

ANNUAL 2024 COMPLIANCE REPORT
GROUNDWATER MONITORING
BORD NA MÓNA
CLONBULLOGUE ASH REPOSITORY
(W0049-02)

1. Introduction and methodology

As part of Licence W0049-02, Bord na Mona, carry out groundwater monitoring at Clonbullogue Ash Repository at locations, each month.

The monitoring locations are:

- MW-02
- MW-03
- MW-05 MW-08, MW-09, MW-10 and MW11 are bedrock monitoring wells.
- MW-06 MW-02, MW-03, MW-05, MW-06 and MW-07 are overburden wells.
- MW-07 MW-03 and MW-08 are up gradient of the Ash Cells.
- MW-08 MW-07 and MW-11 are down gradient.
- MW-09
- MW-10
- MW-11

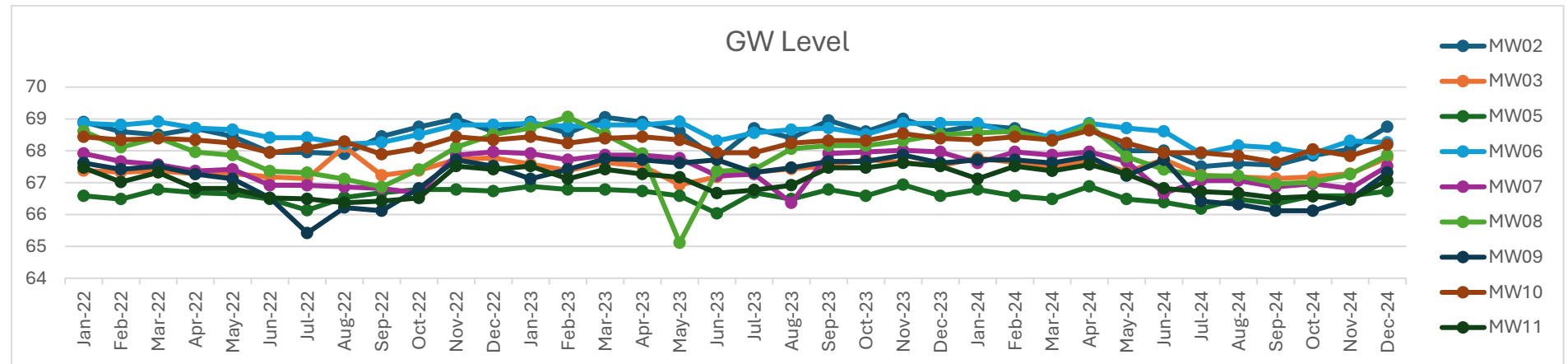
In 2024 the sampling dates were:

Month	Date of sampling
January	08/01/2024
February	19/02/2024
March	11/03/2024
April	08/04/2024
May	20/05/2024
June	25/06/2024
July	29/07/224
August	06/08/2024
September	16/09/2024
October	14/10/2024
November	11/11/2024
December	03/12/2024

2. Results

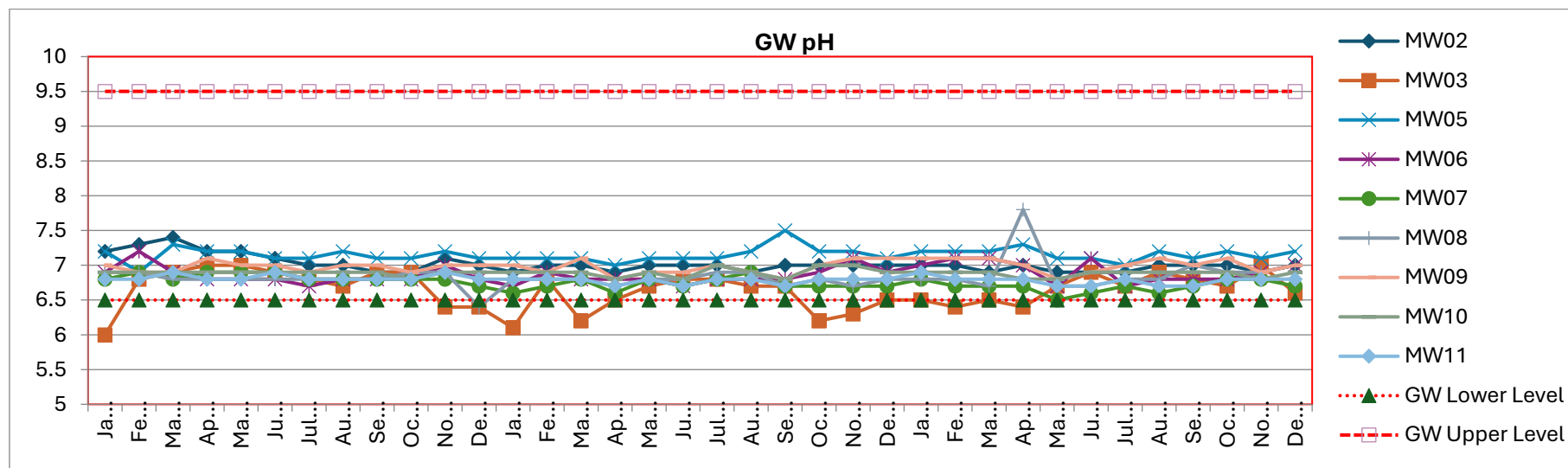
Groundwater level (m AOD)

	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24
MW02	68.802	68.702	68.402	68.702	68.002	68.002	67.502	67.602	67.552	67.852	68.052	68.752
MW03	67.78	67.63	67.48	67.73	67.33	67.73	67.23	67.18	67.13	67.18	67.28	67.78
MW05	66.784	66.584	66.484	66.884	66.484	66.384	66.184	66.484	66.334	66.584	66.584	66.734
MW06	68.863	68.513	68.463	68.863	68.713	68.613	67.913	68.163	68.093	67.913	68.313	68.263
MW07	67.616	67.966	67.866	67.966	67.666	66.666	67.066	67.066	66.866	66.966	66.816	67.516
MW08	68.562	68.612	68.312	68.812	67.812	67.412	67.212	67.212	66.962	67.012	67.262	67.862
MW09	67.718	67.718	67.618	67.818	67.218	67.718	66.418	66.318	66.118	66.118	66.468	67.318
MW10	68.34	68.44	68.34	68.64	68.24	67.94	67.94	67.84	67.64	68.04	67.84	68.19
MW11	67.119	67.519	67.369	67.569	67.269	66.819	66.719	66.669	66.519	66.569	66.469	67.069



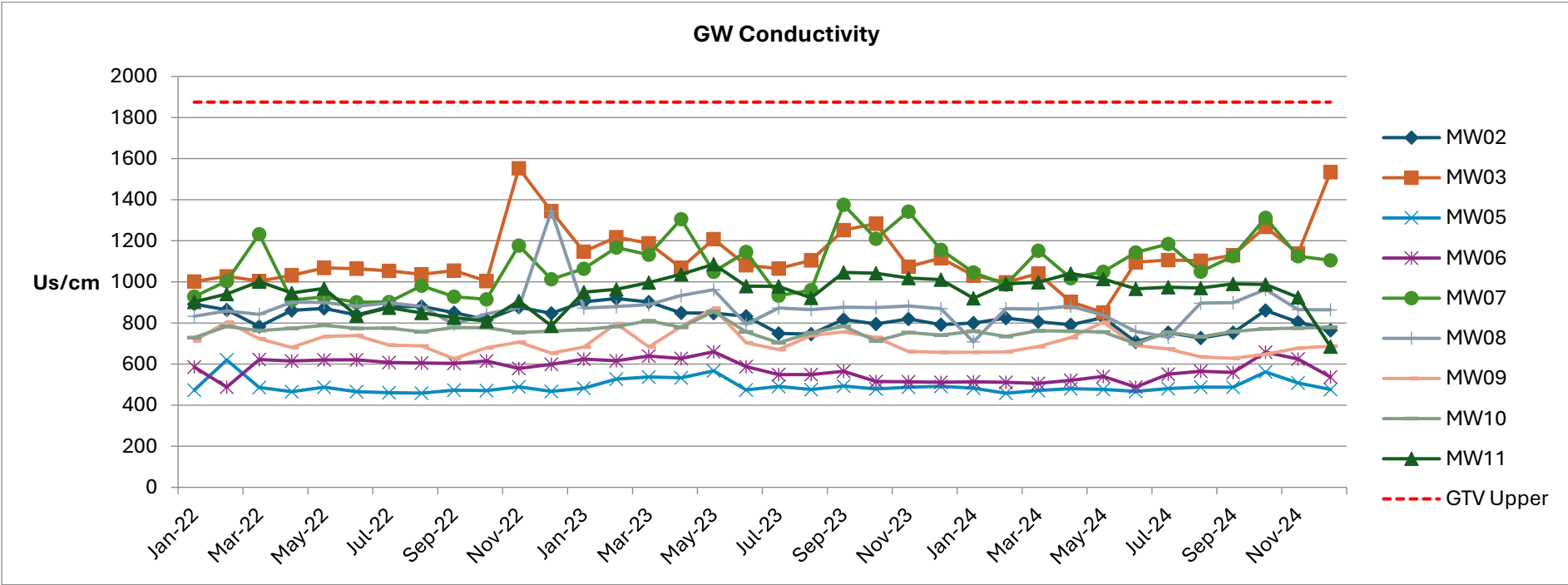
pH (pH Units)

	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24
MW02	7	7	6.9	7	6.9	6.9	6.9	7	7	7	6.9	7
MW03	6.5	6.4	6.5	6.4	6.7	6.9	6.7	6.9	6.8	6.7	7	6.6
MW05	7.2	7.2	7.2	7.3	7.1	7.1	7	7.2	7.1	7.2	7.1	7.2
MW06	7	7.1	7.1	7	6.7	7.1	6.7	6.8	6.8	6.8	6.9	7
MW07	6.8	6.7	6.7	6.7	6.5	6.6	6.7	6.6	6.7	6.8	6.8	6.7
MW08	6.8	6.8	6.7	7.8	6.7	6.7	6.8	6.8	7	6.9	6.9	7
MW09	7.1	7.1	7.1	7	6.8	6.9	7	7.1	7	7.1	6.9	7
MW10	6.9	6.9	6.9	6.8	6.8	6.9	6.9	6.9	6.9	6.9	6.8	6.9
MW11	6.9	6.8	6.8	6.8	6.7	6.7	6.8	6.7	6.7	6.8	6.8	6.8



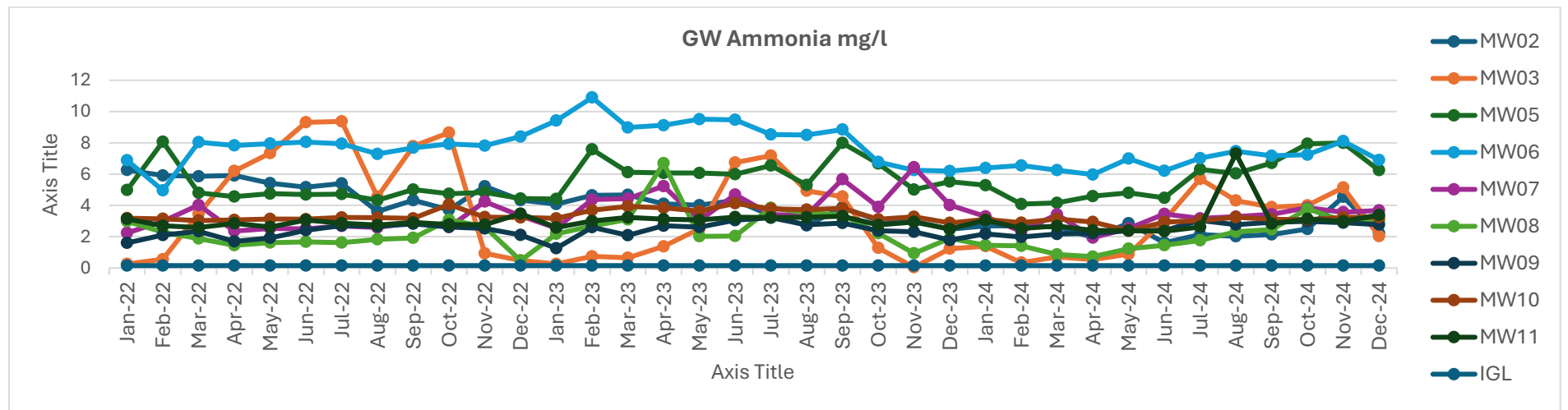
Electrical Conductivity (µS/cm)

	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24
MW02	800	824	806	791	826	708	753	727	753	861	804	764
MW03	1031	998	1040	903	851	1096	1106	1103	1130	1268	1138	1534
MW05	483	458	472	480	477	467	481	488	487	562	508	476
MW06	514	511	506	521	540	488	551	565	559	658	625	537
MW07	1046	987	1152	1018	1049	1143	1185	1050	1125	1312	1125	1105
MW08	708	870	868	882	838	759	731	897	899	963	865	864
MW09	658	659	685	729	804	690	673	635	628	648	678	687
MW10	760	734	762	760	756	699	755	733	758	772	775	779
MW11	920	990	998	1041	1014	966	974	970	990	988	925	685



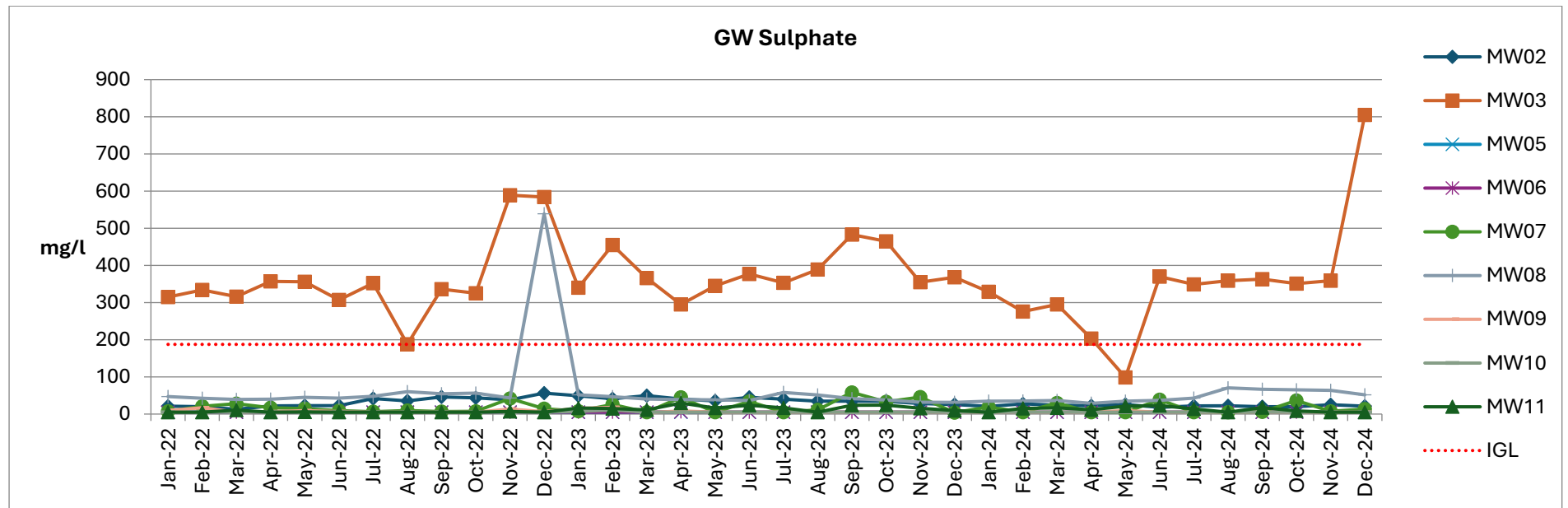
Total Ammonia mg/l

	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24
MW02	2.69	2.68	2.62	1.95	2.86	1.61	2.14	2.02	2.14	2.49	4.55	2.23
MW03	1.39	0.339	0.706	0.528	0.883	3.05	5.69	4.31	3.89	4	5.14	2.03
MW05	5.29	4.08	4.16	4.59	4.8	4.48	6.3	6.04	6.71	7.94	7.99	6.25
MW06	6.39	6.55	6.25	5.97	6.99	6.21	7.02	7.46	7.17	7.24	8.11	6.9
MW07	3.29	2.33	3.42	1.94	2.52	3.45	3.17	3.28	3.43	3.85	3.56	3.68
MW08	1.45	1.41	0.86	0.722	1.23	1.45	1.76	2.31	2.46	3.78	3.01	3.06
MW09	2.18	1.98	2.17	2.21	2.38	2.4	3.04	2.77	2.92	2.98	2.89	2.77
MW10	3.1	2.89	3.13	2.94	2.38	2.93	3.03	3.24	3.11	3.09	3.23	3.24
MW11	3.06	2.52	2.68	2.4	2.39	2.35	2.62	7.31	2.83	3.13	2.98	3.39



Sulphate (SO4) mg/l

	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24
MW02	20.8	27.2	24.2	22.2	26	18.1	21.9	22.3	19.8	20	25.1	21.3
MW03	329	276	295	203	98.7	370	349	359	363	351	359	805
MW05	5	5	5	5	5	5	5	5	5	5	5	5
MW06	5	5	5	5	5	5	5	5	5	5	5	5
MW07	19.3	5	29.8	5	5	38.7	5	5	6.18	36.6	7.45	13.3
MW08	34.8	35.2	36.5	28.9	34.7	36.7	43	70.7	66.8	65.4	63.8	51.8
MW09	5	5	5	5	9.15	5	5	5	5	5	5	5
MW10	5	5	5	5	5	5	5	5	5	5	5	5
MW11	5	15.4	16.5	11.8	21.2	23.1	13.8	5	17.4	8.53	5	5



3. Explanation of results

The parameters Bord na Mona are required to test for are Groundwater level, pH, Electrical Conductivity, Total Ammonia and Sulphate.

