

**Alix Hamilton**

Keltbray Remediation Ltd
St Andrew's House
Portsmouth Road
Esher
KT10 9TA

t: 02076431000

e: alix.hamilton@keltbray.com

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404

f: 01923 237404

e: reception@i2analytical.com

Analytical Report Number : 20-22789

Project / Site name:	Clarendon Road	Samples received on:	04/08/2020
Your job number:	6075	Sample instructed/ Analysis started on:	04/08/2020
Your order number:	S-RE6075-00005	Analysis completed by:	07/08/2020
Report Issue Number:	1	Report issued on:	07/08/2020
Samples Analysed:	14 leachate samples - 14 soil samples		

Signed:

Joanna Wawrzeczko
Technical Reviewer (Reporting Team)

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

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement. Application of uncertainty of measurement would provide a range within which the true result lies. An estimate of measurement uncertainty can be provided on request.

Iss No 20-22789-1 Clarendon Road 6075.XLS

This certificate should not be reproduced, except in full, without the express permission of the laboratory.

The results included within the report relate only to the sample(s) submitted for testing.

Page 1 of 9



Analytical Report Number: 20-22789

Project / Site name: Clarendon Road

Your Order No: S-RE6075-00005

Lab Sample Number				1581557	1581558	1581559	1581560	1581561
Sample Reference				WS01	WS01	WS01	WS01	WS01
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	1.00	1.50	2.00	2.50
Date Sampled				03/08/2020	03/08/2020	03/08/2020	03/08/2020	03/08/2020
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
Moisture Content				%	N/A	NONE	19	20
Total mass of sample received				kg	0.001	NONE	1.8	1.6

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
------------------	------	-----	-----------	--------------	--------------	--------------	--------------	--------------

General Inorganics

Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	3.0	3.2	1.1	3.5	2.3
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	5900	6400	2100	6900	4500
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	2970	3210	1070	3460	2270
Ammonium as NH ₄	mg/kg	0.5	MCERTS	90	56	5.5	3.7	0.7

Analytical Report Number: 20-22789

Project / Site name: Clarendon Road

Your Order No: S-RE6075-00005

Lab Sample Number				1581562	1581563	1581564	1581565	1581566
Sample Reference				WS01	WS01	WS01	WS01	WS01
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.00	3.50	4.00	4.50	5.00
Date Sampled				03/08/2020	03/08/2020	03/08/2020	03/08/2020	03/08/2020
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
Moisture Content				%	N/A	NONE	20	20
Total mass of sample received				kg	0.001	NONE	1.8	1.5

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
------------------	------	-----	-----------	--------------	--------------	--------------	--------------	--------------

General Inorganics

Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	1.1	3.3	3.1	3.3	2.8
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	2300	6600	6200	6700	5700
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	1140	3280	3120	3330	2850
Ammonium as NH ₄	mg/kg	0.5	MCERTS	< 0.5	0.7	2.1	1.4	1.9



Analytical Report Number: 20-22789

Project / Site name: Clarendon Road

Your Order No: S-RE6075-00005

Lab Sample Number				1581567	1581568	1581569	1581570	
Sample Reference				WS01	WS01	WS01	WS01	
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	
Depth (m)				5.50	6.00	6.50	7.00	
Date Sampled				03/08/2020	03/08/2020	03/08/2020	03/08/2020	
Time Taken				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
Moisture Content				%	N/A	NONE	20	19
Total mass of sample received				kg	0.001	NONE	1.6	1.5

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	
------------------	------	-----	-----------	--------------	--------------	--------------	--------------	--

General Inorganics

Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	2.5	1.8	3.2	1.1	
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	4900	3600	6400	2200	
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	2470	1790	3200	1100	
Ammonium as NH ₄	mg/kg	0.5	MCERTS	2.2	2.4	3.6	3.8	



Analytical Report Number: 20-22789

Project / Site name: Clarendon Road

Your Order No: S-RE6075-00005

Lab Sample Number				1581571	1581572	1581573	1581574	1581575
Sample Reference				WS01	WS01	WS01	WS01	WS01
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	1.00	1.50	2.00	2.50
Date Sampled				03/08/2020	03/08/2020	03/08/2020	03/08/2020	03/08/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)				Units	Limit of detection	Accreditation Status		

General Inorganics

Sulphate as SO ₄	mg/l	0.1	ISO 17025	1320	1650	847	871	550
Ammonium as NH ₄	µg/l	15	NONE	9000	5000	380	500	57



Analytical Report Number: 20-22789

Project / Site name: Clarendon Road

Your Order No: S-RE6075-00005

Lab Sample Number				1581576	1581577	1581578	1581579	1581580
Sample Reference				WS01	WS01	WS01	WS01	WS01
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.00	3.50	4.00	4.50	5.00
Date Sampled				03/08/2020	03/08/2020	03/08/2020	03/08/2020	03/08/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)				Units	Limit of detection	Accreditation Status		

General Inorganics

Sulphate as SO ₄	mg/l	0.1	ISO 17025	168	398	619	485	261
Ammonium as NH ₄	µg/l	15	NONE	37	79	100	160	160



Analytical Report Number: 20-22789

Project / Site name: Clarendon Road

Your Order No: S-RE6075-00005

Lab Sample Number				1581581	1581582	1581583	1581584	
Sample Reference				WS01	WS01	WS01	WS01	
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	
Depth (m)				5.50	6.00	6.50	7.00	
Date Sampled				03/08/2020	03/08/2020	03/08/2020	03/08/2020	
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	
Analytical Parameter (Leachate Analysis)				Units	Limit of detection	Accreditation Status		

General Inorganics

Sulphate as SO ₄	mg/l	0.1	ISO 17025	1000	250	148	408	
Ammonium as NH ₄	µg/l	15	NONE	260	220	280	490	



Analytical Report Number : 20-22789

Project / Site name: Clarendon Road

* 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 *
1581557	WS01	None Supplied	0.50	Brown clay.
1581558	WS01	None Supplied	1.00	Brown clay.
1581559	WS01	None Supplied	1.50	Brown clay.
1581560	WS01	None Supplied	2.00	Brown clay.
1581561	WS01	None Supplied	2.50	Brown clay.
1581562	WS01	None Supplied	3.00	Brown clay.
1581563	WS01	None Supplied	3.50	Brown clay.
1581564	WS01	None Supplied	4.00	Brown clay.
1581565	WS01	None Supplied	4.50	Brown clay.
1581566	WS01	None Supplied	5.00	Brown clay.
1581567	WS01	None Supplied	5.50	Brown clay.
1581568	WS01	None Supplied	6.00	Brown clay.
1581569	WS01	None Supplied	6.50	Brown clay.
1581570	WS01	None Supplied	7.00	Brown clay.

Analytical Report Number : 20-22789

Project / Site name: Clarendon Road

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammonium as NH ₄ in leachate	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	NONE
Ammonium as NH ₄ in soil	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
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
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
NRA Leachate Prep	10:1 extract with de-ionised water shaken for 24 hours then filtered.	In-house method based on National Rivers Authority	L020-PL	W	NONE
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 in leachates	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
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.	L038-PL	D	MCERTS
Sulphate, water soluble, in soil (1hr extraction)	Sulphate, water soluble, in soil (1hr extraction)	In-house method	L038-PL	D	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.