Natural Resources Wales
Waste and Industry Regulation Team
Maes Y Ffynnon
Bangor
LL57 2DW

Friday, 05 June 2026

Ask for: Lauren Williams, Michelle Moran
Ref: ECL.10269.R03.014

Dear Sir/Madam,

Ty Mawr Landfill Site – Q2 2026 Monitoring Report

This letter-report accompanies the factual monitoring data that was collated during the Q2 2026 (April - June) review period. The scope of the data reflects the monitoring requirements included within Schedule 4, and reporting requirements in Schedule 5 of the Environmental Permit (reference EPR/BP3330LS) for the site, as well as extra analysis requested by NRW.

1. **Schedule 4, Table S4.1 Trigger levels for emissions into groundwater and monitoring requirements:**

   Monthly spot samples for downgradient groundwater monitoring boreholes are included in this report. Groundwater monitoring borehole GW2R was dry in both May and June and therefore was not sampled, so data for this location are not included in this report.

2. **Schedule 4, Table S4.2 Landfill gas in external monitoring boreholes - limits and monitoring requirements:**

   Monthly gas monitoring results for all perimeter boreholes are included in this report.

3. **Schedule 4, Table S4.3 Landfill gas – other monitoring requirements:**

   Monthly gas quality data for the in-waste landfill gas monitoring point LMP are included in this report.

4. **Schedule 4, Table S4.4 Surface water - other monitoring requirements:**

   Surface water quality data, monthly and quarterly suites, for locations SW1 and SW2 are included in this report for April. There are also results included for SW1 in May. However, SW2 was dry in May, and SW1 and SW2 were both dry in June.

5. **Schedule 4, S4.5 Particulate matter in ambient air:**

   Dust monitoring is not included in this report; this will be included in the EMS review.

6. **Schedule 4, Table S4.6 Groundwater – Other monitoring requirements:**

   Groundwater monitoring is required monthly for all groundwater monitoring locations. All groundwater monitoring wells were sampled monthly except for GW2R, which was dry during May and June 2026. Therefore, results for this location are not included in this report.

7. **Waste acceptance criteria (WAC) – Additional requirement:**

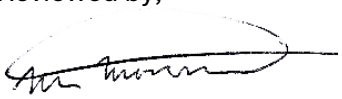
   Two samples of waste which had been deposited on the day of monitoring were collected and sent for waste acceptance criteria analysis. The results are consistent with inert waste, and a copy of the laboratory report is included here.

If you wish to discuss the submitted monitoring results, please do not hesitate to contact us.

Yours faithfully,

Lauren Williams
BSc (Hons), MSc
Graduate Environmental Technician

Reviewed by,



Michelle Moran
BSc (Hons) MSc, MCIWM
Associate Environmental Scientist

for Egniol Consulting Ltd.

Enclosed:

Data

Table S4.2 Landfill gas composition in external monitoring boreholes
Table S4.3 Landfill gas – other monitoring requirements
Table S4.4 Surface water – other monitoring requirements
Table S4.6 Groundwater – other monitoring requirements
Additional – Waste Acceptance Criteria analysis

Drawing

Ty Mawr monitoring point location plan [10269-ECL-XX-XX-DR-C-0016]

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Analytical Report Number : 26-018362

Project / Site name:	Ty Mawr Farm Landfill	**Samples received on:**	10/04/2026
Your job number:	10269	**Samples instructed on/ Analysis started on:**	10/04/2026
Your order number:	POP003472	**Analysis completed by:**	20/04/2026
Report Issue Number:	1	**Report issued on:**	20/04/2026
Samples Analysed:	5 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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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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Normec i2 Analytical

Analytical Report Number: 26-018362
Project / Site name: Ty Mawr Farm Landfill

Your Order No: POP003472

Lab Sample Number				884138
Sample Reference				SW1
Sample Number				None Supplied
Water Matrix				Surface water
Depth (m)				None Supplied
Date Sampled				09/04/2026
Time Taken				1000
Analytical Parameter (Water Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**	
General Inorganics				
pH (L099)	pH Units	N/A	ISO 17025	8.2
Electrical Conductivity at 20°C	µS/cm	10	ISO 17025	480
Sulphate as SO_4	mg/l	0.045	ISO 17025	20.8
Chloride	mg/l	0.15	ISO 17025	50
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	54
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	4.32
Alkalinity as $CaCO_3$	mgCaCO3/l	3	ISO 17025	160
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	16
BOD (Biochemical Oxygen Demand) (Total) - PL (L086B)	mg/l	1	ISO 17025	1
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	4.26
Dissolved Oxygen	mg/l	1	NONE	8.9
Speciated PAHs				
Naphthalene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01
Total PAH				
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16
Heavy Metals / Metalloids				
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	2.5
Copper (dissolved)	µg/l	0.5	ISO 17025	3.5
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	160
Nickel (dissolved)	µg/l	0.5	ISO 17025	1.5
Zinc (dissolved)	µg/l	0.5	ISO 17025	2.2