- pH (pH units)
pH levels fluctuated slightly, however remained within the Guideline Threshold Values at all monitoring locations.
- Electrical Conductivity ($\mu\text{S}/\text{cm}$)
Conductivity levels were below the upper Guideline Threshold Value at all locations and continue to show slight variations over time.
- Total Ammonia mg/l
Ammonia levels remained elevated across the site and displayed minor fluctuations which were consistent with trends recorded during previous monitoring events.
Naturally elevated levels of ammonia are not unusual in the peat environment found at the site and wider region.
- Sulphate (SO_4) mg/l
Sulphate levels detected at all boreholes during 2024 were below the Guideline Threshold Value (187.5 mg/l) as set out in the “*European Communities Environmental Objectives (Groundwater) Regulations, 2010 (S.I. No. 9 of 2010)*” except for MW-3 (Up Gradient) which is consistently above the threshold. Levels ranged from <5 mg/l to 805 mg/l.
The newest borewell MW-03 was first monitored in June 2017 and Sulphate readings have been consistently high. This is again the case in 2024.
This borewell is up gradient of the ash cells. Results are generally consistent from month to month.
- VOCs & Semi-VOCs
No organic compounds (VOCs & Semi-VOCs) were detected in any of the monitoring boreholes above the laboratory method detection limits except a single phenol at MW2, MW3 and MW5, highest at MW3 which is upgradient.

Metals

Levels were elevated above the GTV or IGV for Groundwater were:

- Iron at 9 of the 9 wells tested
- Manganese at 9 of the 9 wells tested
- Arsenic at 8 of the 9 wells tested,
- Barium at 8 of the 9 wells tested
- OrthoPhospate at 5 of the 9 wells tested – MW5, MW6, MW7, MW9, MW11
- Nickel at 4 of the 9 wells tested– MW3, MW5, MW9, MW10
- Aluminium at 3 of the 9 wells tested – MW3, MW5, MW6
- Calcium at 2 of the 9 wells tested – MW3, MW5
- Lead at 2 of the 9 wells tested – MW3, MW6
- Potassium at 2 of the 9 wells tested – MW7, MW11
- Zinc at 1 of the 9 wells tested - MW3
- Fluoride at 1 of the 9 wells tested - MW6

Elevated levels of ammonia, iron and manganese are not unusual in peatland environments due to the reducing conditions present and the elevated arsenic levels are thought to represent the natural geochemistry beneath the peatland in which the facility resides as elevated levels were recorded in the previous annual monitoring events.

There were some exceedances of the results over IGV for Iron, Manganese, Arsenic, Barium, Orthophosphate, Nickel, Aluminium, Calcium, Lead, Zinc and Fluoride. Most of these were recorded at MW3, MW5 and MW6 located upgradient or cross gradient of the landfill.

Orthophosphate was detected above IGV at down gradient boreholes, i.e. MW7 and MW11 and at lower levels found in the upgradient boreholes.

Potassium was detected above IGV at MW7 and MW11, these levels were consistent with previous monitoring events.

Metal results for 2024

Parameter	GTV	IGV	MW02	MW03	MW05	MW06	MW07	MW08	MW09	MW10	MW11
Arsenic (µg/l)	7.5	10	53	16	16	15	5	52	59	42	11
Boron (µg/l)	750	1000	18	38	<120	30	13	23	<12	12	<12
Aluminium (µg/l)		150	17	6764	287	1384	32	133	30	9	21
Beryllium (µg/l)			<0.6	1	<12	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Barium (µg/l)		100	1111	193	81	171	374	768	552	554	437
Calcium (mg/l)		200	153	288	282	123	188	184	140	154	166
Chromium (µg/l)	3.75	30	<0.6	31	<12	7	2	1	1	1	1
Cadmium (µg/l)	3.75	5	<0.6	5	<12	1	<0.6	<0.6	<0.6	<0.6	<0.6
Cobalt (µg/l)			5	16	18	3	<0.6	2	2	9	<0.6
Copper (µg/l)	1500	30	17	24	27	4	27	2	1	22	23
Iron (µg/l)		200	11899	21007	3438	20982	19269	20647	11789	23811	13026
Potassium (mg/l)		5	2		<6	1	20	1	1	1	21
Magnesium (mg/l)		50	21	37	<18	4	10	10	8	5	12
Manganese (µg/l)		50	242	2986	2704	481	731	606	240	469	676
Sodium (mg/l)		150	8	8	<24	13	47	8	7	12	26
Nickel (µg/l)	15	20	19	75	89	18	1	20	22	45	1
Lead (µg/l)	18.75	10	<0.6	93	<12	11	<0.6	6	2	<0.6	<0.6
Antimony (µg/l)			<0.6	1	<12	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6

Parameter	GTV	IGV	MW02	MW03	MW05	MW06	MW07	MW08	MW09	MW10	MW11
Selenium (µg/l)			<0.6	3	<12	1	<0.6	<0.6	<0.6	<0.6	<0.6
Tin (µg/l)			<0.6	<0.6	<12	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Zinc (µg/l)		100	<6	242	25	28	<6	10	<6	7	<6
Mercury (µg/l)	0.75	1	<0.06	0.14	<1.2	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
Fluoride (mg/l)		1	0.28	0.38	0.63	1.15	0.56	<0.2	0.41	<0.2	0.24
PO4-P (mg/l)	0.035	0.03	<0.01	0.012	0.197	0.36	0.049	<0.01	0.142	<0.1	0.079

Conclusion

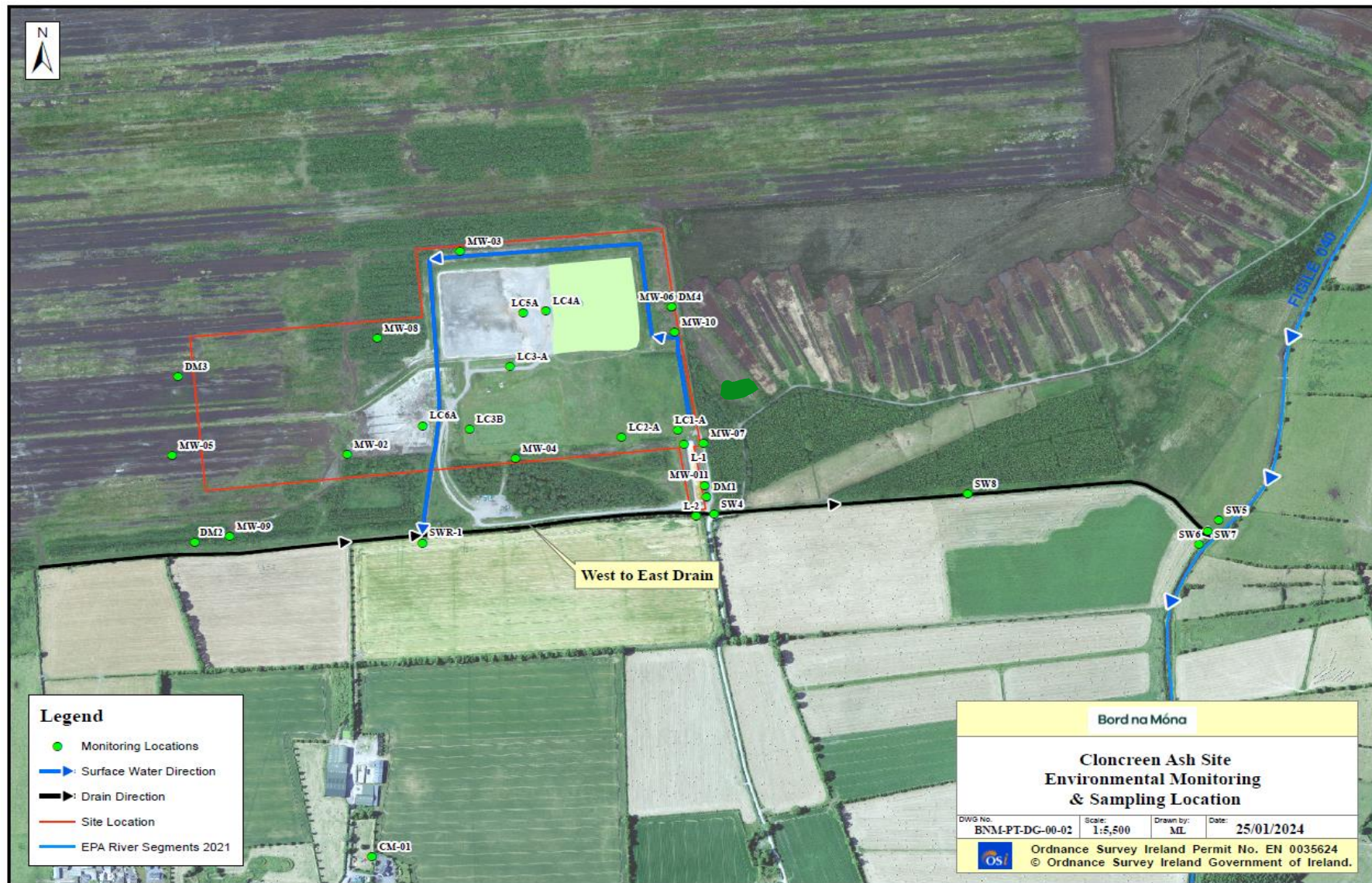
As the results of the down gradient borewells are lower than the up-gradient wells, it would indicate that Groundwater is not being influenced by ash placement or high pH leachate.

4. Incidents notified to the Environmental Protection Agency

INCI028195 relating to mislabeling of the sample bottles during the June sampling.

EPA investigated and closed.

5. Site drawing with monitoring locations



BORD NA MÓNA
Naturally Driven

Cloncreen Ash Site - Water Direction

DWG No.	Scale:	Drawn by:	Date:
BNM-PT-DG-00-02	1:2,500	ML	31/08/2018

Ordnance Survey Ireland Permit No. EN 0035618
© Ordnance Survey Ireland Government of Ireland.

CERTIFICATE OF ANALYSIS

Client : Michael Mulhall
 Bord na Móna (Clonbullogue Ash, Clonbrin, Cúil na
 Edenderry Power Plant,
 Balykillen, Edenderry,
 Co. Offaly

Report No. : 544094
 Date of Receipt : 08/01/2024
 Start Date of Analysis : 08/01/2024
 Date of Report : 16/01/2024
 Order Number : 3085231
 Sample taken by : CLS

Lab No	Sample Description	Test	Ref.	Result	Units
1697207	MW-2 08/01/2024	pH	I,R	7.0	pH Units
		Conductivity @20C	I,R	800	uS/cm
		Sulphate (SO4)	I,R	20.8	mg/l
		Ammonia as N	I,R	2.69	mg/l
		Visual Inspection/Odour	R	Sample is clear with a mild odour	
1697208	MW-3 08/01/2024	Visual Inspection/Odour	R	Sample is brown with a mild odour	
		Conductivity @20C	I,R	1031	uS/cm
		Sulphate (SO4)	I,R	329	mg/l
		pH	I,R	6.5	pH Units
		Ammonia as N	I,R	1.39	mg/l
1697209	MW-5 08/01/2024	Ammonia as N	I,R	5.29	mg/l
		pH	I,R	7.2	pH Units
		Sulphate (SO4)	I,R	<5	mg/l
		Conductivity @20C	I,R	483	uS/cm
		Visual Inspection/Odour	R	Sample is cloudy with a strong odour	
1697210	MW-6 08/01/2024	Visual Inspection/Odour	R	Sample is brown with a strong odour	
		Conductivity @20C	I,R	514	uS/cm
		Sulphate (SO4)	I,R	<5	mg/l
		pH	I,R	7.0	pH Units
		Ammonia as N	I,R	6.39	mg/l
1697211	MW-7 08/01/2024	Ammonia as N	I,R	3.29	mg/l
		pH	I,R	6.8	pH Units
		Sulphate (SO4)	I,R	19.3	mg/l
		Conductivity @20C	I,R	1046	uS/cm
		Visual Inspection/Odour	R	Sample is clear with a medium odour	
1697212	MW-8 08/01/2024	Visual Inspection/Odour	R	Sample is clear with a mild odour	
		Conductivity @20C	I,R	708	uS/cm
		Sulphate (SO4)	I,R	34.8	mg/l
		pH	I,R	6.8	pH Units
		Ammonia as N	I,R	1.45	mg/l
1697213	MW-9 08/01/2024	Ammonia as N	I,R	2.18	mg/l
		pH	I,R	7.1	pH Units
		Sulphate (SO4)	I,R	<5	mg/l
		Conductivity @20C	I,R	658	uS/cm
		Visual Inspection/Odour	R	Sample is light brown with no odour	
1697214	MW-10 08/01/2024	Visual Inspection/Odour	R	Sample is clear with no odour	
		Conductivity @20C	I,R	760	uS/cm
		Ammonia as N	I,R	3.1	mg/l
		Sulphate (SO4)	I,R	<5	mg/l
		pH	I,R	6.9	pH Units
1697215	MW-11 08/01/2024	pH	I,R	6.9	pH Units
		Conductivity @20C	I,R	920	uS/cm
		Sulphate (SO4)	I,R	<5	mg/l
		Ammonia as N	I,R	3.06	mg/l
		Visual Inspection/Odour	R	Sample is clear with a mild odour	



Complete Laboratory Solutions

Complete Laboratory Solutions

[Tel] 091 574355

[Fax] 091 574356

[Email] services@cls.ie

[web] www.cls.ie



Approved by:

Luiza Singh
Operations Supervisor

See below for test specifications and accreditation status.

This report only relates to items tested and shall not be reproduced but in full with the permission of CLS.
est. is an estimated count.

CLS will test food, water and swabs samples within 24 hours of receipt.

Where samples have been taken by the Client, results apply to the samples as received.

In-House Test	Specification	Expanded Measurement of Uncertainty	17025	GMP/FDA*	ISO**
pH	CLS 26	+/- 0.133 pH units	Yes	No	Yes
Conductivity @20C	CLS 67	+/- 4.92 %	Yes	No	Yes
Sulphate (SO ₄)	Konelab CLS 88	+/- 7.29 %	Yes	No	Yes
Ammonia as N	Konelab CLS 40	+/- 5.13 %	Yes	No	Yes
Visual Inspection/Odour		0	No	No	Yes

*Analysis carried out in a GMP approved, FDA inspected facility (MedPharma site only).

**Laboratory Analysis, Sampling, Food Safety Monitoring and Analysts on Contract are all ISO 9001 certified.

Lab No	Sample ID	Sample Condition on Receipt	Sampling Date
1697207	MW-2 08/01/2024	Good condition	08/01/2024
1697208	MW-3 08/01/2024	Good condition	08/01/2024
1697209	MW-5 08/01/2024	Good condition	08/01/2024
1697210	MW-6 08/01/2024	Good condition	08/01/2024
1697211	MW-7 08/01/2024	Good condition	08/01/2024
1697212	MW-8 08/01/2024	Good condition	08/01/2024
1697213	MW-9 08/01/2024	Good condition	08/01/2024
1697214	MW-10 08/01/2024	Good condition	08/01/2024
1697215	MW-11 08/01/2024	Good condition	08/01/2024

CERTIFICATE OF ANALYSIS

Client : Michael Mulhall
Bord na Móna (Clonbullogue Ash, Clonbrin, Cúil na
Edenderry Power Plant,
Balykillen, Edenderry,
Co. Offaly

Report No. : 548383
Date of Receipt : 19/02/2024
Start Date of Analysis : 19/02/2024
Date of Report : 27/02/2024
Order Number : 3085231
Sample taken by : CLS

Lab No	Sample Description	Test	Ref.	Result	Units
1711126	MW-2 19/02/2024	pH	I,R	7.0	pH Units
		Conductivity @20C	I,R	824	uS/cm
		Sulphate (SO4)	I,R	27.2	mg/l
		Ammonia as N	I,R	2.68	mg/l
		Visual Inspection/Odour	R	Sample is Clear with no odour	
1711127	MW-3 19/02/2024	Visual Inspection/Odour	R	Sample is brown with a moderate odour	
		Conductivity @20C	I,R	998	uS/cm
		Sulphate (SO4)	I,R	276	mg/l
		pH	I,R	6.4	pH Units
		Ammonia as N	I,R	0.339	mg/l
1711128	MW-8 19/02/2024	Ammonia as N	I,R	1.41	mg/l
		pH	I,R	6.8	pH Units
		Sulphate (SO4)	I,R	35.2	mg/l
		Conductivity @20C	I,R	870	uS/cm
		Visual Inspection/Odour	R	Sample is clear with no odour	
1711129	MW-9 19/02/2024	Visual Inspection/Odour	R	Sample is slight brown with no odour	
		Conductivity @20C	I,R	659	uS/cm
		Sulphate (SO4)	I,R	<5	mg/l
		pH	I,R	7.1	pH Units
		Ammonia as N	I,R	1.98	mg/l
1711130	MW-10 19/02/2024	Ammonia as N	I,R	2.89	mg/l
		pH	I,R	6.9	pH Units
		Sulphate (SO4)	I,R	<5	mg/l
		Conductivity @20C	I,R	734	uS/cm
		Visual Inspection/Odour	R	Sample is clear with no odour	
1711131	MW-5 19/02/2024	Visual Inspection/Odour	R	Sample is milky with a mild odour	
		Conductivity @20C	I,R	458	uS/cm
		Sulphate (SO4)	I,R	<5	mg/l
		pH	I,R	7.2	pH Units
		Ammonia as N	I,R	4.08	mg/l
1711132	MW-6 19/02/2024	Ammonia as N	I,R	6.55	mg/l
		pH	I,R	7.1	pH Units
		Sulphate (SO4)	I,R	<5	mg/l
		Conductivity @20C	I,R	511	uS/cm
		Visual Inspection/Odour	R	Sample is brown with a mild odour	
1711133	MW-7 19/02/2024	Visual Inspection/Odour	R	Sample is clear with a mild odour	
		Conductivity @20C	I,R	987	uS/cm
		Ammonia as N	I,R	2.33	mg/l
		Sulphate (SO4)	I,R	<5	mg/l
		pH	I,R	6.7	pH Units
1711134	MW-11 19/02/2024	pH	I,R	6.8	pH Units
		Conductivity @20C	I,R	990	uS/cm
		Sulphate (SO4)	I,R	15.4	mg/l
		Ammonia as N	I,R	2.52	mg/l
		Visual Inspection/Odour	R	Sample is clear with moderate odour	



Complete Laboratory Solutions

Complete Laboratory Solutions

[Tel] 091 574355

[Fax] 091 574356

[Email] services@cls.ie

[web] www.cls.ie



Approved by:

AnnMarie Nee
Environmental
Services Administrator

See below for test specifications and accreditation status.

