

Key :

- 1 Window Sample Borehole
- 1 Cable Percussive Borehole

EC Harris LLP
Site: Kiln Place, Camden
Job No: GL18084 Date: May 2014
Drawing Title: Fieldwork Location Plan
Drawing No: GL18084 - DR002
Scale: 1:500 @ A3
Drawn by: YN Checked by: GP
Project: F28240 Markings: 195520

Revision history		
No	Date	Revision Data

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APPENDIX B

EXPLORATORY HOLE RECORDS

DATA SHEET : SITE INVESTIGATION METHODS

The following sheet provides basic details of the site investigation methods employed in the direct investigation phase of this report. Detailed method statements may be provided if requested, or further information may be obtained from the relevant British Standard, or Environment Agency publications. Prior to any excavation being undertaken, a surface sweep using a cable detector is undertaken, in order to avoid services. Details of the lithology encountered are generally presented on the relevant field record sheets, which also detail the type and depths of samples taken, the results of any insitu 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 insitu testing may include Standard or Cone Penetration Tests (SPT/ CPT) to BSEN ISO22476-3, plus permeability testing as per BS5930:1999. Please note we report raw SPT N values rather than corrected $N_{(60)}$ values. We can report in either format if requested by our client.

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

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

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

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

WINDOW SAMPLER BOREHOLES

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

STANDPIPE INSTALLATIONS

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

GROUNDWATER MONITORING

Groundwater monitoring is undertaken using an electronic dip meter, which records the depth to water in a standpipe. Alternatively, an interface meter may be used, which detects the thickness of a non-aqueous phase liquid (e.g. floating hydrocarbon layer). In order to measure tidal variations, or to undertake soakaway testing, a down hole pressure transducer may be used.

GROUND GAS MONITORING

Ground gas composition and flow monitoring may be undertaken where semi-permanent standpipes have been installed. Both flow (litres per hour) and composition (%) are measured using our GA2000 infra-red monitor, calibrated for methane, carbon dioxide & oxygen. Records are also taken of atmospheric pressure, and relative pressure. The results are presented in the appendix of the report on the relevant sheets.



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Key to Site Investigation Records

Project: Kiln Place

Project ID.: GL18084

Client: E C Harris

Engineer: Ramboll UK Limited

Contractor: Harrison Group Environmental Limited

In-situ Testing & Observations

S or C	Standard Penetration Test as per BS1377:1990 'Methods of test for soils for civil engineering purposes'. Uncorrected test result shown on the log at the relevant depth. S - split spoon or C - solid cone.	
*	n100 - dynamic penetration test graphical presentation of the blows taken to drive 100mm.	
+	Equivalent SPT 'N' value. Based on standard empirical calculation after Card & Roche for sandy soils unless specified in the text.	
IV	In-situ (down hole) vane shear strength peak - p or remoulded - r	
HV	In-situ hand vane test, shear strength reported in kPa peak - p or remoulded - r	
PP	Pocket penetrometer test, shear strength reported in kPa	
K	In-situ permeability test result, expressed in m/s	
PID	In-situ screening by photo-ionisation detector, expressed as ppm Head space testing undertaken as per contract documents.	
TCR	Total Core Recovery, %	As defined in BS5930:1999. Details of flush returns etc. are given on the relevant log sheet.
SCR	Solid Core Recovery, %	
RQD	Rock Quality Designation, %	
If	Fracture spacing, mm	
▽	Groundwater strike	Level to which groundwater has risen after the specified time. (Nominal 20 mins)

Sampling


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

General comments

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

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

Site specific comments



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Percussion Borehole Record

BH1

Project: Kiln Place

Project ID.: GL18084

Coordinates: 528330.8E

185513.5N

Ground Level: 41.52mAOD

Sheet 1 of 2

Description	Legend	Depth (m)	O.D. Level (m)	Samples/ Test		Casing (Water) Depth (m)	Remarks and Test Results	Installations
				Type	Depth (m)			
MADE GROUND. Brick Paving.		0.05	41.47					
MADE GROUND. Yellow fine and medium SAND.		0.15	41.37					
MADE GROUND. Grey and dark grey slightly silty very sandy (ashy) GRAVEL with a low cobble content. Gravel is angular to subangular fine to coarse brick, concrete, clinker/slag, chalk, slate and metal fragments. Cobbles are of brick. Pockets of slightly silty very sandy gravel. At 0.15m: Geomembrane.		1.20	40.32	B1	0.50	1.40	N=5 (1,1,1,1,1,2)	
				ES1	0.50			
				D1	1.00			
				ES2	1.00			
				C	1.50	2.40	N=4 (1,2,2,1,0,1)	
				B2	1.50-2.00			
				ES3	1.50			
				D2	2.00			
				C	2.50		N=1 (1,1,0,0,0,1)	
				B3	2.50-3.00			
				ES5	2.50-3.00			
				D3	3.00			
MADE GROUND. Dark grey mottled grey slightly gravelly sandy to very sandy CLAY. Gravel is angular to subangular fine to coarse brick, ceramic, flint, concrete, clinker/slag and chalk with frequent ash. Pockets of clayey sandy gravel.				C	3.50	3.40	N=1 (1,1,0,0,0,1)	
				B4	3.50-4.00			
				ES6	3.50-4.00			
				D4	4.00			
MADE GROUND. Dark grey mottled grey slightly gravelly CLAY. Gravel is angular to subangular fine to coarse brick, concrete, slate, clinker and chalk. From 5.00m: pockets of clayey gravel				C	4.50	(3.40)	N=1 (1,0,0,0,0,1)	
				B5	4.50-5.00			
				ES7	4.50-5.00			
				D5	5.00			
				C	5.50	(4.70)	N=2 (1,1,0,0,1,1)	
				B6	5.50-6.00			
				ES8	5.50-6.00			
				D6	6.00			
MADE GROUND. Brownish grey slightly gravelly CLAY. Gravel is angular to subangular fine and medium flint and charcoal.		6.00	35.52					
Firm fissured brownish grey CLAY. Fissures closely spaced, randomly orientated rough and matt and infilled with silt. Occasional pockets of grey and brown silt. Occasional selenite crystals.		7.00	34.52	UT1	7.00-7.50	(7.50)	25 blows: 100% recovery	
				D7	7.00			
				D8	7.50			
				S	8.50			
				D9	8.50-8.95	7.50	N=14 (2,2,2,4,4,4)	
				D10	9.00			

