BRE	g/l		§ M	§ M	§ M		§ M	
Chloride 2:1 water/soil	<0.001	TM243					0.0284	
extract BRE	g/l						§ M	
Nitrate as NO3, 2:1 water	< 0.0003	3 TM243					0.00265	
soluble (BRE)	g/l							
Magnesium (BRE)	<0.008	TM282					0.0147	
Magneolam (BRE)	g/l	TWIZOZ					0.0117	
	9/1							
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		+						

Validated

SDG: 120312-4

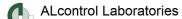
Job: H_CAMREITH_REH-4

Location: Customer: Attention: Redhill - Bourne Estate Campbell Reith Hill Rhyadd Watkins Order Number: Report Number: Superseded Report:

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Client Reference:

Customer Sample R WS B3 WS B4 WS B4 WSB3 WS B3 WS B4 ISO17025 accredited mCERTS accredited Deviating sample Depth (m) 0.90 2.50 0.10 0.50 1.50 1.20 - 1.65 Aqueous / settled sample Aqueous / settled sample.
Dissolved / filtered sample.
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 dies filt 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 10/03/2012 10/03/2012 10/03/2012 10/03/2012 10/03/2012 10/03/2012 120312-4 SDG Ref 120312-4 120312-4 120312-4 120312-4 120312-4 5490793 D1 5308503 5308509 5308486 5308492 5308495 Lab Sample No.(s) Trigger breach confirmed ES1 ES3 ES5 (F) AGS Reference ES ES LOD/Units Method Component <0.01 <0.01 <0.01 <0.01 <0.01 Phenol < 0.01 TM062 (S) mg/kg § M § M § M §Μ § M Soil Organic Matter (SOM) <0.35 % TM132 3.84 5.78 7.84 6.52 0.784 # # # рΗ Hq 1 TM133 7 67 7 84 7.69 8.58 8.87 8 57 Units M M Μ М Μ §Μ Cyanide, Total TM153 1.22 <1 <1 <1 <1 <1 mg/kg § M М § M §Μ § M TM153 <1 <1 <1 <1 Cvanide. Free <1 mg/kg <1 §Μ М §Μ §Μ §Μ TPH >C6-C40 <10 TM154 219 23.3 318 156 127 ma/ka TM181 15.5 23 1 14 7 17 8 66 Arsenic < 0.6 М mg/kg Μ Μ Μ M Cadmium <0.02 TM181 4.74 0.478 2.57 0.571 0.192 Μ mg/kg Μ Μ М Μ Chromium TM181 57 14.8 30 23.2 < 0.9 13.6 mg/kg Μ M Μ Μ Μ Copper <1.4 TM181 124 321 61.2 144 54.5 Μ Μ Μ Μ М ma/ka Lead TM181 595 563 227 297 42.3 < 0.7 mg/kg M М Μ M M Mercury <0.14 TM181 1.14 3.14 1.27 1.32 0.191 ma/ka Μ М Μ М Μ Nickel TM181 26.6 37.7 30.5 22.5 14.5 < 0.2 mg/kg M M M M M Selenium <1 mg/kg TM181 1.02 1.08 1.2 <1 <1 # Zinc <1.9 TM181 417 214 292 254 39.8 Μ М Μ М mg/kg M Soluble Sulphate 2:1 < 0.003 TM243 0.0518 g/l extract as SO4 BRE § M



Validated

SDG: 120312-4 Location: Redhill - Bourne Estate

H_CAMREITH_REH-4 Job: **Customer:**

Campbell Reith Hill Client Reference: Attention: Rhyadd Watkins

Order Number: Report Number:

