Toureen Contractors

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03 May 2017

To whom it may concern,

RE: 254 Kilburn Site Environmental Summary Report

Toureen Contractors Ltd. have been commissioned to undertake waste classification sampling at the development of 254 Kilburn High Road, London, NW6 2BS. Sampling was undertaken from stockpiled material and from trial hole excavations on site on 26 April 2017. The samples were taken by a suitably qualified Geo-Environmental Engineer and analysed at I2 Analytical Laboratories employing UKAS/MCERTS accredited analytical procedures.

Site Location
The site is located at 254 Kilburn High Street, London and is comprised of ex-warehousing units which have since been demolished.

Site History
A review of historical maps indicates that the site was originally (1866) occupied by gardens to the rear of a row of properties on Edgware Road, with a building noted as Stanmore terrace encroaching on the south-eastern edge of the site. A further building is present in the north-eastern part of the site in 1866. Further buildings are constructed on site by 1893. The structures on site are subsequently modified over the years, with the site appearing similar to the present day by 1995. The site is labelled as a Timber yard in 1935, a Motor Units Factory in 1953, and a Warehouse from 1976.

Historically, the surrounding area has been utilised for a variety of uses, with several industrial uses noted from 1871. Notable industrial uses within the surrounding area include railway lines, garage (60m SE and 220m NW), engineering works (150m N, 175m E), gas works (125m NW).
Information provided by the British Geological Survey indicates that the site is directly underlain by solid deposits of the London Clay Formation. No artificial or superficial deposits are reported within the site.

The deposits directly underlying the site are identified as Unproductive. There is no groundwater abstraction license within 500m. The nearest borehole is reported 1794m east of the site for spray irrigation sourced from Thames Groundwater. There are no surface water abstractions reported within 2km of the site.

The site is not reported to lie within a Zone 2 or 3 floodplain.

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Ground Conditions

The results of the ground investigation indicated a ground profile comprising a variable thickness of Made Ground (1.3m to 4.3m bgl depth), overlying an orange brown patched blue grey silty clay (considered to represent the London Clay), encountered to the base of the boreholes at up to 25m bgl.

No evidence of contamination was observed during the investigation.

Sampling and Analysis

Sampling was conducted on the 26th of April 2017 from 2 stockpiles of excavated material and from 6 no. trial holes excavated on site. The results of the analysis performed are appended to this document.

There was no visual or olfactory evidence of contamination and, subsequent to analysis, it was found that the excavated soils and made ground arisings from the development of the site are representative of;

17 05 04: Inert soil and stone

Please do not hesitate to contact me at the details below for anything further.

Yours sincerely,

Rick Willemse | Geo-Environmental Manager | Toureen Contractors Ltd.

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JOMAS
Specialists in the investigation & reclamation of brownfield sites

Exploratory Hole No	**BH1**		
Site Address	Kilburn High Road	Project No	P8591J338
Client	Aitch Group	Ground Level	
Site Personnel	SK BD	Commenced	15/10/2014
		Completed	16/10/2014

Type and diameter of equipment: DANDO 175

Water levels recorded during boring, m

Date						
Hole Depth						
Casing Depth						
Water Level on strike						
Water Level after 20mins						

Remarks

1. 150m diameter borehole to 25mbgl
2.
3.
4

Samples or Tests									Strata			Strata Description
Type	Depth (m)	Results							Depth (m)		Legend	
		75	75	75	75	75	75	N				
									0.20			CONCRETE
									0.70			MADE GROUND - Brick
												Firm to stiff brown grey CLAY
U	1.5-1.95	35										
S	2.5-2.95	2	3	3	3	3	3	12				
D	3.2											
U	3.5-3.95	40										
S	4.5-4.95	2	3	3	3	3	3	12				
D	5.2											
U	5.5-5.95	50										
S	7-7.45	3	3	4	4	4	5	17				
D	8.0											
U	8.5-8.95	60										
S	10-10.45	4	5	6	6	7	7	26				