Continued next sheet

Hole Diameter Details						Chiselling Details			Water Level Observations					
Diameter (mm)	Depth (m)	Casing Depth (m)	From (m)	To (m)	Time (hhmm)	Date	Water Strike (m)	Standing Time (mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)			
150	15.00	7.50				03/04/14	4.50	20	3.90	4.50	6.90			

Client: E C Harris

Engineer: Ramboll UK Limited

Contractor: Harrison Group Environmental Limited

Dates: 03/03/2014

Plant: Dando 2000 Cable Percussive

Drilled By: B. Bowman

Logged By: H. Jones

Checked By: J. Keay

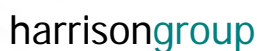
Remarks:

- Inspection pit excavated from GL to 1.20mbgl.
- Groundwater was encountered at 4.50mbgl.
- Installation details: 50mm diameter HDPE standpipe installed from 6.00mbgl to GL. Slotted from 6.00mbgl to 1.00mbgl, plain from 1.00mbgl to GL. Finished with gas tap/bung, end cap and flush cover.
- Backfill details: Arisings from 15.00m to 7.00m, bentonite from 7.00mbgl to 6.00mbgl, gravel filter packs from 6.00mbgl to 1.00mbgl, bentonite pellets from 1.00mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.

FM-Hn-R-3080

Print Date: 10/06/2014

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



BH1

Project: Kiln Place

Project ID.: GL18084

Coordinates: 528330.8E
185513.5N


Ground Level: 41.52mAOD

Sheet 2 of 2

						Water Level Observations					
Hole Diameter Details			Chiselling Details			Date	Water Strike (m)	Standing Time (mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	Depth (m)	Casing Depth (m)	From (m)	To (m)	Time (hhmm)						
150	15.00	7.50				03/04/14	4.50	20	3.90	4.50	6.90

Client:	E C Harris
Engineer:	Ramboll UK Limited
Contractor:	Harrison Group Environmental Limited
Dates:	03/03/2014
Plant:	Dando 2000 Cable Percussive
Drilled By:	D. Bowman
Logged By:	H. Jones
Checked By:	J. Keay

Remarks:



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Percussion Borehole Record

BH2

Project: Kiln Place

Project ID.: GL18084

Coordinates: 528315.9E

185447.6N

Ground Level: 44.28mAOD

Sheet 1 of 2

Description	Legend	Depth (m)	O.D. Level (m)	Samples/ Test		Casing (Water) Depth (m)	Remarks and Test Results	Installations
				Type	Depth (m)			
MADE GROUND. Brick Paving.		0.10	44.18					
MADE GROUND. Yellow fine and medium SAND.		0.20	44.08					
MADE GROUND. Yellowish brown slightly clayey gravelly fine to coarse ashy SAND with a low cobble content. Gravel is angular to subangular fine to coarse brick, concrete and flint. Cobbles are of brick. At 0.20m: Geomembrane.		0.60	43.68	ES1 B1	0.50 0.60			
MADE GROUND. Light grey mottled grey occasionally slightly sandy slightly gravelly silty CLAY. Gravel is angular to subrounded fine to coarse brick, concrete, clinker and flint.		1.50	42.78	D1 ES2	1.00 1.00		25 blows: 100% recovery	
				UT1 ES3	1.50-1.95 1.50			
				D2	2.00			
				S D3	2.50 2.50-3.00	1.40	N=1 (1,0,0,0,0,1)	
				D4	3.00			
				UT2	3.50-3.95		35 blows: 25% recovery	
				D5	4.00			
				S D6	4.50 4.50-5.00	1.40	N=4 (1,0,0,1,1,2)	
				UT3	5.50-5.95		40 blows: 75% recovery	
MADE GROUND. Dark grey mottled grey and bluish grey slightly sandy slightly gravelly organic CLAY. Gravel is angular to subangular fine to coarse brick and flint. Slight organic odour.		6.00	38.28	ES4 D7	6.00 6.00			
Firm fissured orangish brown mottled bluish grey CLAY. Fissures closely spaced, randomly orientated rough and matt and infilled with silt. Rare pockets of grey and orange silt. Rare calcareous nodules.		7.00	37.28	S D8 D9	7.00 7.00 7.00-7.45	(4.90) 7.00	N=11 (2,2,2,3,3,3)	
Firm to stiff orangish brown mottled bluish grey CLAY with occasional pockets of orangish brown silt.		8.00	36.28	D10	8.00			
				UT4	8.50-8.95		55 blows: 75% recovery	
				D11	9.00			

Continued next sheet

Hole Diameter Details						Chiselling Details			Water Level Observations					
Diameter (mm)	Depth (m)	Casing Depth (m)	From (m)	To (m)	Time (hhmm)	Date	Water Strike (m)	Standing Time (mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)			
150	15.00	7.50				04/04/14	5.60	20	4.90	1.40	7.00			

