4041

Environmental Science

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Analytical Report Number : 23-14795

Project / Site name:		**Samples received on:**	31/01/2023
Your job number:		**Samples instructed on/ Analysis started on:**	31/01/2023
Your order number:	B10122857	**Analysis completed by:**	07/02/2023
Report Issue Number:	1	**Report issued on:**	08/02/2023
Samples Analysed:	15 water samples		

Signed:

Adam Fenwick
Technical Reviewer
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.

Analytical Report Number: 23-14795

Your Order No: B10122857

Lab Sample Number				2569615	2569616	2569617	2569618	2569619
Sample Reference				AND 1	AND 2	AND 3	AND 4	AND 5
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				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH (L005B)	pH Units	N/A	ISO 17025	7.6	7.8	7.7	7.4	7.7
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	570	510	510	540	530
Total Phosphate as P	µg/l	20	ISO 17025	< 20	< 20	59	42	36
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	< 15	16	97	220	170
Nitrate as N	mg/l	0.01	ISO 17025	10.5	9.03	7.78	7.95	9.9
Nitrite as N	µg/l	1	ISO 17025	< 1.0	6.5	42	6.7	40
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	10	9	7.8	8	9.9
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	3	4	< 2.0	< 2.0	< 2.0
Heavy Metals / Metalloids								
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004	< 0.004	0.006	< 0.004	< 0.004
Magnesium (dissolved)	mg/l	0.005	ISO 17025	1.9	1.9	1.8	1.9	1.9
Potassium (dissolved)	mg/l	0.025	ISO 17025	1.5	1.6	1.7	1.2	1.5
Zinc (dissolved)	µg/l	0.4	ISO 17025	1.9	1.4	2	3.4	1.5
Iron (total)	mg/l	0.004	ISO 17025	0.007	0.023	0.46	0.029	0.071
Phosphorus (total)	µg/l	20	ISO 17025	880	840	800	810	1000
Zinc (total)	µg/l	0.4	ISO 17025	3.9	1.5	11	4.3	13
Magnesium (total)	mg/l	0.005	ISO 17025	2	2	2	2	2.1
Potassium (total)	mg/l	0.025	ISO 17025	1.5	1.8	1.8	1.3	1.6

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical i2 Environmental Science

Analytical Report Number: 23-14795

Your Order No: B10122857

Lab Sample Number				2569620	2569621	2569622	2569623	2569624
Sample Reference				AND 6	AND 7	AND 8	AND 9	AND 10
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				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH (L005B)	pH Units	N/A	ISO 17025	7.6	8.2	7.6	8.4	7.9
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	460	450	470	440	460
Total Phosphate as P	µg/l	20	ISO 17025	< 20	< 20	< 20	< 20	39
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	< 15	69	< 15	19	< 15
Nitrate as N	mg/l	0.01	ISO 17025	7.4	6.43	7.06	7	7.4
Nitrite as N	µg/l	1	ISO 17025	2.2	12	< 1.0	6.5	< 1.0
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	7.4	6.4	7.1	7	7.4
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Heavy Metals / Metalloids								
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004
Magnesium (dissolved)	mg/l	0.005	ISO 17025	1.6	1.7	1.5	1.5	1.6
Potassium (dissolved)	mg/l	0.025	ISO 17025	1.2	1.3	1.1	1	0.99
Zinc (dissolved)	µg/l	0.4	ISO 17025	1	1.1	0.6	1.2	1.8
Iron (total)	mg/l	0.004	ISO 17025	0.005	0.018	< 0.004	< 0.004	0.012
Phosphorus (total)	µg/l	20	ISO 17025	880	240	950	270	250
Zinc (total)	µg/l	0.4	ISO 17025	1.3	15	1.6	3	5.4
Magnesium (total)	mg/l	0.005	ISO 17025	1.8	1.8	1.7	1.7	1.7
Potassium (total)	mg/l	0.025	ISO 17025	1.8	1.3	1.1	1	1.1

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 23-14795

Your Order No: B10122857

Lab Sample Number				2569625	2569626	2569627	2569628	2569629
Sample Reference				AND 11	ALR 1	ALR 2	ALR 3A	ALR 3B
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				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH (L005B)	pH Units	N/A	ISO 17025	7.9	7.7	7.8	7.4	7.6
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	470	510	560	560	570
Total Phosphate as P	µg/l	20	ISO 17025	33	< 20	21	< 20	21
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	< 15	< 15	46	< 15	< 15
Nitrate as N	mg/l	0.01	ISO 17025	7.13	7.37	7.25	6.13	6.71
Nitrite as N	µg/l	1	ISO 17025	3	< 1.0	6.1	< 1.0	2.3
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	7.1	7.4	7.3	6.1	6.7
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	< 2.0	< 2.0	13	< 2.0	< 2.0
Heavy Metals / Metalloids								
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004	< 0.004	0.008	< 0.004	< 0.004
Magnesium (dissolved)	mg/l	0.005	ISO 17025	1.5	1.8	1.9	2	2.1
Potassium (dissolved)	mg/l	0.025	ISO 17025	1	1.3	1.2	0.86	1.2
Zinc (dissolved)	µg/l	0.4	ISO 17025	2.1	2.9	1.8	2	1.8
Iron (total)	mg/l	0.004	ISO 17025	0.004	< 0.004	0.044	0.008	0.006
Phosphorus (total)	µg/l	20	ISO 17025	770	1100	1200	820	870
Zinc (total)	µg/l	0.4	ISO 17025	3.2	4	8.8	3.2	6
Magnesium (total)	mg/l	0.005	ISO 17025	1.7	2	2	2.2	2.3
Potassium (total)	mg/l	0.025	ISO 17025	1.2	1.8	1.3	1.1	1.3

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 23-14795
Project / Site name:

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-OES (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Electrical conductivity at 20oC of water	Determination of electrical conductivity in water by electrometric measurement. Accredited Matrices SW, GW, PW	In-house method	L031-PL	W	ISO 17025
Suspended solids in water	Determined gravimetrically with GFC filtration papers.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L004-PL	W	ISO 17025
Total oxidised nitrogen in water	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton & Polish Standard Method PN-82/C-04579.08	L078/82-PL	W	NONE
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Total Phosphate as P in water	Determination of ortho phosphate in water by addition of ammonium molybdate, potassium antimonyl tartrate and ascorbic acid followed by colorimetry.Accredited matrices: SW, PW, GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton, analysis by discreet analyser.	L082-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' 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
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Analytical Report Number : 23-14795

Project / Site name:

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
ALR 1	None Supplied	W	2569626	a	None Supplied	None Supplied	None Supplied
ALR 2	None Supplied	W	2569627	a	None Supplied	None Supplied	None Supplied
ALR 3A	None Supplied	W	2569628	a	None Supplied	None Supplied	None Supplied
ALR 3B	None Supplied	W	2569629	a	None Supplied	None Supplied	None Supplied
AND 1	None Supplied	W	2569615	a	None Supplied	None Supplied	None Supplied
AND 10	None Supplied	W	2569624	a	None Supplied	None Supplied	None Supplied
AND 11	None Supplied	W	2569625	a	None Supplied	None Supplied	None Supplied
AND 2	None Supplied	W	2569616	a	None Supplied	None Supplied	None Supplied
AND 3	None Supplied	W	2569617	a	None Supplied	None Supplied	None Supplied
AND 4	None Supplied	W	2569618	a	None Supplied	None Supplied	None Supplied
AND 5	None Supplied	W	2569619	a	None Supplied	None Supplied	None Supplied
AND 6	None Supplied	W	2569620	a	None Supplied	None Supplied	None Supplied
AND 7	None Supplied	W	2569621	a	None Supplied	None Supplied	None Supplied
AND 8	None Supplied	W	2569622	a	None Supplied	None Supplied	None Supplied
AND 9	None Supplied	W	2569623	a	None Supplied	None Supplied	None Supplied

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Analytical Report Number : 23-20611

Project / Site name:		**Samples received on:**	02/03/2023
Your job number:		**Samples instructed on/ Analysis started on:**	02/03/2023
Your order number:	B10124687	**Analysis completed by:**	09/03/2023
Report Issue Number:	1	**Report issued on:**	12/03/2023
Samples Analysed:	15 water samples		

Izabela Wójcik

Signed:

Izabela Wójcik
Reporting Specialist
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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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.

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Analytical Report Number: 23-20611

Your Order No: B10124687

Lab Sample Number				2603133	2603134	2603135	2603136	2603137
Sample Reference				AND 1	AND 2	AND 3	AND 4	AND 5
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				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH (L005B)	pH Units	N/A	ISO 17025	7.6	7.8	7.7	7.4	7.7
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	440	510	510	590	500
Total Phosphate as P	µg/l	20	ISO 17025	< 20	< 20	34	410	64
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	< 15	20	70	2400	130
Nitrate as N	mg/l	0.01	ISO 17025	7.96	8.49	7.52	6.94	9.55
Nitrite as N	µg/l	1	ISO 17025	< 1.0	2.6	29	150	40
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	8	8.5	7.6	7.1	9.6
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	3	3	3	4	< 2.0
Heavy Metals / Metalloids								
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004	< 0.004	0.006	0.013	< 0.004
Magnesium (dissolved)	mg/l	0.005	ISO 17026	1.7	1.8	1.9	2.1	2
Potassium (dissolved)	mg/l	0.025	ISO 17027	0.89	0.88	1.2	2	1.4
Zinc (dissolved)	µg/l	0.4	ISO 17028	3.8	6.7	3.2	6.9	11
Iron (total)	mg/l	0.004	ISO 17025	0.004	0.005	0.023	0.015	< 0.004
Phosphorus (total)	µg/l	20	ISO 17025	< 20	35	50	440	77
Zinc (total)	µg/l	0.4	ISO 17025	8	17	7.2	7.7	55
Magnesium (total)	mg/l	0.005	ISO 17025	1.8	1.9	2	2.1	2
Potassium (total)	mg/l	0.025	ISO 17025	0.94	0.96	1.2	2	1.4

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 23-20611

Your Order No: B10124687

Lab Sample Number				2603138	2603139	2603140	2603141	2603142
Sample Reference				AND 6	AND 7	AND 8	AND 9	AND 10
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				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH (L005B)	pH Units	N/A	ISO 17025	7.6	8	7.5	8.1	7.9
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	450	450	440	430	450
Total Phosphate as P	µg/l	20	ISO 17025	< 20	25	23	< 20	36
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	< 15	21	< 15	17	< 15
Nitrate as N	mg/l	0.01	ISO 17025	7.85	7.16	7.38	6.7	7.42
Nitrite as N	µg/l	1	ISO 17025	< 1.0	12	< 1.0	5.3	< 1.0
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	7.9	7.2	7.4	6.7	7.4
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	< 2.0	5	2	< 2.0	< 2.0
Heavy Metals / Metalloids								
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004
Magnesium (dissolved)	mg/l	0.005	ISO 17026	1.7	1.8	1.7	1.6	1.7
Potassium (dissolved)	mg/l	0.025	ISO 17027	0.81	0.86	0.77	0.76	0.9
Zinc (dissolved)	µg/l	0.4	ISO 17028	4.9	2.2	6.2	7.7	7.4
Iron (total)	mg/l	0.004	ISO 17025	0.004	0.006	0.008	0.004	< 0.004
Phosphorus (total)	µg/l	20	ISO 17025	22	40	33	< 20	38
Zinc (total)	µg/l	0.4	ISO 17025	5.6	4.3	14	13	8.1
Magnesium (total)	mg/l	0.005	ISO 17025	1.7	1.8	1.7	1.8	1.8
Potassium (total)	mg/l	0.025	ISO 17025	0.9	0.92	1	0.81	1

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Analytical Report Number: 23-20611