This report only relates to items tested and shall not be reproduced but in full with the permission of CLS. est. is an estimated count.

CLS will test food, water and swabs samples within 24 hours of receipt.

Where samples have been taken by the Client, results apply to the samples as received.

In-House Test	Specification	Expanded Measurement of Uncertainty	17025	GMP/FDA*	ISO**
pH	CLS 26	+/- 0.133 pH units	Yes	No	Yes
Conductivity @20C	CLS 67	+/- 4.92 %	Yes	No	Yes
Sulphate (SO ₄)	Konelab CLS 88	+/- 7.29 %	Yes	No	Yes
Ammonia as N	Konelab CLS 40	+/- 5.13 %	Yes	No	Yes
Visual Inspection/Odour		0	No	No	Yes

*Analysis carried out in a GMP approved, FDA inspected facility (MedPharma site only).

**Laboratory Analysis, Sampling, Food Safety Monitoring and Analysts on Contract are all ISO 9001 certified.

Lab No	Sample ID	Sample Condition on Receipt	Sampling Date
1711126	MW-2 19/02/2024	Good condition	19/02/2024
1711127	MW-3 19/02/2024	Good condition	19/02/2024
1711128	MW-8 19/02/2024	Good condition	19/02/2024
1711129	MW-9 19/02/2024	Good condition	19/02/2024
1711130	MW-10 19/02/2024	Good condition	19/02/2024
1711131	MW-5 19/02/2024	Good condition	19/02/2024
1711132	MW-6 19/02/2024	Good condition	19/02/2024
1711133	MW-7 19/02/2024	Good condition	19/02/2024
1711134	MW-11 19/02/2024	Good condition	19/02/2024

CERTIFICATE OF ANALYSIS

Client : Michael Mulhall
Bord na Móna (Clonbullogue Ash, Clonbrin, Cúil na
Edenderry Power Plant,
Balykillen, Edenderry,
Co. Offaly

Report No. : 550890
Date of Receipt : 11/03/2024
Start Date of Analysis : 11/03/2024
Date of Report : 24/03/2024
Order Number : 3085231
Sample taken by : CLS

Lab No	Sample Description	Test	Ref.	Result	Units
1720516	MW-2 11.03.2024	pH	I,R	6.9	pH Units
		Conductivity @20C	I,R	806	uS/cm
		Sulphate (SO4)	I,R	24.2	mg/l
		Ammonia as N	I,R	2.62	mg/l
		Visual Inspection/Odour	R	Sample is clear with a medium odour	
1720517	MW-3 11.03.2024	Visual Inspection/Odour	R	Sample is brown with a mild odour.	
		Conductivity @20C	I,R	1040	uS/cm
		Sulphate (SO4)	I,R	295	mg/l
		pH	I,R	6.5	pH Units
		Ammonia as N	I,R	0.706	mg/l
1720518	MW-5 11.03.2024	Ammonia as N	I,R	4.16	mg/l
		pH	I,R	7.2	pH Units
		Sulphate (SO4)	I,R	<5	mg/l
		Conductivity @20C	I,R	472	uS/cm
		Visual Inspection/Odour	R	Sample is cloudy with a mild odour	
1720519	MW-6 11.03.2024	Visual Inspection/Odour	R	Sample is brown with a mild odour	
		Conductivity @20C	I,R	506	uS/cm
		Sulphate (SO4)	I,R	<5	mg/l
		pH	I,R	7.1	pH Units
		Ammonia as N	I,R	6.25	mg/l
1720520	MW-7 11.03.2024	Ammonia as N	I,R	3.42	mg/l
		pH	I,R	6.7	pH Units
		Sulphate (SO4)	I,R	29.8	mg/l
		Conductivity @20C	I,R	1152	uS/cm
		Visual Inspection/Odour	R	Sample is clear with a strong odour.	
1720521	MW-8 11.03.2024	Visual Inspection/Odour	R	Sample is clear with a mild odour.	
		Conductivity @20C	I,R	868	uS/cm
		Sulphate (SO4)	I,R	36.5	mg/l
		pH	I,R	6.7	pH Units
		Ammonia as N	I,R	0.86	mg/l
1720522	MW-9 11.03.2024	Ammonia as N	I,R	2.17	mg/l
		pH	I,R	7.1	pH Units
		Sulphate (SO4)	I,R	<5	mg/l
		Conductivity @20C	I,R	685	uS/cm
		Visual Inspection/Odour	R	Sample is clear with a mild odour.	
1720523	MW-10 11.03.2024	Visual Inspection/Odour	R	Sample is clear with a medium odour.	
		Conductivity @20C	I,R	762	uS/cm
		Ammonia as N	I,R	3.13	mg/l
		Sulphate (SO4)	I,R	<5	mg/l
		pH	I,R	6.9	pH Units
1720524	MW-11 11.03.2024	pH	I,R	6.8	pH Units
		Conductivity @20C	I,R	998	uS/cm
		Sulphate (SO4)	I,R	16.5	mg/l
		Ammonia as N	I,R	2.68	mg/l
		Visual Inspection/Odour	R	Sample is clear with a strong odour.	



Complete Laboratory Solutions

Complete Laboratory Solutions

[Tel] 091 574355

[Fax] 091 574356

[Email] services@cls.ie

[web] www.cls.ie



Approved by:

AnnMarie Nee
Environmental Account
Manager

See below for test specifications and accreditation status.

This report only relates to items tested and shall not be reproduced but in full with the permission of CLS. est. is an estimated count.

CLS will test food, water and swabs samples within 24 hours of receipt.

Where samples have been taken by the Client, results apply to the samples as received.

In-House Test	Specification	Expanded Measurement of Uncertainty	17025	GMP/FDA*	ISO**
pH	CLS 26	+/- 0.133 pH units	Yes	No	Yes
Conductivity @20C	CLS 67	+/- 4.92 %	Yes	No	Yes
Sulphate (SO ₄)	Konelab CLS 88	+/- 7.29 %	Yes	No	Yes
Ammonia as N	Konelab CLS 40	+/- 5.13 %	Yes	No	Yes
Visual Inspection/Odour		0	No	No	Yes

*Analysis carried out in a GMP approved, FDA inspected facility (MedPharma site only).

**Laboratory Analysis, Sampling, Food Safety Monitoring and Analysts on Contract are all ISO 9001 certified.

Lab No	Sample ID	Sample Condition on Receipt	Sampling Date
1720516	MW-2 11.03.2024	Good condition	11/03/2024
1720517	MW-3 11.03.2024	Good condition	11/03/2024
1720518	MW-5 11.03.2024	Good condition	11/03/2024
1720519	MW-6 11.03.2024	Good condition	11/03/2024
1720520	MW-7 11.03.2024	Good condition	11/03/2024
1720521	MW-8 11.03.2024	Good condition	11/03/2024
1720522	MW-9 11.03.2024	Good condition	11/03/2024
1720523	MW-10 11.03.2024	Good condition	11/03/2024
1720524	MW-11 11.03.2024	Good condition	11/03/2024

CERTIFICATE OF ANALYSIS

Client : John Boyle
Bord na Mona (Clonbullogue)
Edenderry Power Plant
Balykileen, Edenderry
Co Offaly

Report No. : 553819
Date of Receipt : 08/04/2024
Start Date of Analysis : 08/04/2024
Date of Report : 25/04/2024
Order Number : 3085231
Sample taken by : CLS

Lab No	Sample Description	Test	Ref.	Result	Units
1730676	MW-2 11.03.2024	pH	I,R	7.0	pH Units
		Conductivity @20C	I,R	791	uS/cm
		Sulphate (SO4)	I,R	22.2	mg/l
		Ammonia as N	I,R	1.95	mg/l
		Visual Inspection/Odour	R	Sample is clear with a mild odour	
1730677	MW-3 08.04.2024	Visual Inspection/Odour	R	Sample is brown with a mild odour	
		Conductivity @20C	I,R	903	uS/cm
		Sulphate (SO4)	I,R	203	mg/l
		pH	I,R	6.4	pH Units
		Ammonia as N	I,R	0.528	mg/l
1730678	MW-5 08.04.2024	Ammonia as N	I,R	4.59	mg/l
		pH	I,R	7.3	pH Units
		Sulphate (SO4)	I,R	<5	mg/l
		Conductivity @20C	I,R	480	uS/cm
		Visual Inspection/Odour	R	Sample is cloudy and grey in colour with a mild odour.	
1730679	MW-6 08.04.2024	Visual Inspection/Odour	R	Sample is brown with a mild odour	
		Conductivity @20C	I,R	521	uS/cm
		Sulphate (SO4)	I,R	<5	mg/l
		pH	I,R	7.0	pH Units
		Ammonia as N	I,R	5.97	mg/l
1730680	MW-7 08.04.2024	Ammonia as N	I,R	1.94	mg/l
		pH	I,R	6.7	pH Units
		Sulphate (SO4)	I,R	<5	mg/l
		Conductivity @20C	I,R	1018	uS/cm
		Visual Inspection/Odour	R	Sample is clear with a mild odour	
1730681	MW-8 08.04.2024	Visual Inspection/Odour	R	Sample is clear with a mild odour	
		Conductivity @20C	I,R	882	uS/cm
		Sulphate (SO4)	I,R	28.9	mg/l
		pH	I,R	7.8	pH Units
		Ammonia as N	I,R	0.722	mg/l

1730682	MW-9 08.04.2024	Ammonia as N	I,R	2.21	mg/l
		pH	I,R	7.0	pH Units
		Sulphate (SO4)	I,R	<5	mg/l
		Conductivity @20C	I,R	729	uS/cm
		Visual Inspection/Odour	R	Sample is light brown in colour with a mild odour	
1730683	MW-10 08.04.2024	Visual Inspection/Odour	R	Yellow liquid with orange particles /odour absent	
		Conductivity @20C	I,R	760	uS/cm
		Ammonia as N	I,R	2.94	mg/l
		Sulphate (SO4)	I,R	<5	mg/l
		pH	I,R	6.9	pH Units
1730684	MW-11 08.04.2024	pH	I,R	6.8	pH Units
		Conductivity @20C	I,R	1041	uS/cm
		Sulphate (SO4)	I,R	11.8	mg/l
		Ammonia as N	I,R	2.4	mg/l
		Visual Inspection/Odour	R	Sample is clear with a strong odour.	



Approved by:

Ann Marie Nee

AnnMarie Nee
Environmental Account
Manager

See below for test specifications and accreditation status.

This report only relates to items tested and shall not be reproduced but in full with the permission of CLS.
est. is an estimated count.

CLS will test food, water and swabs samples within 24 hours of receipt.

Where samples have been taken by the Client, results apply to the samples as received.

In-House Test	Specification	Expanded Measurement of Uncertainty	17025	GMP/FDA*	ISO**
pH	CLS 26	+/- 0.133 pH units	Yes	No	Yes
Conductivity @20C	CLS 67	+/- 4.92 %	Yes	No	Yes
Sulphate (SO ₄)	Konelab CLS 88	+/- 7.29 %	Yes	No	Yes
Ammonia as N	Konelab CLS 40	+/- 5.13 %	Yes	No	Yes
Visual Inspection/Odour		0	No	No	Yes

*Analysis carried out in a GMP approved, FDA inspected facility (MedPharma site only).

**Laboratory Analysis, Sampling, Food Safety Monitoring and Analysts on Contract are all ISO 9001 certified.

Lab No	Sample ID	Sample Condition on Receipt	Sampling Date
1730676	MW-2 11.03.2024	Good condition	08/04/2024
1730677	MW-3 08.04.2024	Good condition	08/04/2024
1730678	MW-5 08.04.2024	Good condition	08/04/2024
1730679	MW-6 08.04.2024	Good condition	08/04/2024
1730680	MW-7 08.04.2024	Good condition	08/04/2024
1730681	MW-8 08.04.2024	Good condition	08/04/2024
1730682	MW-9 08.04.2024	Good condition	08/04/2024
1730683	MW-10 08.04.2024	Good condition	08/04/2024
1730684	MW-11 08.04.2024	Good condition	08/04/2024

CERTIFICATE OF ANALYSIS

Client : Michael Mulhall
 Bord na Móna (Clonbullogue Ash, Clonbrin, Cúil na
 Edenderry Power Plant,
 Balykillen, Edenderry,
 Co. Offaly

Report No. : 558597
 Date of Receipt : 20/05/2024
 Start Date of Analysis : 20/05/2024
 Date of Report : 30/05/2024
 Order Number : 3085231
 Sample taken by : CLS

Lab No	Sample Description	Test	Ref.	Result	Units
1745048	MW-2 20.05.2024	pH	I,R	6.9	pH Units
		Conductivity @20C	I,R	826	uS/cm
		Sulphate (SO4)	I,R	26	mg/l
		Ammonia as N	I,R	2.86	mg/l
		Visual Inspection/Odour	R	Sample is clear with slight odour	
1745049	MW-3 20.05.2024	Visual Inspection/Odour	R	Sample is cloudy with strong odour	
		Conductivity @20C	I,R	851	uS/cm
		Sulphate (SO4)	I,R	98.7	mg/l
		pH	I,R	6.7	pH Units
		Ammonia as N	I,R	0.883	mg/l
1745050	MW-5 20.05.2024	Ammonia as N	I,R	4.8	mg/l
		pH	I,R	7.1	pH Units
		Sulphate (SO4)	I,R	<5	mg/l
		Conductivity @20C	I,R	477	uS/cm
		Visual Inspection/Odour	R	Sample is cloudy with strong odour	
1745052	MW-6 20.05.2024	Visual Inspection/Odour	R	Sample is brown with mild odour	
		Conductivity @20C	I,R	540	uS/cm
		Sulphate (SO4)	I,R	<5	mg/l
		pH	I,R	6.7	pH Units
		Ammonia as N	I,R	6.99	mg/l
1745053	MW-7 20.05.2024	Ammonia as N	I,R	2.52	mg/l
		pH	I,R	6.5	pH Units
		Sulphate (SO4)	I,R	<5	mg/l
		Conductivity @20C	I,R	1049	uS/cm
		Visual Inspection/Odour	R	Sample is clear with mild odour	
1745055	MW-8 20.05.2024	Visual Inspection/Odour	R	Sample is clear with mild odour	
		Conductivity @20C	I,R	838	uS/cm
		Sulphate (SO4)	I,R	34.7	mg/l
		pH	I,R	6.7	pH Units
		Ammonia as N	I,R	1.23	mg/l
1745057	MW-9 20.05.2024	Ammonia as N	I,R	2.38	mg/l
		pH	I,R	6.8	pH Units
		Sulphate (SO4)	I,R	9.15	mg/l
		Conductivity @20C	I,R	804	uS/cm
		Visual Inspection/Odour	R	Sample is clear with mild odour	
1745058	MW-10 20.05.2024	Visual Inspection/Odour	R	Sample is clear with slight odour	
		Conductivity @20C	I,R	756	uS/cm
		Ammonia as N	I,R	3.05	mg/l
		Sulphate (SO4)	I,R	<5	mg/l
		pH	I,R	6.8	pH Units
1745059	MW-11 20.05.2024	pH	I,R	6.7	pH Units
		Conductivity @20C	I,R	1014	uS/cm
		Sulphate (SO4)	I,R	21.2	mg/l
		Ammonia as N	I,R	2.39	mg/l
		Visual Inspection/Odour	R	Sample is clear with mild odour	



Complete Laboratory Solutions

Complete Laboratory Solutions

[Tel] 091 574355

[Fax] 091 574356

[Email] services@cls.ie

[web] www.cls.ie



Approved by:

Stephanie Folan

Stephanie Folan
Account Manager

See below for test specifications and accreditation status.

This report only relates to items tested and shall not be reproduced but in full with the permission of CLS. est. is an estimated count.

CLS will test food, water and swabs samples within 24 hours of receipt.

Where samples have been taken by the Client, results apply to the samples as received.

In-House Test	Specification	Expanded Measurement of Uncertainty	17025	GMP/FDA*	ISO**
pH	CLS 26	+/- 0.133 pH units	Yes	No	Yes
Conductivity @20C	CLS 67	+/- 4.92 %	Yes	No	Yes
Sulphate (SO ₄)	Konelab CLS 88	+/- 7.29 %	Yes	No	Yes
Ammonia as N	Konelab CLS 40	+/- 5.13 %	Yes	No	Yes
Visual Inspection/Odour		0	No	No	Yes

*Analysis carried out in a GMP approved, FDA inspected facility (MedPharma site only).