Client: E C Harris

Engineer: Ramboll UK Limited

Contractor: Harrison Group Environmental Limited

Dates: 04/03/2014

Plant: Dando 2000 Cable Percussive Rig

Drilled By: D. Bowman

Logged By: H. Jones

Checked By: J. Keay

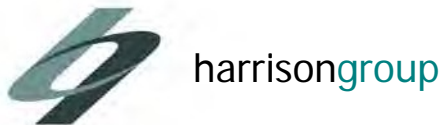
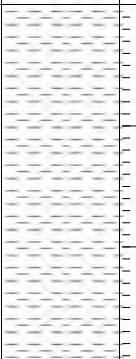
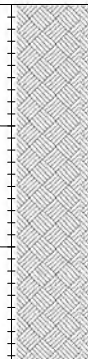
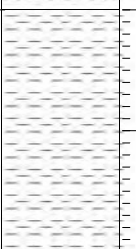
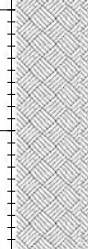
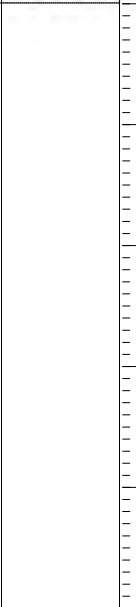
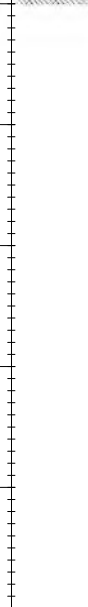
Remarks:

1. Inspection pit excavated from GL to 1.20mbgl.
 2. Groundwater was encountered at 5.60mbgl.
 3. Installation details: 50mm diameter HDPE standpipe installed from 7.00mbgl to GL. Slotted from 7.00mbgl to 1.00mbgl, plain from 1.00mbgl to GL. Finished with gas tap/bung, end cap and flush cover.
 4. Backfill details: Arisings from 15.00mbgl to 8.00mbgl, bentonite from 8.00mbgl to 7.00mbgl, gravel filter packs from 7.00mbgl to 1.00mbgl, bentonite pellets from 1.00mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.

FM-Hn-R-3080

Print Date: 15/05/2014

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

		Percussion Borehole Record					BH2				
		Project: Kiln Place									
Project ID.: GL18084		Coordinates: 528315.9E 185447.6N				Ground Level: 44.28mAOD					
		Sheet 2 of 2									
Description		Legend	Depth (m)	O.D. Level (m)	Samples/ Test		Casing Water Depth (m)	Remarks and Test Results	Installations		
Firm to stiff orangish brown mottled bluish grey CLAY with occasional pockets of orangish brown silt.					S	10.00	7.00	N=19 (2,3,4,4,5,6)			
					D12	10.00					
					D13	10.00-10.45					
					D14	11.00					
Stiff grey CLAY.				31.28	UT5	11.50-11.95	7.50	100 blows: 75% recovery			
					D15	12.00					
					D16	13.00					
					D17	13.00-13.45					
Borehole Complete at 15.00 m				29.28	UT6	14.50-14.95		100 blows: 75% recovery			
					D18	14.00					
					UT6	14.50-14.95					
					D19	15.00					
			15.00						15.00		
		Water Level Observations									
Hole Diameter Details			Chiselling Details			Date	Water Strike (m)	Standing Time (mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	Depth (m)	Casing Depth (m)	From (m)	To (m)	Time (hhmm)						
150	15.00	7.50				04/04/14	5.60	20	4.90	1.40	7.00
Client: E C Harris Engineer: Ramboll UK Limited Contractor: Harrison Group Environmental Limited Dates: 04/03/2014 Plant: Dando 2000 Cable Percussive Rig Drilled By: D. Bowman Logged By: H. Jones Checked By: J. Keay					Remarks:						



WS1

Sheet 1 of 1

Project ID: GL18084

Coordinates: 528321.0E
185544.9N

Ground Level: 40.83mAOD

MADE GROUND. Brick Paving.

MADE GROUND. Type 1 Ballast

MADE GROUND. Brown slightly sandy slightly gravelly silty CLAY with low cobble content. Gravel is angular to subrounded fine to coarse brick, concrete, flint, chalk, slate, metal, coal and ash. Cobbles are brick and concrete.

MADE GROUND. Orangish brown mottled grey gravelly silty CLAY with low cobble content. Gravel is angular to subangular fine to coarse brick, concrete, flint, slate and chalk. Pockets of ashly sand.

Orangish brown slightly gravelly silty CLAY. Gravel is angular to subangular fine and medium brick and flint.

Orangish brown slightly gravelly clayey SILT. Gravel is angular fine brick.

NO RECOVERY.

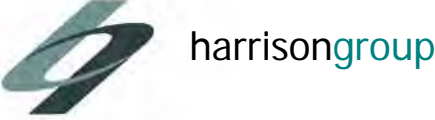
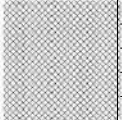
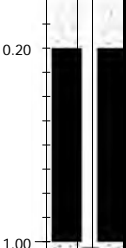
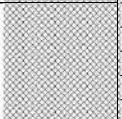
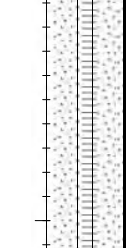
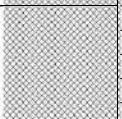
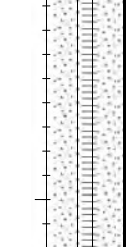

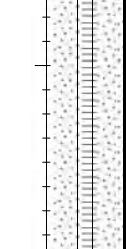
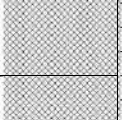
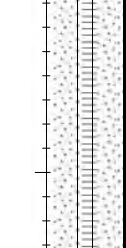
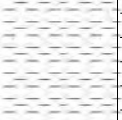
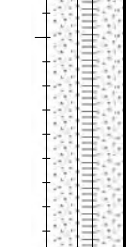
Window Sample Complete at 2.20 m

Drive Records			
Diameter (mm)	From (m)	To (m)	Recovery (%)
87	1.20	2.10	90
87	2.10	2.20	0

Client: E C Harris
Engineer: Ramboll UK Limited
Contractor: Harrison Group Environmental Limited
Date: 05/03/2014
Plant: Premier Window Sampling Rig
Drilled By: J. Smith
Logged By: H. Jones
Checked By: J. Keay

Remarks:

1. Inspection pit excavated from GL to 1.20mbgl.
2. Window sample terminated at 2.20m due to an obstruction.
3. CPT undertaken at 2.10m diverted at an angle past an obstruction.
4. Backfill details: Arisings from 2.20mbgl to GL.

