APPENDIX `B'

Laboratory Test Data

and

Gas Monitoring Data

Site Analytical Services Ltd.

Ref: 09/15403

PLASTICITY INDEX & MOISTURE CONTENT DETERMINATIONS

LOCATION 1 Elm Row, Hampstead, London, NW3 1AA

BH/TP No.	Depth m	Natural Moisture %	Liquid Limit %	Plastic Limit %	Plasticity Index %	Passing 425 μm %	Class
BH1	3.50	25	54	19	35	100	CH

Table 1

Site Analytical Services Ltd.

Ref: 09/15403

SULPHATE & pH DETERMINATIONS

LOCATION 1 Elm Row, Hampstead, London, NW3 1AA

BH/TP No.	DEPTH BELOW GL m	SOIL SULPHATES AS SO_4 TOTAL %	SOIL SULPHATES AS SO_4 WATER SOL g/l	WATER SULPHATES AS SO_4 g/l	pH	CLASS	SOIL - 2mm %
BH1	1.50		<0.01		7.7	DS-1	100
BH2	2.50		0.01		6.0	DS-1	100
TP1	0.75		0.01		8.1	DS-1	27

Classification – Tables C1 and C2 : BRE Special Digest 1 : 2005

Table 2

Site Analytical Services Ltd.

Ref: 09/15403

DETERMINATION OF MIX PROPORTIONS

Insoluble Residue	45.09 %	
Soluble Silica as SiO_2	1.01 %	
Total Calcium Oxide as CaO	28.18 %	
Calcium Carbonate as $CaCO_3$	44.55 %	
		CORRECTED TO 100 %
Cement Content By Weight	5.0 %	5.2 %
Fine Aggregate Content By Weight	91.0 %	94.8 %

Cement : Fine Aggregate (Sand) Ratio

By Weight	1 : 18.2
By Volume	1 : 15.8

NOTE

In calculating the above mix proportions the following assumptions were made: -

Calcium Oxide Content of Cement	64.5 %
Soluble Silica Content of Cement	20.2 %
Recovery of Insolubles from Aggregate	97 %
Recovery of Soluble Silica from Cement	95 %
Soluble Silica Content of Aggregate	0.2 %
Bulk Density of Cement	1450 kg/m^3
Bulk Density of Aggregate	1675 kg/m^3

Table 3

Site Analytical Services Ltd.

Ref: 09/15403

DETERMINATION OF MIX PROPORTIONS

Insoluble Residue	45.09 %	
Soluble Silica as SiO_2	1.01 %	
Total Calcium Oxide as CaO	28.18 %	
		CORRECTED TO 100 %
Cement Content By Weight	5.0 %	5.8 %
Lime Content By Weight	34.3 %	40.0 %
Sand Content By Weight	46.5 %	54.2 %

Cement : Lime : Sand Ratio

By Weight	1 : 6.9 : 9.3
By Volume	1 : 17.4 : 8.1

NOTE

In calculating the above mix proportions the following assumptions were made: -

Calcium Oxide Content of Cement	64.5 %
Soluble Silica Content of Cement	20.2 %
Recovery of Insolubles from Aggregate	97 %
Recovery of Soluble Silica from Cement	95 %
Soluble Silica Content of Aggregate	0.2 %
Bulk Density of Cement	1450 kg/m^3
Bulk Density of Hydrated Lime	575 kg/m^3
Bulk Density of Aggregate	1675 kg/m^3

Table 3a

Site Analytical Services Ltd.

Ref: 09/15403

DETERMINATION OF MIX PROPORTIONS

Insoluble Residue	45.09 %	
Soluble Silica as SiO_2	1.01 %	
Total Calcium Oxide as CaO	28.18 %	
		CORRECTED TO 100 %
Lime Content By Weight	38.8 %	45.5 %
Sand Content By Weight	46.5 %	54.5 %
Lime : Sand Ratio		
By Weight	1 : 1.2	
By Volume	1 : 0.4	

NOTE

In calculating the above mix proportions the following assumptions were made: -

Calcium Oxide Content of Cement	64.5 %
Soluble Silica Content of Cement	20.2 %
Recovery of Insolubles from Aggregate	97 %
Recovery of Soluble Silica from Cement	95 %
Soluble Silica Content of Aggregate	0.2 %
Bulk Density of Hydrated Lime	575 kg/m^3
Bulk Density of Aggregate	1675 kg/m^3

Table 3b

Site Analytical Services Ltd.