**Laboratory Analysis, Sampling, Food Safety Monitoring and Analysts on Contract are all ISO 9001 certified.

Lab No	Sample ID	Sample Condition on Receipt	Sampling Date
1745048	MW-2 20.05.2024	Good condition	20/05/2024
1745049	MW-3 20.05.2024	Good condition	20/05/2024
1745050	MW-5 20.05.2024	Good condition	20/05/2024
1745052	MW-6 20.05.2024	Good condition	20/05/2024
1745053	MW-7 20.05.2024	Good condition	20/05/2024
1745055	MW-8 20.05.2024	Good condition	20/05/2024
1745057	MW-9 20.05.2024	Good condition	20/05/2024
1745058	MW-10 20.05.2024	Good condition	20/05/2024
1745059	MW-11 20.05.2024	Good condition	20/05/2024

CERTIFICATE OF ANALYSIS

Client : Michael Mulhall
 Bord na Móna (Clonbullogue Ash, Clonbrin, Cúil na
 Edenderry Power Plant,
 Balykillen, Edenderry,
 Co. Offaly

Report No. : 562582
 Date of Receipt : 25/06/2024
 Start Date of Analysis : 25/06/2024
 Date of Report : 09/07/2024
 Order Number : 3085231
 Sample taken by : CLS

Lab No	Sample Description	Test	Ref.	Result	Units
1758441	MW-2 25.06.2024	pH	I,R	6.9	pH Units
		Conductivity @20C	I,R	708	uS/cm
		Sulphate (SO4)	I,R	18.1	mg/l
		Ammonia as N	I,R	1.61	mg/l
		Visual Inspection/Odour	R	Sample is clear but silty with moderate odour	
1758442	MW-3 25.06.2024	Visual Inspection/Odour	R	Sample is brown with no odour	
		Conductivity @20C	I,R	488	uS/cm
		Sulphate (SO4)	I,R	<5	mg/l
		pH	I,R	7.1	pH Units
		Ammonia as N	I,R	6.21	mg/l
1758444	MW-5 25.06.2024	Ammonia as N	I,R	4.48	mg/l
		pH	I,R	7.1	pH Units
		Sulphate (SO4)	I,R	<5	mg/l
		Conductivity @20C	I,R	467	uS/cm
		Visual Inspection/Odour	R	Sample is milky with moderate odour	
1758446	MW-6 25.06.2024	Visual Inspection/Odour	R	Sample is clear with moderate odour	
		Conductivity @20C	I,R	1096	uS/cm
		Sulphate (SO4)	I,R	370	mg/l
		pH	I,R	6.9	pH Units
		Ammonia as N	I,R	3.05	mg/l
1758447	MW-7 25.06.2024	Ammonia as N	I,R	3.45	mg/l
		pH	I,R	6.6	pH Units
		Sulphate (SO4)	I,R	38.7	mg/l
		Conductivity @20C	I,R	1143	uS/cm
		Visual Inspection/Odour	R	Sample is brown with moderate odour	
1758448	MW-8 25.06.2024	Visual Inspection/Odour	R	Sample is clear with mild odour	
		Conductivity @20C	I,R	759	uS/cm
		Sulphate (SO4)	I,R	36.7	mg/l
		pH	I,R	6.7	pH Units
		Ammonia as N	I,R	1.45	mg/l
1758449	MW-9 25.06.2024	Ammonia as N	I,R	2.4	mg/l
		pH	I,R	6.9	pH Units
		Sulphate (SO4)	I,R	<5	mg/l
		Conductivity @20C	I,R	690	uS/cm
		Visual Inspection/Odour	R	Sample is clear with mild odour	
1758450	MW-10 25.06.2024	Visual Inspection/Odour	R	Sample is clear with no odour	
		Conductivity @20C	I,R	699	uS/cm
		Ammonia as N	I,R	2.93	mg/l
		Sulphate (SO4)	I,R	<5	mg/l
		pH	I,R	6.9	pH Units
1758451	MW-11 25.06.2024	pH	I,R	6.7	pH Units
		Conductivity @20C	I,R	966	uS/cm
		Sulphate (SO4)	I,R	23.1	mg/l
		Ammonia as N	I,R	2.35	mg/l
		Visual Inspection/Odour	R	Sample is clear with no odour	



Complete Laboratory Solutions

Complete Laboratory Solutions

[Tel] 091 574355

[Fax] 091 574356

[Email] services@cls.ie

[web] www.cls.ie



Approved by:

AnnMarie Nee
Environmental Account
Manager

See below for test specifications and accreditation status.

This report only relates to items tested and shall not be reproduced but in full with the permission of CLS. est. is an estimated count.

CLS will test food, water and swabs samples within 24 hours of receipt.

Where samples have been taken by the Client, results apply to the samples as received.

In-House Test	Specification	Expanded Measurement of Uncertainty	17025	GMP/FDA*	ISO**
pH	CLS 26	+/- 0.133 pH units	Yes	No	Yes
Conductivity @20C	CLS 67	+/- 4.92 %	Yes	No	Yes
Sulphate (SO ₄)	Konelab CLS 88	+/- 7.29 %	Yes	No	Yes
Ammonia as N	Konelab CLS 40	+/- 5.13 %	Yes	No	Yes
Visual Inspection/Odour		0	No	No	Yes

*Analysis carried out in a GMP approved, FDA inspected facility (MedPharma site only).

**Laboratory Analysis, Sampling, Food Safety Monitoring and Analysts on Contract are all ISO 9001 certified.

Lab No	Sample ID	Sample Condition on Receipt	Sampling Date
1758441	MW-2 25.06.2024	Good condition	25/06/2024
1758442	MW-3 25.06.2024	Good condition	25/06/2024
1758444	MW-5 25.06.2024	Good condition	25/06/2024
1758446	MW-6 25.06.2024	Good condition	25/06/2024
1758447	MW-7 25.06.2024	Good condition	25/06/2024
1758448	MW-8 25.06.2024	Good condition	25/06/2024
1758449	MW-9 25.06.2024	Good condition	25/06/2024
1758450	MW-10 25.06.2024	Good condition	25/06/2024
1758451	MW-11 25.06.2024	Good condition	25/06/2024

CERTIFICATE OF ANALYSIS

Client : John Boyle
Bord na Mona (Clonbullogue)
Edenderry Power Plant
Balykileen, Edenderry
Co Offaly

Report No. : 566602
Date of Receipt : 29/07/2024
Start Date of Analysis : 29/07/2024
Date of Report : 15/08/2024
Order Number : 3065001
Sample taken by : CLS

Lab No	Sample Description	Test	Ref.	Result	Units
1770796	MW-2 29.07.2024	pH	I,R	6.9	pH Units
		Conductivity @20C	I,R	753	uS/cm
		Sulphate (SO4)	I,R	21.9	mg/l
		Ammonia as N	I,R	2.14	mg/l
		Visual Inspection/Odour	R	Cloudy liquid with strong odour	
1770797	MW-3 29.07.2024	Visual Inspection/Odour	R	Brown liquid with Strong odour	
		Conductivity @20C	I,R	1106	uS/cm
		Sulphate (SO4)	I,R	349	mg/l
		pH	I,R	6.7	pH Units
		Ammonia as N	I,R	5.69	mg/l
1770798	MW-5 29.07.2024	Ammonia as N	I,R	6.3	mg/l
		pH	I,R	7.0	pH Units
		Sulphate (SO4)	I,R	<5	mg/l
		Conductivity @20C	I,R	481	uS/cm
		Visual Inspection/Odour	R	Brown/cloudy liquid with Strong odour	
1770799	MW-6 29.07.2024	Visual Inspection/Odour	R	Brown liquid with Strong odour	
		Conductivity @20C	I,R	551	uS/cm
		Sulphate (SO4)	I,R	<5	mg/l
		pH	I,R	6.7	pH Units
		Ammonia as N	I,R	7.02	mg/l
1770800	MW-7 29.07.2024	Ammonia as N	I,R	3.17	mg/l
		pH	I,R	6.7	pH Units
		Sulphate (SO4)	I,R	<5	mg/l
		Conductivity @20C	I,R	1185	uS/cm
		Visual Inspection/Odour	R	Sample is clear with Mild Odour	
1770801	MW-8 29.07.2024	Visual Inspection/Odour	R	Brown liquid with no odour	
		Conductivity @20C	I,R	731	uS/cm
		Sulphate (SO4)	I,R	43	mg/l
		pH	I,R	6.8	pH Units
		Ammonia as N	I,R	1.76	mg/l
1770802	MW-9 29.07.2024	Ammonia as N	I,R	3.04	mg/l
		pH	I,R	7.0	pH Units
		Sulphate (SO4)	I,R	<5	mg/l
		Conductivity @20C	I,R	673	uS/cm
		Visual Inspection/Odour	R	Cloudy liquid with strong odour	
1770803	MW-10 29.07.2024	Visual Inspection/Odour	R	Orange cloudy liquid with no odour	
		Conductivity @20C	I,R	755	uS/cm
		Ammonia as N	I,R	3.03	mg/l
		Sulphate (SO4)	I,R	<5	mg/l
		pH	I,R	6.9	pH Units
1770804	MW-11 29.07.2024	pH	I,R	6.8	pH Units
		Conductivity @20C	I,R	974	uS/cm
		Sulphate (SO4)	I,R	13.8	mg/l
		Ammonia as N	I,R	2.62	mg/l
		Visual Inspection/Odour	R	Clear liquid with Mild odour	



Complete Laboratory Solutions

Complete Laboratory Solutions

[Tel] 091 574355

[Fax] 091 574356

[Email] services@cls.ie

[web] www.cls.ie



Approved by:

AnnMarie Nee
Environmental Account
Manager

See below for test specifications and accreditation status.

This report only relates to items tested and shall not be reproduced but in full with the permission of CLS.
est. is an estimated count.

CLS will test food, water and swabs samples within 24 hours of receipt.

Where samples have been taken by the Client, results apply to the samples as received.

In-House Test	Specification	Expanded Measurement of Uncertainty	17025	GMP/FDA*	ISO**
pH	CLS 26	+/- 0.133 pH units	Yes	No	Yes
Conductivity @20C	CLS 67	+/- 4.92 %	Yes	No	Yes
Sulphate (SO ₄)	Konelab CLS 88	+/- 7.29 %	Yes	No	Yes
Ammonia as N	Konelab CLS 40	+/- 5.13 %	Yes	No	Yes
Visual Inspection/Odour		0	No	No	Yes

*Analysis carried out in a GMP approved, FDA inspected facility (MedPharma site only).

**Laboratory Analysis, Sampling, Food Safety Monitoring and Analysts on Contract are all ISO 9001 certified.

Lab No	Sample ID	Sample Condition on Receipt	Sampling Date
1770796	MW-2 29.07.2024	Good condition	29/07/2024
1770797	MW-3 29.07.2024	Good condition	29/07/2024
1770798	MW-5 29.07.2024	Good condition	29/07/2024
1770799	MW-6 29.07.2024	Good condition	29/07/2024
1770800	MW-7 29.07.2024	Good condition	29/07/2024
1770801	MW-8 29.07.2024	Good condition	29/07/2024
1770802	MW-9 29.07.2024	Good condition	29/07/2024
1770803	MW-10 29.07.2024	Good condition	29/07/2024
1770804	MW-11 29.07.2024	Good condition	29/07/2024

CERTIFICATE OF ANALYSIS

Client : John Boyle
Bord na Mona (Clonbullogue)
Edenderry Power Plant
Balykileen, Edenderry
Co Offaly

Report No. : 567194
Date of Receipt : 06/08/2024
Start Date of Analysis : 07/08/2024
Date of Report : 15/08/2024
Order Number : 3085231
Sample taken by : CLS

Lab No	Sample Description	Test	Ref.	Result	Units
1772597	MW-2 06.08.2024	pH	I,R	7.0	pH Units
		Conductivity @20C	I,R	727	uS/cm
		Sulphate (SO4)	I,R	22.3	mg/l
		Ammonia as N	I,R	2.02	mg/l
		Visual Inspection/Odour	R	Clear liquid with mild odour	
1772599	MW-3 06.08.2024	Visual Inspection/Odour	R	Cloudy liquid with moderate odour	
		Conductivity @20C	I,R	1103	uS/cm
		Sulphate (SO4)	I,R	359	mg/l
		pH	I,R	6.9	pH Units
		Ammonia as N	I,R	4.31	mg/l
1772600	MW-5 06.08.2024	Ammonia as N	I,R	6.04	mg/l
		pH	I,R	7.2	pH Units
		Sulphate (SO4)	I,R	<5	mg/l
		Conductivity @20C	I,R	488	uS/cm
		Visual Inspection/Odour	R	Milky liquid with moderate odour	
1772601	MW-6 06.08.2024	Visual Inspection/Odour	R	Brown liquid with moderate odour	
		Conductivity @20C	I,R	565	uS/cm
		Sulphate (SO4)	I,R	<5	mg/l
		pH	I,R	6.8	pH Units
		Ammonia as N	I,R	7.46	mg/l
1772602	MW-7 06.08.2024	Ammonia as N	I,R	3.28	mg/l
		pH	I,R	6.6	pH Units
		Sulphate (SO4)	I,R	<5	mg/l
		Conductivity @20C	I,R	1050	uS/cm
		Visual Inspection/Odour	R	Clear liquid with strong odour	
1772603	MW-8 06.08.2024	Visual Inspection/Odour	R	Slightly cloudy liquid with moderate odour	
		Conductivity @20C	I,R	897	uS/cm
		Sulphate (SO4)	I,R	70.7	mg/l
		pH	I,R	6.8	pH Units
		Ammonia as N	I,R	2.31	mg/l
1772605	MW-9 06.08.2024	Ammonia as N	I,R	2.77	mg/l
		pH	I,R	7.1	pH Units
		Sulphate (SO4)	I,R	<5	mg/l
		Conductivity @20C	I,R	635	uS/cm
		Visual Inspection/Odour	R	Cloudy brown liquid with moderate odour	
1772606	MW-10 06.08.2024	Visual Inspection/Odour	R	Clear liquid with mild odour	
		Conductivity @20C	I,R	733	uS/cm
		Ammonia as N	I,R	3.24	mg/l
		Sulphate (SO4)	I,R	<5	mg/l
		pH	I,R	6.9	pH Units
1772607	MW-11 06.08.2024	pH	I,R	6.7	pH Units
		Conductivity @20C	I,R	970	uS/cm
		Sulphate (SO4)	I,R	<5	mg/l
		Ammonia as N	I,R	7.31	mg/l
		Visual Inspection/Odour	R	Clear liquid with mild odour	



Complete Laboratory Solutions

Complete Laboratory Solutions

[Tel] 091 574355

[Fax] 091 574356

[Email] services@cls.ie

[web] www.cls.ie



Approved by:

AnnMarie Nee
Environmental Account
Manager

See below for test specifications and accreditation status.

This report only relates to items tested and shall not be reproduced but in full with the permission of CLS.
est. is an estimated count.

CLS will test food, water and swabs samples within 24 hours of receipt.

Where samples have been taken by the Client, results apply to the samples as received.

In-House Test	Specification	Expanded Measurement of Uncertainty	17025	GMP/FDA*	ISO**
pH	CLS 26	+/- 0.133 pH units	Yes	No	Yes
Conductivity @20C	CLS 67	+/- 4.92 %	Yes	No	Yes
Sulphate (SO ₄)	Konelab CLS 88	+/- 7.29 %	Yes	No	Yes
Ammonia as N	Konelab CLS 40	+/- 5.13 %	Yes	No	Yes
Visual Inspection/Odour		0	No	No	Yes

*Analysis carried out in a GMP approved, FDA inspected facility (MedPharma site only).