		Window Sample Record				WS2 Sheet 1 of 2			
		Project: Kiln Place							
Project ID: GL18084		Coordinates: 528335.6E 185538.9N				Ground Level: 41.36mAOD			
Description		Legend	Depth (m)	O.D. Level (m)	Sample Test Type Depth (m)		Remarks and Test Results	Installations	
MADE GROUND. Grass over brown slightly sandy slightly gravelly to gravelly silty CLAY. Gravel is very angular to subangular fine to coarse brick, concrete and flint.			0.50	40.86	D1 ES1	0.50 0.50	N=7 (1,1,1,2,2,2)		
MADE GROUND. Yellowish brown slightly sandy slightly gravelly to gravelly CLAY. Gravel is angular to subrounded fine to coarse brick, concrete, slate, chalk, and flint. Occasional pockets of ashy sand.					D2 ES2	1.00 1.00			
MADE GROUND. Light brown and brown occasionally slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse brick, chalk and coal.			1.10	40.26	C	1.20	N=7 (1,1,2,1,2,2)		
					D3 ES3	1.50 1.50			
MADE GROUND. Soft grey slightly gravelly silty CLAY. Gravel is subangular to subrounded fine to coarse flint.			2.20	39.16	C ES4	2.00 2.00	N=7 (1,1,2,1,2,2)		
MADE GROUND. Greenish grey and greyish brown clayey GRAVEL. Gravel is angular to subangular fine to coarse flint.			2.70	38.66	D4	2.80	N=16 (1,2,2,3,5,6)		
MADE GROUND. Soft reddish brown to brown slightly gravelly silty CLAY. Gravel is subangular to rounded fine to coarse flint.					C D5	3.00 3.00			
MADE GROUND. Firm orangish brown mottled light grey CLAY.			3.10	38.26	D6 ES5	3.50 3.60	N=10 (1,1,1,2,2,5)		
MADE GROUND. Orangish brown and light grey gravelly silty CLAY. Gravel is angular to subrounded fine to coarse flint and brick.					C D7	4.00 4.00			
Orangish brown mottled bluish grey CLAY.			3.80	37.56	C	4.80	N=16 (2,3,3,3,5,5)		
Window sample hole Continued		Water Level Observations							
Drive Records				Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	From (m)	To (m)	Recovery (%)						
87	1.20	2.10	100						
87	2.10	3.00	100						
77	3.00	4.00	100						
77	3.80	4.80	100						
67	4.80	6.10	100						
Client: E C Harris Engineer: Ramboll UK Limited Contractor: Harrison Group Environmental Limited Date: 04/03/2014 Plant: Premier Window Sampling Rig Drilled By: J. Smith Logged By: H. Jones Checked By: J. Keay				Remarks: 1. Inspection pit excavated from GL to 1.20mbgl. 2. Groundwater was not encountered. 3. Installation details: 38mm diameter HDPE standpipe installed from 6.10mbgl to GL. Slotted from 6.10mbgl to 1.00mbgl, plain from 1.00mbgl to GL. Finished with gas tap/bung, end cap and flush fitting cover. 4. Backfill details: Gravel filter packs from 6.10mbgl to 1.00mbgl, bentonite pellets from 1.00mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.					



WS2

Sheet 2 of 2

Project: Kiln Place

Project ID: GL18084

Coordinates: 528335.6E
185538.9N

Ground Level: 41.36mAOD

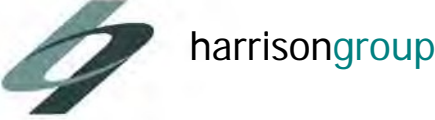


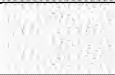

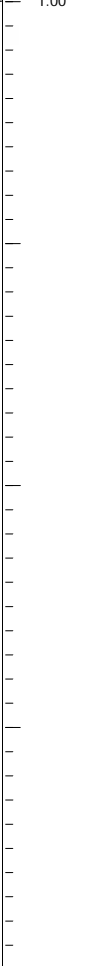


Orangish brown mottled bluish grey CLAY.

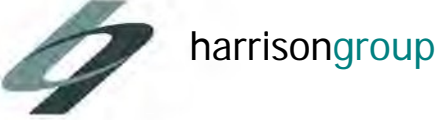

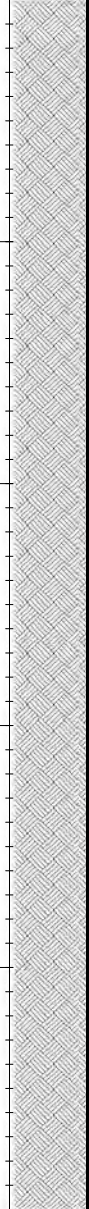

Window Sample Complete at 6.10 m

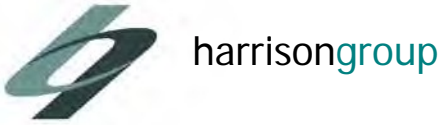


Drive Records			
Diameter (mm)	From (m)	To (m)	Recovery (%)
87	1.20	2.10	100
87	2.10	3.00	100
77	3.00	4.00	100
77	3.80	4.80	100
67	4.80	6.10	100

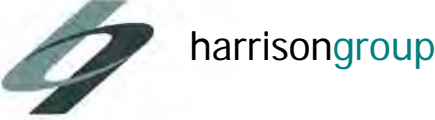

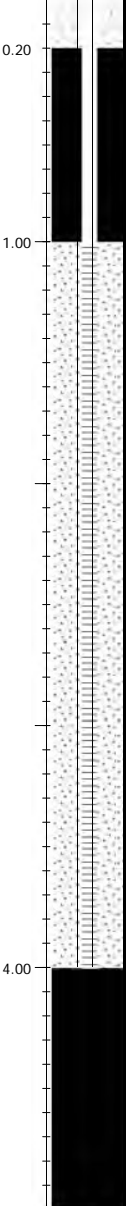




Client: E C Harris
Engineer: Ramboll UK Limited
Contractor: Harrison Group Environmental Limited
Date: 04/03/2014
Plant: Premier Window Sampling Rig
Drilled By: J. Smith
Logged By: H. Jones
Checked By: J. Keay