Your Order No: B10124687

Lab Sample Number				2603143	2603144	2603145	2603146	2603147
Sample Reference				AND 11	ALR 1	ALR 2	ALR 3A	ALR 3B
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				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH (L005B)	pH Units	N/A	ISO 17025	7.8	7.5	7.8	7.4	7.7
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	450	490	510	560	530
Total Phosphate as P	µg/l	20	ISO 17025	31	22	< 20	< 20	< 20
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	< 15	< 15	21	22	< 15
Nitrate as N	mg/l	0.01	ISO 17025	7.28	7.5	6.23	8.42	7.83
Nitrite as N	µg/l	1	ISO 17025	1.3	< 1.0	5	< 1.0	< 1.0
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	7.3	7.5	6.2	8.4	7.8
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	< 2.0	< 2.0	2	< 2.0	< 2.0
Heavy Metals / Metalloids								
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004
Magnesium (dissolved)	mg/l	0.005	ISO 17026	1.7	2	2	2.4	2.1
Potassium (dissolved)	mg/l	0.025	ISO 17027	0.88	0.9	1.1	0.73	1.2
Zinc (dissolved)	µg/l	0.4	ISO 17028	3.4	4.7	5.1	2.9	2.2
Iron (total)	mg/l	0.004	ISO 17025	< 0.004	< 0.004	0.009	< 0.004	0.006
Phosphorus (total)	µg/l	20	ISO 17025	37	29	35	27	24
Zinc (total)	µg/l	0.4	ISO 17025	4.8	7.9	10	6	3.3
Magnesium (total)	mg/l	0.005	ISO 17025	1.7	2.1	2.1	2.5	2.1
Potassium (total)	mg/l	0.025	ISO 17025	1.1	1.1	1.1	0.81	1.2

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number : 23-20611
Project / Site name:

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-OES (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Electrical conductivity at 20oC of water	Determination of electrical conductivity in water by electrometric measurement. Accredited Matrices SW, GW, PW	In-house method	L031-PL	W	ISO 17025
Suspended solids in water	Determined gravimetrically with GFC filtration papers.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L004-PL	W	ISO 17025
Total oxidised nitrogen in water	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton & Polish Standard Method PN-82/C-04579.08	L078/82-PL	W	NONE
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Total Phosphate as P in water	Determination of ortho phosphate in water by addition of ammonium molybdate, potassium antimonyl tartrate and ascorbic acid followed by colorimetry.Accredited matrices: SW, PW, GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton, analysis by discreet analyser.	L082-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' 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.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Sample Deviation Report

Analytical Report Number : 23-20611
Project / Site name:

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
ALR 1	None Supplied	W	2603144	a	None Supplied	None Supplied	None Supplied
ALR 2	None Supplied	W	2603145	a	None Supplied	None Supplied	None Supplied
ALR 3A	None Supplied	W	2603146	a	None Supplied	None Supplied	None Supplied
ALR 3B	None Supplied	W	2603147	a	None Supplied	None Supplied	None Supplied
AND 1	None Supplied	W	2603133	a	None Supplied	None Supplied	None Supplied
AND 10	None Supplied	W	2603142	a	None Supplied	None Supplied	None Supplied
AND 11	None Supplied	W	2603143	a	None Supplied	None Supplied	None Supplied
AND 2	None Supplied	W	2603134	a	None Supplied	None Supplied	None Supplied
AND 3	None Supplied	W	2603135	a	None Supplied	None Supplied	None Supplied
AND 4	None Supplied	W	2603136	a	None Supplied	None Supplied	None Supplied
AND 5	None Supplied	W	2603137	a	None Supplied	None Supplied	None Supplied
AND 6	None Supplied	W	2603138	a	None Supplied	None Supplied	None Supplied
AND 7	None Supplied	W	2603139	a	None Supplied	None Supplied	None Supplied
AND 8	None Supplied	W	2603140	a	None Supplied	None Supplied	None Supplied
AND 9	None Supplied	W	2603141	a	None Supplied	None Supplied	None Supplied

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Analytical Report Number : 23-25993

Project / Site name:		**Samples received on:**	31/03/2023
Your job number:		**Samples instructed on/ Analysis started on:**	31/03/2023
Your order number:	B10125818	**Analysis completed by:**	12/04/2023
Report Issue Number:	1	**Report issued on:**	13/04/2023
Samples Analysed:	15 water samples		

Signed:

Dominika Warjan
Junior Reporting Specialist
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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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.

UKAS TESTING
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Analytical i2 Environmental Science

Analytical Report Number: 23-25993

Your Order No: B10125818

Lab Sample Number				2635471	2635472	2635473	2635474	2635475
Sample Reference				AND 1	AND 2	AND 3	AND 4	AND 5
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				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH (L005B)	pH Units	N/A	ISO 17025	7.4	7.7	7.6	7.4	7.7
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	530	550	490	540	520
Total Phosphate as P	µg/l	20	ISO 17025	< 20	31	49	59	85
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	< 15	23	87	140	180
Nitrate as N	mg/l	0.01	ISO 17025	9.04	8.48	8.05	7.43	10.4
Nitrite as N	µg/l	1	ISO 17025	< 1.0	9.8	54	21	45
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	9	8.5	8.1	7.5	10
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	< 2.0	3	2	< 2.0	< 2.0
Heavy Metals / Metalloids								
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004	0.005	0.006	0.009	0.004
Magnesium (dissolved)	mg/l	0.005	ISO 17025	1.8	1.9	1.9	1.9	2
Potassium (dissolved)	mg/l	0.025	ISO 17025	0.55	0.8	1.3	0.69	1.1
Zinc (dissolved)	µg/l	0.4	ISO 17025	7.2	7.5	9.1	10	9.3
Iron (total)	mg/l	0.004	ISO 17025	0.006	0.027	0.025	0.009	0.019
Phosphorus (total)	µg/l	20	ISO 17025	< 20	51	68	72	120
Zinc (total)	µg/l	0.4	ISO 17025	40	16	40	23	19
Magnesium (total)	mg/l	0.005	ISO 17025	1.9	2	2	2.8	2.1
Potassium (total)	mg/l	0.025	ISO 17025	0.78	0.99	1.4	0.84	1.2

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 23-25993

Your Order No: B10125818

Lab Sample Number				2635476	2635477	2635478	2635479	2635480
Sample Reference				AND 6	AND 7	AND 8	AND 9	AND 10
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				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH (L005B)	pH Units	N/A	ISO 17025	7.5	8.1	7.7	7.9	7.8
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	460	420	450	450	460
Total Phosphate as P	µg/l	20	ISO 17025	< 20	< 20	25	24	33
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	< 15	< 15	< 15	< 15	< 15
Nitrate as N	mg/l	0.01	ISO 17025	7.72	6.42	7.32	6.31	7.27
Nitrite as N	µg/l	1	ISO 17025	< 1.0	91	< 1.0	12	1.5
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	7.7	6.5	7.3	6.3	7.3
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Heavy Metals / Metalloids								
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004	0.006	< 0.004	0.005	0.004
Magnesium (dissolved)	mg/l	0.005	ISO 17025	1.6	1.6	1.6	1.6	1.6
Potassium (dissolved)	mg/l	0.025	ISO 17025	0.68	0.7	0.6	0.47	0.68
Zinc (dissolved)	µg/l	0.4	ISO 17025	4.9	16	5.5	4	3.7
Iron (total)	mg/l	0.004	ISO 17025	0.006	0.007	0.007	0.011	0.024
Phosphorus (total)	µg/l	20	ISO 17025	30	29	40	38	45
Zinc (total)	µg/l	0.4	ISO 17025	18	20	29	21	35
Magnesium (total)	mg/l	0.005	ISO 17025	1.7	1.7	1.7	1.7	1.7
Potassium (total)	mg/l	0.025	ISO 17025	0.86	0.71	0.84	0.54	0.85

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 23-25993

Your Order No: B10125818

Lab Sample Number				2635481	2635482	2635483	2635484	2635485
Sample Reference				AND 11	ALR 1	ALR 2	ALR 3A	ALR 3B
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				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH (L005B)	pH Units	N/A	ISO 17025	7.6	7.5	7.4	7.4	7.7
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	460	500	510	510	560
Total Phosphate as P	µg/l	20	ISO 17025	31	23	22	< 20	< 20
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	< 15	< 15	15	< 15	< 15
Nitrate as N	mg/l	0.01	ISO 17025	6.99	7.37	7.26	8.42	7.93
Nitrite as N	µg/l	1	ISO 17025	< 1.0	< 1.0	2.8	< 1.0	< 1.0
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	7	7.4	7.3	8.4	7.9
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Heavy Metals / Metalloids								
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004	< 0.004	0.007	0.005	0.006
Magnesium (dissolved)	mg/l	0.005	ISO 17025	1.6	2	2.1	2.2	2
Potassium (dissolved)	mg/l	0.025	ISO 17025	0.81	0.85	0.9	0.53	0.78
Zinc (dissolved)	µg/l	0.4	ISO 17025	5.2	23	9.3	12	1.9
Iron (total)	mg/l	0.004	ISO 17025	0.012	0.006	0.01	0.004	0.007
Phosphorus (total)	µg/l	20	ISO 17025	42	32	39	< 20	< 20
Zinc (total)	µg/l	0.4	ISO 17025	17	8	17	13	5
Magnesium (total)	mg/l	0.005	ISO 17025	1.7	2.1	2.2	2.3	2.2
Potassium (total)	mg/l	0.025	ISO 17025	0.92	0.89	1.1	0.62	0.79

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number : 23-25993
Project / Site name:

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-OES (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Electrical conductivity at 20oC of water	Determination of electrical conductivity in water by electrometric measurement. Accredited Matrices SW, GW, PW	In-house method	L031-PL	W	ISO 17025
Suspended solids in water	Determined gravimetrically with GFC filtration papers.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L004-PL	W	ISO 17025
Total oxidised nitrogen in water	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton & Polish Standard Method PN-82/C-04579.08	L078/82-PL	W	NONE
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method. Accredited matrices SW, GW, PW, FSE, LL.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Total Phosphate as P in water	Determination of ortho phosphate in water by addition of ammonium molybdate, potassium antimonyl tartrate and ascorbic acid followed by colorimetry.Accredited matrices: SW, PW, GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton, analysis by discreet analyser.	L082-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' 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
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Sample Deviation Report

Analytical Report Number : 23-25993

Project / Site name:

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
ALR 1	None Supplied	W	2635482	a	None Supplied	None Supplied	None Supplied
ALR 2	None Supplied	W	2635483	a	None Supplied	None Supplied	None Supplied
ALR 3A	None Supplied	W	2635484	a	None Supplied	None Supplied	None Supplied
ALR 3B	None Supplied	W	2635485	a	None Supplied	None Supplied	None Supplied
AND 1	None Supplied	W	2635471	a	None Supplied	None Supplied	None Supplied
AND 10	None Supplied	W	2635480	a	None Supplied	None Supplied	None Supplied
AND 11	None Supplied	W	2635481	a	None Supplied	None Supplied	None Supplied
AND 2	None Supplied	W	2635472	a	None Supplied	None Supplied	None Supplied
AND 3	None Supplied	W	2635473	a	None Supplied	None Supplied	None Supplied
AND 4	None Supplied	W	2635474	a	None Supplied	None Supplied	None Supplied
AND 5	None Supplied	W	2635475	a	None Supplied	None Supplied	None Supplied
AND 6	None Supplied	W	2635476	a	None Supplied	None Supplied	None Supplied
AND 7	None Supplied	W	2635477	a	None Supplied	None Supplied	None Supplied
AND 8	None Supplied	W	2635478	a	None Supplied	None Supplied	None Supplied
AND 9	None Supplied	W	2635479	a	None Supplied	None Supplied	None Supplied

UKAS TESTING
4041

Analytical i2 Environmental Science

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Analytical Report Number : 23-32283

Project / Site name:		**Samples received on:**	05/05/2023
Your job number:		**Samples instructed on/ Analysis started on:**	05/05/2023
Your order number:	B10126987	**Analysis completed by:**	16/05/2023
Report Issue Number:	1	**Report issued on:**	16/05/2023
Samples Analysed:	15 water samples		

Signed:

Anna Goc
Junior Reporting Specialist
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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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.