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Results Legend # ISO17025 accredited.	С	ustomer Sample R	WS B4	WSB4		
M mCERTS accredited.						
Deviating sample. aq Aqueous / settled sample.		Depth (m)	2.80	1.20 - 1.65		
diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample.		Sample Type Date Sampled	Soil/Solid 08/03/2012	Soil/Solid -		
* Subcontracted test.		Sample Time				
** % recovery of the surrogate standa check the efficiency of the method.	rd to The	Date Received	10/03/2012 120312-4	10/03/2012 120312-4		
results of individual compounds wi samples aren't corrected for the red	thin	SDG Ref Lab Sample No.(s)	5308499	5490792		
(F) Trigger breach confirmed		AGS Reference	ES8	D1		
Component	LOD/Units		2.24			
Phenol	<0.01	TM062 (S)	<0.01 § M			
Soil Organic Matter (SOM)	mg/kg <0.35 %	6 TM132	2.12			
con organic matter (com)	0.00 /	5	#			
pН	1 pH	TM133	10.6	9.21		
	Units		M	§ M		
Cyanide, Total	<1 mg/k	g TM153	<1			
Cyanide, Free	<1 mg/k	g TM153	§ M			
Cyanide, i ree	- i ilig/k	g HWH33	Σ1 § Μ			
TPH >C6-C40	<10	TM154	197			
	mg/kg		#			
Arsenic	<0.6	TM181	18.3			
Cadmium	mg/kg	T84404	M			
Cadmium	<0.02 mg/kg	TM181	0.318 M			
Chromium	<0.9	TM181	18.5			
	mg/kg		M		 	
Copper	<1.4	TM181	33.9			
	mg/kg		M			
Lead	<0.7	TM181	373			
Mercury	mg/kg <0.14	TM181	0.531			
Mercury	mg/kg	TIVITOT	0.551 M			
Nickel	<0.2	TM181	18.5			
	mg/kg		M			
Selenium	<1 mg/k	g TM181	<1			
7		T1404	#			
Zinc	<1.9 mg/kg	TM181	141 M			
Soluble Sulphate 2:1	<0.003	TM243	IVI	1.04		
extract as SO4 BRE	g/l	1		§ M		

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SDG: 120312-4

Job: H_CAMREITH_REH-4
Client Reference:

Location: Customer: Attention: Redhill - Bourne Estate Campbell Reith Hill Rhyadd Watkins Order Number: Report Number: Superseded Report:

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PAH I	by GCMS		2 1 2 1 2						
# M	Results Legend ISO17025 accredited. mCERTS accredited.		Customer Sample R	BHB2A	BHB2A	WS B3	WS B3	WS B3	WS B4
M §	Deviating sample.		Depth (m)	1.00	4.00	0.15	0.90	2.50	0.10
aq diss.filt	Aqueous / settled sample. Dissolved / filtered sample.		Sample Type	Soil/Solid 08/03/2012	Soil/Solid 08/03/2012	Soil/Solid 08/03/2012	Soil/Solid 08/03/2012	Soil/Solid 08/03/2012	Soil/Solid 08/03/2012
tot.unfilt	Total / unfiltered sample. Subcontracted test.		Date Sampled Sample Time						
"	% recovery of the surrogate standar check the efficiency of the method.	The	Date Received SDG Ref	10/03/2012 120312-4	10/03/2012 120312-4	10/03/2012 120312-4	10/03/2012 120312-4	10/03/2012 120312-4	10/03/2012 120312-4
	results of individual compounds wit samples aren't corrected for the rec		Lab Sample No.(s)	5308514 ES	5308521 ES	5308501 ES	5308503 ES	5308509 ES	5308486 ES1
(F)	Trigger breach confirmed	LOD/Uni	AGS Reference	ES	ES	ES	ES	E5	E51
	halene-d8 %	%	TM218	91.4	99	97.3	93.8	98.4	99.9
recove						§	§		§.
Acena	aphthene-d10 %	%	TM218	89.1	96.9	96.2 §	94.2 §	94.9	97.4 §
	anthrene-d10 %	%	TM218	85.9	93.7	92.6	92.6	95.2	94.9
recove						§	§		§.
Chrys	ene-d12 %	%	TM218	83	84.5	91.1 §	90.6 §	89	94.7 §
	ene-d12 % recovery**	%	TM218	77.4	84.6	92.4	97.3	90.5	97.9
,	•					§	§		§
Napht	halene	<9 µg/	kg TM218	45.6 M	230 M	139 § M	95.2 § M	48 § M	104 § M
Acena	phthylene	<12	TM218	<12	<12	108	105	<12	102
<u> </u>		μg/kg		M	M	§ M	§ M	§ M	§ M
Acena	phthene	<8 µg/	kg TM218	<8 M	<8 M	76.9 § M	43.9 § M	<8 § M	34.2 § M
Fluore	ene	<10	TM218	<10	<10	64.7	44.5	<10	35.7
<u></u>		μg/kg		M	M	§ M	§ M	§ M	§ M
Phena	anthrene	<15 µg/kg	TM218	176 M	154 M	1220 § M	802 § M	47.6 § M	759 § M
Anthra	acene	μg/kg <16	TM218	<16	<16	234	188	<16	191
		μg/kg		M	M	§ M	§ M	§ M	§ M
Fluora	anthene	<17 µg/kg	TM218	40.1 M	39.7 M	2500 § M	1930 § M	<17 § M	1840 § M
Pyren	e	μ <u>α/κα</u> <15	TM218	42.1	44.6	2030	1600	<15	1610
·		μg/kg		M	М	§ M	§ M	§ M	§ M
Benz(a)anthracene	<14 µg/kg	TM218	46 M	48.7 M	1110 § M	938 § M	28.1 § M	934 § M
Chrys	ene	μ <u>α/κα</u> <10	TM218	63.4	44.5	1100	910	17.8	915
		μg/kg		M	M	§ M	§ M	§ M	§ 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	μ <u>α/κα</u> <14	TM218	<14	<14	580	538	<14	519
	()	μg/kg		M	M	§ M	§ M	§ M	§ M
Benzo	o(a)pyrene	<15 µg/kg	TM218	28.6 M	28.5 M	1240 § M	1220 § M	<15 § M	1090 § M
Inden	o(1,2,3-cd)pyrene	<18	TM218	24.1	23	748	825	<18	680
Dile	(- l-) tl	μg/kg		M	M	§ M	§ M	§ M	§ M
Diben	zo(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	TM218	41.1	45.1	887	997	<24	863
DVH	Total Detected	μg/kg <118		576	720 M	§ M 14000	§ M 12000	§ M 162	§ M 11400
USEP		µg/kg		5/6	720	14000 §	12000 §	162	11400 §
						_	_		