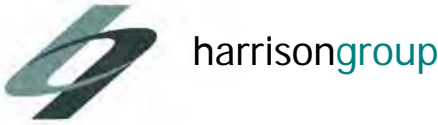



Remarks:

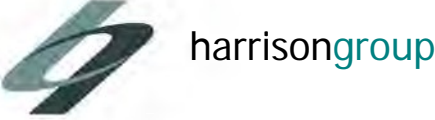
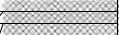









				Window Sample Record		WS3 Sheet 1 of 1							
				Project: Kiln Place									
Project ID: GL18084				Coordinates: 528342.7E 185528.4N		Ground Level: 41.86mAOD							
Description				Legend	Depth (m)	O.D. Level (m)	<table border="1"> <tr> <th colspan="2">Sample Test</th> </tr> <tr> <th>Type</th> <th>Depth (m)</th> </tr> </table>	Sample Test		Type	Depth (m)	Remarks and Test Results	Installations
Sample Test													
Type	Depth (m)												
MADE GROUND. Brown gravelly silty CLAY with a medium cobble content. Gravel is very angular to subangular fine to coarse concrete, brick, chalk, slate ash, charcoal and flint. cobbles are of brick and flint. Occasional rootlets					0.70	41.16	<table border="1"> <tr> <td>B1</td> <td>0.50</td> </tr> <tr> <td>ES1</td> <td>0.50</td> </tr> </table>	B1	0.50	ES1	0.50		
B1	0.50												
ES1	0.50												
MADE GROUND. CONCRETE.					1.00	40.86	1.00						
Window Sample Complete at 1.00 m													
				Water Level Observations									
Drive Records				Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)				
Diameter (mm)	From (m)	To (m)	Recovery (%)										
Client: E C Harris Engineer: Ramboll UK Limited Contractor: Harrison Group Environmental Limited Date: 04/03/2014 Plant: Premier Window Sampling Rig Drilled By: J. Smith Logged By: H. Jones Checked By: J. Keay				Remarks: 1. Inspection pit excavated from GL to 1.00mbgl. 2. Groundwater was not encountered. 3. Window sample terminated at 1.00m due to concrete obstruction. 4. Backfill details: Arisings from 1.00mbgl to GL.									

				Window Sample Record		WS4 Sheet 1 of 2				
				Project: Kiln Place						
Project ID: GL18084				Coordinates: 528359.9E 185520.3N		Ground Level: 45.24mAOD				
Description		Legend	Depth (m)	O.D. Level (m)	Sample Test Type Depth (m)		Remarks and Test Results	Installations		
Grass over TOPSOIL.			0.15	45.09	D1 ES1	0.50 0.50	N=4 (1,0,1,1,1,1)			
MADE GROUND. Soft light brown mottled grey slightly sandy gravelly CLAY with a medium cobble content. Gravel is very angular to subangular fine to coarse concrete, brick, tile, chalk, slate, flint, wood, clay pipe and glass fragments. Occasional pockets of ashy sand. Cobbles are of brick and concrete.										
MADE GROUND. Soft yellowish brown and brown mottled grey slightly gravelly sandy CLAY. Gravel is very angular to subangular fine to coarse concrete, clinker, bone, brick, ash and flint with clay pipe fragments		1.20	44.04	C	1.20	N=5 (1,1,1,1,2,1)				
At 2.50m: Pocket of brick.										
At 3.60m: Pocket of brick.				ES4	2.50-3.00					
									D3 C	2.00 2.10
At 4.30m: Pocket of brick.		ES5	3.50-4.00	D5 C	4.00 4.10	N=5 (1,1,0,1,2,2)				
At 3.60m: Pocket of brick.										
MADE GROUND. Soft yellowish brown mottled light grey slightly gravelly CLAY. Gravel is subangular to subrounded fine and medium brick. Occasional selenite crystals. From 4.30m to 4.40m: Band of gravelly silt.			4.20	41.04	D6 ES6	4.50 4.50-5.00				
Window sample hole Continued				Water Level Observations						
Drive Records				Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)	
Diameter (mm)	From (m)	To (m)	Recovery (%)							
87	1.20	2.10	90							
87	2.10	3.10	90							
77	3.10	4.10	85							
77	4.10	5.10	95							
67	5.10	6.10	100							
Client: E C Harris Engineer: Ramboll UK Limited Contractor: Harrison Group Environmental Limited Date: 04/03/2014 Plant: Premier Window Sampling Rig Drilled By: J. Smith Logged By: H. Jones Checked By: J. Keay				Remarks: 1. Inspection pit excavated from GL to 1.20mbgl. 2. Groundwater was not encountered. 3. Backfill details: Arisings from 6.10mbgl to GL.						