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Normec i2 Analytical

Analytical Report Number: 26-018362
Project / Site name: Ty Mawr Farm Landfill

Your Order No: POP003472

Lab Sample Number				884138
Sample Reference				SW1
Sample Number				None Supplied
Water Matrix				Surface water
Depth (m)				None Supplied
Date Sampled				09/04/2026
Time Taken				1000
Analytical Parameter (Water Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**	
Calcium (dissolved)	mg/l	0.012	ISO 17025	59
Iron (dissolved)	mg/l	0.004	ISO 17025	0.035
Magnesium (dissolved)	mg/l	0.005	ISO 17025	13
Potassium (dissolved)	mg/l	0.025	ISO 17025	2.6
Sodium (dissolved)	mg/l	0.01	ISO 17025	30

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

Analytical Report Number : 26-018362
Project / Site name: Ty Mawr Farm Landfill

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI 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-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited matrices: SW, PW, GW, except B - SW,GW, Hg - SW,PW, Al - SW,PW	In-house method based on USEPA Method 6020 & 200.8 for the determination of trace elements in water by ICP-MS	L012B	W	ISO 17025
Electrical Conductivity at 20°C in water	Determination of electrical conductivity in water by electrochemical measurement. Accredited matrices: SW, PW, GW, FSE	In-house method	L031B	W	ISO 17025
Total Organic Carbon in water	Determination of total organic carbon in water by TOC/DOC NDIR Analyser. Accredited matrices: SW, PW, GW, FSE, LL	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	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-PL/L082B	W	NONE
Alkalinity of water (discrete analyser)	Determination of alkalinity of water by colorimetry using discrete analyser. Accredited matrices: SW, PW, GW, FSE, LL	In-house method based on MEWAM & USEPA Method 310.2	L082B	W	ISO 17025
Dissolved Oxygen in water	Determination of dissolved oxygen in water	In-house method	L086B	W	NONE
pH of water at 20°C (automated)	Determination of pH of water by electrochemical measurement. Accredited matrices: SW, PW, GW, FSE, LL	In-house method	L099-PL	W	ISO 17025
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited matrices: SW, PW, GW, PrW, DI PrW, FSE, LL	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW, PW, GW, FSE, LL; PrW, DI PrW (Al, Cu, Fe,Zn)	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Chloride in water	Determination of chloride in water by colorimetry using discrete analyser. Accredited matrices: SW, PW, GW, FSE, LL	In-house based on MEWAM Method ISBN 0117516260	L082B	W	ISO 17025
Ammoniacal Nitrogen as N in water	Determination of ammonium/ammonia/ammoniacal nitrogen by the colorimetric salicylate/nitroprusside method using discrete analyser. Accredited matrices: SW, PW, GW, FSE, LL	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	ISO 17025
Chemical Oxygen Demand in water (Total)	Determination of total COD in water by reflux oxidation with acidified K2Cr2O7 followed by colorimetry. Accredited matrices: SW, PW, GW, FSE, LL	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025
Biochemical Oxygen Demand in water (Total)	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW, FSE, LL	In-house method based on standard method 5210B	L086B	W	ISO 17025

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Analytical Report Number : 26-018362
Project / Site name: Ty Mawr Farm Landfill

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Speciated PAHs and/or Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds (including PAHs) in water by extraction in dichloromethane followed by GC-MS. Accredited matrices (PAHs): SW, PW, GW	In-house method based on USEPA 8270	L102B	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.

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

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Analytical Report Number : 26-024164

Project / Site name:	Ty Mawr Farm Landfill	**Samples received on:**	08/05/2026
Your job number:	10269	**Samples instructed on/ Analysis started on:**	08/05/2026
Your order number:	POP003519	**Analysis completed by:**	17/05/2026
Report Issue Number:	1	**Report issued on:**	18/05/2026
Samples Analysed:	4 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
air	- once the analysis is complete

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Normec i2 Analytical

Analytical Report Number: 26-024164
Project / Site name: Ty Mawr Farm Landfill

Your Order No: POP003519

Lab Sample Number				911935
Sample Reference				SW1
Sample Number				None Supplied
Water Matrix				Surface water
Depth (m)				None Supplied
Date Sampled				07/05/2026
Time Taken				1000
Analytical Parameter (Water Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**	
General Inorganics				
pH (L099)	pH Units	N/A	ISO 17025	7.2
Electrical Conductivity at 20°C	µS/cm	10	ISO 17025	1100
Chloride	mg/l	0.15	ISO 17025	240
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	89
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	26
BOD (Biochemical Oxygen Demand) (Total) - PL (L086B)	mg/l	1	ISO 17025	7
Dissolved Oxygen	mg/l	1	NONE	4.4

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

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Analytical Report Number : 26-024164
Project / Site name: Ty Mawr Farm Landfill

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Electrical Conductivity at 20°C in water	Determination of electrical conductivity in water by electrochemical measurement. Accredited matrices: SW, PW, GW, FSE	In-house method	L031B	W	ISO 17025
Chemical Oxygen Demand in water (Total)	Determination of total COD in water by reflux oxidation with acidified K2Cr2O7 followed by colorimetry. Accredited matrices: SW, PW, GW, FSE, LL	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025
Chloride in water	Determination of chloride in water by colorimetry using discrete analyser. Accredited matrices: SW, PW, GW, FSE, LL	In-house based on MEWAM Method ISBN 0117516260	L082B	W	ISO 17025
Biochemical Oxygen Demand in water (Total)	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW, FSE, LL	In-house method based on standard method 5210B	L086B	W	ISO 17025
Dissolved Oxygen in water	Determination of dissolved oxygen in water	In-house method	L086B	W	NONE
pH of water at 20°C (automated)	Determination of pH of water by electrochemical measurement. Accredited matrices: SW, PW, GW, FSE, LL	In-house method	L099-PL	W	ISO 17025
Ammoniacal Nitrogen as N in water	Determination of ammonium/ammonia/ammoniacal nitrogen by the colorimetric salicylate/nitroprusside method using discrete analyser. Accredited matrices: SW, PW, GW, FSE, LL	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	ISO 17025