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SDG: 120312-4

Job: H_CAMREITH_REH-4
Client Reference:

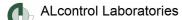
Location: Customer: Attention:

Redhill - Bourne Estate Campbell Reith Hill Rhyadd Watkins Order Number: Report Number:

181857

Superseded Report:

Client Reference:			Attention: Rh	nyadd Watkins		Superseded Repor	rt:	
PAH by GCMS								
Results Legend		Customer Comple D	WO D4	14/0 P.4	W/O D 4			
# ISO17025 accredited.		Customer Sample R	WS B4	WS B4	WS B4			
M mCERTS accredited.								
§ Deviating sample.		Depth (m)	0.50	1.50	2.80			
aq Aqueous / settled sample. diss.filt Dissolved / filtered sample.		Sample Type	Soil/Solid	Soil/Solid	Soil/Solid			
tot.unfilt Total / unfiltered sample.		Date Sampled	08/03/2012	08/03/2012	08/03/2012			
* Subcontracted test. ** % recovery of the surrogate standal		Sample Time						
** % recovery of the surrogate standar check the efficiency of the method.		Date Received	10/03/2012	10/03/2012	10/03/2012			
results of individual compounds wit	thin	SDG Ref	120312-4	120312-4	120312-4			
samples aren't corrected for the rec	overy	Lab Sample No.(s)	5308492 ES3	5308495 ES5	5308499 ES8			
(F) Trigger breach confirmed		AGS Reference	L03	L00	200			
Component	LOD/Unit							
Naphthalene-d8 %	%	TM218	97.9	99.5	96.8			
recovery**			§	§				
Acenaphthene-d10 %	%	TM218	96.3	99.7	95			
recovery**			§	§	§			
Phenanthrene-d10 %	%	TM218	93.7	93.9	93.1			
recovery**			§	§ §				
Chrysene-d12 %	%	TM218	93.3	93.6	92.7			
recovery**			§	§	§			
Perylene-d12 % recovery**	%	TM218	95.5	97.9	96			
1 drylone drz /e recevery	/*	1111210	§	§ §	00			
Nonhthalana	<0.ua/la	g TM218	325	<9	290			
Naphthalene	<9 µg/k	.g 1101210						
A a su a subtle. I a s	10	Thioso	§ M	§ M	M			
Acenaphthylene	<12	TM218	34.1	<12	35.2			
	μg/kg		§ M	§ M	§ M			
Acenaphthene	<8 µg/k	g TM218	12.5	<8	35.5			
			§ M	§ M	§ M			
Fluorene	<10	TM218	15.7	<10	49.3			
	μg/kg		§ M	§ M	М			
Phenanthrene	<15	TM218	451	<15	852			
	μg/kg		§ M	§ M	M			
Anthracene	<16	TM218	75	<16	152			
Antinacene	µg/kg	TIVIZIO	, s § M	§ M	132 § M			
Fluenouthous	T	TM040	565	<17	1040			
Fluoranthene	<17	TM218						
_	μg/kg	=	§ M	§ M	M			
Pyrene	<15	TM218	507	<15	848			
	μg/kg		§ M	§ M	M			
Benz(a)anthracene	<14	TM218	369	<14	440			
	μg/kg		§ M	§ M	§ M			
Chrysene	<10	TM218	352	<10	390			
,	μg/kg		§ M	§ M	§ M			
Benzo(b)fluoranthene	<15	TM218	568	<15	546			
201120(2)114014114110110	μg/kg		§ M	§ M	§ M			
Benzo(k)fluoranthene	<14	TM218	174	<14	181			
Delizo(k)iluorantilelle		TIVIZIO	174 § M		§ M			
Denne (e) m. men e	µg/kg	TM040	375	§ M				
Benzo(a)pyrene	<15	TM218			421			
	μg/kg	=	§ M	§ M	§ M			
Indeno(1,2,3-cd)pyrene	<18	TM218	217	<18	232			
	μg/kg		§ M		M			
Dibenzo(a,h)anthracene	<23	TM218	75.8	<23	65.8			
	μg/kg		§ M	§ M	M			
Benzo(g,h,i)perylene	<24	TM218	277	<24	298			
	μg/kg		§ M	§ M	§ M			
PAH, Total Detected	<118	TM218	4390	<118	5870			
USEPA 16	μg/kg		§	§				
		 						