		Window Sample Record				WS4 Sheet 2 of 2	
		Project: Kiln Place					
Project ID: GL18084		Coordinates: 528359.9E 185520.3N				Ground Level: 45.24mAOD	
Description	Legend	Depth (m)	O.D. Level (m)	Sample Test		Remarks and Test Results	Installations
				Type	Depth (m)		
Soft light yellowish brown mottled orange brown CLAY with occasional pockets of orange silt.		5.00	40.24	C	5.10	N=10 (1,1,2,2,3,3)	
Window Sample Complete at 6.10 m		6.00	39.24	D7	6.00		6.10
		Water Level Observations					
Drive Records		Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	From (m)	To (m)	Recovery (%)				
87	1.20	2.10	90				
87	2.10	3.10	90				
77	3.10	4.10	85				
77	4.10	5.10	95				
67	5.10	6.10	100				
Client: E C Harris Engineer: Ramboll UK Limited Contractor: Harrison Group Environmental Limited Date: 04/03/2014 Plant: Premier Window Sampling Rig Drilled By: J. Smith Logged By: H. Jones Checked By: J. Keay		Remarks:					
FM-Hn-R-3081		Print Date:15/05/2014		Harrison Group Environmental Ltd, Unit A11, Poplar Business Park, 10 Prestons Road, London E14 9RL			

		Window Sample Record				WS5 Sheet 1 of 2			
		Project: Kiln Place							
Project ID: GL18084		Coordinates: 528337.4E 185504.3N				Ground Level: 42.01mAOD			
Description	Legend	Depth (m)	O.D. Level (m)	Sample Test		Remarks and Test Results	Installations		
				Type	Depth (m)				
Grass over TOPSOIL.		0.15	41.86	D1	0.25	N=4 (1,0,1,0,2,1)			
MADE GROUND. Grey mottled dark grey and light brown slightly silty very sandy GRAVEL. Gravel is angular to subrounded fine to coarse brick, concrete, slate clinker/slag, tile, charcoal and flint with occasional metal, ceramic and glass fragments. Occasional pockets of ashy sand.		1.20	40.81	B1 ES1	0.50 0.50				
				C D2 ES2	1.00 1.00 1.00				
				NO RECOVERY.				2.10	39.91
MADE GROUND. Grey mottled reddish brown and dark grey slightly clayey gravelly fine to coarse SAND. Gravel is angular to subrounded fine to coarse brick, chalk, tile, and flint with occasional plastic and glass fragments.		4.00	38.01	D3	2.30-3.00				
				ES3	2.50-3.00				
				C D4 ES4	3.00 3.10-4.10 3.10-4.10				
MADE GROUND. Grey and dark grey slightly gravelly slightly sandy organic CLAY/SILT. Gravel is subangular fine to coarse wood, flint and metal fragments.		4.00	38.01	C	4.00	N=5 (1,2,2,1,1,1)	4.00		
Window sample hole Continued		Water Level Observations							
Drive Records				Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	From (m)	To (m)	Recovery (%)						
87 87 77 57	1.20 1.80 3.50 4.50	2.10 3.10 5.10 7.10	0 50 50 50	03/03/14	5.25	-	-	-	
Client: E C Harris Engineer: Ramboll UK Limited Contractor: Harrison Group Environmental Limited Date: 03/03/2014 Plant: Premier Window Sampling Rig Drilled By: J. Smith Logged By: H. Jones Checked By: J. Keay				Remarks: 1. Inspection pit excavated from GL to 1.20mbgl. 2. Window sample borehole collapsed from 7.00mbgl to 4.00mbgl. 3. Groundwater was encountered 5.25mbgl. 4. From 1.20m to 2.10m no recovery due to obstruction pushed down the borehole. 5. Installation details: 38mm diameter HDPE standpipe installed from 4.00mbgl to GL. Slotted from 4.00mbgl to 1.00mbgl, plain from 1.00mbgl to GL. Finished with gas tap/bung, end cap and flush fitting cover. 6. Backfill details: Bentonite pellets from 7.00mbgl to 4.00mbgl, gravel filter packs from 4.00mbgl to 1.00mbgl, bentonite pellets from 1.00mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.					

		Window Sample Record		WS5 Sheet 2 of 2					
		Project: Kiln Place							
Project ID: GL18084		Coordinates: 528337.4E 185504.3N		Ground Level: 42.01mAOD					
Description	Legend	Depth (m)	O.D. Level (m)	Sample Test		Remarks and Test Results	Installations		
				Type	Depth (m)				
MADE GROUND. Grey and dark grey slightly gravelly slightly sandy organic CLAY/SILT. Gravel is subangular fine to coarse wood, flint and metal fragments.				C ES6	5.00 5.00-6.00	N=1 (1,0,0,1,0,0)			
Firm to stiff grey mottled brown slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse flint.		6.50	35.51	D6	6.50-7.00	N=5 (1,1,1,2,1,1)			
Window Sample Complete at 7.00 m		7.00	35.01	C	7.00	N=7 (1,1,1,1,2,3)	7.00		
		Water Level Observations							
Drive Records									
Diameter (mm)	From (m)	To (m)	Recovery (%)	Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
87	1.20	2.10	0	03/03/14	5.25	-	-	-	
87	1.80	3.10	50						
77	3.50	5.10	50						
57	4.50	7.10	50						
Client: E C Harris Engineer: Ramboll UK Limited Contractor: Harrison Group Environmental Limited Date: 03/03/2014 Plant: Premier Window Sampling Rig Drilled By: J. Smith Logged By: H. Jones Checked By: J. Keay				Remarks:					