Analytical Report Number: 23-32283

Your Order No: B10126987

Lab Sample Number				2670593	2670594	2670595	2670596	2670597
Sample Reference				AA1	AA2	AA3	AA4	AA5
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				03/05/2023	03/05/2023	03/05/2023	03/05/2023	03/05/2023
Time Taken				None Supplied	None Supplied	0900	0900	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH (L005B)	pH Units	N/A	ISO 17025	I/S	7.7	7.6	7.7	7.6
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	I/S	460	470	540	520
Phosphate as P	µg/l	20	ISO 17025	I/S	< 20	47	77	70
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	37	< 15	150	I/S	98
Nitrate as N	mg/l	0.01	ISO 17025	I/S	7.85	6.97	7.62	10.8
Nitrite as N	µg/l	1	ISO 17025	I/S	7.2	58	28	50
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	I/S	7.9	7	7.7	11
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	I/S	5	10	I/S	< 2.0
Free Chlorine	mg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Heavy Metals / Metalloids								
Iron (dissolved)	mg/l	0.004	ISO 17025	I/S	< 0.004	< 0.004	I/S	0.004
Magnesium (dissolved)	mg/l	0.005	ISO 17025	I/S	2	2.1	I/S	2.2
Potassium (dissolved)	mg/l	0.025	ISO 17025	I/S	1.2	3.3	I/S	1.5
Zinc (dissolved)	µg/l	0.4	ISO 17025	I/S	5.6	6.3	I/S	5.3
Iron (total)	mg/l	0.004	ISO 17025	I/S	0.04	0.087	0.059	0.018
Phosphorus (total)	µg/l	20	ISO 17025	I/S	870	950	960	970
Zinc (total)	µg/l	0.4	ISO 17025	I/S	11	14	87	48
Magnesium (total)	mg/l	0.005	ISO 17025	I/S	2.1	2.1	2.3	2.3
Potassium (total)	mg/l	0.025	ISO 17025	I/S	1.2	3.3	1.6	1.7

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

Analytical Report Number: 23-32283

Your Order No: B10126987

Lab Sample Number				2670598	2670599	2670600	2670601	2670602
Sample Reference				SMB 2	SMB 3	SMB 4	SMB 5	SMB 6
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				03/05/2023	03/05/2023	03/05/2023	03/05/2023	03/05/2023
Time Taken				0800	0800	0800	0800	0800
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH (L005B)	pH Units	N/A	ISO 17025	8	7.5	7.9	7.7	8
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	400	450	460	490	470
Phosphate as P	µg/l	20	ISO 17025	< 20	< 20	110	22	I/S
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	19	< 15	90	< 15	I/S
Nitrate as N	mg/l	0.01	ISO 17025	5.42	6.95	5.79	6.55	6.56
Nitrite as N	µg/l	1	ISO 17025	130	< 1.0	27	4	6.4
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	5.5	6.9	5.8	6.6	6.6
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	< 2.0	< 2.0	22	5	I/S
Free Chlorine	mg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Heavy Metals / Metalloids								
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004	< 0.004	< 0.004	< 0.004	I/S
Magnesium (dissolved)	mg/l	0.005	ISO 17025	1.8	1.7	2.1	1.8	I/S
Potassium (dissolved)	mg/l	0.025	ISO 17025	0.66	1	3.2	1.1	I/S
Zinc (dissolved)	µg/l	0.4	ISO 17025	2.1	4.3	3.3	3.1	I/S
Iron (total)	mg/l	0.004	ISO 17025	0.012	0.022	0.014	0.014	I/S
Phosphorus (total)	µg/l	20	ISO 17025	690	730	1100	960	I/S
Zinc (total)	µg/l	0.4	ISO 17025	9	19	14	7.3	I/S
Magnesium (total)	mg/l	0.005	ISO 17025	1.9	1.8	2.3	1.8	I/S
Potassium (total)	mg/l	0.025	ISO 17025	0.99	1.1	3.6	1.2	I/S

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

Analytical Report Number: 23-32283

Your Order No: B10126987

Lab Sample Number				2670603	2670604	2670605	2670606	2670607
Sample Reference				SMB 7	P1	P2	W2A	W2B
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				03/05/2023	03/05/2023	03/05/2023	03/05/2023	03/05/2023
Time Taken				0800	0930	0930	1030	1030
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH (L005B)	pH Units	N/A	ISO 17025	I/S	7.6	7.7	7.3	I/S
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	I/S	510	490	500	I/S
Phosphate as P	µg/l	20	ISO 17025	I/S	20	< 20	< 20	I/S
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	< 15	I/S	75	< 15	< 15
Nitrate as N	mg/l	0.01	ISO 17025	I/S	7.19	6.37	6.3	I/S
Nitrite as N	µg/l	1	ISO 17025	I/S	< 1.0	19	< 1.0	I/S
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	I/S	7.2	6.4	6.3	I/S
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	I/S	I/S	13	< 2.0	I/S
Free Chlorine	mg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Heavy Metals / Metalloids								
Iron (dissolved)	mg/l	0.004	ISO 17025	I/S	< 0.004	< 0.004	0.005	I/S
Magnesium (dissolved)	mg/l	0.005	ISO 17025	I/S	2.1	2.1	2.1	I/S
Potassium (dissolved)	mg/l	0.025	ISO 17025	I/S	1.4	0.91	0.85	I/S
Zinc (dissolved)	µg/l	0.4	ISO 17025	I/S	7.5	3.4	4.6	I/S
Iron (total)	mg/l	0.004	ISO 17025	I/S	0.022	0.023	0.006	I/S
Phosphorus (total)	µg/l	20	ISO 17025	I/S	930	920	750	I/S
Zinc (total)	µg/l	0.4	ISO 17025	I/S	90	18	6.3	I/S
Magnesium (total)	mg/l	0.005	ISO 17025	I/S	2.2	2.2	2.2	I/S
Potassium (total)	mg/l	0.025	ISO 17025	I/S	1.4	1	0.86	I/S

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

Analytical Report Number : 23-32283
Project / Site name:

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in water by ICP-OES (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Electrical conductivity at 20oC of water	Determination of electrical conductivity in water by electrometric measurement. Accredited Matrices SW, GW, PW	In-house method	L031-PL	W	ISO 17025
Suspended solids in water	Determined gravimetrically with GFC filtration papers.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L004-PL	W	ISO 17025
Total oxidised nitrogen in water	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton & Polish Standard Method PN-82/C-04579.08	L078/82-PL	W	NONE
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method. Accredited matrices SW, GW, PW, FSE, LL.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Total Phosphate as P in water	Determination of ortho phosphate in water by addition of ammonium molybdate, potassium antimonyl tartrate and ascorbic acid followed by colorimetry.Accredited matrices: SW, PW, GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton, analysis by discreet analyser.	L082-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
Chlorine, Free in Water	Determination of Free chlorine in water.	In house colorimetric method		W	NONE

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' 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.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

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Analytical Report Number : 23-36943

Project / Site name:		**Samples received on:**	02/06/2023
Your job number:		**Samples instructed on/ Analysis started on:**	02/06/2023
Your order number:	B10128862	**Analysis completed by:**	08/06/2023
Report Issue Number:	1	**Report issued on:**	13/06/2023
Samples Analysed:	9 water samples		

Signed:

Elżbieta Suchy
Junior Reporting Specialist
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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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.

Analytical Report Number: 23-36943

Your Order No: B10128862

Lab Sample Number				2698385	2698386	2698387	2698388	2698389
Sample Reference				AA1	AA2	AA3	AA4	AA5
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				01/06/2023	01/06/2023	01/06/2023	01/06/2023	01/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH (L005B)	pH Units	N/A	ISO 17025	7.6	8	7.9	7.6	7.7
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	520	510	510	560	560
Total Phosphate as P	µg/l	20	ISO 17025	< 20	110	160	72	37
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	< 15	100	200	75	47
Nitrate as N	mg/l	0.01	ISO 17025	9.49	8.12	7.67	7.85	10.9
Nitrite as N	µg/l	1	ISO 17025	< 1.0	49	77	24	18
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	9.5	8.2	7.7	7.9	11
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	< 2.0	9	< 2.0	2	12
Heavy Metals / Metalloids								
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004	< 0.004	0.01	0.005	0.005
Magnesium (dissolved)	mg/l	0.005	ISO 17025	1.9	1.9	2	1.9	2
Potassium (dissolved)	mg/l	0.025	ISO 17025	0.88	1.6	1.8	0.84	1.3
Zinc (dissolved)	µg/l	0.4	ISO 17025	2.5	2.1	2.6	4.9	4.4
Iron (total)	mg/l	0.004	ISO 17025	0.007	0.026	0.073	0.019	0.01
Phosphorus (total)	µg/l	20	ISO 17025	23	150	210	110	65
Zinc (total)	µg/l	0.4	ISO 17025	2.8	4.8	5.2	8.6	6.8
Magnesium (total)	mg/l	0.005	ISO 17025	2	2	2	2	2.1
Potassium (total)	mg/l	0.025	ISO 17025	0.9	1.6	1.9	0.86	1.4

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

UKAS TESTING
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Analytical i2 Environmental Science

Analytical Report Number: 23-36943

Your Order No: B10128862

Lab Sample Number				2698390	2698391	2698392	2698393
Sample Reference				P1	P2	W3A	W3B
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				01/06/2023	01/06/2023	01/06/2023	01/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
General Inorganics							
pH (L005B)	pH Units	N/A	ISO 17025	7.7	7.4	7.5	7.6
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	540	550	530	560
Total Phosphate as P	µg/l	20	ISO 17025	< 20	< 20	< 20	< 20
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	< 15	19	56	35
Nitrate as N	mg/l	0.01	ISO 17025	7.73	7.17	6.24	6.75
Nitrite as N	µg/l	1	ISO 17025	< 1.0	3.3	< 1.0	4.3
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	7.7	7.2	6.2	6.8
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	< 2.0	< 2.0	< 2.0	< 2.0
Heavy Metals / Metalloids							
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004	0.005	< 0.004	< 0.004
Magnesium (dissolved)	mg/l	0.005	ISO 17025	2	2	2.1	2.1
Potassium (dissolved)	mg/l	0.025	ISO 17025	0.94	1	0.8	0.97
Zinc (dissolved)	µg/l	0.4	ISO 17025	2.8	2.4	3.2	2.7
Iron (total)	mg/l	0.004	ISO 17025	0.006	0.007	0.006	0.008
Phosphorus (total)	µg/l	20	ISO 17025	42	27	48	25
Zinc (total)	µg/l	0.4	ISO 17025	5.4	3.6	4	6.5
Magnesium (total)	mg/l	0.005	ISO 17025	2.1	2	2.2	2.2
Potassium (total)	mg/l	0.025	ISO 17025	0.99	1.1	0.83	1

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 23-36943
Project / Site name:

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-OES (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Electrical conductivity at 20oC of water	Determination of electrical conductivity in water by electrometric measurement. Accredited Matrices SW, GW, PW	In-house method	L031-PL	W	ISO 17025
Suspended solids in water	Determined gravimetrically with GFC filtration papers.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L004-PL	W	ISO 17025
Total oxidised nitrogen in water	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton & Polish Standard Method PN-82/C-04579.08	L078/82-PL	W	NONE
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method. Accredited matrices SW, GW, PW, FSE, LL.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Total Phosphate as P in water	Determination of ortho phosphate in water by addition of ammonium molybdate, potassium antimonyl tartrate and ascorbic acid followed by colorimetry.Accredited matrices: SW, PW, GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton, analysis by discreet analyser.	L082-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' 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.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

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Analytical Report Number : 23-36929

Project / Site name:		**Samples received on:**	02/06/2023
Your job number:		**Samples instructed on/ Analysis started on:**	02/06/2023
Your order number:	B10128862	**Analysis completed by:**	09/06/2023
Report Issue Number:	1	**Report issued on:**	13/06/2023
Samples Analysed:	11 water samples		

Signed:

Joanna Wawrzeczko
Reporting Specialist
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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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.