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Validated

SDG: 120312-4 Job:

Client Reference:

H_CAMREITH_REH-4

Customer: Attention:

Location:

Redhill - Bourne Estate Campbell Reith Hill

Rhyadd Watkins

Order Number: Report Number:

Superseded Report:

181857

Achaetae Identification

	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 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 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

Validated

SDG: 120312-4 Location: Redhill - Bourne Estate Order Number:

Job: H_CAMREITH_REH-4 Customer: Campbell Reith Hill Report Number: 181857

Client Referen	ice:		Atte		yadd Watkins						
		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 12/0312-4 53/08/495 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	WS83 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	WS84 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

Validated

SDG: 120312-4

Job: H_CAMREITH_REH-4
Client Reference:

Location: Customer: Attention: Redhill - Bourne Estate Campbell Reith Hill Rhyadd Watkins Order Number: Report Number: Superseded Report:

181857

Notification of Deviating Samples

	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 PAH by GCMS	Indeno(1,2,3-cd)pyrene Naphthalene	Sample holding time exceeded 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 WS B4 ES3	0.50	SOLID	PAH by GCMS	PAH, Total Detected USEPA 16	Sample holding time exceeded						
5393509	WS B4 ES3 WS B4 ES3	0.50	SOLID	PAH by GCMS	Perylene-d12 % recovery**	Sample holding time exceeded						
5393509 5393509	WS B4 ES3	0.50	SOLID	PAH by GCMS PAH by GCMS	Phenanthrene Phenanthrene-d10 % recovery**	Sample holding time exceeded Sample holding time exceeded						
5393509	WS B4 ES3	0.50	SOLID	PAH by GCMS PAH by GCMS	Prieriantifierie-d to % recovery Pyrene	Sample holding time exceeded						
5393509	WS B3 ES	0.30	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						
5555525	5 20 20	0.10	JOLID	. All by Colvic	Accinopinaryierie	cample holding time exceeded						

ALcontrol Laboratories

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:

