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Analytical Report Number : 20-20260

Project / Site name:	Clarendon Road	Samples received on:	20/07/2020
Your job number:	6075	Sample instructed/ Analysis started on:	20/07/2020
Your order number:	S-RE6075-00005	Analysis completed by:	24/07/2020
Report Issue Number:	1	Report issued on:	24/07/2020
Samples Analysed:	18 leachate samples - 18 soil samples		

Signed: Karolina Marek

Karolina Marek
PL Head of 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 20-20260-1 Clarendon Road 6075

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.

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Project / Site name: Clarendon Road

Your Order No: S-RE6075-00005

Lab Sample Number				1566987	1566988	1566989	1566990	1566991
Sample Reference				VS-12T	VS-12T-E	VS-12-S	VS-13-T	VS-13T-E
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				20/07/2020	20/07/2020	20/07/2020	20/07/2020	20/07/2020
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	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	17	11	9.3	9.5	14
Total mass of sample received	kg	0.001	NONE	0.89	0.62	0.82	0.87	0.65

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

Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	2.1	0.36	2.5	0.21	0.58
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	4200	720	5100	410	1200
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	2110	361	2540	207	584
Ammonium as NH ₄	mg/kg	0.5	MCERTS	< 0.5	2.2	1.3	2.1	5.5



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Lab Sample Number				1566992	1566993	1566994	1566995	1566996
Sample Reference				VS-13R	VS-13R-N	VS-13-S	VS-13T-N	VS12-R
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				20/07/2020	20/07/2020	20/07/2020	20/07/2020	20/07/2020
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	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	9.7	11	3.4	10	15
Total mass of sample received	kg	0.001	NONE	0.80	0.76	0.77	0.55	0.77

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

Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.48	0.095	1.9	0.18	0.86
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	950	190	3900	370	1700
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	477	95.1	1950	184	855
Ammonium as NH ₄	mg/kg	0.5	MCERTS	0.6	1.5	5.6	6.9	1.7

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Lab Sample Number				1566997	1566998	1566999	1567000	1567001
Sample Reference				VS13Q	VS-13Q-N	VS11T-E	VS13P	VS-11T
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				20/07/2020	20/07/2020	20/07/2020	20/07/2020	20/07/2020
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	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	14	12	15	12	17
Total mass of sample received	kg	0.001	NONE	0.79	0.81	0.62	0.96	0.88

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

Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.045	0.079	0.54	0.38	0.84
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	90	160	1100	760	1700
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	44.8	78.8	539	378	845
Ammonium as NH ₄	mg/kg	0.5	MCERTS	< 0.5	< 0.5	< 0.5	< 0.5	0.6



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Lab Sample Number				1567002	1567038	1567039		
Sample Reference				VS-11S	VS-13S-N	VS13P-N		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				None Supplied	None Supplied	None Supplied		
Date Sampled				20/07/2020	20/07/2020	20/07/2020		
Time Taken				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	15	13
Total mass of sample received				kg	0.001	NONE	0.81	0.78

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

Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	3.2	0.37	0.058		
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	6300	740	120		
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	3170	369	58.1		
Ammonium as NH ₄	mg/kg	0.5	MCERTS	0.9	5.9	2.9		



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Lab Sample Number				1567003	1567004	1567005	1567006	1567007
Sample Reference				VS-12T	VS-12T-E	VS-12-S	VS-13-T	VS-13T-E
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				20/07/2020	20/07/2020	20/07/2020	20/07/2020	20/07/2020
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	175	41.2	435	7.4	11.2
Ammonium as NH ₄	µg/l	15	NONE	100	66	490	160	21



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Lab Sample Number				1567008	1567009	1567010	1567011	1567012
Sample Reference				VS-13R	VS-13R-N	VS-13-S	VS-13T-N	VS12-R
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				20/07/2020	20/07/2020	20/07/2020	20/07/2020	20/07/2020
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	41.9	3.9	223	30.2	111
Ammonium as NH ₄	µg/l	15	NONE	140	59	370	210	170



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Lab Sample Number				1567013	1567014	1567015	1567016	1567017
Sample Reference				VS13Q	VS-13Q-N	VS11T-E	VS13P	VS-11T
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				20/07/2020	20/07/2020	20/07/2020	20/07/2020	20/07/2020
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	< 0.1	3.8	18.2	32.4	358
Ammonium as NH ₄	µg/l	15	NONE	29	50	19	21	34



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Lab Sample Number				1567018	1567040	1567041		
Sample Reference				VS-11S	VS13S-N	VS13P-N		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				None Supplied	None Supplied	None Supplied		
Date Sampled				20/07/2020	20/07/2020	20/07/2020		
Time Taken				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	287	28.9	4.5		
Ammonium as NH ₄	µg/l	15	NONE	240	260	32		

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* 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 *
1566987	VS-12T	None Supplied	None Supplied	Brown clay and loam with vegetation.
1566988	VS-12T-E	None Supplied	None Supplied	Brown clay and loam with vegetation and gravel
1566989	VS-12-S	None Supplied	None Supplied	Brown clay and loam with vegetation and gravel
1566990	VS-13-T	None Supplied	None Supplied	Brown loam and clay with vegetation and gravel
1566991	VS-13T-E	None Supplied	None Supplied	Brown loam and clay with vegetation and gravel
1566992	VS-13R	None Supplied	None Supplied	Brown clay and loam with vegetation and gravel
1566993	VS-13R-N	None Supplied	None Supplied	Brown loam and clay with vegetation and gravel
1566994	VS-13-S	None Supplied	None Supplied	Brown loam and clay with vegetation and gravel
1566995	VS-13T-N	None Supplied	None Supplied	Brown loam and clay with vegetation and gravel
1566996	VS12-R	None Supplied	None Supplied	Brown clay with gravel.
1566997	VS13Q	None Supplied	None Supplied	Brown loam and clay with gravel.
1566998	VS-13Q-N	None Supplied	None Supplied	Brown loam and clay with gravel.
1566999	VS11T-E	None Supplied	None Supplied	Brown loam and clay with gravel.
1567000	VS13P	None Supplied	None Supplied	Brown loam and clay with gravel.
1567001	VS-11T	None Supplied	None Supplied	Brown clay.
1567002	VS-11S	None Supplied	None Supplied	Brown clay and loam with gravel.
1567038	VS-13S-N	None Supplied	None Supplied	Brown loam and clay with gravel.
1567039	VS13P-N	None Supplied	None Supplied	Brown loam and clay with gravel.

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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.