Analytical Report Number: 23-36929

Lab Sample Number				2698244	2698245	2698246	2698247	2698248
Sample Reference				SMB1	SMB2	SMB3	SMB4	SMB5
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				01/06/2023	01/06/2023	01/06/2023	01/06/2023	01/06/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	0900
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH (L005B)	pH Units	N/A	ISO 17025	7.6	7.8	7.6	7.9	7.9
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	480	480	490	470	500
Total Phosphate as P	µg/l	20	ISO 17025	< 20	< 20	< 20	< 20	< 20
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	17	38	18	29	23
Nitrate as N	mg/l	0.01	ISO 17025	7.61	5.18	6.86	5.01	6.44
Nitrite as N	µg/l	1	ISO 17025	< 1.0	20	< 1.0	10	9.4
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	7.6	5.2	6.9	5	6.5
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	6	4	2	3	< 2.0
Free Chlorine	mg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Heavy Metals / Metalloids								
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004	0.004	< 0.004	< 0.004	0.005
Magnesium (dissolved)	mg/l	0.005	ISO 17025	1.7	1.7	1.6	1.7	1.6
Potassium (dissolved)	mg/l	0.025	ISO 17025	1.5	0.6	1.2	0.76	1.1
Zinc (dissolved)	µg/l	0.4	ISO 17025	3.3	1.7	3.1	1.8	4.7
Iron (total)	mg/l	0.004	ISO 17025	0.015	0.021	0.01	0.011	0.021
Phosphorus (total)	µg/l	20	ISO 17025	360	400	350	440	380
Zinc (total)	µg/l	0.4	ISO 17025	14	4.6	7.7	5.1	13
Magnesium (total)	mg/l	0.005	ISO 17025	1.8	1.8	1.7	1.7	1.7
Potassium (total)	mg/l	0.025	ISO 17025	2.3	0.83	1.6	0.78	1.2

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 23-36929

Lab Sample Number				2698249	2698250	2698251	2698252	2698253
Sample Reference				SMB6	SMB7	SMB8	SMB9	SMB10
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				01/06/2023	01/06/2023	31/05/2023	31/05/2023	31/05/2023
Time Taken				0900	0900	1600	1600	1600
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH (L005B)	pH Units	N/A	ISO 17025	7.8	7.9	7.8	7.9	7.9
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	490	500	500	450	450
Total Phosphate as P	µg/l	20	ISO 17025	160	510	< 20	< 20	< 20
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	140	520	44	38	33
Nitrate as N	mg/l	0.01	ISO 17025	6.85	8.92	6.53	6.73	5.93
Nitrite as N	µg/l	1	ISO 17025	12	28	51	21	15
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	6.9	9	6.6	6.8	5.9
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	13	7	4	11	10
Free Chlorine	mg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Heavy Metals / Metalloids								
Iron (dissolved)	mg/l	0.004	ISO 17025	0.005	< 0.004	< 0.004	< 0.004	< 0.004
Magnesium (dissolved)	mg/l	0.005	ISO 17025	1.7	2.1	1.8	1.7	1.6
Potassium (dissolved)	mg/l	0.025	ISO 17025	2.2	6.6	2	0.82	1.2
Zinc (dissolved)	µg/l	0.4	ISO 17025	1.9	5.2	1.7	2.2	2.3
Iron (total)	mg/l	0.004	ISO 17025	0.01	0.015	0.013	0.013	0.013
Phosphorus (total)	µg/l	20	ISO 17025	520	930	440	370	59
Zinc (total)	µg/l	0.4	ISO 17025	6	5.3	5.6	6.4	4.7
Magnesium (total)	mg/l	0.005	ISO 17025	1.8	2.2	1.8	1.7	1.7
Potassium (total)	mg/l	0.025	ISO 17025	2.4	6.8	2.1	0.93	1.2

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 23-36929

Lab Sample Number				2698254
Sample Reference				SMB11
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				31/05/2023
Time Taken				1600
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
General Inorganics				
pH (L005B)	pH Units	N/A	ISO 17025	8.1
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	480
Total Phosphate as P	µg/l	20	ISO 17025	45
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	29
Nitrate as N	mg/l	0.01	ISO 17025	6.77
Nitrite as N	µg/l	1	ISO 17025	4.1
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	6.8
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	9
Free Chlorine	mg/l	0.05	NONE	< 0.05
Heavy Metals / Metalloids				
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004
Magnesium (dissolved)	mg/l	0.005	ISO 17025	1.7
Potassium (dissolved)	mg/l	0.025	ISO 17025	1.4
Zinc (dissolved)	µg/l	0.4	ISO 17025	3.1
Iron (total)	mg/l	0.004	ISO 17025	0.029
Phosphorus (total)	µg/l	20	ISO 17025	120
Zinc (total)	µg/l	0.4	ISO 17025	6.3
Magnesium (total)	mg/l	0.005	ISO 17025	1.8
Potassium (total)	mg/l	0.025	ISO 17025	1.6

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 23-36929
Project / Site name:

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-OES (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Electrical conductivity at 20oC of water	Determination of electrical conductivity in water by electrometric measurement. Accredited Matrices SW, GW, PW	In-house method	L031-PL	W	ISO 17025
Suspended solids in water	Determined gravimetrically with GFC filtration papers.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L004-PL	W	ISO 17025
Total oxidised nitrogen in water	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton & Polish Standard Method PN-82/C-04579.08	L078/82-PL	W	NONE
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method. Accredited matrices SW, GW, PW, FSE, LL.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Total Phosphate as P in water	Determination of ortho phosphate in water by addition of ammonium molybdate, potassium antimonyl tartrate and ascorbic acid followed by colorimetry.Accredited matrices: SW, PW, GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton, analysis by discreet analyser.	L082-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
Chlorine, Free in Water	Determination of Free chlorine in water.	In house colorimetric method		W	NONE

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' 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.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

4041

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Analytical Report Number : 23-43274

Project / Site name:		**Samples received on:**	06/07/2023
Your job number:		**Samples instructed on/ Analysis started on:**	06/07/2023
Your order number:	B10130292	**Analysis completed by:**	12/07/2023
Report Issue Number:	1	**Report issued on:**	13/07/2023
Samples Analysed:	4 water samples		

Signed: Izabela Wójcik

Izabela Wójcik
Reporting Specialist
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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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.

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Analytical Report Number: 23-43274

Your Order No: B10130292

Lab Sample Number				2737646	2737647	2737648	2737649
Sample Reference				W1A	W1B	P1	P2
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				05/07/2023	05/07/2023	05/07/2023	05/07/2023
Time Taken				0900	0900	0900	0900
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
General Inorganics							
pH (L099)	pH Units	N/A	ISO 17025	7.3	7.8	7.4	7.6
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	560	550	550	530
Total Phosphate as P	µg/l	20	ISO 17025	< 20	< 20	< 20	< 20
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	19	27	19	41
Nitrate as N	mg/l	0.01	ISO 17025	7.48	7.26	7.23	6.71
Nitrite as N	µg/l	1	ISO 17025	< 1.0	5.2	2.2	13
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	7.5	7.3	7.2	6.7
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	6	4	4	7
Free Chlorine	mg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Heavy Metals / Metalloids							
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004	< 0.004	< 0.004	< 0.004
Magnesium (dissolved)	mg/l	0.005	ISO 17025	2	2	1.9	1.9
Potassium (dissolved)	mg/l	0.025	ISO 17025	0.59	0.85	1	0.79
Zinc (dissolved)	µg/l	0.4	ISO 17025	5.4	2.4	2.8	11
Iron (total)	mg/l	0.004	ISO 17025	0.004	0.009	< 0.004	0.011
Phosphorus (total)	µg/l	20	ISO 17025	28	< 20	39	27
Zinc (total)	µg/l	0.4	ISO 17025	8.2	9.4	10	15
Magnesium (total)	mg/l	0.005	ISO 17025	2	2	2	2
Potassium (total)	mg/l	0.025	ISO 17025	0.71	0.93	1	0.79

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number : 23-43274
Project / Site name:

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-OES (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Electrical conductivity at 20oC of water	Determination of electrical conductivity in water by electrometric measurement. Accredited Matrices SW, GW, PW	In-house method	L031-PL	W	ISO 17025
Suspended solids in water	Determined gravimetrically with GFC filtration papers.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L004-PL	W	ISO 17025
Total oxidised nitrogen in water	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton & Polish Standard Method PN-82/C-04579.08	L078/82-PL	W	NONE
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method. Accredited matrices SW, GW, PW, FSE, LL.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Total Phosphate as P in water	Determination of ortho phosphate in water by addition of ammonium molybdate, potassium antimonyl tartrate and ascorbic acid followed by colorimetry.Accredited matrices: SW, PW, GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton, analysis by discreet analyser.	L082-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
Chlorine, Free in Water	Determination of Free chlorine in water.	In house colorimetric method		W	NONE

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' 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.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

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Analytical Report Number : 23-43270

Project / Site name:		**Samples received on:**	06/07/2023
Your job number:		**Samples instructed on/ Analysis started on:**	06/07/2023
Your order number:	B10130292	**Analysis completed by:**	20/07/2023
Report Issue Number:	1	**Report issued on:**	20/07/2023
Samples Analysed:	12 water samples		

Izabela Wójcik

Signed:

Izabela Wójcik
Reporting Specialist
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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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.

UKAS TESTING
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Analytical i2 Environmental Science

Analytical Report Number: 23-43270

Your Order No: B10130292

Lab Sample Number				2737631	2737632	2737633	2737634	2737635
Sample Reference				SMB1	SMB2	SMB3	SMB4	SMB5
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				05/07/2023	05/07/2023	05/07/2023	05/07/2023	05/07/2023
Time Taken				0900	0900	0900	0900	0900
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH (L099)	pH Units	N/A	ISO 17025	7.4	8.6	7.5	8.6	7.8
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	460	360	450	340	460
Total Phosphate as P	µg/l	20	ISO 17025	< 20	28	23	55	29
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	16	36	23	48	28
Nitrate as N	mg/l	0.01	ISO 17025	7.76	5.32	6.45	4.51	6.28
Nitrite as N	µg/l	1	ISO 17025	< 1.0	26	< 1.0	32	12
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	7.8	5.3	6.4	4.5	6.3
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	< 2.0	< 2.0	3	19	< 2.0
Free Chlorine	mg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Heavy Metals / Metalloids								
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004	< 0.004	< 0.004	0.004	< 0.004
Magnesium (dissolved)	mg/l	0.005	ISO 17025	1.6	1.6	1.5	1.5	1.6
Potassium (dissolved)	mg/l	0.025	ISO 17025	0.76	0.38	0.77	0.58	0.86
Zinc (dissolved)	µg/l	0.4	ISO 17025	2.8	5.3	1.7	1.7	7.8
Iron (total)	mg/l	0.004	ISO 17025	0.007	0.006	< 0.004	0.01	< 0.004
Phosphorus (total)	µg/l	20	ISO 17025	35	44	37	88	45
Zinc (total)	µg/l	0.4	ISO 17025	11	14	4.9	10	8.1
Magnesium (total)	mg/l	0.005	ISO 17025	1.6	1.6	1.9	1.6	1.7
Potassium (total)	mg/l	0.025	ISO 17025	0.77	0.43	0.98	0.68	0.91

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

UKAS TESTING
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Analytical i2 Environmental Science