Client Refer	ence:		At	ttention:	Rhyadd Watkins	Superseded Report:	
Sample	Customer	Depth (m)	Matrix		Test Name	Component Name	Comment
Number 5393523	Sample Ref. WS B3 ES	0.15	SOLID		PAH by GCMS	Anthracene	Sample holding time exceeded
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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	Dh	enols by HPLC (S)	Phenol	Sample holding time exceeded Sample holding time exceeded
	WS B4 ES8			FII			
5393623		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	Ph	enols by HPLC (S)	Phenol	Sample holding time exceeded
5393667	WS B4 ES8	2.80	SOLID	yanide Co	mp/Free/Total/Thiocyanat	Cyanide, Free	Sample holding time exceeded
5393667	WS B4 ES8	2.80	SOLID	yanide Co	mp/Free/Total/Thiocyanat	Cyanide, Total	Sample holding time exceeded
5393671	WS B4 ES8	2.80	SOLID	Ph	enols by HPLC (S)	Phenol	Sample holding time exceeded
5393675	BHB2A ESZ	4.00	SOLID	yanide Co	mp/Free/Total/Thiocyanat	Cyanide, Free	Sample holding time exceeded
5393675	BHB2A ESZ	4.00	SOLID	yanide Co	mp/Free/Total/Thiocyanat	Cyanide, Total	Sample holding time exceeded
5393680	BHB2A ESZ	4.00	SOLID	-	enols by HPLC (S)	Phenol	Sample holding time exceeded
5393720	BHB2A ESZ	1.00			mp/Free/Total/Thiocyanat	Cyanide, Free	Sample holding time exceeded
5393720	BHB2A ESZ	1.00		•	mp/Free/Total/Thiocyanat	Cyanide, Total	Sample holding time exceeded
5393724	BHB2A ESZ	1.00	SOLID	-	enols by HPLC (S)	Phenol	Sample holding time exceeded
5417701	WS B3 ES	0.90	SOLID		PAH by GCMS	Acenaphthene	Sample holding time exceeded
	WS B3 ES	0.90	SOLID		•	·	· •
5417701	WS B3 ES		SOLID		PAH by GCMS	Acenaphthene-d10 % recovery**	Sample holding time exceeded
5417701		0.90			PAH by CCMS	Anthrocono	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
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CERTIFICATE OF ANALYSIS

120312-4 SDG: Location: Redhill - Bourne Estate Order Number: H_CAMREITH_REH-4 Campbell Reith Hill **Customer:**

Job: 181857 Report Number: Client Reference: Attention: Rhyadd Watkins Superseded Report:

Ollent Kelei	01100.		Attentio	II. Miyada Walkins	Ouperscaed Report	··
Sample	Customer	Depth (m)	Matrix	Test Name	Component Name	Comment
Number 5417701	Sample Ref. 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
	WS B4 ES5			•	·	
5418261		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		SOLID	•	·	
		1.50		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
	WS B3 ES	2.50	SOLID	•		
5422074				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	pН	рН	Sample holding time exceeded
5498528	BHB1 D4	4.00	SOLID	рН	рН	Sample holding time exceeded
5498579	BHB2A D9	12.00 - 12.45	SOLID	рН	рН	Sample holding time exceeded
5498620	BHB2A D19	25.95 - 26.05	SOLID	pН	рН	Sample holding time exceeded
5498726	BHB2A D12	16.95 - 17.05	SOLID	рН	рН	Sample holding time exceeded
5498837	BHB1 D9	9.44 - 9.55	SOLID	рН	рН	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	рН	Sample holding time exceeded
5500592	BHB2A D2	2.00	SOLID	pH	pH	Sample holding time exceeded
5500734	BHB1 D2	1.80	SOLID	pН	pH	Sample holding time exceeded
5500734	WSB3 D1	1.20 - 1.65	SOLID	pН	pH	
	BHB2A			·	·	Sample holding time exceeded
5505169		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
					OO I BILL	

Validated

 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:

Ciletit Kelei	ence.		AL	terition. Istryaud Watkins	Superseded Nepor	<u> </u>
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



Validated

SDG: 12031 **Job:** H_CA

Client Reference:

120312-4 H_CAMREITH_REH-4 Location: Redh Customer: Cam Attention: Rhya

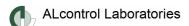
Redhill - Bourne Estate Campbell Reith Hill Rhyadd Watkins Order Number: Report Number: Superseded Report:

181857

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample ¹	Surrogate Corrected
PM001		Preparation of Samples for Metals Analysis	Sample	Corrected
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.