Ref: 09/15403

GAS MONITORING

LOCATION 1 Elm Row, Hampstead, London, NW3 1AA

MONITORING DATE 19th March 2009

BOREHOLE REF:		**BH1**	**BH2**
Methane	(%)	0.00	0.00
Carbon Dioxide	(%)	0.9	0.7
Oxygen	(%)	18.6	19.8
Hydrogen Sulphide	(p.p.m.)	0.0	0.0
Carbon Monoxide	(p.p.m.)	0.0	0.0
Atmospheric Pressure	(mb)	1011	1011
Water Level	(m.bgl)	Dry	Dry
Oxygen in Air	(%)	20.9	20.9
Flow	(l/hour)	0.1	0.0

N.B. Methane Lower Explosive Limit - 5% Gas in Air

Table 4

Site Analytical Services Ltd.

Ref: 09/15403

GAS MONITORING

LOCATION 1 Elm Row, Hampstead, London, NW3 1AA

MONITORING DATE 31st March 2009

BOREHOLE REF:		**BH1**	**BH2**
Methane	(%)	0.00	0.00
Carbon Dioxide	(%)	0.7	0.2
Oxygen	(%)	21.1	21.4
Hydrogen Sulphide	(p.p.m.)	0.0	0.0
Carbon Monoxide	(p.p.m.)	0.0	0.0
Atmospheric Pressure	(mb)	1006	1006
Water Level	(m.bgl)	Dry	Dry
Oxygen in Air	(%)	21.1	21.1
Flow	(l/hour)	0.2	0.2

N.B. Methane Lower Explosive Limit - 5% Gas in Air

Table 4a

SANDBERG

UKAS TESTING
0262

Sandberg LLP
5 Carpenter's Place
Clapham High Street
London SW4 7TD

Tel: 020 7565 7000
Fax: 020 7565 7101
email clapham@sandberg.co.uk
web www.sandberg.co.uk

40042/F

Date of Receipt
10/03/09

Date of Test
12/03/09

BRICK TEST RESULTS
COMPRESSIVE STRENGTH
BS 3921:1985, APPENDIX D[1]

Sandberg Sample Reference	F71983
Client Sample Reference	1 Elm Road, Hampstead
Type of Brick	Used, Red, Clay, Solid
Mean strength of mortar used to fill frogs at test, days, N/mm²	NA

Sandberg Specimen Reference	Client Specimen Reference	Surface Area mm²	Maximum Failing Load kN	Compressive Strength[2] N/mm²
4840	NA	18957	166	8.8
4841	NA	19474	249	12.8
4842	NA	14008	51	3.6
4843	NA	11875	92	7.7

[1] BS 3921:1985 has been withdrawn and replaced by parts of BS EN 771 and BS EN 772 series. However for the purposes of testing reclaimed bricks we have continued to use BS 3921 methods.
[2] To the nearest 0.1N/mm²

Client	Site Analytical Services Limited Unit 14 & 15 River Road Business Park River Road Barking Essex IG11 0EA For the attention of Mr Jim Warren	**Signed**	For Sandberg LLP
		Name	Doug Hunt
		Position	Chief Technician
Reference	Order No. 7162/JSW	**Date**	13 March 2009

Materials, samples and test specimens are retained for a period of 2 months from the issue of the this test certificate

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

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environmentalscience

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Analytical Report Number : 09-18595

Project / Site name:	1 ELM Row	**Samples received on:**	11/03/2009
Your job number:	09/15403	**Samples instructed on:**	10/03/2009
Your order number:	7163	**Analysis completed by:**	17/03/2009
Report Issue Number:	1	**Report issued on:**	17/03/2009
Samples Analysed:	4 soil samples		

Signed:

Dr Claire Stone
UK Quality Manager
For & on behalf of i2 Analytical Ltd.

Signed:

David Ashworth
UK Technical Manager
For & on behalf of i2 Analytical Ltd.