**Laboratory Analysis, Sampling, Food Safety Monitoring and Analysts on Contract are all ISO 9001 certified.

Lab No	Sample ID	Sample Condition on Receipt	Sampling Date
1772597	MW-2 06.08.2024	Good condition	06/08/2024
1772599	MW-3 06.08.2024	Good condition	06/08/2024
1772600	MW-5 06.08.2024	Good condition	06/08/2024
1772601	MW-6 06.08.2024	Good condition	06/08/2024
1772602	MW-7 06.08.2024	Good condition	06/08/2024
1772603	MW-8 06.08.2024	Good condition	06/08/2024
1772605	MW-9 06.08.2024	Good condition	06/08/2024
1772606	MW-10 06.08.2024	Good condition	06/08/2024
1772607	MW-11 06.08.2024	Good condition	06/08/2024

CERTIFICATE OF ANALYSIS

Client : John Boyle
Bord na Mona (Clonbullogue)
Edenderry Power Plant
Balykileen, Edenderry
Co Offaly

Report No. : 571648
Date of Receipt : 16/09/2024
Start Date of Analysis : 16/09/2024
Date of Report : 20/09/2024
Order Number : 3132119
Sample taken by : CLS

Lab No	Sample Description	Test	Ref.	Result	Units
1787153	MW-2 16.09.2024	pH	I,R	7.0	pH Units
		Conductivity @20C	I,R	753	uS/cm
		Sulphate (SO4)	I,R	19.8	mg/l
		Ammonia as N	I,R	2.14	mg/l
		Visual Inspection/Odour	R	Clear liquid with a mild odour	
1787154	MW-3 16.09.2024	Visual Inspection/Odour	R	Slightly brown liquid with a moderate odour	
		Conductivity @20C	I,R	1130	uS/cm
		Sulphate (SO4)	I,R	363	mg/l
		pH	I,R	6.8	pH Units
		Ammonia as N	I,R	3.89	mg/l
1787155	MW-5 16.09.2024	Ammonia as N	I,R	6.71	mg/l
		pH	I,R	7.1	pH Units
		Sulphate (SO4)	I,R	<5	mg/l
		Conductivity @20C	I,R	487	uS/cm
		Visual Inspection/Odour	R	Slightly brown liquid with a moderate odour	
1787156	MW-6 16.09.2024	Visual Inspection/Odour	R	Brown liquid with a mild odour	
		Conductivity @20C	I,R	559	uS/cm
		Sulphate (SO4)	I,R	<5	mg/l
		pH	I,R	6.8	pH Units
		Ammonia as N	I,R	7.17	mg/l
1787157	MW-7 16.09.2024	Ammonia as N	I,R	3.43	mg/l
		pH	I,R	6.7	pH Units
		Sulphate (SO4)	I,R	6.18	mg/l
		Conductivity @20C	I,R	1125	uS/cm
		Visual Inspection/Odour	R	Clear liquid with a mild odour.	
1787158	MW-8 16.09.2024	Visual Inspection/Odour	R	Cloudy liquid with suspended solids and a very strong odour.	
		Conductivity @20C	I,R	899	uS/cm
		Sulphate (SO4)	I,R	66.8	mg/l
		pH	I,R	7.0	pH Units
		Ammonia as N	I,R	2.46	mg/l

1787159	MW-9 16.09.2024	Ammonia as N	I,R	2.92	mg/l
		pH	I,R	7.0	pH Units
		Sulphate (SO4)	I,R	<5	mg/l
		Conductivity @20C	I,R	628	uS/cm
		Visual Inspection/Odour	R	Clear liquid with a mild odour	
1787160	MW-10 16.09.2024	Visual Inspection/Odour	R	Clear liquid with a mild odour	
		Conductivity @20C	I,R	758	uS/cm
		Ammonia as N	I,R	3.11	mg/l
		Sulphate (SO4)	I,R	<5	mg/l
		pH	I,R	6.9	pH Units
1787161	MW-11 16.09.2024	pH	I,R	6.7	pH Units
		Conductivity @20C	I,R	990	uS/cm
		Sulphate (SO4)	I,R	17.4	mg/l
		Ammonia as N	I,R	2.84	mg/l
		Visual Inspection/Odour	R	Clear liquid with a moderate odour	



Approved by:

Ann Marie Nee

AnnMarie Nee
Environmental Account
Manager

See below for test specifications and accreditation status.

This report only relates to items tested and shall not be reproduced but in full with the permission of CLS.
est. is an estimated count.

CLS will test food, water and swabs samples within 24 hours of receipt.

Where samples have been taken by the Client, results apply to the samples as received.

In-House Test	Specification	Expanded Measurement of Uncertainty	17025	GMP/FDA*	ISO**
pH	CLS 26	+/- 0.133 pH units	Yes	No	Yes
Conductivity @20C	CLS 67	+/- 4.92 %	Yes	No	Yes
Sulphate (SO ₄)	Konelab CLS 88	+/- 7.29 %	Yes	No	Yes
Ammonia as N	Konelab CLS 40	+/- 15.2 %	Yes	No	Yes
Visual Inspection/Odour		0	No	No	Yes

*Analysis carried out in a GMP approved, FDA inspected facility (MedPharma site only).

**Laboratory Analysis, Sampling, Food Safety Monitoring and Analysts on Contract are all ISO 9001 certified.

Lab No	Sample ID	Sample Condition on Receipt	Sampling Date
1787153	MW-2 16.09.2024	Good condition	16/09/2024
1787154	MW-3 16.09.2024	Good condition	16/09/2024
1787155	MW-5 16.09.2024	Good condition	16/09/2024
1787156	MW-6 16.09.2024	Good condition	16/09/2024
1787157	MW-7 16.09.2024	Good condition	16/09/2024
1787158	MW-8 16.09.2024	Good condition	16/09/2024
1787159	MW-9 16.09.2024	Good condition	16/09/2024
1787160	MW-10 16.09.2024	Good condition	16/09/2024
1787161	MW-11 16.09.2024	Good condition	16/09/2024

CERTIFICATE OF ANALYSIS

Client : John Boyle
 Bord na Mona (Clonbullogue)
 Edenderry Power Plant
 Balykileen, Edenderry
 Co Offaly

Report No. : 574575
 Date of Receipt : 14/10/2024
 Start Date of Analysis : 14/10/2024
 Date of Report : 21/10/2024
 Order Number : 3085231
 Sample taken by : CLS

Lab No	Sample Description	Test	Ref.	Result	Units
1797468	MW-2 14.10.2024	Ammonia as N	I,R	2.49	mg/l
		Conductivity @20C	I,R	861	uS/cm
		pH	I,R	7.0	pH Units
		Sulphate (SO4)	I,R	20	mg/l
		Visual Inspection/Odour	R	Clear liquid with no odour	
1797469	MW-3 14.10.2024	Ammonia as N	I,R	4	mg/l
		Conductivity @20C	I,R	1268	uS/cm
		pH	I,R	6.7	pH Units
		Sulphate (SO4)	I,R	351	mg/l
		Visual Inspection/Odour	R	Slightly brown liquid with moderate odour	
1797470	MW-5 14.10.2024	Ammonia as N	I,R	7.94	mg/l
		Conductivity @20C	I,R	562	uS/cm
		pH	I,R	7.2	pH Units
		Sulphate (SO4)	I,R	<5	mg/l
		Visual Inspection/Odour	R	Light brown liquid with strong odour	
1797471	MW-6 14.10.2024	Ammonia as N	I,R	7.24	mg/l
		Conductivity @20C	I,R	658	uS/cm
		pH	I,R	6.8	pH Units
		Sulphate (SO4)	I,R	<5	mg/l
		Visual Inspection/Odour	R	Brown liquid with moderate odour	
1797473	MW-7 14.10.2024	Ammonia as N	I,R	3.85	mg/l
		Conductivity @20C	I,R	1312	uS/cm
		pH	I,R	6.8	pH Units
		Sulphate (SO4)	I,R	36.6	mg/l
		Visual Inspection/Odour	R	Clear liquid with strong odour	
1797474	MW-8 14.10.2024	Ammonia as N	I,R	3.78	mg/l
		Conductivity @20C	I,R	963	uS/cm
		pH	I,R	6.9	pH Units
		Sulphate (SO4)	I,R	65.4	mg/l
		Visual Inspection/Odour	R	Clear liquid (some SS) with no odour	
1797475	MW-9 14.10.2024	Ammonia as N	I,R	2.98	mg/l
		Conductivity @20C	I,R	648	uS/cm
		pH	I,R	7.1	pH Units
		Sulphate (SO4)	I,R	<5	mg/l
		Visual Inspection/Odour	R	Clear liquid with moderate odour	
1797476	MW-10 14.10.2024	Ammonia as N	I,R	3.09	mg/l
		Conductivity @20C	I,R	772	uS/cm
		pH	I,R	6.9	pH Units
		Sulphate (SO4)	I,R	<5	mg/l
		Visual Inspection/Odour	R	Brown liquid with mild odour	
1797477	MW-11 14.10.2024	Ammonia as N	I,R	3.13	mg/l
		Conductivity @20C	I,R	988	uS/cm
		pH	I,R	6.8	pH Units
		Sulphate (SO4)	I,R	8.53	mg/l
		Visual Inspection/Odour	R	Clear liquid with mild odour	



Complete Laboratory Solutions

Complete Laboratory Solutions

[Tel] 091 574355

[Fax] 091 574356

[Email] services@cls.ie

[web] www.cls.ie



Approved by:

AnnMarie Nee
Environmental Account
Manager

See below for test specifications and accreditation status.

This report only relates to items tested and shall not be reproduced but in full with the permission of CLS. est. is an estimated count.

CLS will test food, water and swabs samples within 24 hours of receipt.

Where samples have been taken by the Client, results apply to the samples as received.

In-House Test	Specification	Expanded Measurement of Uncertainty	17025	GMP/FDA*	ISO**
Ammonia as N	Konelab CLS 40	+/- 15.2 %	Yes	No	Yes
Conductivity @20C	CLS 67	+/- 4.92 %	Yes	No	Yes
pH	CLS 26	+/- 0.133 pH units	Yes	No	Yes
Sulphate (SO4)	Konelab CLS 88	+/- 7.29 %	Yes	No	Yes
Visual Inspection/Odour		0	No	No	Yes

*Analysis carried out in a GMP approved, FDA inspected facility (MedPharma site only).

**Laboratory Analysis, Sampling, Food Safety Monitoring and Analysts on Contract are all ISO 9001 certified.

Lab No	Sample ID	Sample Condition on Receipt	Sampling Date
1797468	MW-2 14.10.2024	Good condition	14/10/2024
1797469	MW-3 14.10.2024	Good condition	14/10/2024
1797470	MW-5 14.10.2024	Good condition	14/10/2024
1797471	MW-6 14.10.2024	Good condition	14/10/2024
1797473	MW-7 14.10.2024	Good condition	14/10/2024
1797474	MW-8 14.10.2024	Good condition	14/10/2024
1797475	MW-9 14.10.2024	Good condition	14/10/2024
1797476	MW-10 14.10.2024	Good condition	14/10/2024
1797477	MW-11 14.10.2024	Good condition	14/10/2024

CERTIFICATE OF ANALYSIS

Client : John Boyle
Bord na Mona (Clonbullogue)
Edenderry Power Plant
Balykileen, Edenderry
Co Offaly

Report No. : 577370
Date of Receipt : 11/11/2024
Start Date of Analysis : 11/11/2024
Date of Report : 20/12/2024
Order Number : 3132119
Sample taken by : CLS

Lab No	Sample Description	Test	Ref.	Result	Units
1808569	MW-2 11.11.2024	1,1,1,2-Tetrachloroethane	I,R	<0.5	ug/l
		1,1,1-Trichloroethane	I,R	<0.5	ug/l
		1,1,2,2-Tetrachloroethane	I,R	<0.5	ug/l
		1,1,2-Trichloroethane	I,R	<2	ug/l
		1,1-Dichloroethane	I,R	<0.5	ug/l
		1,1-Dichloroethene	I,R	<0.5	ug/l
		1,1-Dichloropropene	I,R	<0.5	ug/l
		1,2,3-Trichlorobenzene	I,R	<0.5	ug/l
		1,2,3-Trichloropropane	I,R	<1	ug/l
		1,2,4-Trichlorobenzene	I,R	<0.5	ug/l
		1,2,4-Trimethylbenzene (Pseudocumene)	I,R	<2	ug/l
		1,2-Dibromoethane (EDB)	I,R	<4	ug/l
		1,2-Dichlorobenzene	I,R	<1	ug/l
		1,2-Dichloroethane	I,R	<0.2	ug/l
		1,2-Dichloropropane	I,R	<0.5	ug/l
		1,3,5-Trimethylbenzene (Mesitylene)	I,R	<4	ug/l
		1,3-Butadiene	I,R	<0.5	ug/l
		1,3-Dichloropropane	I,R	<0.5	ug/l
		1-Chlorobutane (n-Butyl Chloride)	I,R	<0.5	ug/l
		4-Isopropyltoluene (p-Cymene)	I,R	<1	ug/l
		Aluminium, Total	I,R	17	ug/l
		Ammonia as N	I,R	4.55	mg/l
		Antimony, total	I,R	<0.6	ug/l
		Arsenic, total	I,R	53	ug/l
		Barium, total	I,R	1111	ug/l
		Benzene (0.1ug/l) by GCMS	I,R	<0.1	ug/l
		Beryllium, total	I,R	<0.6	ug/l
		Boron, total	I,R	18	ug/l
		Bromobenzene	I,R	<1	ug/l
		Bromochloromethane	I,R	<2	ug/l
		Bromodichloromethane	I,R	<0.5	ug/l
		Bromoform (Tribromomethane)	I,R	<0.5	ug/l
		Bromomethane (methyl bromide)	I,R	<0.5	ug/l
		Cadmium, total	I,R	<0.6	ug/l
		Calcium, total	I,R	153	mg/l
		Carbon Disulfide	I,R	<0.5	ug/l
		Carbon Tetrachloride (Tetrachloromethane)	I,R	<0.5	ug/l
		Chlorobenzene	R	<0.5	ug/l
		Chloroform (Trichloromethane)	I,R	<1	ug/l
		Chromium, total	I,R	<0.6	ug/l
		cis-1,2-Dichloroethene	I,R	<0.5	ug/l
		cis-1,3-Dichloropropene	I,R	<0.1	ug/l
		Cobalt, total	I,R	5	ug/l
		Conductivity @20C	I,R	804	uS/cm
		Copper, total	I,R	17	ug/l
		Dibromochloromethane	I,R	<0.5	ug/l

	Dibromomethane	R	<0.5	ug/l
	Dichlorodifluoromethane (CFC-12)	I,R	<1	ug/l
	Diethyl Ether (Ethyl Ether)	I,R	<1	ug/l
	DIPE (Diisopropyl Ether)	I,R	<0.5	ug/l
	ETBE (Ethyl Tert-Butyl Ether)	I,R	<2	ug/l
	Ethylbenzene by GCMS	I,R	<2	ug/l
	Fluoride (konelab)	I,R	0.28	mg/l
	Hexachlorobutadiene	I,R	<0.5	ug/l
	Hexachloroethane	I,R	<0.5	ug/l
	Iodomethane (Methyl Iodide)	I,R	<0.1	ug/l
	Iron, total	I,R	11899	ug/l
	Lead, total	I,R	<0.6	ug/l
	m/p-Xylene by GCMS	I,R	<4	ug/l
	Magnesium, total	I,R	21	mg/l
	Manganese, total	I,R	242	ug/l
	Mercury, total	I,R	<0.06	ug/l
	Methyl Acetate	I,R	<5	ug/l
	MTBE (Methyl Tert-Butyl Ether) by GCMS	I,R	<2	ug/l
	Naphthalene by GCMS	I,R	<1	ug/l
	n-Butylbenzene	I,R	<2	ug/l
	Nickel, total	I,R	19	ug/l
	n-Propylbenzene	I,R	<4	ug/l
	Odour (absence/presence)	R	Absent	
	Orthophosphate as PO4-P	I,R	<0.01	mg/l
	o-Xylene by GCMS	I,R	<2	ug/l
	Pentachloroethane	I,R	<2	ug/l
	Pesticides (OCP)	S	See attached excel	ng/l
	Pesticides (OPP)	S	See attached excel	ug/l
	pH	I,R	6.9	pH
	Potassium, total	I,R	2	mg/l
	Selenium, total	I,R	<0.6	ug/l
	Sodium, total	I,R	8	mg/l
	Styrene	I,R	<2	ug/l
	Sulphate (SO4)	I,R	25.1	mg/l
	SVOCs (W) (GEO94)	S	See attached excel	ug/l
	TAAE (Tert-Amyl Ethyl Ether)	I,R	<1	ug/l
	TAME (Tert-Amyl Methyl Ether) (1,1Dimethylpropylmethylether)	I,R	<0.1	ug/l
	Temperature (site)	F,R	11.2	°C
	Tert-Butylbenzene	I,R	<1	ug/l
	Tetrachloroethene	I,R	<0.5	ug/l
	Tetrahydrofuran	I,R	<1	ug/l
	Tin, total	I,R	<0.6	ug/l
	Toluene by GCMS	I,R	<0.5	ug/l
	Total Phosphorus as P	I,R	0.09	mg/l
	trans-1,2-Dichloroethene	I,R	<0.5	ug/l
	trans-1,3-Dichloropropene	I,R	<0.5	ug/l
	Trichloroethene	I,R	<2	ug/l
	Trichlorofluoromethane (CFC-11)	I,R	<1	ug/l
	Vinyl Chloride	I,R	<0.5	ug/l
	Visual Inspection/Odour	R	Clear liquid with a very strong odour.	
	Zinc, total	I,R	<6	ug/l



Complete Laboratory Solutions

Complete Laboratory Solutions

[Tel] 091 574355

[Fax] 091 574356

[Email] services@cls.ie

[web] www.cls.ie



Approved by:

Ann Marie Nee

**AnnMarie Nee
Environmental Account
Manager**

See below for test specifications and accreditation status.

This report only relates to items tested and shall not be reproduced but in full with the permission of CLS.
est. is an estimated count.

CLS will test food, water and swabs samples within 24 hours of receipt.

Where samples have been taken by the Client, results apply to the samples as received.