Validated

SDG: 120312-4

Job: H_CAMREITH_REH-4
Client Reference:

Location: Redhill - Be Customer: Campbell F

Attention:

Redhill - Bourne Estate Campbell Reith Hill Rhyadd Watkins Order Number: Report Number: Superseded Report:

181857

Test Completion Dates

Customer Sample Ref. BHB1 BHB1 BHB1 BHB2A BHB2	D19 25.95 - 26.051	5490789 внв2а D9 12.00 - 12.45
Customer Sample Ref. BHB1 BHB1 BHB1 BHB2A BB2A BB2A <t< th=""><th>D19 25.95 - 26.051</th><th>D9</th></t<>	D19 25.95 - 26.051	D9
Depth 9.44 - 9.55 1.80 4.00 1.00 4.00 2.00 8.00 21.00 - 21.45 25 Type SOLID	25.95 - 26.051	
Type SOLID		12.00 - 12.45
Anions by Kone (soil) 01-May-2012 01-May-2012 30-Apr-2012 03-Apr-2012 03-Apr-2	SOLID	
Asbestos Identification (Soil) 27-Apr-2012 03-Apr-2012 26-Apr-2012		SOLID
	30-Apr-2012	30-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 27-Apr-2012 27-Apr-2012 27-Apr-2012 27-Apr-2012 2	27-Apr-2012	27-Apr-2012
Phenois 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
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 B4 WS B4 WS B4 WS B4 WS B4	WSB3	WSB4
AGS Ref. D12 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	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 0	01-May-2012	01-May-2012
Asbestos Identification (Soil) 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 05-Apr-2012 05-Apr-2012		
pH 27-Apr-2012 05-Apr-2012 05-	30-Apr-2012	27-Apr-2012
Dhonolo by LIDLO (C) 05 Apr 2012 05 Apr 2012 05 Apr 2012 05 Apr 2012 04 Apr 2012		
Phenois by HPLC (S) 05-Apr-2012 05-Apr-2012 05-Apr-2012 05-Apr-2012 05-Apr-2012 05-Apr-2012 04-Apr-2012	25-Apr-2012	25-Apr-2012
	25-Apr-2012	25-Apr-2012
	25-Api-2012	25-Apr-2012

ALcontrol Laboratories

CERTIFICATE OF ANALYSIS

120312-4 Location: Redhill - Bourne Estate Order Number: **Customer:** Report Number:

Attention:

Client Reference:

H CAMREITH REH-4

Campbell Reith Hill Rhyadd Watkins

Superseded Report:

Appendix

SDG

Job:

- 1. Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except for the following: 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
- 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.
- Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol ethylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 3-Methylphenol and 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
- 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

SOLID M	1ATR	ICES EXTRA	CTION SU	MMARY
	D&C			

181857

ANALYSIS	D&C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENTEXTRACTABLE MATTER	D&C	DOM	SOXTHERM	GRAVMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLCHEXANE	SOXTHERM	GRAVMETRIC
ELEMENTAL SULPHUR	D&C	DOM	SOXTHERM	HPLC
PHENOLS BY GOMS	WET	DOM	SOXTHERM	GC-MS
HERBICDES	D&C	HEXANEACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANEACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE ACETONE	BNDOVEREND	GC-FID
EPH (MN OL)	D&C	HEXANE ACETONE	BNDOVEREND	GC-FID
EPH (CLEANED UP)	D&C	HEXANE ACETONE	BNDOVEREND	GC-FID
EPH CWGBY GC	D&C	HEXANE ACETONE	BNDOVEREND	GC-FID
PCBAROCLOR 1254/ PCBCON	D&C	HEXANEACETONE	BNDOVEREND	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANEACETONE	MICROWAVE TM218.	GC-MS
>06C40	WET	HEXANEACETONE	SHAKER	GC-FID
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANEACETONE	SHAKER	GC-FID
SEMI VOLATILEORGANIC COMPOUNDS	WET	DOMACETONE	SONICATE	GC-M6