Sampling Code: U- Undisturbed B - Large Disturbed D - Small Disturbed W - Water (U*) Non recovery of Sample

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JOMAS
Specialists in the investigation & reclamation of brownfield sites

Exploratory Hole No	**BH2**		
Site Address	Kilburn High Road	Project No	P8591J338
Client	Aitch Group	Ground Level	
Site Personnel	SK BD	Commenced	15/10/2014
		Completed	16/10/2014

Type and diameter of equipment: DANDO 175

Water levels recorded during boring, m

Date						
Hole Depth						
Casing Depth						
Water Level on strike						
Water Level after 20mins						

Remarks

1. Monitoring well installed to 20mbgl. Plain with bentonite surround to 1mbgl, slotted to 20m with gravel surround
2.
3.
4

Samples or Tests									Strata			
Type	Depth (m)	Results							Depth (m)		Legend	Strata Description
		75	75	75	75	75	75	N				
									0.30			CONCRETE
S	1.5-1.95	2	3	2	2	3	2	9				Sand, Gravel of brick (MADE GROUND)
D	2-2.2								2.00			
U	2.5-2.95	30										Firm to stiff brown grey CLAY
S	3.5-3.95	2	2	2	3	3	3	11				
D	4.2											
U	4.5-4.95	35										
S	5.5-5.95	3	3	3	3	4	4	14				
D	6.5											
U	7-7.45	45										
S	8.5-8.95	4	6	6	6	6	7	25				
D	9.5											
U	10-10.45	45										

Sampling Code: U- Undisturbed B - Large Disturbed D - Small Disturbed W - Water (U*) Non recovery of Sample

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Site Address	254 Kilburn Road, London	Exploratory Hole No	**WS1**
Client	Aitch Group	Project No	P8592J338
Site Personnel	TC, LP	Ground Level	
		Commenced	13.10.14
		Completed	13.10.14

Type and diameter of equipment: Premier 110

Water levels recorded during boring, m

Date						
Hole Depth						
Casing Depth						
Water Level on strike						
Water Level after 20mins						

Remarks

1.
2.
3.
4

Samples or Tests									Strata			Strata Description
Type	Depth (m)	Results							Depth (m)		Legend	
		75	75	75	75	75	75	N				
									0.15			CONCRETE
P	0.5											Black fine to medium ashy SAND (MADE GROUND)
P	1.0											
SPT	1.0	1	1	1	2	1	1	5	1.00			
												Soft dark brown/black sandy CLAY with frequent fine to medium flints and brick fragments (MADE GROUND)
									1.40			
D	1.5											Firm to stiff orange brown patched blue grey silty CLAY
D	2.0											
SPT	2.0	1	2	2	2	1	2	7				
D	3.0											
SPT	3.0	2	1	2	3	2	2	9				
D	4.0											
SPT	4.0	1	3	3	2	4	4	13	4.00			

Sampling Code: U- Undisturbed B - Large Disturbed D - Small Disturbed W - Water (U*) Non recovery of Sample

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Analytical Report Number : 17-46608

Project / Site name:	254 Kilburn Lane	**Samples received on:**	26/04/2017
Your job number:		**Samples instructed on:**	26/04/2017
Your order number:		**Analysis completed by:**	02/05/2017
Report Issue Number:	1	**Report issued on:**	02/05/2017
Samples Analysed:	2 soil samples		

Signed:

Dr Irma Doyle
Senior Account Manager
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Analytical Report Number: 17-46608