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Analytical Report Number : 26-018362

Project / Site name:	Ty Mawr Farm Landfill	**Samples received on:**	10/04/2026
Your job number:	10269	**Samples instructed on/ Analysis started on:**	10/04/2026
Your order number:	POP003472	**Analysis completed by:**	20/04/2026
Report Issue Number:	1	**Report issued on:**	20/04/2026
Samples Analysed:	5 water samples		

Signed:

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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Analytical Report Number: 26-018362
Project / Site name: Ty Mawr Farm Landfill

Your Order No: POP003472

Lab Sample Number				884134	884135	884136	884137
Sample Reference				GW1R	GW2R	GW2AR	GW3R
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				Ground water	Ground water	Ground water	Ground water
Depth (m)				2.00	None Supplied	None Supplied	14.00
Date Sampled				09/04/2026	09/04/2026	09/04/2026	09/04/2026
Time Taken				0950	1110	1115	1130
Analytical Parameter (Water Analysis)	Units	Test Limit of detection	Test Accreditation Status				
General Inorganics							
pH (L099)	pH Units	N/A	ISO 17025	7.7	7.7	8.1	7.7
Electrical Conductivity at 20°C	µS/cm	10	ISO 17025	570	520	830	470
Sulphate as SO_4	mg/l	0.045	ISO 17025	35.2	16.4	125	27.9
Chloride	mg/l	0.15	ISO 17025	-	39	19	32
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	-	20	31	< 15
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	14	1.21	2.38	1.18
Alkalinity as $CaCO_3$	mgCaCO3/l	3	ISO 17025	270	220	390	190
Total Oxidised Nitrogen (TON)	mg/l	0.02	NONE	< 0.020	3.13	0.073	2.87
Dissolved Oxygen	mg/l	1	NONE	3.4	7.6	5.9	5.7
Heavy Metals / Metalloids							
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	< 0.02	0.02	0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	3.1	3.5	3.2	2.7
Copper (dissolved)	µg/l	0.5	ISO 17025	5.1	3.1	2.4	1.4
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	1900	2.6	3.9	38
Nickel (dissolved)	µg/l	0.5	ISO 17025	3.9	1.7	1.8	1.8
Zinc (dissolved)	µg/l	0.5	ISO 17025	3.5	3.3	0.9	0.9
Calcium (dissolved)	mg/l	0.012	ISO 17025	79	83	100	51
Iron (dissolved)	mg/l	0.004	ISO 17025	0.46	0.21	0.044	0.05
Magnesium (dissolved)	mg/l	0.005	ISO 17025	15	13	21	20
Potassium (dissolved)	mg/l	0.025	ISO 17025	14	1.2	1.8	2.2
Sodium (dissolved)	mg/l	0.01	ISO 17025	30	19	86	25

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

Analytical Report Number : 26-018362
Project / Site name: Ty Mawr Farm Landfill

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI 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-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited matrices: SW, PW, GW, except B - SW,GW, Hg - SW,PW, Al - SW,PW	In-house method based on USEPA Method 6020 & 200.8 for the determination of trace elements in water by ICP-MS	L012B	W	ISO 17025
Electrical Conductivity at 20°C in water	Determination of electrical conductivity in water by electrochemical measurement. Accredited matrices: SW, PW, GW, FSE	In-house method	L031B	W	ISO 17025
Total Organic Carbon in water	Determination of total organic carbon in water by TOC/DOC NDIR Analyser. Accredited matrices: SW, PW, GW, FSE, LL	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	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-PL/L082B	W	NONE
Alkalinity of water (discrete analyser)	Determination of alkalinity of water by colorimetry using discrete analyser. Accredited matrices: SW, PW, GW, FSE, LL	In-house method based on MEWAM & USEPA Method 310.2	L082B	W	ISO 17025
Dissolved Oxygen in water	Determination of dissolved oxygen in water	In-house method	L086B	W	NONE
pH of water at 20°C (automated)	Determination of pH of water by electrochemical measurement. Accredited matrices: SW, PW, GW, FSE, LL	In-house method	L099-PL	W	ISO 17025
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited matrices: SW, PW, GW, PrW, DI PrW, FSE, LL	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW, PW, GW, FSE, LL; PrW, DI PrW (Al, Cu, Fe,Zn)	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Chloride in water	Determination of chloride in water by colorimetry using discrete analyser. Accredited matrices: SW, PW, GW, FSE, LL	In-house based on MEWAM Method ISBN 0117516260	L082B	W	ISO 17025
Ammoniacal Nitrogen as N in water	Determination of ammonium/ammonia/ammoniacal nitrogen by the colorimetric salicylate/nitroprusside method using discrete analyser. Accredited matrices: SW, PW, GW, FSE, LL	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	ISO 17025
Chemical Oxygen Demand in water (Total)	Determination of total COD in water by reflux oxidation with acidified K2Cr2O7 followed by colorimetry. Accredited matrices: SW, PW, GW, FSE, LL	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025
Biochemical Oxygen Demand in water (Total)	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW, FSE, LL	In-house method based on standard method 5210B	L086B	W	ISO 17025