Analytical Report Number: 23-43270

Your Order No: B10130292

Lab Sample Number				2737636	2737637	2737638	2737639	2737640
Sample Reference				SMB6	SMB7	AA1	AA2	AA3
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				05/07/2023	05/07/2023	05/07/2023	05/07/2023	05/07/2023
Time Taken				0900	0900	0900	0900	0900
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH (L099)	pH Units	N/A	ISO 17025	7.8	7.6	7.4	7.7	7.8
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	450	480	490	520	530
Total Phosphate as P	µg/l	20	ISO 17025	37	< 20	< 20	92	110
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	25	31	20	44	120
Nitrate as N	mg/l	0.01	ISO 17025	6.02	5.1	7.22	7.15	6.83
Nitrite as N	µg/l	1	ISO 17025	18	44	< 1.0	36	73
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	6	5.1	7.2	7.2	6.9
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	3	11	4	9	11
Free Chlorine	mg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Heavy Metals / Metalloids								
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004	0.005	< 0.004	0.022	0.018
Magnesium (dissolved)	mg/l	0.005	ISO 17025	1.6	1.6	1.7	1.9	1.8
Potassium (dissolved)	mg/l	0.025	ISO 17025	0.92	1.3	0.7	1.3	1.5
Zinc (dissolved)	µg/l	0.4	ISO 17025	7.9	79	3.9	8.5	6.5
Iron (total)	mg/l	0.004	ISO 17025	0.007	0.009	< 0.004	0.031	0.07
Phosphorus (total)	µg/l	20	ISO 17025	57	44	< 20	120	140
Zinc (total)	µg/l	0.4	ISO 17025	10	87	5.9	33	17
Magnesium (total)	mg/l	0.005	ISO 17025	1.6	1.7	1.8	2	1.8
Potassium (total)	mg/l	0.025	ISO 17025	1.1	1.4	0.83	1.4	1.6

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

UKAS TESTING
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Analytical i2 Environmental Science

Analytical Report Number: 23-43270

Your Order No: B10130292

Lab Sample Number				2737641	2737642
Sample Reference				AA4	AA5
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				05/07/2023	05/07/2023
Time Taken				0900	0900
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
General Inorganics					
pH (L099)	pH Units	N/A	ISO 17025	7.2	7.6
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	590	560
Total Phosphate as P	µg/l	20	ISO 17025	88	43
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	34	30
Nitrate as N	mg/l	0.01	ISO 17025	6.38	9.15
Nitrite as N	µg/l	1	ISO 17025	21	11
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	6.4	9.2
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	28	5
Free Chlorine	mg/l	0.05	NONE	< 0.05	< 0.05
Heavy Metals / Metalloids					
Iron (dissolved)	mg/l	0.004	ISO 17025	0.01	< 0.004
Magnesium (dissolved)	mg/l	0.005	ISO 17025	1.9	2
Potassium (dissolved)	mg/l	0.025	ISO 17025	1.1	1.3
Zinc (dissolved)	µg/l	0.4	ISO 17025	6	3.9
Iron (total)	mg/l	0.004	ISO 17025	0.051	< 0.004
Phosphorus (total)	µg/l	20	ISO 17025	120	59
Zinc (total)	µg/l	0.4	ISO 17025	18	13
Magnesium (total)	mg/l	0.005	ISO 17025	2.3	2
Potassium (total)	mg/l	0.025	ISO 17025	1.4	1.6

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number : 23-43270
Project / Site name:

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-OES (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Electrical conductivity at 20oC of water	Determination of electrical conductivity in water by electrometric measurement. Accredited Matrices SW, GW, PW	In-house method	L031-PL	W	ISO 17025
Suspended solids in water	Determined gravimetrically with GFC filtration papers.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L004-PL	W	ISO 17025
Total oxidised nitrogen in water	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton & Polish Standard Method PN-82/C-04579.08	L078/82-PL	W	NONE
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method. Accredited matrices SW, GW, PW, FSE, LL.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Total Phosphate as P in water	Determination of ortho phosphate in water by addition of ammonium molybdate, potassium antimonyl tartrate and ascorbic acid followed by colorimetry.Accredited matrices: SW, PW, GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton, analysis by discreet analyser.	L082-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
Chlorine, Free in Water	Determination of Free chlorine in water.	In house colorimetric method		W	NONE

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' 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.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

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Analytical Report Number : 23-49043

Project / Site name:		**Samples received on:**	04/08/2023
Your job number:		**Samples instructed on/ Analysis started on:**	04/08/2023
Your order number:	BIO131479	**Analysis completed by:**	11/08/2023
Report Issue Number:	1	**Report issued on:**	15/08/2023
Samples Analysed:	16 water samples		

Signed:

Nicola Jupp
Senior Customer Service Advisor
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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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.

Analytical Report Number: 23-49043

Your Order No: BIO131479

Lab Sample Number				2770762	2770763	2770764	2770765	2770766
Sample Reference				SMB1	SMB2	SMB3	SMB4	SMB5
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				03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH (L099)	pH Units	N/A	ISO 17025	7.6	8.1	7.5	8.5	7.8
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	480	420	430	270	440
Total Phosphate as P	µg/l	20	ISO 17025	< 20	39	25	< 20	28
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	16	25	< 15	33	21
Nitrate as N	mg/l	0.01	ISO 17025	7.43	5.03	6.6	4.03	7.04
Nitrite as N	µg/l	1	ISO 17025	< 1.0	26	< 1.0	15	13
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	7.4	5.1	6.6	4	7.1
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	< 2.0	< 2.0	< 2.0	< 2.0	2
Heavy Metals / Metalloids								
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004
Magnesium (dissolved)	mg/l	0.005	ISO 17025	< 0.005	1.6	1.6	1.3	1.6
Potassium (dissolved)	mg/l	0.025	ISO 17025	0.36	0.37	0.74	0.38	0.65
Zinc (dissolved)	µg/l	0.4	ISO 17025	< 0.4	1.1	2.5	3.5	9.5
Iron (total)	mg/l	0.004	ISO 17025	0.009	0.006	0.005	0.004	< 0.004
Phosphorus (total)	µg/l	20	ISO 17025	< 20	35	25	< 20	25
Zinc (total)	µg/l	0.4	ISO 17025	3	2.9	5.8	5.8	79
Magnesium (total)	mg/l	0.005	ISO 17025	1.4	1.6	1.6	1.3	1.7
Potassium (total)	mg/l	0.025	ISO 17025	0.58	0.41	0.82	0.45	0.77

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 23-49043

Your Order No: BIO131479

Lab Sample Number				2770767	2770768	2770769	2770770	2770771
Sample Reference				SMB6	SMB7	AA1	AA2	AA3
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				03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH (L099)	pH Units	N/A	ISO 17025	8	7.7	7.7	8.1	7.5
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	400	420	420	410	420
Total Phosphate as P	µg/l	20	ISO 17025	67	49	< 20	41	320
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	48	45	38	43	390
Nitrate as N	mg/l	0.01	ISO 17025	5.45	5.37	6.83	4.88	2.8
Nitrite as N	µg/l	1	ISO 17025	28	59	290	34	3100
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	5.5	5.4	7.1	4.9	5.9
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	< 2.0	< 2.0	7	3	< 2.0
Heavy Metals / Metalloids								
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004	< 0.004	< 0.004	0.011	0.012
Magnesium (dissolved)	mg/l	0.005	ISO 17025	1.6	1.6	1.7	1.9	1.9
Potassium (dissolved)	mg/l	0.025	ISO 17025	0.55	0.62	0.62	0.17	1.8
Zinc (dissolved)	µg/l	0.4	ISO 17025	3.2	6	1.7	35	7.2
Iron (total)	mg/l	0.004	ISO 17025	< 0.004	0.008	0.012	0.03	0.1
Phosphorus (total)	µg/l	20	ISO 17025	80	44	< 20	40	340
Zinc (total)	µg/l	0.4	ISO 17025	13	110	2.4	47	15
Magnesium (total)	mg/l	0.005	ISO 17025	1.7	1.7	1.8	1.9	2
Potassium (total)	mg/l	0.025	ISO 17025	0.64	0.66	0.68	0.18	1.8

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 23-49043

Your Order No: BIO131479

Lab Sample Number				2770772	2770773	2770774	2770775	2770776
Sample Reference				AA4	AA5	P1	P2	W4A
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				03/08/2023	03/08/2023	03/08/2023	03/08/2023	03/08/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH (L099)	pH Units	N/A	ISO 17025	7.5	7.6	7.5	7.7	7.4
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	520	490	530	520	530
Total Phosphate as P	µg/l	20	ISO 17025	330	48	23	22	< 20
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	52	66	18	32	26
Nitrate as N	mg/l	0.01	ISO 17025	7.24	9.52	7.57	6.28	9.4
Nitrite as N	µg/l	1	ISO 17025	82	33	< 1.0	18	< 1.0
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	7.3	9.5	7.6	6.3	9.4
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	2	< 2.0	< 2.0	3	< 2.0
Heavy Metals / Metalloids								
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004	< 0.004	< 0.004	0.005	< 0.004
Magnesium (dissolved)	mg/l	0.005	ISO 17025	2	2	2	2	1.9
Potassium (dissolved)	mg/l	0.025	ISO 17025	1.5	1.2	0.88	0.68	0.76
Zinc (dissolved)	µg/l	0.4	ISO 17025	5.4	5.2	2.3	2.8	2.5
Iron (total)	mg/l	0.004	ISO 17025	0.022	< 0.004	0.008	0.011	< 0.004
Phosphorus (total)	µg/l	20	ISO 17025	340	58	21	25	< 20
Zinc (total)	µg/l	0.4	ISO 17025	37	32	3.8	33	5.3
Magnesium (total)	mg/l	0.005	ISO 17025	2.1	2	2	2	1.9
Potassium (total)	mg/l	0.025	ISO 17025	1.6	1.3	0.92	0.75	0.93

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical i2 Environmental Science

Analytical Report Number: 23-49043

Your Order No: BIO131479

Lab Sample Number	2770777
Sample Reference	W4B
Sample Number	None Supplied
Depth (m)	None Supplied
Date Sampled	03/08/2023
Time Taken	None Supplied

Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
General Inorganics				
pH (L099)	pH Units	N/A	ISO 17025	7.8
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	510
Total Phosphate as P	µg/l	20	ISO 17025	< 20
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	30
Nitrate as N	mg/l	0.01	ISO 17025	8.1
Nitrite as N	µg/l	1	ISO 17025	24
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	8.1
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	7
Heavy Metals / Metalloids				
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004
Magnesium (dissolved)	mg/l	0.005	ISO 17025	1.9
Potassium (dissolved)	mg/l	0.025	ISO 17025	0.92
Zinc (dissolved)	µg/l	0.4	ISO 17025	3.2
Iron (total)	mg/l	0.004	ISO 17025	0.019
Phosphorus (total)	µg/l	20	ISO 17025	< 20
Zinc (total)	µg/l	0.4	ISO 17025	9.6
Magnesium (total)	mg/l	0.005	ISO 17025	1.9
Potassium (total)	mg/l	0.025	ISO 17025	0.95

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

4041

Analytical Report Number : 23-49043
Project / Site name:

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-OES (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Electrical conductivity at 20oC of water	Determination of electrical conductivity in water by electrometric measurement. Accredited Matrices SW, GW, PW	In-house method	L031-PL	W	ISO 17025
Suspended solids in water	Determined gravimetrically with GFC filtration papers.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L004-PL	W	ISO 17025
Total oxidised nitrogen in water	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton & Polish Standard Method PN-82/C-04579.08	L078/82-PL	W	NONE
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method. Accredited matrices SW, GW, PW, FSE, LL.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Total Phosphate as P in water	Determination of ortho phosphate in water by addition of ammonium molybdate, potassium antimonyl tartrate and ascorbic acid followed by colorimetry.Accredited matrices: SW, PW, GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton, analysis by discreet analyser.	L082-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' 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.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

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Analytical Report Number : 23-56098

Project / Site name:		**Samples received on:**	13/09/2023
Your job number:		**Samples instructed on/ Analysis started on:**	13/09/2023
Your order number:	B10132898	**Analysis completed by:**	25/09/2023
Report Issue Number:	1	**Report issued on:**	25/09/2023
Samples Analysed:	16 water samples		

Izabela Wójcik
Signed:

Izabela Wójcik
Reporting Specialist
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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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.