Project / Site name: 254 Kilburn Lane

Lab Sample Number				739687	739688			
Sample Reference				TG/1A	TG/2			
Sample Number				None Supplied	None Supplied			
Depth (m)				0.75	0.75			
Date Sampled				26/04/2017	26/04/2017			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1			
Moisture Content	%	N/A	NONE	19	19			
Total mass of sample received	kg	0.001	NONE	0.48	0.52			
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected			
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	7.7	7.8			
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1			
Total Sulphate as SO_4	mg/kg	50	MCERTS	1600	1700			
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	730	960			
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	364	478			
Sulphide	mg/kg	1	MCERTS	2.6	4.4			
Total Chloride	mg/kg	5	NONE	71	110			
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	61	61			
Water Soluble Fluoride (2:1)	mg/kg	1	NONE	3.3	3.2			
Organic Matter	%	0.1	MCERTS	3.0	0.6			
Total Organic Carbon (TOC)	%	0.1	MCERTS	1.7	0.3			
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0			
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Phenanthrene	mg/kg	0.05	MCERTS	0.37	0.34			
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Fluoranthene	mg/kg	0.05	MCERTS	0.80	0.70			
Pyrene	mg/kg	0.05	MCERTS	0.73	0.61			
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.63	0.44			
Chrysene	mg/kg	0.05	MCERTS	0.55	0.43			
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.47	0.35			
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.41	0.30			
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.54	0.45			
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.18	0.17			
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.27	0.29			
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	4.95	4.08			
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	22	21			
Boron (water soluble)	mg/kg	0.2	MCERTS	4.0	2.8			
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.2			
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	33	35			
Copper (aqua regia extractable)	mg/kg	1	MCERTS	74	61			
Lead (aqua regia extractable)	mg/kg	1	MCERTS	290	320			
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	1.0	0.9			
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	24	26			
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0			
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	140	160			

Analytical Report Number: 17-46608

Project / Site name: 254 Kilburn Lane

Lab Sample Number				739687	739688			
Sample Reference				TG/1A	TG/2			
Sample Number				None Supplied	None Supplied			
Depth (m)				0.75	0.75			
Date Sampled				26/04/2017	26/04/2017			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	ug/kg	1	MCERTS	< 1.0	< 1.0			
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0			
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0			
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0			
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0			
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001			
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001			
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001			
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0			
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0			
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0			
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	27	18			
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	34	19			
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001			
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001			
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001			
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0			
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0			
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10			
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	22	17			
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	28	21			

Analytical Report Number : 17-46608

Project / Site name: 254 Kilburn Lane

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
739687	TG/1A	None Supplied	0.75	Brown clay and loam with gravel and brick.
739688	TG/2	None Supplied	0.75	Brown clay and loam with gravel and brick.

Analytical Report Number : 17-46608

Project / Site name: 254 Kilburn Lane

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
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
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Chloride in soil	Determination of acid soluble chloride in soil by extraction with nitric acid, addition of silver nitrate followed by titration against thiocyanate.	In-house method	L075-PL	D	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Fluoride, water soluble, in soil	Determination of fluoride in soil by water extraction followed by 1:1 ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination"	L033-PL	D	NONE
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 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
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 (skalar)	L080-PL	W	MCERTS
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests""	L009-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
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	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphate, water soluble, in soil by Gallery 1hr ex	Determination of water soluble Sulphate by discrete analyser (precipitation method).	In house method based on BS1377-3: 1990.	L082B	D	MCERTS
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	MCERTS
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 (Skalar)	L080-PL	W	MCERTS

Analytical Report Number : 17-46608

Project / Site name: 254 Kilburn Lane

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total organic carbon (Automated) 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""	L009-PL	D	MCERTS
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
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS

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.

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Analytical Report Number : 17-46609

Project / Site name:	254 Kilburn Lane	**Samples received on:**	26/04/2017
Your job number:		**Samples instructed on:**	26/04/2017
Your order number:		**Analysis completed by:**	28/04/2017
Report Issue Number:	1	**Report issued on:**	02/05/2017
Samples Analysed:	3 soil samples		

Signed:

Dr Irma Doyle
Senior Account Manager
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Analytical Report Number: 17-46609

Project / Site name: 254 Kilburn Lane

Lab Sample Number				739689	739690	739691		
Sample Reference				TG/1A	TG/2	WAC/TG3		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				0.75	0.75	0.50		
Date Sampled				26/04/2017	26/04/2017	26/04/2017		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected		

Analytical Report Number : 17-46609

Project / Site name: 254 Kilburn Lane

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025

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.