Complete Laboratory Solutions

Complete Laboratory Solutions

[Tel] 091 574355

[Fax] 091 574356

[Email] services@cls.ie

[web] www.cls.ie

In-House Test	Specification	Expanded Measurement of Uncertainty	17025	GMP/FDA*	ISO**
1,1,1,2-Tetrachloroethane	CLS 183		Yes	No	Yes
1,1,1-Trichloroethane	CLS 183		Yes	No	Yes
1,1,2,2-Tetrachloroethane	CLS 183		Yes	No	Yes
1,1,2-Trichloroethane	CLS 183		Yes	No	Yes
1,1-Dichloroethane	CLS 183		Yes	No	Yes
1,1-Dichloroethene	CLS 183		Yes	No	Yes
1,1-Dichloropropene	CLS 183	0	Yes	No	Yes
1,2,3-Trichlorobenzene	CLS 183		Yes	No	Yes
1,2,3-Trichloropropane	CLS 183		Yes	No	Yes
1,2,4-Trichlorobenzene	CLS 183		Yes	No	Yes
1,2,4-Trimethylbenzene (Pseudocumene)	CLS 183		Yes	No	Yes
1,2-Dibromoethane (EDB)	CLS 183		Yes	No	Yes
1,2-Dichlorobenzene	CLS 183		Yes	No	Yes
1,2-Dichloroethane	CLS 183	0	Yes	No	Yes
1,2-Dichloropropane	CLS 183		Yes	No	Yes
1,3,5-Trimethylbenzene (Mesitylene)	CLS 183		Yes	No	Yes
1,3-Butadiene	CLS 183		Yes	No	Yes
1,3-Dichloropropane	CLS 183		Yes	No	Yes
1-Chlorobutane (n-Butyl Chloride)	CLS 183	0	Yes	No	Yes
4-Isopropyltoluene (p-Cymene)	CLS 183		Yes	No	Yes
Aluminium, Total	ICP-MS CLS129	+/- 11.75 %	Yes	No	Yes
Ammonia as N	Konelab CLS 40	+/- 15.2 %	Yes	No	Yes
Antimony, total	ICP-MS CLS 129	+/- 13.23 %	Yes	No	Yes
Arsenic, total	ICP-MS CLS 129	+/- 9.34 %	Yes	No	Yes
Barium, total	ICP-MS CLS129	+/-33@250ug/l	Yes	No	Yes
Benzene (0.1ug/l) by GCMS	CLS 183		Yes	No	Yes
Beryllium, total	ICP-MS CLS129	+/- 11.67 %	Yes	No	Yes
Boron, total	ICP-MS CLS129	+/-15@200ug/l	Yes	No	Yes
Bromobenzene	CLS 183		Yes	No	Yes
Bromochloromethane	CLS 183		Yes	No	Yes
Bromodichloromethane	CLS 183	+/- 12.14 %	Yes	No	Yes
Bromoform (Tribromomethane)	CLS 183	+/- 12.37 %	Yes	No	Yes
Bromomethane (methyl bromide)	CLS 183		Yes	No	Yes
Cadmium, total	ICP-MS CLS 129	+/- 10.42 %	Yes	No	Yes
Calcium, total	ICP-MS CLS129	+/-5.5@30mg/l	Yes	No	Yes
Carbon Disulfide	CLS 183		Yes	No	Yes
Carbon Tetrachloride (Tetrachloromethane)	CLS 183	0	Yes	No	Yes
Chlorobenzene	CLS 183		No	No	Yes
Chloroform (Trichloromethane)	CLS 183	+/- 14.56 %	Yes	No	Yes
Chromium, total	ICP-MS CLS129	+/- 8.38 %	Yes	No	Yes
cis-1,2-Dichloroethene	CLS 183		Yes	No	Yes
cis-1,3-Dichloropropene	CLS 183 (cis-1,3-dichloropropene is accredited in potable-, and ground waters only.)		Yes	No	Yes
Cobalt, total	ICP-MS CLS129	+/-0.7@5ug/l	Yes	No	Yes
Conductivity @20C	CLS 67	+/- 4.92 %	Yes	No	Yes
Copper, total	ICP-MS CLS 129	+/- 11.28 %	Yes	No	Yes
Dibromochloromethane	CLS 183	+/- 6.07 %	Yes	No	Yes
Dibromomethane	CLS 183 (Dibromomethane is accredited in ground waters only.)		No	No	Yes
Dichlorodifluoromethane (CFC-12)	CLS 183	0	Yes	No	Yes
Diethyl Ether (Ethyl Ether)	CLS 183		Yes	No	Yes

DIPE (Diisopropyl Ether)	CLS 183		Yes	No	Yes
ETBE (Ethyl Tert-Butyl Ether)	CLS 183		Yes	No	Yes
Ethylbenzene by GCMS	CLS 183		Yes	No	Yes
Fluoride (konelab)	CLS 213	+/- 19 %	Yes	No	Yes
Hexachlorobutadiene	CLS 183		Yes	No	Yes
Hexachloroethane	CLS 183 (Hexachloroethane is accredited in potable-, and surface waters only.)		Yes	No	Yes
Iodomethane (Methyl Iodide)	CLS 183		Yes	No	Yes
Iron, total	ICP-MS CLS129	+/- 10.28 %	Yes	No	Yes
Lead, total	ICP-MS CLS 129	+/-20@100ug/l	Yes	No	Yes
m/p-Xylene by GCMS	CLS 183		Yes	No	Yes
Magnesium, total	ICP-MS CLS129	+/-0.74@4mg/l	Yes	No	Yes
Manganese, total	ICP-MS CLS129	+/- 14.53 %	Yes	No	Yes
Mercury, total	ICP-MS CLS 129	+/- 27.72 %	Yes	No	Yes
Methyl Acetate	CLS 183 (Methyl acetate is accredited in potable waters only.)		Yes	No	Yes
MTBE (Methyl Tert-Butyl Ether) by GCMS	CLS 183		Yes	No	Yes
Naphthalene by GCMS	CLS 183		Yes	No	Yes
n-Butylbenzene	CLS 183		Yes	No	Yes
Nickel, total	ICP-MS CLS129	+/- 7.91 %	Yes	No	Yes
n-Propylbenzene	CLS 183		Yes	No	Yes
Odour (absence/presence)			No	No	Yes
Orthophosphate as PO4-P	Konelab CLS 35	+/- 24.55 %	Yes	No	Yes
o-Xylene by GCMS	CLS 183		Yes	No	Yes
Pentachloroethane	CLS 183		Yes	No	Yes
pH	CLS 26	+/- 0.133 pH units	Yes	No	Yes
Potassium, total	ICP-MS CLS129	+/-0.53@5mg/l	Yes	No	Yes
Selenium, total	ICP-MS CLS129	+/-0.9@5ug/l	Yes	No	Yes
Sodium, total	ICP-MS CLS129	+/- 11.62 %	Yes	No	Yes
Styrene	CLS 183		Yes	No	Yes
Sulphate (SO4)	Konelab CLS 88	+/- 7.29 %	Yes	No	Yes
TAEE (Tert-Amyl Ethyl Ether)	CLS 183		Yes	No	Yes
TAME (Tert-Amyl Methyl Ether) (1,1Dimethylpropylmethylether)	CLS 183		Yes	No	Yes
Temperature (site)	Probe	+/- 0.1 °C	No	No	Yes
Tert-Butylbenzene	CLS 183		Yes	No	Yes
Tetrachloroethene	CLS 183	+/- 44.60 %	Yes	No	Yes
Tetrahydrofuran	CLS 183		Yes	No	Yes
Tin, total	ICP-MS CLS129	+/-0.6@5ug/l	Yes	No	Yes
Toluene by GCMS	CLS 183		Yes	No	Yes
Total Phosphorus as P	CLS 151	+/- 18.01 %	Yes	No	Yes
trans-1,2-Dichloroethene	CLS 183		Yes	No	Yes
trans-1,3-Dichloropropene	CLS 183 (trans-1,3-dichloropropene is accredited in potable waters only.)		Yes	No	Yes
Trichloroethene	CLS 183	+/- 46.72 %	Yes	No	Yes
Trichlorofluoromethane (CFC-11)	CLS 183		Yes	No	Yes
Vinyl Chloride	CLS 183		Yes	No	Yes
Visual Inspection/Odour		0	No	No	Yes
Zinc, total	ICP-MS CLS 129	+/- 9.38 %	Yes	No	Yes

*Analysis carried out in a GMP approved, FDA inspected facility (MedPharma site only).

**Laboratory Analysis, Sampling, Food Safety Monitoring and Analysts on Contract are all ISO 9001 certified.

Lab No	Sample ID	Sample Condition on Receipt	Sampling Date
1808569	MW-2 11.11.2024	Good condition	11/11/2024

CERTIFICATE OF ANALYSIS

Client : John Boyle
Bord na Mona (Clonbullogue)
Edenderry Power Plant
Balykileen, Edenderry
Co Offaly

Report No. : 581960
Date of Receipt : 11/11/2024
Start Date of Analysis : 11/11/2024
Date of Report : 20/12/2024
Order Number : 3132119
Sample taken by : CLS

Lab No	Sample Description	Test	Ref.	Result	Units
1808570	MW-3 11.11.2024	1,1,1,2-Tetrachloroethane	I,R	<0.5	ug/l
		1,1,1-Trichloroethane	I,R	<0.5	ug/l
		1,1,2,2-Tetrachloroethane	I,R	<0.5	ug/l
		1,1,2-Trichloroethane	I,R	<2	ug/l
		1,1-Dichloroethane	I,R	<0.5	ug/l
		1,1-Dichloroethene	I,R	<0.5	ug/l
		1,1-Dichloropropene	I,R	<0.5	ug/l
		1,2,3-Trichlorobenzene	I,R	<0.5	ug/l
		1,2,3-Trichloropropane	I,R	<1	ug/l
		1,2,4-Trichlorobenzene	I,R	<0.5	ug/l
		1,2,4-Trimethylbenzene (Pseudocumene)	I,R	<2	ug/l
		1,2-Dibromoethane (EDB)	I,R	<4	ug/l
		1,2-Dichlorobenzene	I,R	<1	ug/l
		1,2-Dichloroethane	I,R	<0.2	ug/l
		1,2-Dichloropropane	I,R	<0.5	ug/l
		1,3,5-Trimethylbenzene (Mesitylene)	I,R	<4	ug/l
		1,3-Butadiene	I,R	<0.5	ug/l
		1,3-Dichloropropane	I,R	<0.5	ug/l
		1-Chlorobutane (n-Butyl Chloride)	I,R	<0.5	ug/l
		4-Isopropyltoluene (p-Cymene)	I,R	<1	ug/l
		Aluminium, Total	I,R	6764	ug/l
		Ammonia as N	I,R	5.14	mg/l
		Antimony, total	I,R	1	ug/l
		Arsenic, total	I,R	16	ug/l
		Barium, total	I,R	193	ug/l
		Benzene (0.1ug/l) by GCMS	I,R	<0.1	ug/l
		Beryllium, total	I,R	1	ug/l
		Boron, total	I,R	38	ug/l
		Bromobenzene	I,R	<1	ug/l
		Bromochloromethane	I,R	<2	ug/l
		Bromodichloromethane	I,R	<0.5	ug/l
		Bromoform (Tribromomethane)	I,R	<0.5	ug/l
		Bromomethane (methyl bromide)	I,R	<0.5	ug/l
		Cadmium, total	I,R	5	ug/l
		Calcium, total	I,R	288	mg/l
		Carbon Disulfide	I,R	<0.5	ug/l
		Carbon Tetrachloride (Tetrachloromethane)	I,R	<0.5	ug/l
		Chlorobenzene	R	<0.5	ug/l
		Chloroform (Trichloromethane)	I,R	<1	ug/l
		Chromium, total	I,R	31	ug/l
		cis-1,2-Dichloroethene	I,R	<0.5	ug/l
		cis-1,3-Dichloropropene	I,R	<0.1	ug/l
		Cobalt, total	I,R	16	ug/l
		Conductivity @20C	I,R	1138	uS/cm
		Copper, total	I,R	24	ug/l

	Dibromochloromethane	I,R	<0.5	ug/l
	Dibromomethane	R	<0.5	ug/l
	Dichlorodifluoromethane (CFC-12)	I,R	<1	ug/l
	Diethyl Ether (Ethyl Ether)	I,R	<1	ug/l
	DIPE (Diisopropyl Ether)	I,R	<0.5	ug/l
	ETBE (Ethyl Tert-Butyl Ether)	I,R	<2	ug/l
	Ethylbenzene by GCMS	I,R	<2	ug/l
	Fluoride (konelab)	I,R	0.38	mg/l
	Hexachlorobutadiene	I,R	<0.5	ug/l
	Hexachloroethane	I,R	<0.5	ug/l
	Iodomethane (Methyl Iodide)	I,R	<0.1	ug/l
	Iron, total	I,R	21007	ug/l
	Lead, total	I,R	93	ug/l
	m/p-Xylene by GCMS	I,R	<4	ug/l
	Magnesium, total	I,R	37	mg/l
	Manganese, total	I,R	2986	ug/l
	Mercury, total	I,R	0.14	ug/l
	Methyl Acetate	I,R	<5	ug/l
	MTBE (Methyl Tert-Butyl Ether) by GCMS	I,R	<2	ug/l
	Naphthalene by GCMS	I,R	<1	ug/l
	n-Butylbenzene	I,R	<2	ug/l
	Nickel, total	I,R	75	ug/l
	n-Propylbenzene	I,R	<4	ug/l
	Odour (absence/presence)	R	Absent	
	Orthophosphate as PO4-P	I,R	0.012	mg/l
	o-Xylene by GCMS	I,R	<2	ug/l
	Pentachloroethane	I,R	<2	ug/l
	Pesticides (OCP)	S	See attached excel	ng/l
	Pesticides (OPP)	S	See attached excel	ug/l
	pH	I,R	7.0	pH Units
	Potassium, total	I,R	3	mg/l
	Selenium, total	I,R	3	ug/l
	Sodium, total	I,R	8	mg/l
	Styrene	I,R	<2	ug/l
	Sulphate (SO4)	I,R	359	mg/l
	SVOCs (W) (GEO94)	S	See attached excel	ug/l
	TAAE (Tert-Amyl Ethyl Ether)	I,R	<1	ug/l
	TAME (Tert-Amyl Methyl Ether) (1,1Dimethylpropylmethylether)	I,R	<0.1	ug/l
	Temperature (site)	F,R	10.9	°C
	Tert-Butylbenzene	I,R	<1	ug/l
	Tetrachloroethene	I,R	<0.5	ug/l
	Tetrahydrofuran	I,R	<1	ug/l
	Tin, total	I,R	<0.6	ug/l
	Toluene by GCMS	I,R	<0.5	ug/l
	Total Phosphorus as P	I,R	0.31	mg/l
	trans-1,2-Dichloroethene	I,R	<0.5	ug/l
	trans-1,3-Dichloropropene	I,R	<0.5	ug/l
	Trichloroethene	I,R	<2	ug/l
	Trichlorofluoromethane (CFC-11)	I,R	<1	ug/l
	Vinyl Chloride	I,R	<0.5	ug/l
	Visual Inspection/Odour	R	Liquid is grey in colour with a strong odour. (Darker than usual, lots of dust, less rain than usual)	
	Zinc, total	I,R	242	ug/l



Complete Laboratory Solutions

Complete Laboratory Solutions

[Tel] 091 574355

[Fax] 091 574356

[Email] services@cls.ie

[web] www.cls.ie



Approved by:

Ann Marie Nee

**AnnMarie Nee
Environmental Account
Manager**

See below for test specifications and accreditation status.

This report only relates to items tested and shall not be reproduced but in full with the permission of CLS.
est. is an estimated count.

CLS will test food, water and swabs samples within 24 hours of receipt.

Where samples have been taken by the Client, results apply to the samples as received.

In-House Test	Specification	Expanded Measurement of Uncertainty	17025	GMP/FDA*	ISO**
1,1,1,2-Tetrachloroethane	CLS 183		Yes	No	Yes
1,1,1-Trichloroethane	CLS 183		Yes	No	Yes
1,1,2,2-Tetrachloroethane	CLS 183		Yes	No	Yes
1,1,2-Trichloroethane	CLS 183		Yes	No	Yes
1,1-Dichloroethane	CLS 183		Yes	No	Yes
1,1-Dichloroethene	CLS 183		Yes	No	Yes
1,1-Dichloropropene	CLS 183	0	Yes	No	Yes
1,2,3-Trichlorobenzene	CLS 183		Yes	No	Yes
1,2,3-Trichloropropane	CLS 183		Yes	No	Yes
1,2,4-Trichlorobenzene	CLS 183		Yes	No	Yes
1,2,4-Trimethylbenzene (Pseudocumene)	CLS 183		Yes	No	Yes
1,2-Dibromoethane (EDB)	CLS 183		Yes	No	Yes
1,2-Dichlorobenzene	CLS 183		Yes	No	Yes
1,2-Dichloroethane	CLS 183	0	Yes	No	Yes
1,2-Dichloropropane	CLS 183		Yes	No	Yes
1,3,5-Trimethylbenzene (Mesitylene)	CLS 183		Yes	No	Yes
1,3-Butadiene	CLS 183		Yes	No	Yes
1,3-Dichloropropane	CLS 183		Yes	No	Yes
1-Chlorobutane (n-Butyl Chloride)	CLS 183	0	Yes	No	Yes
4-Isopropyltoluene (p-Cymene)	CLS 183		Yes	No	Yes
Aluminium, Total	ICP-MS CLS129	+/- 11.75 %	Yes	No	Yes
Ammonia as N	Konelab CLS 40	+/- 15.2 %	Yes	No	Yes
Antimony, total	ICP-MS CLS 129	+/- 13.23 %	Yes	No	Yes
Arsenic, total	ICP-MS CLS 129	+/- 9.34 %	Yes	No	Yes
Barium, total	ICP-MS CLS129	+/-33@250ug/l	Yes	No	Yes
Benzene (0.1ug/l) by GCMS	CLS 183		Yes	No	Yes
Beryllium, total	ICP-MS CLS129	+/- 11.67 %	Yes	No	Yes
Boron, total	ICP-MS CLS129	+/-15@200ug/l	Yes	No	Yes
Bromobenzene	CLS 183		Yes	No	Yes
Bromochloromethane	CLS 183		Yes	No	Yes
Bromodichloromethane	CLS 183	+/- 12.14 %	Yes	No	Yes
Bromoform (Tribromomethane)	CLS 183	+/- 12.37 %	Yes	No	Yes
Bromomethane (methyl bromide)	CLS 183		Yes	No	Yes
Cadmium, total	ICP-MS CLS 129	+/- 10.42 %	Yes	No	Yes
Calcium, total	ICP-MS CLS129	+/-5.5@30mg/l	Yes	No	Yes
Carbon Disulfide	CLS 183		Yes	No	Yes
Carbon Tetrachloride (Tetrachloromethane)	CLS 183	0	Yes	No	Yes
Chlorobenzene	CLS 183		No	No	Yes
Chloroform (Trichloromethane)	CLS 183	+/- 14.56 %	Yes	No	Yes
Chromium, total	ICP-MS CLS129	+/- 8.38 %	Yes	No	Yes
cis-1,2-Dichloroethene	CLS 183		Yes	No	Yes
cis-1,3-Dichloropropene	CLS 183 (cis-1,3-dichloropropene is accredited in potable-, and ground waters only.)		Yes	No	Yes
Cobalt, total	ICP-MS CLS129	+/-0.7@5ug/l	Yes	No	Yes
Conductivity @20C	CLS 67	+/- 4.92 %	Yes	No	Yes
Copper, total	ICP-MS CLS 129	+/- 11.28 %	Yes	No	Yes
Dibromochloromethane	CLS 183	+/- 6.07 %	Yes	No	Yes
Dibromomethane	CLS 183 (Dibromomethane is accredited in ground waters only.)		No	No	Yes
Dichlorodifluoromethane (CFC-12)	CLS 183	0	Yes	No	Yes
Diethyl Ether (Ethyl Ether)	CLS 183		Yes	No	Yes