Analytical Report Number: 23-56098

Your Order No: B10132898

Lab Sample Number				2809165	2809166	2809167	2809168	2809169
Sample Reference				SMB 1	SMB 2	SMB 3	SMB 4	SMB 5
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				12/09/2023	12/09/2023	12/09/2023	12/09/2023	12/09/2023
Time Taken				0900	0900	0900	0900	0900
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH (L099)	pH Units	N/A	ISO 17025	7.7	8.2	7.6	8	7.9
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	450	330	450	450	460
Total Phosphate as P	µg/l	20	ISO 17025	< 20	< 20	< 20	< 20	< 20
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	17	31	22	71	23
Nitrate as N	mg/l	0.01	ISO 17025	7.77	5.41	6.78	6.62	7.69
Nitrite as N	µg/l	1	ISO 17025	< 1.0	7.4	< 1.0	51	9.8
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	7.8	5.4	6.8	6.7	7.7
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Heavy Metals / Metalloids								
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004	< 0.004	< 0.004	< 0.004	0.005
Magnesium (dissolved)	mg/l	0.005	ISO 17025	1.7	1.6	1.6	1.6	1.7
Potassium (dissolved)	mg/l	0.025	ISO 17025	0.8	0.26	0.77	0.71	0.91
Zinc (dissolved)	µg/l	0.4	ISO 17025	1	1	1.1	2.5	1.3
Iron (total)	mg/l	0.004	ISO 17025	< 0.004	0.006	< 0.004	0.007	0.011
Phosphorus (total)	µg/l	20	ISO 17025	22	< 20	29	24	32
Zinc (total)	µg/l	0.4	ISO 17025	2.9	7.5	4.2	20	5.8
Magnesium (total)	mg/l	0.005	ISO 17025	1.8	1.6	1.7	1.7	1.8
Potassium (total)	mg/l	0.025	ISO 17025	0.98	0.42	1.1	0.99	1.1

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 23-56098

Your Order No: B10132898

Lab Sample Number				2809170	2809171	2809172	2809173	2809174
Sample Reference				SMB 6	SMB 7	AA1	AA2	AA3
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				12/09/2023	12/09/2023	12/09/2023	12/09/2023	12/09/2023
Time Taken				0900	0900	0900	0900	0900
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH (L099)	pH Units	N/A	ISO 17025	7.9	7.9	7.6	8.1	7.4
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	450	450	460	450	460
Total Phosphate as P	µg/l	20	ISO 17025	50	510	< 20	27	400
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	50	620	< 15	98	540
Nitrate as N	mg/l	0.01	ISO 17025	6.24	6.12	7.84	5.78	0.93
Nitrite as N	µg/l	1	ISO 17025	57	28	< 1.0	130	160
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	6.3	6.2	7.8	5.9	1.1
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	< 2.0	< 2.0	< 2.0	< 2.0	16
Heavy Metals / Metalloids								
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004	< 0.004	< 0.004	< 0.004	0.022
Magnesium (dissolved)	mg/l	0.005	ISO 17025	1.7	2.1	1.7	1.9	2
Potassium (dissolved)	mg/l	0.025	ISO 17025	0.73	3.7	0.75	0.82	2.8
Zinc (dissolved)	µg/l	0.4	ISO 17025	1.1	1.4	1.3	0.7	4.3
Iron (total)	mg/l	0.004	ISO 17025	0.006	0.012	< 0.004	0.006	0.22
Phosphorus (total)	µg/l	20	ISO 17025	65	510	< 20	44	460
Zinc (total)	µg/l	0.4	ISO 17025	8.3	23	8.6	7.2	5
Magnesium (total)	mg/l	0.005	ISO 17025	1.8	2.2	1.8	2	2.2
Potassium (total)	mg/l	0.025	ISO 17025	0.97	4.1	0.94	0.95	3

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 23-56098

Your Order No: B10132898

Lab Sample Number				2809175	2809176	2809177	2809178	2809179
Sample Reference				AA4	AA5	P1	P2	W2A
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				12/09/2023	12/09/2023	12/09/2023	12/09/2023	12/09/2023
Time Taken				0900	0900	0900	0900	0900
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH (L099)	pH Units	N/A	ISO 17025	7.9	7.7	7.7	7.9	7.5
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	530	500	480	480	460
Total Phosphate as P	µg/l	20	ISO 17025	78	50	< 20	< 20	< 20
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	19	84	15	55	< 15
Nitrate as N	mg/l	0.01	ISO 17025	8.06	10.3	8.16	7.14	6.38
Nitrite as N	µg/l	1	ISO 17025	22	33	< 1.0	30	< 1.0
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	8.1	10	8.2	7.2	6.4
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	2	< 2.0	19	< 2.0	< 2.0
Heavy Metals / Metalloids								
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004	0.005	< 0.004	< 0.004	< 0.004
Magnesium (dissolved)	mg/l	0.005	ISO 17025	1.9	2	2	2	2
Potassium (dissolved)	mg/l	0.025	ISO 17025	0.96	1.4	0.96	0.62	0.59
Zinc (dissolved)	µg/l	0.4	ISO 17025	1.4	3.6	1.8	0.7	0.6
Iron (total)	mg/l	0.004	ISO 17025	0.027	0.006	0.024	0.013	0.007
Phosphorus (total)	µg/l	20	ISO 17025	97	69	55	27	< 20
Zinc (total)	µg/l	0.4	ISO 17025	5	8.1	11	4.8	12
Magnesium (total)	mg/l	0.005	ISO 17025	2	2.1	2.1	2.1	2.1
Potassium (total)	mg/l	0.025	ISO 17025	1.1	1.6	1.2	0.85	0.87

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical i2 Environmental Science

Analytical Report Number: 23-56098

Your Order No: B10132898

Lab Sample Number				2809180
Sample Reference				W2B
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				12/09/2023
Time Taken				0900
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
General Inorganics				
pH (L099)	pH Units	N/A	ISO 17025	7.6
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	480
Total Phosphate as P	µg/l	20	ISO 17025	< 20
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	20
Nitrate as N	mg/l	0.01	ISO 17025	7.35
Nitrite as N	µg/l	1	ISO 17025	2.3
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	7.3
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	< 2.0
Heavy Metals / Metalloids				
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004
Magnesium (dissolved)	mg/l	0.005	ISO 17025	2.1
Potassium (dissolved)	mg/l	0.025	ISO 17025	0.58
Zinc (dissolved)	µg/l	0.4	ISO 17025	1.8
Iron (total)	mg/l	0.004	ISO 17025	0.007
Phosphorus (total)	µg/l	20	ISO 17025	< 20
Zinc (total)	µg/l	0.4	ISO 17025	5.4
Magnesium (total)	mg/l	0.005	ISO 17025	2.3
Potassium (total)	mg/l	0.025	ISO 17025	0.75

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 23-56098
Project / Site name:

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-OES (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Electrical conductivity at 20oC of water	Determination of electrical conductivity in water by electrometric measurement. Accredited Matrices SW, GW, PW	In-house method	L031-PL	W	ISO 17025
Suspended solids in water	Determined gravimetrically with GFC filtration papers.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L004-PL	W	ISO 17025
Total oxidised nitrogen in water	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton & Polish Standard Method PN-82/C-04579.08	L078/82-PL	W	NONE
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method. Accredited matrices SW, GW, PW, FSE, LL.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Total Phosphate as P in water	Determination of ortho phosphate in water by addition of ammonium molybdate, potassium antimonyl tartrate and ascorbic acid followed by colorimetry.Accredited matrices: SW, PW, GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton, analysis by discreet analyser.	L082-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' 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.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

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Analytical Report Number : 23-62420

Project / Site name:		**Samples received on:**	13/10/2023
Your job number:		**Samples instructed on/ Analysis started on:**	16/10/2023
Your order number:		**Analysis completed by:**	26/10/2023
Report Issue Number:	1	**Report issued on:**	26/10/2023
Samples Analysed:	16 water samples		

Signed:

Joanna Szwagrzak
Junior Reporting Specialist
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.

Analytical Report Number: 23-62420

Lab Sample Number				2844434	2844435	2844436	2844437	2844438
Sample Reference				W3B	SMB1	SMB2	SMB3	SMB4
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				12/10/2023	12/10/2023	12/10/2023	12/10/2023	12/10/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH (L099)	pH Units	N/A	ISO 17025	7.5	7.7	7.8	7.7	8
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	530	480	450	480	470
Total Phosphate as P	µg/l	20	ISO 17025	< 20	25	< 20	24	28
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	< 15	17	230	< 15	190
Nitrate as N	mg/l	0.01	ISO 17025	6.68	5.91	7.48	6.27	4.88
Nitrite as N	µg/l	1	ISO 17025	3.7	15	300	< 1.0	390
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	6.7	5.9	7.8	6.3	5.3
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	8	9	11	2	7
Heavy Metals / Metalloids								
Iron (dissolved)	mg/l	0.004	ISO 17025	0.006	< 0.004	0.007	< 0.004	< 0.004
Magnesium (dissolved)	mg/l	0.005	ISO 17025	2.1	1.7	1.9	1.7	1.8
Potassium (dissolved)	mg/l	0.025	ISO 17025	0.85	1	2.7	0.9	2.1
Zinc (dissolved)	µg/l	0.4	ISO 17025	9.3	25	5.1	5.1	16
Iron (total)	mg/l	0.004	ISO 17025	0.057	0.011	0.056	0.008	0.015
Phosphorus (total)	µg/l	20	ISO 17025	22	52	60	28	49
Zinc (total)	µg/l	0.4	ISO 17025	120	28	9.8	5.8	25
Magnesium (total)	mg/l	0.005	ISO 17025	2.2	1.7	1.9	1.7	1.9
Potassium (total)	mg/l	0.025	ISO 17025	0.94	4.1	4.1	1	2.8

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 23-62420

Lab Sample Number				2844439	2844440	2844441	2844442	2844443
Sample Reference				SMB5	SMB6	SMB7	AA1	AA2
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				12/10/2023	12/10/2023	12/10/2023	12/10/2023	12/10/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH (L099)	pH Units	N/A	ISO 17025	7.8	7.9	7.9	7.5	8.1
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	490	480	480	490	480
Total Phosphate as P	µg/l	20	ISO 17025	30	36	41	< 20	28
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	< 15	32	54	< 15	67
Nitrate as N	mg/l	0.01	ISO 17025	6.95	6.11	5.89	8.06	7.08
Nitrite as N	µg/l	1	ISO 17025	6.9	42	41	< 1.0	85
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	7	6.1	5.9	8.1	7.2
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	2	5	5	9	6
Heavy Metals / Metalloids								
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004
Magnesium (dissolved)	mg/l	0.005	ISO 17025	1.7	1.7	1.6	1.8	1.9
Potassium (dissolved)	mg/l	0.025	ISO 17025	1.2	0.82	0.65	0.91	0.66
Zinc (dissolved)	µg/l	0.4	ISO 17025	15	10	2.4	17	17
Iron (total)	mg/l	0.004	ISO 17025	0.016	0.016	0.012	0.011	0.023
Phosphorus (total)	µg/l	20	ISO 17025	46	51	51	< 20	55
Zinc (total)	µg/l	0.4	ISO 17025	56	33	11	58	23
Magnesium (total)	mg/l	0.005	ISO 17025	1.9	1.7	1.7	1.8	1.9
Potassium (total)	mg/l	0.025	ISO 17025	1.8	0.83	0.71	1	0.91