		<h1>Window Sample Record</h1>				<h2>WS6</h2> <p>Sheet 1 of 2</p>			
		Project: Kiln Place							
Project ID: GL18084		Coordinates: 528354.6E 185494.4N				Ground Level: 42.25mAOD			
Description	Legend	Depth (m)	O.D. Level (m)	Sample Test		Remarks and Test Results	Installations		
				Type	Depth (m)				
MADE GROUND. Brick Paving.		0.05	42.20						
MADE GROUND. Type 1 Ballast.		0.10	42.15						
MADE GROUND. Yellowish brown mottled grey brown slightly sandy gravelly silty CLAY with a low cobble content. Gravel is angular to subangular fine to coarse concrete, brick, tile, slate, ash and flint with occasional glass fragments. Occasional pockets of ashy sand. Cobbles are of brick and concrete. Occasional rootlets.		0.50	41.75	D1 ES1	0.50 0.50				
MADE GROUND. Brown and dark brown gravelly silty CLAY with a low cobble content. Gravel is angular to subangular fine to coarse concrete, brick, tile, chalk, slate and flint with occasional glass fragments. Occasional pockets of ashy sand. Cobbles are of brick. Occasional rootlets. Occasional pockets of clayey very sandy gravel.		1.10	41.15	D2 ES2 C	1.00 1.00 1.20	N=3 (1,0,0,1,1,1)			
MADE GROUND. Reddish brown mottled grey brown slightly sandy gravelly silty CLAY. Gravel is angular to subrounded fine to coarse concrete, brick, and flint with occasional glass fragments. Occasional pockets of clayey very sandy gravel. From 1.60m to 1.80m: Pocket of brick.		2.30	39.95	D3 C ES3	2.00 2.10 2.20	N=7 (1,1,1,2,2,2)			
MADE GROUND. Reddish brown mottled grey gravelly silty CLAY. Gravel is angular to subangular fine to coarse brick. Occasional pockets of clayey very gravelly sand.				D4 ES4	2.50-3.00 2.50-3.00				
				C	3.10	N=0 (1,0,0,0,0,0)			
MADE GROUND. Dark grey mottled blue slightly gravelly clayey SILT. Gravel is angular to subangular fine and medium flint and brick. At 3.60m: Pocket of purple slate.		3.50	38.75	ES5	3.50-4.00				
				D5 C	4.00 4.10	N=9 (1,1,3,2,2,2)			
Firm becoming firm to stiff brown mottled bluish grey CLAY. Rare pockets of orange silt		4.60	37.65						
Window sample hole Continued		Water Level Observations							
Drive Records				Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	From (m)	To (m)	Recovery (%)						
87	1.20	2.10	90	05/05/14	3.00	-	-	-	
87	2.10	3.10	90						
77	3.10	4.10	60						
67	3.40	6.10	100						
77	3.60	5.10	100						
67	6.10	7.10	100						
67	7.00	8.10	100						
57									
Client: E C Harris Engineer: Ramboll UK Limited Contractor: Harrison Group Environmental Limited Date: 05/03/2014 Plant: Premier Window Sampling Rig Drilled By: J. Smith Logged By: H. Jones Checked By: J. Keay				Remarks: 1. Inspection pit excavated from GL to 1.20mbgl. 2. Groundwater was encountered at 3.00mbgl. 3. Backfill details: Arisings from 8.00mbgl to GL.					

**WS6**

Sheet 2 of 2

Project: Kiln Place

Project ID: GL18084

Coordinates: 528354.6E
185494.4N

Ground Level: 42.25mAOD

Firm becoming firm to stiff brown mottled bluish grey CLAY. Rare pockets of orange silt

Window Sample Complete at 8.00 m

Water Level Observations

Drive Records

Diameter (mm)	From (m)	To (m)	Recovery (%)	Date	Strike (m)	Time (Mins)	Level (m)	Depth (m)	Sealed (m)
87	1.20	2.10	90	05/05/14	3.00	-	-	-	
87	2.10	3.10	90						
77	3.10	4.10	60						
67	3.40	6.10	100						
77	3.60	5.10	100						
67	6.10	7.10	100						
57	7.00	8.10	100						

Client: E C Harris
Engineer: Ramboll UK Limited
Contractor: Harrison Group Environmental Limited
Date: 05/03/2014
Plant: Premier Window Sampling Rig
Drilled By: J. Smith
Logged By: H. Jones
Checked By: J. Keay

Remarks:



WS7

Sheet 1 of 2

Project: Kiln Place

Project ID: GL18084

Coordinates: 528389.3E
185463.3N

Ground Level: 44.48mAOD

Water Level Observations

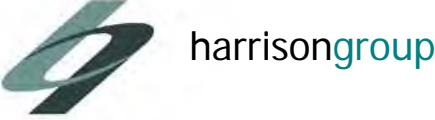


Drive Records

Client:	E C Harris	Remarks: 1. Inspection pit excavated from GL to 1.20mbgl. 2. Window sample borehole terminated at 5.10m due to collapsing from 5.10m to 3.80m. Installation pipe pushed down hole to 5.10m. 3. Groundwater was encountered at 3.00mbgl. 4. Installation details: 38mm diameter HDPE standpipe installed from 5.10mbgl to GL. Slotted from 5.10mbgl to 1.00mbgl, plain from 1.00mbgl to GL. Finished with gas tap/bung, end cap and flush fitting cover. 5. Backfill details: Gravel filter packs from 5.10mbgl to 1.00mbgl, bentonite pellets from 1.00mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.
Engineer:	Ramboll UK Limited	
Contractor:	Harrison Group Environmental Limited	
Date:	03/03/2014	
Plant:	Premier Window Sampling Rig	
Drilled By:	J. Smith	
Logged By:	H. Jones	
Checked By:	J. Keay	