DIPE (Diisopropyl Ether)	CLS 183		Yes	No	Yes
ETBE (Ethyl Tert-Butyl Ether)	CLS 183		Yes	No	Yes
Ethylbenzene by GCMS	CLS 183		Yes	No	Yes
Fluoride (konelab)	CLS 213	+/- 19 %	Yes	No	Yes
Hexachlorobutadiene	CLS 183		Yes	No	Yes
Hexachloroethane	CLS 183 (Hexachloroethane is accredited in potable-, and surface waters only.)		Yes	No	Yes
Iodomethane (Methyl Iodide)	CLS 183		Yes	No	Yes
Iron, total	ICP-MS CLS129	+/- 10.28 %	Yes	No	Yes
Lead, total	ICP-MS CLS 129	+/-20@100ug/l	Yes	No	Yes
m/p-Xylene by GCMS	CLS 183		Yes	No	Yes
Magnesium, total	ICP-MS CLS129	+/-0.74@4mg/l	Yes	No	Yes
Manganese, total	ICP-MS CLS129	+/- 14.53 %	Yes	No	Yes
Mercury, total	ICP-MS CLS 129	+/- 27.72 %	Yes	No	Yes
Methyl Acetate	CLS 183 (Methyl acetate is accredited in potable waters only.)		Yes	No	Yes
MTBE (Methyl Tert-Butyl Ether) by GCMS	CLS 183		Yes	No	Yes
Naphthalene by GCMS	CLS 183		Yes	No	Yes
n-Butylbenzene	CLS 183		Yes	No	Yes
Nickel, total	ICP-MS CLS129	+/- 7.91 %	Yes	No	Yes
n-Propylbenzene	CLS 183		Yes	No	Yes
Odour (absence/presence)			No	No	Yes
Orthophosphate as PO4-P	Konelab CLS 35	+/- 24.55 %	Yes	No	Yes
o-Xylene by GCMS	CLS 183		Yes	No	Yes
Pentachloroethane	CLS 183		Yes	No	Yes
pH	CLS 26	+/- 0.133 pH units	Yes	No	Yes
Potassium, total	ICP-MS CLS129	+/-0.53@5mg/l	Yes	No	Yes
Selenium, total	ICP-MS CLS129	+/-0.9@5ug/l	Yes	No	Yes
Sodium, total	ICP-MS CLS129	+/- 11.62 %	Yes	No	Yes
Styrene	CLS 183		Yes	No	Yes
Sulphate (SO4)	Konelab CLS 88	+/- 7.29 %	Yes	No	Yes
TAEE (Tert-Amyl Ethyl Ether)	CLS 183		Yes	No	Yes
TAME (Tert-Amyl Methyl Ether) (1,1Dimethylpropylmethylether)	CLS 183		Yes	No	Yes
Temperature (site)	Probe	+/- 0.1 °C	No	No	Yes
Tert-Butylbenzene	CLS 183		Yes	No	Yes
Tetrachloroethene	CLS 183	+/- 44.60 %	Yes	No	Yes
Tetrahydrofuran	CLS 183		Yes	No	Yes
Tin, total	ICP-MS CLS129	+/-0.6@5ug/l	Yes	No	Yes
Toluene by GCMS	CLS 183		Yes	No	Yes
Total Phosphorus as P	CLS 151	+/- 18.01 %	Yes	No	Yes
trans-1,2-Dichloroethene	CLS 183		Yes	No	Yes
trans-1,3-Dichloropropene	CLS 183 (trans-1,3-dichloropropene is accredited in potable waters only.)		Yes	No	Yes
Trichloroethene	CLS 183	+/- 46.72 %	Yes	No	Yes
Trichlorofluoromethane (CFC-11)	CLS 183		Yes	No	Yes
Vinyl Chloride	CLS 183		Yes	No	Yes
Visual Inspection/Odour		0	No	No	Yes
Zinc, total	ICP-MS CLS 129	+/- 9.38 %	Yes	No	Yes

*Analysis carried out in a GMP approved, FDA inspected facility (MedPharma site only).

**Laboratory Analysis, Sampling, Food Safety Monitoring and Analysts on Contract are all ISO 9001 certified.

Lab No	Sample ID	Sample Condition on Receipt	Sampling Date
1808570	MW-3 11.11.2024	Good condition	11/11/2024

CERTIFICATE OF ANALYSIS

Client : John Boyle
Bord na Mona (Clonbullogue)
Edenderry Power Plant
Balykileen, Edenderry
Co Offaly

Report No. : 581961
Date of Receipt : 11/11/2024
Start Date of Analysis : 11/11/2024
Date of Report : 20/12/2024
Order Number : 3132119
Sample taken by : CLS

Lab No	Sample Description	Test	Ref.	Result	Units
1808571	MW-5 11.11.2024	1,1,1,2-Tetrachloroethane	I,R	<0.5	ug/l
		1,1,1-Trichloroethane	I,R	<0.5	ug/l
		1,1,2,2-Tetrachloroethane	I,R	<0.5	ug/l
		1,1,2-Trichloroethane	I,R	<2	ug/l
		1,1-Dichloroethane	I,R	<0.5	ug/l
		1,1-Dichloroethene	I,R	<0.5	ug/l
		1,1-Dichloropropene	I,R	<0.5	ug/l
		1,2,3-Trichlorobenzene	I,R	<0.5	ug/l
		1,2,3-Trichloropropane	I,R	<1	ug/l
		1,2,4-Trichlorobenzene	I,R	<0.5	ug/l
		1,2,4-Trimethylbenzene (Pseudocumene)	I,R	<2	ug/l
		1,2-Dibromoethane (EDB)	I,R	<4	ug/l
		1,2-Dichlorobenzene	I,R	<1	ug/l
		1,2-Dichloroethane	I,R	<0.2	ug/l
		1,2-Dichloropropane	I,R	<0.5	ug/l
		1,3,5-Trimethylbenzene (Mesitylene)	I,R	<4	ug/l
		1,3-Butadiene	I,R	<0.5	ug/l
		1,3-Dichloropropane	I,R	0.83	ug/l
		1-Chlorobutane (n-Butyl Chloride)	I,R	<0.5	ug/l
		4-Isopropyltoluene (p-Cymene)	I,R	<1	ug/l
		Aluminium, Total	I,R	287	ug/l
		Ammonia as N	I,R	7.99	mg/l
		Antimony, total	I,R	<12	ug/l
		Arsenic, total	I,R	16	ug/l
		Barium, total	I,R	81	ug/l
		Benzene (0.1ug/l) by GCMS	I,R	<0.1	ug/l
		Beryllium, total	I,R	<12	ug/l
		Boron, total	I,R	<120	ug/l
		Bromobenzene	I,R	<1	ug/l
		Bromochloromethane	I,R	<2	ug/l
		Bromodichloromethane	I,R	<0.5	ug/l
		Bromoform (Tribromomethane)	I,R	<0.5	ug/l
		Bromomethane (methyl bromide)	I,R	<0.5	ug/l
		Cadmium, total	I,R	<12	ug/l
		Calcium, total	I,R	282	mg/l
		Carbon Disulfide	I,R	<0.5	ug/l
		Carbon Tetrachloride (Tetrachloromethane)	I,R	<0.5	ug/l
		Chlorobenzene	R	<0.5	ug/l
		Chloroform (Trichloromethane)	I,R	<1	ug/l
		Chromium, total	I,R	<12	ug/l
		cis-1,2-Dichloroethene	I,R	<0.5	ug/l
		cis-1,3-Dichloropropene	I,R	<0.1	ug/l
		Cobalt, total	I,R	18	ug/l
		Conductivity @20C	I,R	508	uS/cm
		Copper, total	I,R	27	ug/l
		Dibromochloromethane	I,R	<0.5	ug/l

	Dibromomethane	R	<0.5	ug/l
	Dichlorodifluoromethane (CFC-12)	I,R	<1	ug/l
	Diethyl Ether (Ethyl Ether)	I,R	<1	ug/l
	DIPE (Diisopropyl Ether)	I,R	<0.5	ug/l
	ETBE (Ethyl Tert-Butyl Ether)	I,R	<2	ug/l
	Ethylbenzene by GCMS	I,R	<2	ug/l
	Fluoride (konelab)	I,R	0.63	mg/l
	Hexachlorobutadiene	I,R	<0.5	ug/l
	Hexachloroethane	I,R	<0.5	ug/l
	Iodomethane (Methyl Iodide)	I,R	<0.1	ug/l
	Iron, total	I,R	3438	ug/l
	Lead, total	I,R	<12	ug/l
	m/p-Xylene by GCMS	I,R	<4	ug/l
	Magnesium, total	I,R	<18	mg/l
	Manganese, total	I,R	2704	ug/l
	Mercury, total	I,R	<1.2	ug/l
	Methyl Acetate	I,R	<5	ug/l
	MTBE (Methyl Tert-Butyl Ether) by GCMS	I,R	<2	ug/l
	Naphthalene by GCMS	I,R	<1	ug/l
	n-Butylbenzene	I,R	<2	ug/l
	Nickel, total	I,R	89	ug/l
	n-Propylbenzene	I,R	<4	ug/l
	Odour (absence/presence)	R	Absent	
	Orthophosphate as PO4-P	I,R	0.197	mg/l
	o-Xylene by GCMS	I,R	<2	ug/l
	Pentachloroethane	I,R	<2	ug/l
	Pesticides (OCP)	S	See attached excel	ng/l
	Pesticides (OPP)	S	See attached excel	ug/l
	pH	I,R	7.1	pH Units
	Potassium, total	I,R	<6	mg/l
	Selenium, total	I,R	<12	ug/l
	Sodium, total	I,R	<24	mg/l
	Styrene	I,R	<2	ug/l
	Sulphate (SO4)	I,R	<5	mg/l
	SVOCs (W) (GEO94)	S	See attached excel	ug/l
	TAAE (Tert-Amyl Ethyl Ether)	I,R	<1	ug/l
	TAME (Tert-Amyl Methyl Ether) (1,1Dimethylpropylmethylether)	I,R	<0.1	ug/l
	Temperature (site)	F,R	10.5	°C
	Tert-Butylbenzene	I,R	<1	ug/l
	Tetrachloroethene	I,R	<0.5	ug/l
	Tetrahydrofuran	I,R	<1	ug/l
	Tin, total	I,R	<12	ug/l
	Toluene by GCMS	I,R	<0.5	ug/l
	Total Phosphorus as P	I,R	0.25	mg/l
	trans-1,2-Dichloroethene	I,R	<0.5	ug/l
	trans-1,3-Dichloropropene	I,R	<0.5	ug/l
	Trichloroethene	I,R	<2	ug/l
	Trichlorofluoromethane (CFC-11)	I,R	<1	ug/l
	Vinyl Chloride	I,R	<0.5	ug/l
	Visual Inspection/Odour	R	Liquid is slightly brown in colour with a strong odour.	
	Zinc, total	I,R	25	ug/l



Complete Laboratory Solutions

Complete Laboratory Solutions

[Tel] 091 574355

[Fax] 091 574356

[Email] services@cls.ie

[web] www.cls.ie



Approved by:

Ann Marie Nee

**AnnMarie Nee
Environmental Account
Manager**

See below for test specifications and accreditation status.

This report only relates to items tested and shall not be reproduced but in full with the permission of CLS.
est. is an estimated count.

CLS will test food, water and swabs samples within 24 hours of receipt.

Where samples have been taken by the Client, results apply to the samples as received.

In-House Test	Specification	Expanded Measurement of Uncertainty	17025	GMP/FDA*	ISO**
1,1,1,2-Tetrachloroethane	CLS 183		Yes	No	Yes
1,1,1-Trichloroethane	CLS 183		Yes	No	Yes
1,1,2,2-Tetrachloroethane	CLS 183		Yes	No	Yes
1,1,2-Trichloroethane	CLS 183		Yes	No	Yes
1,1-Dichloroethane	CLS 183		Yes	No	Yes
1,1-Dichloroethene	CLS 183		Yes	No	Yes
1,1-Dichloropropene	CLS 183	0	Yes	No	Yes
1,2,3-Trichlorobenzene	CLS 183		Yes	No	Yes
1,2,3-Trichloropropane	CLS 183		Yes	No	Yes
1,2,4-Trichlorobenzene	CLS 183		Yes	No	Yes
1,2,4-Trimethylbenzene (Pseudocumene)	CLS 183		Yes	No	Yes
1,2-Dibromoethane (EDB)	CLS 183		Yes	No	Yes
1,2-Dichlorobenzene	CLS 183		Yes	No	Yes
1,2-Dichloroethane	CLS 183	0	Yes	No	Yes
1,2-Dichloropropane	CLS 183		Yes	No	Yes
1,3,5-Trimethylbenzene (Mesitylene)	CLS 183		Yes	No	Yes
1,3-Butadiene	CLS 183		Yes	No	Yes
1,3-Dichloropropane	CLS 183		Yes	No	Yes
1-Chlorobutane (n-Butyl Chloride)	CLS 183	0	Yes	No	Yes
4-Isopropyltoluene (p-Cymene)	CLS 183		Yes	No	Yes
Aluminium, Total	ICP-MS CLS129	+/- 11.75 %	Yes	No	Yes
Ammonia as N	Konelab CLS 40	+/- 15.2 %	Yes	No	Yes
Antimony, total	ICP-MS CLS 129	+/- 13.23 %	Yes	No	Yes
Arsenic, total	ICP-MS CLS 129	+/- 9.34 %	Yes	No	Yes
Barium, total	ICP-MS CLS129	+/-33@250ug/l	Yes	No	Yes
Benzene (0.1ug/l) by GCMS	CLS 183		Yes	No	Yes
Beryllium, total	ICP-MS CLS129	+/- 11.67 %	Yes	No	Yes
Boron, total	ICP-MS CLS129	+/-15@200ug/l	Yes	No	Yes
Bromobenzene	CLS 183		Yes	No	Yes
Bromochloromethane	CLS 183		Yes	No	Yes
Bromodichloromethane	CLS 183	+/- 12.14 %	Yes	No	Yes
Bromoform (Tribromomethane)	CLS 183	+/- 12.37 %	Yes	No	Yes
Bromomethane (methyl bromide)	CLS 183		Yes	No	Yes
Cadmium, total	ICP-MS CLS 129	+/- 10.42 %	Yes	No	Yes
Calcium, total	ICP-MS CLS129	+/-5.5@30mg/l	Yes	No	Yes
Carbon Disulfide	CLS 183		Yes	No	Yes
Carbon Tetrachloride (Tetrachloromethane)	CLS 183	0	Yes	No	Yes
Chlorobenzene	CLS 183		No	No	Yes
Chloroform (Trichloromethane)	CLS 183	+/- 14.56 %	Yes	No	Yes
Chromium, total	ICP-MS CLS129	+/- 8.38 %	Yes	No	Yes
cis-1,2-Dichloroethene	CLS 183		Yes	No	Yes
cis-1,3-Dichloropropene	CLS 183 (cis-1,3-dichloropropene is accredited in potable-, and ground waters only.)		Yes	No	Yes
Cobalt, total	ICP-MS CLS129	+/-0.7@5ug/l	Yes	No	Yes
Conductivity @20C	CLS 67	+/- 4.92 %	Yes	No	Yes
Copper, total	ICP-MS CLS 129	+/- 11.28 %	Yes	No	Yes
Dibromochloromethane	CLS 183	+/- 6.07 %	Yes	No	Yes
Dibromomethane	CLS 183 (Dibromomethane is accredited in ground waters only.)		No	No	Yes
Dichlorodifluoromethane (CFC-12)	CLS 183	0	Yes	No	Yes
Diethyl Ether (Ethyl Ether)	CLS 183		Yes	No	Yes