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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Analytical Report Number: 09-18595

Project / Site name: 1 ELM Row

Lab Sample Number				124142	124143	124144	124145	
Sample Reference				BH1	BH1	BH2	BH2	
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	
Depth				0.25	0.75	0.25	0.50	
Date Sampled				None Supplied	None Supplied	None Supplied	None Supplied	
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Moisture Content	%	N/A	NONE	15	13	8.5	7.2	
Total mass of sample recieved	kg	2	NONE	< 2.0	< 2.0	< 2.0	< 2.0	
Fibrous Material (Screen)	P/A	N/A	NONE	Absent	Absent	Absent	Absent	
General Inorganics								
pH	pH Units	N/A	MCERTS	8.4	8.3	9.0	8.9	
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Complex Cyanide	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	
Free Cyanide	mg/kg	1	NONE	< 1	< 1	< 1	< 1	
Total Sulphate as SO_4	mg/kg	100	MCERTS	320	130	240	130	
Water Soluble Sulphate as SO_4 (2:1)	g/l	0.005	NONE	0.024	0.019	0.11	0.066	
Sulphide	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	
Total Organic Carbon (TOC)	%	0.1	MCERTS	1.4	0.8	0.8	0.7	
Total Phenols								
Total Phenols (monohydric)	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	
Fluorene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	
Phenanthrene	mg/kg	0.3	MCERTS	< 0.30	< 0.30	< 0.30	< 0.30	
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	
Fluoranthene	mg/kg	0.2	MCERTS	0.32	< 0.20	< 0.20	< 0.20	
Pyrene	mg/kg	0.2	MCERTS	0.29	< 0.20	< 0.20	< 0.20	
Benzo(a)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	
Chrysene	mg/kg	0.3	MCERTS	< 0.30	< 0.30	< 0.30	< 0.30	
Benzo(b)fluoranthene	mg/kg	0.5	MCERTS	< 0.50	< 0.50	< 0.50	< 0.50	
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	
Benzo(a)pyrene	mg/kg	0.3	MCERTS	< 0.30	< 0.30	< 0.30	< 0.30	
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	
Benzo(ghi)perylene	mg/kg	0.5	MCERTS	< 0.50	< 0.50	< 0.50	< 0.50	
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.6	< 1.6	< 1.6	< 1.6	
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	2	MCERTS	16	9.7	6.8	13	
Boron (water soluble)	mg/kg	0.2	MCERTS	0.9	0.8	0.6	0.6	
Cadmium (aqua regia extractable)	mg/kg	0.6	MCERTS	< 0.6	< 0.6	< 0.6	< 0.6	
Chromium (hexavalent)	mg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	
Chromium (aqua regia extractable)	mg/kg	5	MCERTS	23	14	7.3	5.8	
Copper (aqua regia extractable)	mg/kg	2	MCERTS	57	16	7.8	28	
Lead (aqua regia extractable)	mg/kg	3	MCERTS	570	70	24	17	
Mercury (aqua regia extractable)	mg/kg	0.8	MCERTS	1.0	< 0.8	< 0.8	< 0.8	
Nickel (aqua regia extractable)	mg/kg	3	MCERTS	10	3.8	< 3.0	< 3.0	
Selenium (aqua regia extractable)	mg/kg	3	MCERTS	< 3.0	< 3.0	< 3.0	< 3.0	
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	87	20	10	14	

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Analytical Report Number: 09-18595

Project / Site name: 1 ELM Row

Lab Sample Number				124142	124143	124144	124145	
Sample Reference				BH1	BH1	BH2	BH2	
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	
Depth				0.25	0.75	0.25	0.50	
Date Sampled				None Supplied	None Supplied	None Supplied	None Supplied	
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
p & m-xylene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Petroleum Hydrocarbons								
TPH7 - Aliphatic >C5 - C6	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
TPH7 - Aliphatic >C6 - C8	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
TPH7 - Aliphatic >C8 - C10	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
TPH7 - Aliphatic >C10 - C12	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	
TPH7 - Aliphatic >C12 - C16	mg/kg	2	NONE	< 10	< 10	< 10	< 10	
TPH7 - Aliphatic >C16 - C21	mg/kg	10	NONE	< 10	< 10	< 10	< 10	
TPH7 - Aliphatic >C21 - C34	mg/kg	10	NONE	< 10	< 10	< 10	< 10	
TPH7 - Aliphatic (C5 - C34)	mg/kg	10	NONE	< 10	< 10	< 10	< 10	
TPH7 - Aromatic >C5 - C7	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
TPH7 - Aromatic >C7 - C8	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
TPH7 - Aromatic >C8 - C10	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
TPH7 - Aromatic >C10 - C12	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	
TPH7 - Aromatic >C12 - C16	mg/kg	2	NONE	< 10	< 10	< 10	< 10	
TPH7 - Aromatic >C16 - C21	mg/kg	10	NONE	< 10	< 10	< 10	< 10	
TPH7 - Aromatic >C21 - C35	mg/kg	10	NONE	< 10	< 10	< 10	< 10	
TPH7 - Aromatic (C5 - C35)	mg/kg	10	NONE	< 10	< 10	< 10	< 10	