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS		
PAHMS	HEXANE	STRRED EXTRACTION (STIR-BAR)	GC MS		
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID		
EPH CWG	HEXANE	STRRED EXTRACTION (STIR-BAR)	CC FID		
MNERALOL	HEXANE	STRRED EXTRACTION (STIR-BAR)	CC FID		
PCB7 CONGENERS	HEXANE	STRRED EXTRACTION (STIR-BAR)	GC MS		
PCBAROCLOR 1254	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS		
svoc	DCM	LIQUID/LIQUID/SHAKE	GC MS		
FREESULPHUR	DCM	SOLID PHASEEXTRACTION	HPLC		
PESTOCPOPP	DCM	LIQUID/LIQUID/SHAKE	GC MS		
TRIAZINE HERBS	DCM	LIQUID/LIQUID/SHAKE	GC MS		
PHENOLSMS	ACETONE	SOLID PHASEEXTRACTION	GC MS		
TPH byINFRARED (IR)	TCE	STIRRED EXTRACTION (STIR-BAR)	R		
MNERALOLbyIR	TCE	STIRRED EXTRACTION (STIR-BAR)	R		
GLYCOLS	NONE	DRECTINJECTION	CC FID		

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk 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).

Common Name
White Asbestos
BrownAsbestos
Blue Asbestos
-
-
-

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:													GEOT	RACE	- ANAL	YSIS RI	EQUE	ST FO	RM AN	ID SAM	PLE C	USTO	ODY SH	EET																				
							Sent	from:	Harrison	Group	Environr	mental Ltd.					Co	ontact I	Name:	Jiba	n Bajra	achary	ya			Date Sar	nples S	chedu	ıled:										T					
							Addre	ess:	Unit A11	, Popla	r Busines	ss Park					En	nail:		GL(@harri	isong	roupuk	.com		ProjectC	ode:	GL	16481										S	heet:	1	of	f 1	
									10 Presto	ons Ro	ad, Lond	on, E14 9RL														Sampler	ID:	GP																Ξ
				Tel:			Tel. N	lo.:	020 7537	9233							Fa	x. No:	020	7987 0	361					Quote Re	eference	э:												ine nrc	siect n	ar cha	at nless	
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(www.ho) and gailed may (a) 17/04/2012	BH BD (d)	A Sample Type	Ó	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)	ess: lo.:	Unit A11,	, Popla ons Ro 7 9233	r Busines ad, Lond	ss Park		Individual Determinants (SOIL)	Asbestos screen	1.26 Asbestos screen and microscopy ID	Fa	nail:		GL	<u>@harri</u>		roupuk			ProjectC Sampler	ode: ID: eference	GL GP e:	16481 (9) ASEPA 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	fied US EPA 8150)	1.66 SVOCs target list (one extraction only) (Modified US EPA D 8270)	1.67 SVOCs scan (up to 10 peaks, >80% fit)	/OCs 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 Phenois (Total) by HPLC					f 1	e e -
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	y Soil Suite includes:																		_											(On -														_
	ategorisation (HPA) s																											GC-M	s GRO	(C6-C1	u), EPI	H Band	ied (C1	U-C25	, C25-C	. (40)								_
	achates Suite include														10:1), A	s, Ba, C	Jd, Cr	, Cu, H	ig, Mo,	Ni, Pb,	Sb, Se	, Zn,	CI, F, SC	J4, TDS F	Pheno	of Index,	DOC.																	_
1.18iii 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.																																												
							==() :				ra																																	_
	includes: Methane (0.	_		_		_	_	_		lydroge	en (0.5%)), Carbon Mon	oxide	(1ppm)), Hydro	gen Sul	Iphide	(1ppn	n).																									_
1.57 C1-C7 includes: (Methane, Ethane, Ethane, Ethane, Ethane, Propane, Pentane, 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.																																												
1.59 Mandator	y water Suite include:	<u>s</u> : As, C	u, cr, C	u, NI, ∠n	, rp, Hg, B,	se, H	ex Chr	omium	i, i otal Cy	чапіае,	rree Cya	ande, Soluble	oulpn	ate, Su	ирпіае,	rree Su	ııpnur,	speci	атеа (1	o) PAHS	s, rhen	iois, T	niocyar	ыte, Iota	al IPF	¬, рн.																		_
							D.							n																														_
	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.																																											
								e glyc	ol.																																			_
PCB (WHO 12	PCB (WHO 12) Congener: 77, 81, 105, 114, 123, 126, 156, 157, 169, 189.																																											

Intended Use of Results:

Required for Environment Agency? Y / N (Please Circle as Applicable)

Date Recieved: Time: Signature: Report No.