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Analytical Report Number : 17-46647

Project / Site name:	254 Kilburn Lane	**Samples received on:**	26/04/2017
Your job number:		**Samples instructed on:**	26/04/2017
Your order number:		**Analysis completed by:**	02/05/2017
Report Issue Number:	1	**Report issued on:**	02/05/2017
Samples Analysed:	6 soil samples		

Signed:

Dr Irma Doyle
Senior Account Manager
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Analytical Report Number: 17-46647

Project / Site name: 254 Kilburn Lane

Lab Sample Number				739825	739826	739827	739828	739829
Sample Reference				SW01	SW02	SW03	SW04	SW05
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				26/04/2017	26/04/2017	26/04/2017	26/04/2017	26/04/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	17	16	17	17	17
Total mass of sample received	kg	0.001	NONE	0.49	0.47	0.44	0.48	0.44
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	8.3	8.3	7.9	7.8	8.0
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Total Sulphate as SO_4	mg/kg	50	MCERTS	1400	1500	980	570	950
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.32	0.43	0.44	0.24	0.34
Sulphide	mg/kg	1	MCERTS	2.2	1.0	< 1.0	< 1.0	< 1.0
Total Chloride	mg/kg	5	NONE	140	180	140	180	110
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	66	58	110	57	110
Water Soluble Fluoride (2:1)	mg/kg	1	NONE	5.6	5.5	17	22	5.7
Organic Matter	%	0.1	MCERTS	1.8	0.9	0.6	1.1	0.6
Total Organic Carbon (TOC)	%	0.1	MCERTS	1.1	0.5	0.3	0.6	0.3
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	0.88	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	0.24	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.15	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	0.20	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	2.0	0.39	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	0.85	0.12	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	4.6	0.92	< 0.05	< 0.05	0.11
Pyrene	mg/kg	0.05	MCERTS	4.0	0.79	< 0.05	< 0.05	0.11
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.3	0.51	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	2.2	0.49	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	2.5	0.55	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	1.3	0.28	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.4	0.53	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.2	0.25	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.21	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.3	0.29	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	24.3	5.12	< 0.80	< 0.80	< 0.80
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	14	14	13	11	12
Boron (water soluble)	mg/kg	0.2	MCERTS	4.6	2.9	1.4	2.7	1.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	32	48	51	32	48
Copper (aqua regia extractable)	mg/kg	1	MCERTS	52	37	24	20	23
Lead (aqua regia extractable)	mg/kg	1	MCERTS	240	130	18	44	30
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.6	0.6	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	25	35	38	14	25
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	120	99	64	46	63

Analytical Report Number: 17-46647

Project / Site name: 254 Kilburn Lane

Lab Sample Number				739825	739826	739827	739828	739829
Sample Reference				SW01	SW02	SW03	SW04	SW05
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				26/04/2017	26/04/2017	26/04/2017	26/04/2017	26/04/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	ug/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 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	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	2.3	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	3.9	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	24	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	60	23	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	91	29	< 10	< 10	< 10