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 23-62420

Lab Sample Number				2844444	2844445	2844446	2844447	2844448
Sample Reference				AA3	AA4	AA5	P1	P2
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				12/10/2023	12/10/2023	12/10/2023	12/10/2023	12/10/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH (L099)	pH Units	N/A	ISO 17025	7.9	7.4	7.7	7.6	7.8
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	520	570	550	530	530
Total Phosphate as P	µg/l	20	ISO 17025	32	26	43	21	< 20
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	38	< 15	73	< 15	81
Nitrate as N	mg/l	0.01	ISO 17025	7.69	7.87	9.72	7.1	6.18
Nitrite as N	µg/l	1	ISO 17025	38	3.1	26	< 1.0	89
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	7.7	7.9	9.7	7.1	6.3
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	7	21	2	< 2.0	< 2.0
Heavy Metals / Metalloids								
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004
Magnesium (dissolved)	mg/l	0.005	ISO 17025	2	1.9	2	2	2
Potassium (dissolved)	mg/l	0.025	ISO 17025	1.2	0.97	1.6	1	1.6
Zinc (dissolved)	µg/l	0.4	ISO 17025	17	20	5.7	2.8	3.5
Iron (total)	mg/l	0.004	ISO 17025	0.026	0.083	0.013	0.006	0.006
Phosphorus (total)	µg/l	20	ISO 17025	41	70	52	39	31
Zinc (total)	µg/l	0.4	ISO 17025	32	37	17	24	30
Magnesium (total)	mg/l	0.005	ISO 17025	2	2.1	2.2	2	2.1
Potassium (total)	mg/l	0.025	ISO 17025	1.2	1.4	1.9	1.1	1.8

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 23-62420

Lab Sample Number				2844449
Sample Reference				W3A
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				12/10/2023
Time Taken				None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
General Inorganics				
pH (L099)	pH Units	N/A	ISO 17025	7.4
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	540
Total Phosphate as P	µg/l	20	ISO 17025	< 20
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	< 15
Nitrate as N	mg/l	0.01	ISO 17025	7.07
Nitrite as N	µg/l	1	ISO 17025	< 1.0
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	7.1
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	< 2.0
Heavy Metals / Metalloids				
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004
Magnesium (dissolved)	mg/l	0.005	ISO 17025	2.1
Potassium (dissolved)	mg/l	0.025	ISO 17025	0.91
Zinc (dissolved)	µg/l	0.4	ISO 17025	3.7
Iron (total)	mg/l	0.004	ISO 17025	0.008
Phosphorus (total)	µg/l	20	ISO 17025	27
Zinc (total)	µg/l	0.4	ISO 17025	41
Magnesium (total)	mg/l	0.005	ISO 17025	2.3
Potassium (total)	mg/l	0.025	ISO 17025	0.92

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 23-62420
Project / Site name:

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-OES (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Electrical conductivity at 20oC of water	Determination of electrical conductivity in water by electrometric measurement. Accredited Matrices SW, GW, PW	In-house method	L031-PL	W	ISO 17025
Suspended solids in water	Determined gravimetrically with GFC filtration papers.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L004-PL	W	ISO 17025
Total oxidised nitrogen in water	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton & Polish Standard Method PN-82/C-04579.08	L078/82-PL	W	NONE
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method. Accredited matrices SW, GW, PW, FSE, LL.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Total Phosphate as P in water	Determination of ortho phosphate in water by addition of ammonium molybdate, potassium antimonyl tartrate and ascorbic acid followed by colorimetry.Accredited matrices: SW, PW, GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton, analysis by discreet analyser.	L082-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' 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.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Sample Deviation Report

Analytical Report Number : 23-62420

Project / Site name:

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
AA1	None Supplied	W	2844442	c	Ammoniacal Nitrogen as N in water	L082-PL	c
AA1	None Supplied	W	2844442	c	Electrical conductivity at 20oC of water	L031-PL	c
AA1	None Supplied	W	2844442	c	pH at 20oC in water (automated)	L099-PL	c
AA2	None Supplied	W	2844443	c	Ammoniacal Nitrogen as N in water	L082-PL	c
AA2	None Supplied	W	2844443	c	Electrical conductivity at 20oC of water	L031-PL	c
AA2	None Supplied	W	2844443	c	pH at 20oC in water (automated)	L099-PL	c
AA3	None Supplied	W	2844444	c	Ammoniacal Nitrogen as N in water	L082-PL	c
AA3	None Supplied	W	2844444	c	Electrical conductivity at 20oC of water	L031-PL	c
AA3	None Supplied	W	2844444	c	pH at 20oC in water (automated)	L099-PL	c
AA4	None Supplied	W	2844445	c	Ammoniacal Nitrogen as N in water	L082-PL	c
AA4	None Supplied	W	2844445	c	Electrical conductivity at 20oC of water	L031-PL	c
AA4	None Supplied	W	2844445	c	pH at 20oC in water (automated)	L099-PL	c
AA5	None Supplied	W	2844446	c	Ammoniacal Nitrogen as N in water	L082-PL	c
AA5	None Supplied	W	2844446	c	Electrical conductivity at 20oC of water	L031-PL	c
AA5	None Supplied	W	2844446	c	pH at 20oC in water (automated)	L099-PL	c
P1	None Supplied	W	2844447	c	Ammoniacal Nitrogen as N in water	L082-PL	c
P1	None Supplied	W	2844447	c	Electrical conductivity at 20oC of water	L031-PL	c
P1	None Supplied	W	2844447	c	pH at 20oC in water (automated)	L099-PL	c
P2	None Supplied	W	2844448	c	Ammoniacal Nitrogen as N in water	L082-PL	c
P2	None Supplied	W	2844448	c	Electrical conductivity at 20oC of water	L031-PL	c
P2	None Supplied	W	2844448	c	pH at 20oC in water (automated)	L099-PL	c
SMB1	None Supplied	W	2844435	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SMB1	None Supplied	W	2844435	c	Electrical conductivity at 20oC of water	L031-PL	c
SMB1	None Supplied	W	2844435	c	pH at 20oC in water (automated)	L099-PL	c
SMB2	None Supplied	W	2844436	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SMB2	None Supplied	W	2844436	c	Electrical conductivity at 20oC of water	L031-PL	c
SMB2	None Supplied	W	2844436	c	pH at 20oC in water (automated)	L099-PL	c
SMB3	None Supplied	W	2844437	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SMB3	None Supplied	W	2844437	c	Electrical conductivity at 20oC of water	L031-PL	c
SMB3	None Supplied	W	2844437	c	pH at 20oC in water (automated)	L099-PL	c
SMB4	None Supplied	W	2844438	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SMB4	None Supplied	W	2844438	c	Electrical conductivity at 20oC of water	L031-PL	c
SMB4	None Supplied	W	2844438	c	pH at 20oC in water (automated)	L099-PL	c
SMB5	None Supplied	W	2844439	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SMB5	None Supplied	W	2844439	c	Electrical conductivity at 20oC of water	L031-PL	c
SMB5	None Supplied	W	2844439	c	pH at 20oC in water (automated)	L099-PL	c
SMB6	None Supplied	W	2844440	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SMB6	None Supplied	W	2844440	c	Electrical conductivity at 20oC of water	L031-PL	c
SMB6	None Supplied	W	2844440	c	pH at 20oC in water (automated)	L099-PL	c
SMB7	None Supplied	W	2844441	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SMB7	None Supplied	W	2844441	c	Electrical conductivity at 20oC of water	L031-PL	c
SMB7	None Supplied	W	2844441	c	pH at 20oC in water (automated)	L099-PL	c
W3A	None Supplied	W	2844449	c	Ammoniacal Nitrogen as N in water	L082-PL	c
W3A	None Supplied	W	2844449	c	Electrical conductivity at 20oC of water	L031-PL	c
W3A	None Supplied	W	2844449	c	pH at 20oC in water (automated)	L099-PL	c
W3B	None Supplied	W	2844434	c	Ammoniacal Nitrogen as N in water	L082-PL	c
W3B	None Supplied	W	2844434	c	Electrical conductivity at 20oC of water	L031-PL	c
W3B	None Supplied	W	2844434	c	pH at 20oC in water (automated)	L099-PL	c

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Analytical Report Number : 23-69771

Project / Site name:		**Samples received on:**	20/11/2023
Your job number:		**Samples instructed on/ Analysis started on:**	20/11/2023
Your order number:	B10134954	**Analysis completed by:**	28/11/2023
Report Issue Number:	1	**Report issued on:**	28/11/2023
Samples Analysed:	16 water samples		

Izabela Wójcik
Signed:

Izabela Wójcik
Senior Reporting Specialist
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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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.

Analytical Report Number: 23-69771

Your Order No: B10134954

Lab Sample Number				2883307	2883308	2883309	2883310	2883311
Sample Reference				SMB 1	SMB 2	SMB 3	SMB 4	SMB 5
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				17/11/2023	17/11/2023	17/11/2023	17/11/2023	17/11/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH (L099)	pH Units	N/A	ISO 17025	7.6	8.1	7.6	8.5	7.8
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	480	480	490	430	500
Total Phosphate as P	µg/l	20	ISO 17025	< 20	70	25	68	50
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	< 15	60	< 15	22	16
Nitrate as N	mg/l	0.01	ISO 17025	7.44	7.06	7.19	5.86	7.04
Nitrite as N	µg/l	1	ISO 17025	< 1.0	70	< 1.0	10	1.7
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	7.4	7.1	7.2	5.9	7
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	2	16	< 2.0	2	< 2.0
Heavy Metals / Metalloids								
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004
Magnesium (dissolved)	mg/l	0.005	ISO 17025	1.7	1.7	1.6	1.7	1.6
Potassium (dissolved)	mg/l	0.025	ISO 17025	0.75	0.97	0.8	0.3	0.97
Zinc (dissolved)	µg/l	0.4	ISO 17025	3.7	2.3	6.7	3.6	7.8
Iron (total)	mg/l	0.004	ISO 17025	< 0.004	0.01	0.018	0.01	0.006
Phosphorus (total)	µg/l	20	ISO 17025	21	100	31	73	57
Zinc (total)	µg/l	0.4	ISO 17025	4.7	5.7	23	7.5	8.8
Magnesium (total)	mg/l	0.005	ISO 17025	1.8	1.8	1.7	1.7	1.7
Potassium (total)	mg/l	0.025	ISO 17025	0.92	1.2	0.92	0.55	1.2

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 23-69771

Your Order No: B10134954

Lab Sample Number				2883312	2883313	2883314	2883315	2883316
Sample Reference				SMB 6	SMB 7	AA1	AA2	AA3
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				17/11/2023	17/11/2023	17/11/2023	17/11/2023	17/11/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH (L099)	pH Units	N/A	ISO 17025	7.9	7.8	7.5	8.1	7.9
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	490	490	490	500	540
Total Phosphate as P	µg/l	20	ISO 17025	44	40	< 20	30	27
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	20	28	< 15	20	21
Nitrate as N	mg/l	0.01	ISO 17025	7.02	6.84	7.44	7.58	8.67
Nitrite as N	µg/l	1	ISO 17025	8.3	19	< 1.0	15	8.4
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	7	6.9	7.4	7.6	8.7
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	4	< 2.0	< 2.0	< 2.0	3
Heavy Metals / Metalloids								
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004	< 0.004	< 0.004	< 0.004	0.005
Magnesium (dissolved)	mg/l	0.005	ISO 17025	1.6	1.7	1.8	1.9	2
Potassium (dissolved)	mg/l	0.025	ISO 17025	0.97	0.73	0.54	0.74	1.1
Zinc (dissolved)	µg/l	0.4	ISO 17025	7.2	3.1	4.3	1.5	1.6
Iron (total)	mg/l	0.004	ISO 17025	< 0.004	< 0.004	< 0.004	< 0.004	0.082
Phosphorus (total)	µg/l	20	ISO 17025	54	50	< 20	30	43
Zinc (total)	µg/l	0.4	ISO 17025	58	4.8	8.6	12	15
Magnesium (total)	mg/l	0.005	ISO 17025	1.7	1.8	1.8	2.1	2.1
Potassium (total)	mg/l	0.025	ISO 17025	1.4	0.88	0.95	1	1.4