Special Instructions / Known Hazards:

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







Validated

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

LIQUID Results Legend X Test	Lab Sample N	No(s)	5487511					
No Determination Possible	Customer Sample Reference							
	AGS Refere	nce						
	Depth (m)						
	Containe	r	1l green glass bottle					
Anions by Kone (w)	All	NDPs: 0 Tests: 1	X					
pH Value	All	NDPs: 0 Tests: 1	X					



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Job:H_HARRIS_LON-73Customer:Harrison Group LtdReport Number:178963Client Reference:GL16482Attention:Jiban BajracharyaSuperseded Report:

Results Legend
ISO17025 accredited.
mCERTS accredited.
Deviating sample.
Aqueous / settled sample.
Dissolved / filtered sample.
Total / unfiltered sample.
Subcontracted test.
Vercovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery Trigger breach confirmed Customer Sample R BHB1(d) Depth (m) aq diss.filt tot.unfilt Sample Type . Water(GW/SW) Date Sampled Sample Time Date Received 17/04/2012 21/04/2012 120423-4 SDG Ref 5487511 Lab Sample No.(s) (F) AGS Reference LOD/Units Method Component TM184 64.8 Sulphate <2 mg/l # рΗ TM256 7.37 <1 pH # Units



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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		

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



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Test Completion Dates

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

ALcontrol Laboratories

CERTIFICATE OF ANALYSIS

SDG 120423-4 Location: **Bourne Estate** Order Number:

H HARRIS LON-73 Harrison Group Ltd 178963 Job: **Customer:** Report Number: Client Reference: GL16482 Attention: Jiban Bairacharva Superseded Report:

Appendix

- 1. Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except for the following: 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
- 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
- Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol ethylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 3-Methylphenol and 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
- 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

SOLID M	IATRICES	SEXIRA	CHONS	SUMMARY

<u></u>				
ANALYSIS	D&C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENTEXTRACTABLE MATTER	D&C	DOM	SOXTHERM	GRAVIMETRIC .
CYCLOHEXANE EXT. MATTER	D&C	CYCLCHEXANE	SOXTHERM	GRAVIMETRIC .
ELEMENTAL SULPHUR	D&C	DOM	SOXTHERM	HPLC
PHENOLS BY GOMS	WET	DOM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANEACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANEACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANEACETONE	ENDOVEREND	GC-FID
EPH (MIN OL)	D&C	HEXANEACETONE	BND OVER END	GC-FID
EPH(CLEANED UP)	D&C	HEXANE ACETONE	ENDOVEREND	GC-FID
EPH CWGBY GC	D&C	HEXANEACETONE	BND OVER END	GC-FID
PCBAROCLOR 1254/ PCBCON	D&C	HEXANEACETONE	ENDOVEREND	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANEACETONE	MICROWAVE TM218.	GC-MS
>06C40	WET	HEXANEACETONE	SHAKER	GC-FID
POLYAROMATIC HYDROCARBONS RAFID GC	WET	HEXANEACETONE	SHAKER	GC-FID
SEMIVOLATILEORGANIC COMPOUNDS	WET	DOMACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	extraction Method	ANALYSIS
PAHMS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
BPH BPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	CC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	CC FID
MNERALOL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	CC FID
PCB7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCBAROCLOR 1254	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
svoc	DCM	LIQUID/LIQUID/SHAKE	GC MS
FREESULPHUR	DCM	SOLID PHASEEXTRACTION	HPLC
PESTOCPOPP	DCM	l'aud/l'aud shake	GC MS
TRIAZINE HERBS	DCM	l'aud/l'aud shake	GC MS
PHENOLSMS	ACETONE	SOLID PHASEEXTRACTION	GC MS
TPH byINFRA RED (IR)	TCE	STIRRED EXTRACTION (STIR-BAR)	R
MINERALOL by IR	TCE	STIRRED EXTRACTION (STIR-BAR)	R
GLYCOLS	NONE	DRECTINJECTION	CC FID

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk 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
Chrysofile	White Asbestos
Amoste	BrownAsbestos
Orodolite	Blue Asbestos
Fibrous Adindite	-
Florous Anhaphylite	=
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.



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