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Analytical Report Number : 26-018362
Project / Site name: Ty Mawr Farm Landfill

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Speciated PAHs and/or Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds (including PAHs) in water by extraction in dichloromethane followed by GC-MS. Accredited matrices (PAHs): SW, PW, GW	In-house method based on USEPA 8270	L102B	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.

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

UKAS TESTING
4041

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Analytical Report Number : 26-024164

Project / Site name:	Ty Mawr Farm Landfill	**Samples received on:**	08/05/2026
Your job number:	10269	**Samples instructed on/ Analysis started on:**	08/05/2026
Your order number:	POP003519	**Analysis completed by:**	17/05/2026
Report Issue Number:	1	**Report issued on:**	18/05/2026
Samples Analysed:	4 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
air	- once the analysis is complete

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Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

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 Report Number: 26-024164
Project / Site name: Ty Mawr Farm Landfill

Your Order No: POP003519

Lab Sample Number				911936	911937	911938
Sample Reference				GW1R	GW2AR	GW3R
Sample Number				None Supplied	None Supplied	None Supplied
Water Matrix				Ground water	Ground water	Ground water
Depth (m)				1.65	4.50	1.50
Date Sampled				07/05/2026	07/05/2026	07/05/2026
Time Taken				0955	1120	1150
Analytical Parameter (Water Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**			
General Inorganics						
pH (L099)	pH Units	N/A	ISO 17025	7.7	7.6	7.1
Electrical Conductivity at 20°C	µS/cm	10	ISO 17025	520	800	460
Chloride	mg/l	0.15	ISO 17025	-	20	32
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	-	19	19
Dissolved Oxygen	mg/l	1	NONE	4.9	6.8	6.1

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

UKAS TESTING
4041

Analytical Report Number : 26-024164
Project / Site name: Ty Mawr Farm Landfill

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Electrical Conductivity at 20°C in water	Determination of electrical conductivity in water by electrochemical measurement. Accredited matrices: SW, PW, GW, FSE	In-house method	L031B	W	ISO 17025
Chemical Oxygen Demand in water (Total)	Determination of total COD in water by reflux oxidation with acidified K2Cr2O7 followed by colorimetry. Accredited matrices: SW, PW, GW, FSE, LL	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025
Chloride in water	Determination of chloride in water by colorimetry using discrete analyser. Accredited matrices: SW, PW, GW, FSE, LL	In-house based on MEWAM Method ISBN 0117516260	L082B	W	ISO 17025
Biochemical Oxygen Demand in water (Total)	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW, FSE, LL	In-house method based on standard method 5210B	L086B	W	ISO 17025
Dissolved Oxygen in water	Determination of dissolved oxygen in water	In-house method	L086B	W	NONE
pH of water at 20°C (automated)	Determination of pH of water by electrochemical measurement. Accredited matrices: SW, PW, GW, FSE, LL	In-house method	L099-PL	W	ISO 17025
Ammoniacal Nitrogen as N in water	Determination of ammonium/ammonia/ammoniacal nitrogen by the colorimetric salicylate/nitroprusside method using discrete analyser. Accredited matrices: SW, PW, GW, FSE, LL	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	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.

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

UKAS TESTING
4041

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Analytical Report Number : 26-029071

Project / Site name:	Ty Mawr Farm Landfill	**Samples received on:**	02/06/2026
Your job number:	10269	**Samples instructed on/ Analysis started on:**	02/06/2026
Your order number:	POP003552	**Analysis completed by:**	04/06/2026
Report Issue Number:	1	**Report issued on:**	04/06/2026
Samples Analysed:	3 water samples		

Signed:

Rachel Chappell
Key Account Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting
air	- once the analysis is complete

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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.

4041

Analytical Report Number: 26-029071
Project / Site name: Ty Mawr Farm Landfill

Your Order No: POP003552

Lab Sample Number				935894	935895	935896
Sample Reference				GW1R	GW2AR	GW3R
Sample Number				None Supplied	None Supplied	None Supplied
Water Matrix				Ground water	Ground water	Ground water
Depth (m)				1.98	5.50	4.82
Date Sampled				01/06/2026	01/06/2026	01/06/2026
Time Taken				0920	1030	1020
Analytical Parameter (Water Analysis)	Units	Test Limit of detection	Test Accreditation Status			
General Inorganics						
pH (L099)	pH Units	N/A	ISO 17025	8.1	8.1	7.8
Electrical Conductivity at 20°C	µS/cm	10	ISO 17025	510	730	440
Chloride	mg/l	0.15	ISO 17025	-	20	32
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	-	< 15	< 15
Dissolved Oxygen	mg/l	1	NONE	3.2	6.6	4.6