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number: 09-18595

Project / Site name: 1 ELM Row

Lab Sample Number	Sample Reference	Sample Number	Depth	Sample Description
124142	BH1	None Supplied	0.25	Brown clay and gravel with stones.
124143	BH1	None Supplied	0.75	Brown clay and gravel with stones.
124144	BH2	None Supplied	0.25	Brown sand with stones.
124145	BH2	None Supplied	0.50	Brown sand with stones.

Analytical Report Number: 09-18595
Project / Site name: 1 ELM Row

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
(Poland) Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
(Poland) Free cyanide (Low level) in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method	L067-PL	W	NONE
(Poland) Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L068-PL	D	NONE
(Poland) Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L038-PL	D	MCERTS
(Poland) Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L066-PL	W	MCERTS
(Poland) pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests""	L005-PL	W	MCERTS
(Poland) Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	LC64-PL	D	MCERTS
(Poland) Sulphate, water soluble, in soil	Determination of water soluble sulphate by extraction with water followed by ICP-OES.	In-house method	L038-PL	D	NONE
(Poland) Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	NONE
(Poland) Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L067-PL	W	MCERTS
(Poland) Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests""	L023-PL	D	MCERTS

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Analytical Report Number: 09-18595
Project / Site name: 1 ELM Row

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
(Poland) Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests""	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L017-UK	W	MCERTS
Complex cyanide in soil	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L067-PL	W	NONE
Fibrous Material in soil screening	Visual screening of samples for fibrous material.	In-house method based on HSG 248	L050-PL	W	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests""	L019-UK	W	NONE
TPH7 (Soil)	Determination of dichloromethane/hexane extractable hydrocarbons in soil by GC-MS.	in-house method	L064-UK	D	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

APPENDIX 'C'

CLEA Software Version 1.04 -
Assessment Settings and Health Criteria Values

CLEA Software Version 1.04

Report generated	25-Mar-09
Report title	1 Elm Row
Created by	Aubrey Davidson at Site Analytical Services Limited

RESULTS

		Assessment Criterion (mg kg^{-1})			Ratio of ADE to HCV			Saturation Limit (mg kg^{-1})	50% rule?	
		oral	inhalation	combined	oral	inhalation	combined		Oral	Inhal
1	Arsenic	[illegible]	[illegible]	[illegible]	0.67	0.33	1.00	NR	No	No
2	Cadmium	[illegible]	[illegible]	[illegible]	0.38	0.62	1.00	NR	Yes	No
3	Chromium	[illegible]	[illegible]	[illegible]	0.10	0.90	1.00	NR	No	No
4	Mercury	[illegible]	[illegible]	[illegible]	1.00	0.00	1.00	NR	Yes	No
5	Nickel	[illegible]	[illegible]	[illegible]	1.00	0.00	1.00	NR	Yes	No
6	Selenium	[illegible]	NR	NR	1.00	NR	NR	NR	Yes	No
7	Phenol	[illegible]	NR	NR	1.00	NR	NR	1.07E+05 (sol)	No	No
8	Ethylbenzene	[illegible]	[illegible]	[illegible]	0.06	0.94	1.00	1.63E+03 (vap)	No	No
9	Toluene	[illegible]	[illegible]	[illegible]	0.01	0.99	1.00	2.30E+03 (vap)	No	No
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

CLEA Software Version 1.04

Report generated	25/03/2009
Report title	1 Elm Row
Created by	Aubrey Davidson at Site Analytical Services Limited

BASIC SETTINGS

Land Use	Residential with homegrown produce					
Building	Small terraced house					
Receptor	Female (res)	Start age class	1	End age class	6	Exposure Duration 6 years
Soil	Sandy loam					

Exposure Pathways

Direct soil and dust ingestion	✓	Dermal contact with indoor dust	✓	Inhalation of indoor dust	✓
Consumption of homegrown produce	✓	Dermal contact with soil	✓	Inhalation of soil dust	✓
Soil attached to homegrown produce	✓			*Inhalation of indoor vapour*	✓
				Inhalation of outdoor vapour	✓