FM-Hn-R-3081

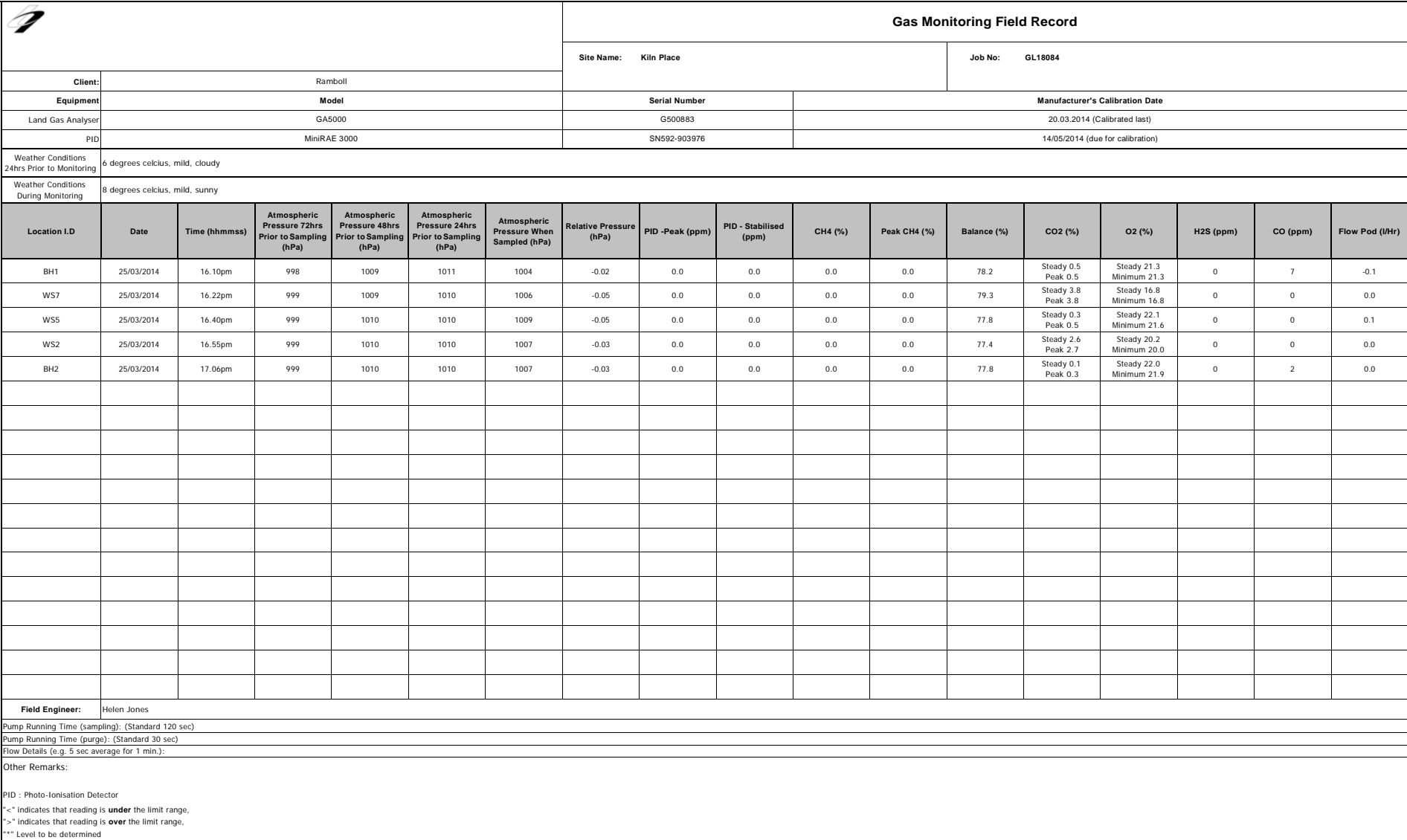
Print Date:15/05/2014


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

		Window Sample Record				WS7 Sheet 2 of 2			
		Project: Kiln Place							
Project ID: GL18084		Coordinates: 528389.3E 185463.3N				Ground Level: 44.48mAOD			
Description	Legend	Depth (m)	O.D. Level (m)	Sample Test		Remarks and Test Results	Installations		
				Type	Depth (m)				
MADE GROUND. Light grey mottled grey slightly gravelly silty CLAY. Gravel is angular to subangular fine to coarse brick and flint with occasional glass and metal fragments. Window Sample Complete at 5.10 m		5.10	39.38	D6	5.00		5.10 		
		Water Level Observations							
Drive Records									
Diameter (mm)	From (m)	To (m)	Recovery (%)	Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
87	1.20	2.10	100	03/03/14	3.00	-	-	-	
87	2.10	3.10	100						
77	3.10	4.10	100						
77	4.10	5.10	100						
Client: E C Harris Engineer: Ramboll UK Limited Contractor: Harrison Group Environmental Limited Date: 03/03/2014 Plant: Premier Window Sampling Rig Drilled By: J. Smith Logged By: H. Jones Checked By: J. Keay				Remarks:					

APPENDIX C

GAS & GROUNDWATER MONITORING



													Groundwater Monitoring Record						
													Site Name: Kiln Place					Job No.: 18084	
Client: Ramboll													State of Ground: Dry						
Weather (include Temperature & Pressure):			8 degrees celcius, mild and sunny 1015mb																
Location ID	Date	Time	Surface Elevation (mAOD)	LNAPL Depth¹ (mbgl)	LNAPL Depth (mAOD)	Water Level¹ (mbgl)	Water Level (mAOD)	DNAPL Depth¹ (mbgl)	DNAPL Depth (mAOD)	Depth to base¹ (mbgl)	Depth to base (mAOD)	Stabilized Readings					Sample Method² (I, S, B, P)	Purged Volume³ (L)	Comments: (e.g. problems encountered, standpipe conditions, unusual odours, colour, turbidity, sheens)
												Temp (°C)	pH	Electrical Conductivity (µS/cm)	DO (%)	Redox Potential (mV)			
BH1	28/03/2014	8.45	41.36	N/A	-	3.03	38.33	N/A	-	4.83	36.53	16.10	8.02	913.00	13.50	-98.40	P	25.00	After purge GW was at 4.3mbgl. Water has a slight brown tinge to it.
WS5	28/03/2014	9.30	42.01	N/A	-	3.52	38.49	N/A	-	3.60	38.41	-	-	-	-	-	-	0.00	Insufficient water in hole to sample
WS2	28/03/2014	9.45	41.52	N/A	-	5.32	36.20	N/A	-	5.89	35.63	-	-	-	-	-	-	0.00	Insufficient water in hole to sample
WS7	28/03/2014	10.15	44.48	N/A	-	2.23	42.25	N/A	-	4.89	39.59	17.53	7.50	44.00	13.80	-69.40	P	5.00	After purge GW was at 3.4mbgl. Water has a slight brown tinge to it.
BH2	28/03/2014	11.10	44.28	N/A	-	1.52	42.76	N/A	-	7.90	36.38	16.95	7.45	1859.00	28.10	-63.00	P	25.00	After purge GW was at 3.5mbgl. Water has a slight brown tinge to it.
Field Engineer:	Helen Jones																		

¹ - All (mbgl) depth measurements are recorded as meters from the top of installation cover.

BH2