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

4041

Analytical Report Number : 26-029071
Project / Site name: Ty Mawr Farm Landfill

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Electrical Conductivity at 20°C in water	Determination of electrical conductivity in water by electrochemical measurement. Accredited matrices: SW, PW, GW, FSE	In-house method	L031B	W	ISO 17025
Dissolved Oxygen in water	Determination of dissolved oxygen in water	In-house method	L086B	W	NONE
pH of water at 20°C (automated)	Determination of pH of water by electrochemical measurement. Accredited matrices: SW, PW, GW, FSE, LL	In-house method	L099-PL	W	ISO 17025
Chloride in water	Determination of chloride in water by colorimetry using discrete analyser. Accredited matrices: SW, PW, GW, FSE, LL	In-house based on MEWAM Method ISBN 0117516260	L082B	W	ISO 17025
Ammoniacal Nitrogen as N in water	Determination of ammonium/ammonia/ammoniacal nitrogen by the colorimetric salicylate/nitroprusside method using discrete analyser. Accredited matrices: SW, PW, GW, FSE, LL	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	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.

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

Table S3.10 Groundwater Level Monitoring

Date:	09.04.26	**Time at Start:**	09:30	**Time at End:**	12:00
Project:	Ty Mawr	**Weather Conditions:**	wet and dry		
Project Ref:	10269	**Surface Conditions:**	mix of dr and wet		
Engineer(s):	CD/LW	**Equipment:**	ATEX 60m Dipmeter		

Dry = No Groundwater **NR = Not Recorded** **N/A = Not Applicable**

Date	Location Reference	Dip to Groundwater (m below top of cover)	Dip to base of well (m below top of cover)	Dip to Groundwater (m below ground level)	Dip to Base of Well (m below ground level)	Cover Height (m above ground level)	Comments	Permit requirement dip	Permit requirement sample
09.04.26	GW1R	1.22	15.90	0.62	15.30	0.60		monthly	monthly
09.04.26	GW2R	11.69	12.88	10.99	12.18	0.70	silty at base	monthly	monthly
09.04.26	GW2AR	4.34	6.00	3.64	5.30	0.70		monthly	monthly
09.04.26	GW3R	13.37	16.29	12.67	15.59	0.70		monthly	monthly

Table S3.10 Groundwater Level Monitoring

Date:	07.05.26	**Time at Start:**	09:30	**Time at End:**	12:00
Project:	Ty Mawr	**Weather Conditions:**	dry		
Project Ref:	10269	**Surface Conditions:**	mix of dry and wet		
Engineer(s):	CD/LW	**Equipment:**	ATEX 60m Dipmeter		

Dry = No Groundwater **NR = Not Recorded** **N/A = Not Applicable**

Date	Location Reference	Dip to Groundwater (m below top of cover)	Dip to base of well (m below top of cover)	Dip to Groundwater (m below ground level)	Dip to Base of Well (m below ground level)	Cover Height (m above ground level)	Comments	Permit dip	Permit sample
07.05.26	GW1R	1.65	15.82	1.05	15.22	0.60		monthly	monthly
07.05.26	GW2R	12.43	12.80	11.73	12.10	0.70	unable to sample	monthly	monthly
07.05.26	GW2AR	4.70	5.92	4.00	5.22	0.70		monthly	monthly
07.05.26	GW3R	14.32	16.23	13.62	15.53	0.70		monthly	monthly

Table S3.10 Groundwater Level Monitoring

Date:	01.06.26	**Time at Start:**	09:30	**Time at End:**	12:00
Project:	Ty Mawr	**Weather Conditions:**	dry		
Project Ref:	10269	**Surface Conditions:**	mix of dry and wet		
Engineer(s):	CD/LW	**Equipment:**	ATEX 60m Dipmeter		

Dry = No Groundwater **NR = Not Recorded** **N/A = Not Applicable**

Date	Location Reference	Dip to Groundwater (m below top of cover)	Dip to base of well (m below top of cover)	Dip to Groundwater (m below ground level)	Dip to Base of Well (m below ground level)	Cover Height (m above ground level)	Comments	Permit dip	Permit sample
01.06.26	GW1R	1.98	15.89	1.38	15.29	0.60		monthly	monthly
01.06.26	GW2R	12.82	12.86	12.12	12.16	0.70	unable to sample	monthly	monthly
01.06.26	GW2AR	4.96	5.99	4.26	5.29	0.70		monthly	monthly
01.06.26	GW3R	14.82	16.30	14.12	15.60	0.70		monthly	monthly

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Analytical Report Number : 26-018395

Project / Site name:	Ty Mawr	**Samples received on:**	10/04/2026
Your job number:	10269	**Samples instructed on/ Analysis started on:**	10/04/2026
Your order number:	POP003473	**Analysis completed by:**	20/04/2026
Report Issue Number:	1	**Report issued on:**	20/04/2026
Samples Analysed:	2 soil samples - 2 leachate 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
air	- once the analysis is complete

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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: 26-018395
Project / Site name: Ty Mawr
Your Order No: POP003473