Analytical Report Number: 17-46647

Project / Site name: 254 Kilburn Lane

Lab Sample Number				739830				
Sample Reference				SW06				
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled				26/04/2017				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	16				
Total mass of sample received	kg	0.001	NONE	0.45				
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	8.2				
Total Cyanide	mg/kg	1	MCERTS	< 1				
Total Sulphate as SO_4	mg/kg	50	MCERTS	720				
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.28				
Sulphide	mg/kg	1	MCERTS	< 1.0				
Total Chloride	mg/kg	5	NONE	210				
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	170				
Water Soluble Fluoride (2:1)	mg/kg	1	NONE	3.9				
Organic Matter	%	0.1	MCERTS	0.9				
Total Organic Carbon (TOC)	%	0.1	MCERTS	0.5				
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0				
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05				
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05				
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05				
Fluorene	mg/kg	0.05	MCERTS	< 0.05				
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05				
Anthracene	mg/kg	0.05	MCERTS	< 0.05				
Fluoranthene	mg/kg	0.05	MCERTS	0.17				
Pyrene	mg/kg	0.05	MCERTS	0.16				
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05				
Chrysene	mg/kg	0.05	MCERTS	< 0.05				
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05				
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05				
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05				
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05				
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05				
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80				
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	16				
Boron (water soluble)	mg/kg	0.2	MCERTS	2.3				
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2				
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	48				
Copper (aqua regia extractable)	mg/kg	1	MCERTS	24				
Lead (aqua regia extractable)	mg/kg	1	MCERTS	61				
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3				
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	20				
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0				
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	70				

Analytical Report Number: 17-46647

Project / Site name: 254 Kilburn Lane

Lab Sample Number				739830				
Sample Reference				SW06				
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled				26/04/2017				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	ug/kg	1	MCERTS	< 1.0				
Toluene	µg/kg	1	MCERTS	< 1.0				
Ethylbenzene	µg/kg	1	MCERTS	< 1.0				
p & m-xylene	µg/kg	1	MCERTS	< 1.0				
o-xylene	µg/kg	1	MCERTS	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0				

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0				
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0				
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0				
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0				
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10				

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0				
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0				
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10				
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10				
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10				

Analytical Report Number : 17-46647

Project / Site name: 254 Kilburn Lane

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
739825	SW01	None Supplied	None Supplied	Brown clay and loam.
739826	SW02	None Supplied	None Supplied	Brown clay and loam.
739827	SW03	None Supplied	None Supplied	Brown clay.
739828	SW04	None Supplied	None Supplied	Brown clay.
739829	SW05	None Supplied	None Supplied	Brown clay.
739830	SW06	None Supplied	None Supplied	Brown clay.

Analytical Report Number : 17-46647

Project / Site name: 254 Kilburn Lane

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Chloride in soil	Determination of acid soluble chloride in soil by extraction with nitric acid, addition of silver nitrate followed by titration against thiocyanate.	In-house method	L075-PL	D	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Fluoride, water soluble, in soil	Determination of fluoride in soil by water extraction followed by 1:1 ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination"	L033-PL	D	NONE
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 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
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 (skalar)	L080-PL	W	MCERTS
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests""	L009-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
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	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
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	MCERTS
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 (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) 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""	L009-PL	D	MCERTS
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

Analytical Report Number : 17-46647

Project / Site name: 254 Kilburn Lane

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS

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.

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Analytical Report Number : 17-46650

Project / Site name:	254 Kilburn Lane	**Samples received on:**	26/04/2017
Your job number:		**Samples instructed on:**	26/04/2017
Your order number:		**Analysis completed by:**	28/04/2017
Report Issue Number:	1	**Report issued on:**	02/05/2017
Samples Analysed:	6 soil samples		

Signed:

Emma Winter
Assistant Reporting Manager
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Analytical Report Number: 17-46650

Project / Site name: 254 Kilburn Lane

Lab Sample Number				739838	739839	739840	739841	739842
Sample Reference				SW01	SW02	SW03	SW04	SW05
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.75	0.50	0.75	0.50
Date Sampled				26/04/2017	26/04/2017	26/04/2017	26/04/2017	26/04/2017
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected

Analytical Report Number: 17-46650

Project / Site name: 254 Kilburn Lane

Lab Sample Number				739843				
Sample Reference				SW06				
Sample Number				None Supplied				
Depth (m)				0.75				
Date Sampled				26/04/2017				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected				

Analytical Report Number : 17-46650

Project / Site name: 254 Kilburn Lane

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025

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.