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 23-69771

Your Order No: B10134954

Lab Sample Number				2883317	2883318	2883319	2883320	2883321
Sample Reference				AA4	AA5	P1	P2	W1A
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				17/11/2023	17/11/2023	17/11/2023	17/11/2023	17/11/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH (L099)	pH Units	N/A	ISO 17025	7.7	7.6	7.5	7.9	7.5
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	580	550	530	530	540
Total Phosphate as P	µg/l	20	ISO 17025	97	33	23	21	24
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	27	36	< 15	40	< 15
Nitrate as N	mg/l	0.01	ISO 17025	6.81	10.1	7.7	7.43	7.72
Nitrite as N	µg/l	1	ISO 17025	11	3.9	< 1.0	12	< 1.0
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	6.8	10	7.7	7.4	7.7
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	2	< 2.0	< 2.0	< 2.0	< 2.0
Heavy Metals / Metalloids								
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004
Magnesium (dissolved)	mg/l	0.005	ISO 17025	2.1	2	2	2	2.2
Potassium (dissolved)	mg/l	0.025	ISO 17025	0.79	1.1	0.92	0.89	0.64
Zinc (dissolved)	µg/l	0.4	ISO 17025	4.3	2.5	2.5	2	3.1
Iron (total)	mg/l	0.004	ISO 17025	< 0.004	0.004	< 0.004	0.016	< 0.004
Phosphorus (total)	µg/l	20	ISO 17025	100	36	27	37	< 20
Zinc (total)	µg/l	0.4	ISO 17025	5.4	6.2	3.9	32	4.1
Magnesium (total)	mg/l	0.005	ISO 17025	2.2	2.1	2.1	2.2	2.3
Potassium (total)	mg/l	0.025	ISO 17025	0.97	1.3	1	1	0.75

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

UKAS TESTING
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Analytical i2 Environmental Science

Analytical Report Number: 23-69771

Your Order No: B10134954

Lab Sample Number				2883322
Sample Reference				W1B
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				17/11/2023
Time Taken				None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
General Inorganics				
pH (L099)	pH Units	N/A	ISO 17025	7.6
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	540
Total Phosphate as P	µg/l	20	ISO 17025	< 20
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	16
Nitrate as N	mg/l	0.01	ISO 17025	7.93
Nitrite as N	µg/l	1	ISO 17025	< 1.0
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	7.9
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	< 2.0
Heavy Metals / Metalloids				
Iron (dissolved)	mg/l	0.004	ISO 17025	0.008
Magnesium (dissolved)	mg/l	0.005	ISO 17025	2.2
Potassium (dissolved)	mg/l	0.025	ISO 17025	0.67
Zinc (dissolved)	µg/l	0.4	ISO 17025	2.4
Iron (total)	mg/l	0.004	ISO 17025	0.015
Phosphorus (total)	µg/l	20	ISO 17025	< 20
Zinc (total)	µg/l	0.4	ISO 17025	7.5
Magnesium (total)	mg/l	0.005	ISO 17025	2.2
Potassium (total)	mg/l	0.025	ISO 17025	0.86

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 23-69771
Project / Site name:

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-OES (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Electrical conductivity at 20oC of water	Determination of electrical conductivity in water by electrometric measurement. Accredited Matrices SW, GW, PW	In-house method	L031-PL	W	ISO 17025
Suspended solids in water	Determined gravimetrically with GFC filtration papers.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L004-PL	W	ISO 17025
Total oxidised nitrogen in water	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton & Polish Standard Method PN-82/C-04579.08	L078/82-PL	W	NONE
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method. Accredited matrices SW, GW, PW, FSE, LL.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Total Phosphate as P in water	Determination of ortho phosphate in water by addition of ammonium molybdate, potassium antimonyl tartrate and ascorbic acid followed by colorimetry.Accredited matrices: SW, PW, GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton, analysis by discreet analyser.	L082-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' 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.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

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Analytical Report Number : 23-73628

Project / Site name:		**Samples received on:**	08/12/2023
Your job number:		**Samples instructed on/ Analysis started on:**	08/12/2023
Your order number:	B10135745	**Analysis completed by:**	15/12/2023
Report Issue Number:	1	**Report issued on:**	15/12/2023
Samples Analysed:	16 water samples		

Signed:

Anna Goc
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

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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.

Analytical Report Number: 23-73628

Your Order No: B10135745

Lab Sample Number				2903625	2903626	2903627	2903628	2903629
Sample Reference				SMB1	SMB2	SMB3	SMB4	SMB5
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				07/12/2023	07/12/2023	07/12/2023	07/12/2023	07/12/2023
Time Taken				0900	0900	0900	0900	0900
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH (L099)	pH Units	N/A	ISO 17025	7.7	8	7.6	8	8
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	490	500	500	500	510
Total Phosphate as P	µg/l	20	ISO 17025	48	45	31	70	50
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	< 15	32	< 15	30	< 15
Nitrate as N	mg/l	0.01	ISO 17025	7.39	7.76	7.14	7.08	7.64
Nitrite as N	µg/l	1	ISO 17025	9.1	25	< 1.0	9.9	1.4
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	7.4	7.8	7.1	7.1	7.6
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	< 2.0	< 2.0	< 2.0	< 2.0	3
Heavy Metals / Metalloids								
Iron (dissolved)	mg/l	0.004	ISO 17025	0.006	< 0.004	< 0.004	0.005	< 0.004
Magnesium (dissolved)	mg/l	0.005	ISO 17025	1.5	1.6	1.6	1.6	1.6
Potassium (dissolved)	mg/l	0.025	ISO 17025	0.67	0.77	0.66	0.64	0.81
Zinc (dissolved)	µg/l	0.4	ISO 17025	3.2	3.3	4.5	4	3.2
Iron (total)	mg/l	0.004	ISO 17025	0.033	0.012	0.018	0.01	0.007
Phosphorus (total)	µg/l	20	ISO 17025	57	50	28	69	51
Zinc (total)	µg/l	0.4	ISO 17025	12	10	7.9	7.3	7.8
Magnesium (total)	mg/l	0.005	ISO 17025	1.7	1.7	1.7	1.7	1.7
Potassium (total)	mg/l	0.025	ISO 17025	0.72	0.77	0.74	0.68	0.89

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 23-73628

Your Order No: B10135745

Lab Sample Number				2903630	2903631	2903632	2903633	2903634
Sample Reference				SMB6	SMB7	AA1	AA2	AA3
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				07/12/2023	07/12/2023	07/12/2023	07/12/2023	07/12/2023
Time Taken				0900	0900	0900	0900	0900
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH (L099)	pH Units	N/A	ISO 17025	8.2	8	7.6	8.2	8
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	490	500	500	520	540
Total Phosphate as P	µg/l	20	ISO 17025	60	55	< 20	30	33
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	41	29	< 15	21	21
Nitrate as N	mg/l	0.01	ISO 17025	7.08	7.21	8.38	9.05	9.18
Nitrite as N	µg/l	1	ISO 17025	39	27	< 1.0	15	12
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	7.1	7.2	8.4	9.1	9.2
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	< 2.0	< 2.0	< 2.0	2	< 2.0
Heavy Metals / Metalloids								
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004
Magnesium (dissolved)	mg/l	0.005	ISO 17025	1.6	1.6	1.6	1.8	1.8
Potassium (dissolved)	mg/l	0.025	ISO 17025	1.5	0.86	0.57	0.8	0.93
Zinc (dissolved)	µg/l	0.4	ISO 17025	2.2	4.3	49	2.3	2.5
Iron (total)	mg/l	0.004	ISO 17025	0.009	0.008	0.005	< 0.004	0.016
Phosphorus (total)	µg/l	20	ISO 17025	60	57	< 20	36	41
Zinc (total)	µg/l	0.4	ISO 17025	6.8	11	58	10	29
Magnesium (total)	mg/l	0.005	ISO 17025	1.6	1.7	1.7	1.9	1.9
Potassium (total)	mg/l	0.025	ISO 17025	1.5	0.9	0.71	0.92	1.1

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 23-73628

Your Order No: B10135745

Lab Sample Number				2903635	2903636	2903637	2903638	2903639
Sample Reference				AA4	AA5	P1	P2	W4A
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				07/12/2023	07/12/2023	07/12/2023	07/12/2023	07/12/2023
Time Taken				0900	0900	0900	0900	0900
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH (L099)	pH Units	N/A	ISO 17025	7.8	7.8	7.6	8	7.5
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	590	560	550	540	540
Total Phosphate as P	µg/l	20	ISO 17025	29	27	26	36	20
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	< 15	< 15	< 15	48	< 15
Nitrate as N	mg/l	0.01	ISO 17025	7.02	10.4	7.94	7.82	10.5
Nitrite as N	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	29	< 1.0
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	7	10	7.9	7.9	10
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	4	< 2.0	< 2.0	< 2.0	< 2.0
Heavy Metals / Metalloids								
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004
Magnesium (dissolved)	mg/l	0.005	ISO 17025	2	1.9	1.9	1.9	1.8
Potassium (dissolved)	mg/l	0.025	ISO 17025	0.61	1.1	0.72	1.1	0.64
Zinc (dissolved)	µg/l	0.4	ISO 17025	2.6	5.3	2.5	2.6	2.8
Iron (total)	mg/l	0.004	ISO 17025	0.017	0.006	0.005	0.032	0.005
Phosphorus (total)	µg/l	20	ISO 17025	27	25	27	66	< 20
Zinc (total)	µg/l	0.4	ISO 17025	4.6	6.2	13	9.2	12
Magnesium (total)	mg/l	0.005	ISO 17025	2.1	2	2	2	1.9
Potassium (total)	mg/l	0.025	ISO 17025	0.65	1.1	0.77	1.1	0.69

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

UKAS TESTING
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Analytical Environmental Science

Analytical Report Number: 23-73628

Your Order No: B10135745

Lab Sample Number				2903640
Sample Reference				W4B
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				07/12/2023
Time Taken				0900
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
General Inorganics				
pH (L099)	pH Units	N/A	ISO 17025	7.8
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	520
Total Phosphate as P	µg/l	20	ISO 17025	25
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	27
Nitrate as N	mg/l	0.01	ISO 17025	9.79
Nitrite as N	µg/l	1	ISO 17025	7.5
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	9.8
Total Suspended Solids (L004B)	mg/l	2	ISO 17025	24
Heavy Metals / Metalloids				
Iron (dissolved)	mg/l	0.004	ISO 17025	< 0.004
Magnesium (dissolved)	mg/l	0.005	ISO 17025	1.8
Potassium (dissolved)	mg/l	0.025	ISO 17025	0.93
Zinc (dissolved)	µg/l	0.4	ISO 17025	3.6
Iron (total)	mg/l	0.004	ISO 17025	0.038
Phosphorus (total)	µg/l	20	ISO 17025	48
Zinc (total)	µg/l	0.4	ISO 17025	8.8
Magnesium (total)	mg/l	0.005	ISO 17025	2
Potassium (total)	mg/l	0.025	ISO 17025	1

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 23-73628
Project / Site name:

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-OES (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Electrical conductivity at 20oC of water	Determination of electrical conductivity in water by electrometric measurement. Accredited Matrices SW, GW, PW	In-house method	L031-PL	W	ISO 17025
Suspended solids in water	Determined gravimetrically with GFC filtration papers.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L004-PL	W	ISO 17025
Total oxidised nitrogen in water	Calculation from nitrate and nitrite.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton & Polish Standard Method PN-82/C-04579.08	L078/82-PL	W	NONE
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method. Accredited matrices SW, GW, PW, FSE, LL.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Total Phosphate as P in water	Determination of ortho phosphate in water by addition of ammonium molybdate, potassium antimonyl tartrate and ascorbic acid followed by colorimetry.Accredited matrices: SW, PW, GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton, analysis by discreet analyser.	L082-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' 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.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Sample Deviation Report

Analytical Report Number : 23-73628
Project / Site name:

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
AA3	None Supplied	W	2903634	b	None Supplied	None Supplied	None Supplied
W4A	None Supplied	W	2903639	b	None Supplied	None Supplied	None Supplied