Lab Sample Number				884281	884282
Sample Reference				S1	S2
Sample Number				None Supplied	None Supplied
Water Matrix				N/A	N/A
Depth (m)				None Supplied	None Supplied
Date Sampled				09/04/2026	09/04/2026
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		
Mass of stone >10mm	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	17	26
Total mass of sample received	kg	0.1	NONE	2	2
General Inorganics					
pH (L005B)	pH Units	N/A	MCERTS	7.8	7.4
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	3.6	3.2
Loss on Ignition @ 450°C	%	0.2	MCERTS	6.2	6.8
Acid Neutralisation Capacity	+/- mmol/kg	-9999	NONE	7.1	2.5
Speciated PAHs					
Naphthalene	mg/kg	0.05	MCERTS	0.07	0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.25	0.18
Fluorene	mg/kg	0.05	MCERTS	0.19	0.1
Phenanthrene	mg/kg	0.05	MCERTS	2	1.1
Anthracene	mg/kg	0.05	MCERTS	0.64	0.33
Fluoranthene	mg/kg	0.05	MCERTS	4.5	3.3
Pyrene	mg/kg	0.05	MCERTS	4	2.9
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.1	1.4
Chrysene	mg/kg	0.05	MCERTS	2.1	1.5
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	2.9	2
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	1	0.87
Benzo(a)pyrene	mg/kg	0.05	MCERTS	2.5	1.8
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.3	1
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.29	0.22
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.5	1.2
Coronene	mg/kg	0.05	NONE	0.25	0.2
Total PAH					
Total WAC-17 PAHs	mg/kg	0.85	NONE	25.6	17.9
Petroleum Hydrocarbons					
Mineral Oil (EC10 - EC40) EH_CU_1D_AL	mg/kg	10	NONE	71	86
VOCs					
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0
Total BTEX	µg/kg	10	MCERTS	< 10	< 10

Analytical Report Number: 26-018395
Project / Site name: Ty Mawr
Your Order No: POP003473

Lab Sample Number				884281	884282
Sample Reference				S1	S2
Sample Number				None Supplied	None Supplied
Water Matrix				N/A	N/A
Depth (m)				None Supplied	None Supplied
Date Sampled				09/04/2026	09/04/2026
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**		
PCBs by GC-MS					
PCB Congener 28	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCB Congener 52	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCB Congener 101	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCB Congener 118	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCB Congener 138	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCB Congener 153	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCB Congener 180	mg/kg	0.001	MCERTS	< 0.001	< 0.001
Total PCBs	mg/kg	0.007	MCERTS	< 0.007	< 0.007

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

Analytical Report Number: 26-018395
Project / Site name: Ty Mawr

Your Order No: POP003473

Lab Sample Number				884281	884282
Sample Reference				S1	S2
Sample Number				None Supplied	None Supplied
Water Matrix				N/A	N/A
Depth (m)				None Supplied	None Supplied
Date Sampled				09/04/2026	09/04/2026
Time Taken				None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Test Limit of detection	Test Accreditation Status		
10:1 WAC Leachate					
Arsenic	mg/l	0.001	ISO 17025	0.00261	0.00418
Barium	mg/l	0.00005	ISO 17025	0.0171	0.0145
Cadmium	mg/l	0.0001	ISO 17025	< 0.000100	< 0.000100
Chromium	mg/l	0.0004	ISO 17025	0.0028	0.0042
Copper	mg/l	0.0007	ISO 17025	0.0041	0.0038
Mercury	mg/l	0.0005	ISO 17025	< 0.000500	< 0.000500
Molybdenum	mg/l	0.0004	ISO 17025	0.00092	0.00186
Nickel	mg/l	0.0003	ISO 17025	0.00059	0.0005
Lead	mg/l	0.001	ISO 17025	< 0.0010	< 0.0010
Antimony	mg/l	0.0017	ISO 17025	0.0022	< 0.0017
Selenium	mg/l	0.004	ISO 17025	< 0.0040	< 0.0040
Zinc	mg/l	0.0004	ISO 17025	0.004	0.0039
Chloride	mg/l	0.15	ISO 17025	27	17
Fluoride	mg/l	0.05	ISO 17025	0.13	0.15
Sulphate	mg/l	0.045	ISO 17025	43	37
Total dissolved solids	mg/l	6	ISO 17025	150	120
Total monohydric phenols	mg/l	0.01	ISO 17025	< 0.010	< 0.010
Dissolved organic carbon	mg/l	0.1	NONE	5.99	4.71
10:1 WAC Leachate					
Arsenic	mg/kg	0.01	NONE	0.0261	0.0418
Barium	mg/kg	0.0005	NONE	0.171	0.145
Cadmium	mg/kg	0.001	NONE	< 0.00100	< 0.00100
Chromium	mg/kg	0.004	NONE	0.028	0.042
Copper	mg/kg	0.007	NONE	0.041	0.038
Mercury	mg/kg	0.005	NONE	< 0.00500	< 0.00500
Molybdenum	mg/kg	0.004	NONE	0.0092	0.0186
Nickel	mg/kg	0.003	NONE	0.0059	0.005
Lead	mg/kg	0.01	NONE	< 0.010	< 0.010
Antimony	mg/kg	0.017	NONE	0.022	< 0.017
Selenium	mg/kg	0.04	NONE	< 0.040	< 0.040
Zinc	mg/kg	0.004	NONE	0.04	0.039
Chloride	mg/kg	1.5	NONE	270	170
Fluoride	mg/kg	0.5	NONE	1.3	1.5
Sulphate	mg/kg	0.45	NONE	430	370
Total dissolved solids	mg/kg	60	NONE	1500	1200
Total monohydric phenols	mg/kg	0.1	NONE	< 0.10	< 0.10
Dissolved organic carbon	mg/kg	1	NONE	59.9	47.1

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

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Waste Acceptance Criteria Analytical Results

Report No:	**26-018395**						
					Client:	**Egniol Environmental Ltd**	
Location	**Ty Mawr**						
Lab Reference (Sample Number)	884281				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	09/04/2026				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	S1						
Depth (m)	None Supplied						
Solid Waste Analysis							
TOC (%)**	3.6				3%	5%	6%
Loss on Ignition (%) **	6.2				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	71				500	--	--
Total PAH (WAC-17) (mg/kg)	25.6				100	--	--
pH (units)**	7.8				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	7.1				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1 mg/l			10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.00261			0.0261	0.5	2	25
Barium *	0.0171			0.171	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.0028			0.028	0.5	10	70
Copper *	0.0041			0.041	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.00092			0.0092	0.5	10	30
Nickel *	0.00059			0.0059	0.4	10	40
Lead *	< 0.0010			< 0.010	0.5	10	50
Antimony *	0.0022			0.022	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.004			0.04	4	50	200
Chloride *	27			270	800	15000	25000
Fluoride*	0.13			1.3	10	150	500
Sulphate *	43			430	1000	20000	50000
TDS*	150			1500	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	5.99			59.9	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	2						
Dry Matter (%)	83						
Moisture (%)	17						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

*= UKAS accredited (liquid eluate analysis only)

Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation

** = MCERTS accredited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3. This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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Waste Acceptance Criteria Analytical Results

Report No:	**26-018395**						
					Client:	**Egniol Environmental Ltd**	
Location	**Ty Mawr**						
Lab Reference (Sample Number)	884282				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	09/04/2026				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	S2						
Depth (m)	None Supplied						
Solid Waste Analysis							
TOC (%)**	3.2				3%	5%	6%
Loss on Ignition (%) **	6.8				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	86				500	--	--
Total PAH (WAC-17) (mg/kg)	17.9				100	--	--
pH (units)**	7.4				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	2.5				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1 mg/l			10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.00418			0.0418	0.5	2	25
Barium *	0.0145			0.145	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.0042			0.042	0.5	10	70
Copper *	0.0038			0.038	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.00186			0.0186	0.5	10	30
Nickel *	0.0005			0.005	0.4	10	40
Lead *	< 0.0010			< 0.010	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0039			0.039	4	50	200
Chloride *	17			170	800	15000	25000
Fluoride*	0.15			1.5	10	150	500
Sulphate *	37			370	1000	20000	50000
TDS*	120			1200	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	4.71			47.1	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	2						
Dry Matter (%)	74						
Moisture (%)	26						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

*= UKAS accredited (liquid eluate analysis only)

Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation

** = MCERTS accredited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3. This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Analytical Report Number : 26-018395
Project / Site name: Ty Mawr

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
884281	S1	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation
884282	S2	None Supplied	None Supplied	Brown clay and sand with gravel and vegetation

Analytical Report Number : 26-018395
Project / Site name: Ty Mawr

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
pH at 20°C in soil	Determination of pH in soil by addition of water followed by electrometric measurement	In-house method	L005B	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content (Wet Weight)	Moisture content (% wet weight), determined gravimetrically (up to 30°C)	In-house-procedure based on BS EN 12880:2000	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
PCB's By GC-MS in soil	Determination of PCB by extraction with hexane followed by GC-MS	In-house method based on USEPA 8082	L027B	D	MCERTS
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by electrometric measurement	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031B	W	ISO 17025
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination	L033B	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR Analyser	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	NONE
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
One stage WAC 10:1 leachate preparation	One stage batch test at a liquid to solid ratio of 10 L/kg	BS EN 12457-2-2002	L043B	W	ISO 17025
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance	L046B	W	NONE
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047-PL	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons by GC-FID in soil	Determination of total petroleum hydrocarbons in soil by GC-FID	In-house method	L076B	D	NONE
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025

Analytical Report Number : 26-018395
Project / Site name: Ty Mawr

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser	In-house based on MEWAM Method ISBN 0117516260	L082B	W	ISO 17025
Soil Descriptions	Textural classification	In-house method	L019B	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.

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

Landfill Gas Composition in external monitoring boreholes

Date:	09.04.26	**Time at Start:**	10:00	**Time at End:**	12:00
Project:	10269	**Weather Conditions:**	Drizzle		
Project Ref:	Ty Mawr	**Surface Conditions:**	Wet		
Engineer(s):	LW/CD	**Equipment:**	GM Series BLE		

NR = Not Recorded **N/A = Not Applicable**

Location Reference	CH_4 (%)	CO_2 (%)	O_2 (%)	Balance (%)	Barometric Pressure (mb)	Internal Flow (l/h)	Comments
BH1AR	0.1	0.6	20.8	78.5	1003	0.1	
BH1BR	0.1	3.1	11.1	85.7	1003	-23.3	
BH2AR	0.1	0.5	20.7	78.7	1004	-0.1	
BH2BR	0.1	0.1	21.2	78.6	1001	-0.1	
BH3AR1	0.1	0.2	21.3	78.4	1004	-0.3	
BH3BR	0.1	0.2	21	78.7	1001	-0.1	
BH4AR	0.1	0.7	20.1	79.1	1006	-19.3	
BH4BR	0.1	1.4	17.4	81.1	1004	-0.3	
BH5AR	0.1	3.2	15.9	80.8	1006	-2.8	
BH6AR	0.1	3.8	17.6	78.5	1006	-26	
BH7AR	0.1	0.8	19.2	79.6	1006	-0.1	
LMP	44.6	11	0.3	44.1	1002	0.1	3RD breach Griff to inform NRW

Landfill Gas Composition in external monitoring boreholes

Date:	07.05.26	**Time at Start:**	10:00	**Time at End:**	12:00
Project:	10269	**Weather Conditions:**	Drizzle		
Project Ref:	Ty Mawr	**Surface Conditions:**	Wet		
Engineer(s):	LW/CD	**Equipment:**	GM Series BLE		

NR = Not Recorded **N/A = Not Applicable**

Location Reference	CH_4 (%)	CO_2 (%)	O_2 (%)	Balance (%)	Barometric Pressure (mb)	Internal Flow (l/h)	Comments
BH1AR	0.1	1.7	19.5	81.1	1002	0.1	
BH1BR	0.1	2.7	16.1	81.1	1001	0.1	
BH2AR	0.1	0.6	20.6	78.7	1002	0	
BH2BR	0.1	0.1	21.3	78.5	1000	0.5	
BH3AR1	0.1	0.2	21.2	78.5	1003	0.1	
BH3BR	0.1	0.3	21.1	78.5	1000	0.4	
BH4AR	0.0	0.6	20.2	79.2	1006	0.9	
BH4BR	0.0	1.8	18.3	79.9	1003	0.2	
BH5AR	0.0	2.6	17.4	80	1006	0.2	
BH6AR	0.0	2.9	17.8	79.3	1007	-26	
BH7AR	0.0	0.4	20.3	79.3	1006	0.2	
LMP	65.5	10.2	0.2	24.1	1001	0.2	

Landfill Gas Composition in external monitoring boreholes

Date:	01.06.26	**Time at Start:**	10:00	**Time at End:**	12:00
Project:	10269	**Weather Conditions:**	Drizzle		
Project Ref:	Ty Mawr	**Surface Conditions:**	Wet		
Engineer(s):	LW/CD	**Equipment:**	GM Series BLE		

NR = Not Recorded **N/A = Not Applicable**

Location Reference	CH_4 (%)	CO_2 (%)	O_2 (%)	Balance (%)	Barometric Pressure (mb)	Internal Flow (l/h)	Comments
BH1AR	0.1	4.5	16.4	79	998	0.1	
BH1BR	0.1	2.3	17.9	79.7	998	0.1	
BH2AR	0.1	0.7	20.1	79.1	999	0.1	
BH2BR	0.1	3.4	15.2	81.3	997	0.1	
BH3AR1	0.1	2.6	15.6	81.7	999	0	
BH3BR	0.1	3.4	15.2	78.8	996	0.1	
BH4AR	0.0	0.4	20.7	78.9	1001	0.5	
BH4BR	0.1	1.5	19	79.4	1000	-0.4	
BH5AR	0.0	1.5	19.3	79.2	1002	0.5	
BH6AR	0.1	2.5	18.1	79.3	1002	-26	
BH7AR	0.2	2	16.3	81.5	1002	0.4	
LMP	65.4	13.4	0.4	20.8	999	0.1	

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N

109m
wydd
103m
118m
110m
105m
120m
125m
130m
140m
142m
145m
86m
Cottage
Gas Gov
Iss
Track
Track
Track
Path
Drain
A548
FB
W
Spr
Ty-Mawr-Ucha
Bwthyn
Ysgeiriallt

SW2
GW2R
GW2AR
BH7AR
BH6AR
GW3R
BH5AR
BH4AR
BH4BR
LMP
BH3AR1
BH2AR
BH1AR
BH3BR
GW1R
BH2BR
SW1
BH1BR

Notes

1. Do not scale from this drawing.
2. Any anomalies on this drawing should be brought to the attention of Egniol Consulting Ltd.
3. Key.

In-waste gas monitoring boreholes.

Perimeter gas monitoring boreholes.

GW1 Ground water monitoring boreholes.

SW1 Surface water monitoring point

Rev	Modification	By	Chk	App	Date

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Wyn Griffiths & Sons

Ty Mawr Farm,
Abergele

Monitoring point location plan

Drawn by	Checked by	Approved by
LG	CD	MB
Date	Date	Date
02.09.25	02.09.25	02.09.25

Status	Scale @ A1
INFORMATION	1:1250

Drawing Number	Revision
10269-ECL-ZZ-XX-DR-C-0016	-

CAD File Ref:P:\10269 Ty Mawr Farm Landfill, Environmental Services\CAD & BIM\Drawings\Current Working Drawings\10269-ECL-XX-XX-DR-C-0016.dwg