DIPE (Diisopropyl Ether)	CLS 183		Yes	No	Yes
ETBE (Ethyl Tert-Butyl Ether)	CLS 183		Yes	No	Yes
Ethylbenzene by GCMS	CLS 183		Yes	No	Yes
Fluoride (konelab)	CLS 213	+/- 19 %	Yes	No	Yes
Hexachlorobutadiene	CLS 183		Yes	No	Yes
Hexachloroethane	CLS 183 (Hexachloroethane is accredited in potable-, and surface waters only.)		Yes	No	Yes
Iodomethane (Methyl Iodide)	CLS 183		Yes	No	Yes
Iron, total	ICP-MS CLS129	+/- 10.28 %	Yes	No	Yes
Lead, total	ICP-MS CLS 129	+/-20@100ug/l	Yes	No	Yes
m/p-Xylene by GCMS	CLS 183		Yes	No	Yes
Magnesium, total	ICP-MS CLS129	+/-0.74@4mg/l	Yes	No	Yes
Manganese, total	ICP-MS CLS129	+/- 14.53 %	Yes	No	Yes
Mercury, total	ICP-MS CLS 129	+/- 27.72 %	Yes	No	Yes
Methyl Acetate	CLS 183 (Methyl acetate is accredited in potable waters only.)		Yes	No	Yes
MTBE (Methyl Tert-Butyl Ether) by GCMS	CLS 183		Yes	No	Yes
Naphthalene by GCMS	CLS 183		Yes	No	Yes
n-Butylbenzene	CLS 183		Yes	No	Yes
Nickel, total	ICP-MS CLS129	+/- 7.91 %	Yes	No	Yes
n-Propylbenzene	CLS 183		Yes	No	Yes
Odour (absence/presence)			No	No	Yes
Orthophosphate as PO4-P	Konelab CLS 35	+/- 24.55 %	Yes	No	Yes
o-Xylene by GCMS	CLS 183		Yes	No	Yes
Pentachloroethane	CLS 183		Yes	No	Yes
pH	CLS 26	+/- 0.133 pH units	Yes	No	Yes
Potassium, total	ICP-MS CLS129	+/-0.53@5mg/l	Yes	No	Yes
Selenium, total	ICP-MS CLS129	+/-0.9@5ug/l	Yes	No	Yes
Sodium, total	ICP-MS CLS129	+/- 11.62 %	Yes	No	Yes
Styrene	CLS 183		Yes	No	Yes
Sulphate (SO4)	Konelab CLS 88	+/- 7.29 %	Yes	No	Yes
TAEE (Tert-Amyl Ethyl Ether)	CLS 183		Yes	No	Yes
TAME (Tert-Amyl Methyl Ether) (1,1Dimethylpropylmethylether)	CLS 183		Yes	No	Yes
Temperature (site)	Probe	+/- 0.1 °C	No	No	Yes
Tert-Butylbenzene	CLS 183		Yes	No	Yes
Tetrachloroethene	CLS 183	+/- 44.60 %	Yes	No	Yes
Tetrahydrofuran	CLS 183		Yes	No	Yes
Tin, total	ICP-MS CLS129	+/-0.6@5ug/l	Yes	No	Yes
Toluene by GCMS	CLS 183		Yes	No	Yes
Total Phosphorus as P	CLS 151	+/- 18.01 %	Yes	No	Yes
trans-1,2-Dichloroethene	CLS 183		Yes	No	Yes
trans-1,3-Dichloropropene	CLS 183 (trans-1,3-dichloropropene is accredited in potable waters only.)		Yes	No	Yes
Trichloroethene	CLS 183	+/- 46.72 %	Yes	No	Yes
Trichlorofluoromethane (CFC-11)	CLS 183		Yes	No	Yes
Vinyl Chloride	CLS 183		Yes	No	Yes
Visual Inspection/Odour		0	No	No	Yes
Zinc, total	ICP-MS CLS 129	+/- 9.38 %	Yes	No	Yes

*Analysis carried out in a GMP approved, FDA inspected facility (MedPharma site only).

**Laboratory Analysis, Sampling, Food Safety Monitoring and Analysts on Contract are all ISO 9001 certified.

Lab No	Sample ID	Sample Condition on Receipt	Sampling Date
1808571	MW-5 11.11.2024	Good condition	11/11/2024

CERTIFICATE OF ANALYSIS

Client : John Boyle
 Bord na Mona (Clonbullogue)
 Edenderry Power Plant
 Balykileen, Edenderry
 Co Offaly

Report No. : 581962
 Date of Receipt : 11/11/2024
 Start Date of Analysis : 11/11/2024
 Date of Report : 20/12/2024
 Order Number : 3132119
 Sample taken by : CLS

Lab No	Sample Description	Test	Ref.	Result	Units
1808572	MW-6 11.11.2024	1,1,1,2-Tetrachloroethane	I,R	<0.5	ug/l
		1,1,1-Trichloroethane	I,R	<0.5	ug/l
		1,1,2,2-Tetrachloroethane	I,R	<0.5	ug/l
		1,1,2-Trichloroethane	I,R	<2	ug/l
		1,1-Dichloroethane	I,R	<0.5	ug/l
		1,1-Dichloroethene	I,R	<0.5	ug/l
		1,1-Dichloropropene	I,R	<0.5	ug/l
		1,2,3-Trichlorobenzene	I,R	<0.5	ug/l
		1,2,3-Trichloropropane	I,R	<1	ug/l
		1,2,4-Trichlorobenzene	I,R	<0.5	ug/l
		1,2,4-Trimethylbenzene (Pseudocumene)	I,R	<2	ug/l
		1,2-Dibromoethane (EDB)	I,R	<4	ug/l
		1,2-Dichlorobenzene	I,R	<1	ug/l
		1,2-Dichloroethane	I,R	<0.2	ug/l
		1,2-Dichloropropane	I,R	<0.5	ug/l
		1,3,5-Trimethylbenzene (Mesitylene)	I,R	<4	ug/l
		1,3-Butadiene	I,R	<0.5	ug/l
		1,3-Dichloropropane	I,R	<0.5	ug/l
		1-Chlorobutane (n-Butyl Chloride)	I,R	<0.5	ug/l
		4-Isopropyltoluene (p-Cymene)	I,R	<1	ug/l
		Aluminium, Total	I,R	1384	ug/l
		Ammonia as N	I,R	8.11	mg/l
		Antimony, total	I,R	<0.6	ug/l
		Arsenic, total	I,R	15	ug/l
		Barium, total	I,R	171	ug/l
		Benzene (0.1ug/l) by GCMS	I,R	<0.1	ug/l
		Beryllium, total	I,R	<0.6	ug/l
		Boron, total	I,R	30	ug/l
		Bromobenzene	I,R	<1	ug/l
		Bromochloromethane	I,R	<2	ug/l
		Bromodichloromethane	I,R	<0.5	ug/l
		Bromoform (Tribromomethane)	I,R	<0.5	ug/l
		Bromomethane (methyl bromide)	I,R	<0.5	ug/l
		Cadmium, total	I,R	1	ug/l
		Calcium, total	I,R	123	mg/l
		Carbon Disulfide	I,R	<0.5	ug/l
		Carbon Tetrachloride (Tetrachloromethane)	I,R	<0.5	ug/l
		Chlorobenzene	R	<0.5	ug/l
		Chloroform (Trichloromethane)	I,R	<1	ug/l
		Chromium, total	I,R	7	ug/l
		cis-1,2-Dichloroethene	I,R	<0.5	ug/l
		cis-1,3-Dichloropropene	I,R	<0.1	ug/l
		Cobalt, total	I,R	3	ug/l
		Conductivity @20C	I,R	625	uS/cm
		Copper, total	I,R	4	ug/l
		Dibromochloromethane	I,R	<0.5	ug/l

	Dibromomethane	R	<0.5	ug/l
	Dichlorodifluoromethane (CFC-12)	I,R	<1	ug/l
	Diethyl Ether (Ethyl Ether)	I,R	<1	ug/l
	DIPE (Diisopropyl Ether)	I,R	<0.5	ug/l
	ETBE (Ethyl Tert-Butyl Ether)	I,R	<2	ug/l
	Ethylbenzene by GCMS	I,R	<2	ug/l
	Fluoride (konelab)	I,R	1.15	mg/l
	Hexachlorobutadiene	I,R	<0.5	ug/l
	Hexachloroethane	I,R	<0.5	ug/l
	Iodomethane (Methyl Iodide)	I,R	<0.1	ug/l
	Iron, total	I,R	20982	ug/l
	Lead, total	I,R	11	ug/l
	m/p-Xylene by GCMS	I,R	<4	ug/l
	Magnesium, total	I,R	4	mg/l
	Manganese, total	I,R	481	ug/l
	Mercury, total	I,R	<0.06	ug/l
	Methyl Acetate	I,R	<5	ug/l
	MTBE (Methyl Tert-Butyl Ether) by GCMS	I,R	<2	ug/l
	Naphthalene by GCMS	I,R	<1	ug/l
	n-Butylbenzene	I,R	<2	ug/l
	Nickel, total	I,R	18	ug/l
	n-Propylbenzene	I,R	<4	ug/l
	Odour (absence/presence)	R	Absent	
	Orthophosphate as PO4-P	I,R	0.36	mg/l
	o-Xylene by GCMS	I,R	<2	ug/l
	Pentachloroethane	I,R	<2	ug/l
	Pesticides (OCP)	S	See attached excel	ng/l
	Pesticides (OPP)	S	See attached excel	ug/l
	pH	I,R	6.9	pH Units
	Potassium, total	I,R	1	mg/l
	Selenium, total	I,R	1	ug/l
	Sodium, total	I,R	13	mg/l
	Styrene	I,R	<2	ug/l
	Sulphate (SO4)	I,R	<5	mg/l
	SVOCs (W) (GEO94)	S	See attached excel	ug/l
	TAEE (Tert-Amyl Ethyl Ether)	I,R	<1	ug/l
	TAME (Tert-Amyl Methyl Ether) (1,1Dimethylpropylmethylether)	I,R	<0.1	ug/l
	Temperature (site)	F,R	9.7	°C
	Tert-Butylbenzene	I,R	<1	ug/l
	Tetrachloroethene	I,R	<0.5	ug/l
	Tetrahydrofuran	I,R	<1	ug/l
	Tin, total	I,R	<0.6	ug/l
	Toluene by GCMS	I,R	<0.5	ug/l
	Total Phosphorus as P	I,R	0.58	mg/l
	trans-1,2-Dichloroethene	I,R	<0.5	ug/l
	trans-1,3-Dichloropropene	I,R	<0.5	ug/l
	Trichloroethene	I,R	<2	ug/l
	Trichlorofluoromethane (CFC-11)	I,R	<1	ug/l
	Vinyl Chloride	I,R	<0.5	ug/l
	Visual Inspection/Odour	R	Brown liquid with a strong odour.	
	Zinc, total	I,R	28	ug/l



Complete Laboratory Solutions

Complete Laboratory Solutions

[Tel] 091 574355

[Fax] 091 574356

[Email] services@cls.ie

[web] www.cls.ie



Approved by:

Ann Marie Nee

**AnnMarie Nee
Environmental Account
Manager**

See below for test specifications and accreditation status.

This report only relates to items tested and shall not be reproduced but in full with the permission of CLS.
est. is an estimated count.

CLS will test food, water and swabs samples within 24 hours of receipt.

Where samples have been taken by the Client, results apply to the samples as received.

In-House Test	Specification	Expanded Measurement of Uncertainty	17025	GMP/FDA*	ISO**
1,1,1,2-Tetrachloroethane	CLS 183		Yes	No	Yes
1,1,1-Trichloroethane	CLS 183		Yes	No	Yes
1,1,2,2-Tetrachloroethane	CLS 183		Yes	No	Yes
1,1,2-Trichloroethane	CLS 183		Yes	No	Yes
1,1-Dichloroethane	CLS 183		Yes	No	Yes
1,1-Dichloroethene	CLS 183		Yes	No	Yes
1,1-Dichloropropene	CLS 183	0	Yes	No	Yes
1,2,3-Trichlorobenzene	CLS 183		Yes	No	Yes
1,2,3-Trichloropropane	CLS 183		Yes	No	Yes
1,2,4-Trichlorobenzene	CLS 183		Yes	No	Yes
1,2,4-Trimethylbenzene (Pseudocumene)	CLS 183		Yes	No	Yes
1,2-Dibromoethane (EDB)	CLS 183		Yes	No	Yes
1,2-Dichlorobenzene	CLS 183		Yes	No	Yes
1,2-Dichloroethane	CLS 183	0	Yes	No	Yes
1,2-Dichloropropane	CLS 183		Yes	No	Yes
1,3,5-Trimethylbenzene (Mesitylene)	CLS 183		Yes	No	Yes
1,3-Butadiene	CLS 183		Yes	No	Yes
1,3-Dichloropropane	CLS 183		Yes	No	Yes
1-Chlorobutane (n-Butyl Chloride)	CLS 183	0	Yes	No	Yes
4-Isopropyltoluene (p-Cymene)	CLS 183		Yes	No	Yes
Aluminium, Total	ICP-MS CLS129	+/- 11.75 %	Yes	No	Yes
Ammonia as N	Konelab CLS 40	+/- 15.2 %	Yes	No	Yes
Antimony, total	ICP-MS CLS 129	+/- 13.23 %	Yes	No	Yes
Arsenic, total	ICP-MS CLS 129	+/- 9.34 %	Yes	No	Yes
Barium, total	ICP-MS CLS129	+/-33@250ug/l	Yes	No	Yes
Benzene (0.1ug/l) by GCMS	CLS 183		Yes	No	Yes
Beryllium, total	ICP-MS CLS129	+/- 11.67 %	Yes	No	Yes
Boron, total	ICP-MS CLS129	+/-15@200ug/l	Yes	No	Yes
Bromobenzene	CLS 183		Yes	No	Yes
Bromochloromethane	CLS 183		Yes	No	Yes
Bromodichloromethane	CLS 183	+/- 12.14 %	Yes	No	Yes
Bromoform (Tribromomethane)	CLS 183	+/- 12.37 %	Yes	No	Yes
Bromomethane (methyl bromide)	CLS 183		Yes	No	Yes
Cadmium, total	ICP-MS CLS 129	+/- 10.42 %	Yes	No	Yes
Calcium, total	ICP-MS CLS129	+/-5.5@30mg/l	Yes	No	Yes
Carbon Disulfide	CLS 183		Yes	No	Yes
Carbon Tetrachloride (Tetrachloromethane)	CLS 183	0	Yes	No	Yes
Chlorobenzene	CLS 183		No	No	Yes
Chloroform (Trichloromethane)	CLS 183	+/- 14.56 %	Yes	No	Yes
Chromium, total	ICP-MS CLS129	+/- 8.38 %	Yes	No	Yes
cis-1,2-Dichloroethene	CLS 183		Yes	No	Yes
cis-1,3-Dichloropropene	CLS 183 (cis-1,3-dichloropropene is accredited in potable-, and ground waters only.)		Yes	No	Yes
Cobalt, total	ICP-MS CLS129	+/-0.7@5ug/l	Yes	No	Yes
Conductivity @20C	CLS 67	+/- 4.92 %	Yes	No	Yes
Copper, total	ICP-MS CLS 129	+/- 11.28 %	Yes	No	Yes
Dibromochloromethane	CLS 183	+/- 6.07 %	Yes	No	Yes
Dibromomethane	CLS 183 (Dibromomethane is accredited in ground waters only.)		No	No	Yes
Dichlorodifluoromethane (CFC-12)	CLS 183	0	Yes	No	Yes
Diethyl Ether (Ethyl Ether)	CLS 183		Yes	No	Yes

DIPE (Diisopropyl Ether)	CLS 183		Yes	No	Yes
ETBE (Ethyl Tert-Butyl Ether)	CLS 183		Yes	No	Yes
Ethylbenzene by GCMS	CLS 183		Yes	No	Yes
Fluoride (konelab)	CLS 213	+/- 19 %	Yes	No	Yes
Hexachlorobutadiene	CLS 183		Yes	No	Yes
Hexachloroethane	CLS 183 (Hexachloroethane is accredited in potable-, and surface waters only.)		Yes	No	Yes
Iodomethane (Methyl Iodide)	CLS 183		Yes	No	Yes
Iron, total	ICP-MS CLS129	+/- 10.28 %	Yes	No	Yes
Lead, total	ICP-MS CLS 129	+/-20@100ug/l	Yes	No	Yes
m/p-Xylene by GCMS	CLS 183		Yes	No	Yes
Magnesium, total	ICP-MS CLS129	+/-0.74@4mg/l	Yes	No	Yes
Manganese, total	ICP-MS CLS129	+/- 14.53 %	Yes	No	Yes
Mercury, total	ICP-MS CLS 129	+/- 27.72 %	Yes	No	Yes
Methyl Acetate	CLS 183 (Methyl acetate is accredited in potable waters only.)		Yes	No	Yes
MTBE (Methyl Tert-Butyl Ether) by GCMS	CLS 183		Yes	No	Yes
Naphthalene by GCMS	CLS 183		Yes	No	Yes
n-Butylbenzene	CLS 183		Yes	No	Yes
Nickel, total	ICP-MS CLS129	+/- 7.91 %	Yes	No	Yes
n-Propylbenzene	CLS 183		Yes	No	Yes
Odour (absence/presence)			No	No	Yes
Orthophosphate as PO4-P	Konelab CLS 35	+/- 24.55 %	Yes	No	Yes
o-Xylene by GCMS	CLS 183		Yes	No	Yes
Pentachloroethane	CLS 183		Yes	No	Yes
pH	CLS 26	+/- 0.133 pH units	Yes	No	Yes
Potassium, total	ICP-MS CLS129	+/-0.53@5mg/l	Yes	No	Yes
Selenium, total	ICP-MS CLS129	+/-0.9@5ug/l	Yes	No	Yes
Sodium, total	ICP-MS CLS129	+/- 11.62 %	Yes	No	Yes
Styrene	CLS 183		Yes	No	Yes
Sulphate (SO4)	Konelab CLS 88	+/- 7.29 %	Yes	No	Yes
TAEE (Tert-Amyl Ethyl Ether)	CLS 183		Yes	No	Yes
TAME (Tert-Amyl Methyl Ether) (1,1Dimethylpropylmethylether)	CLS 183		Yes	No	Yes
Temperature (site)	Probe	+/- 0.1 °C	No	No	Yes
Tert-Butylbenzene	CLS 183		Yes	No	Yes
Tetrachloroethene	CLS 183	+/- 44.60 %	Yes	No	Yes
Tetrahydrofuran	CLS 183		Yes	No	Yes
Tin, total	ICP-MS CLS129	+/-0.6@5ug/l	Yes	No	Yes
Toluene by GCMS	CLS 183		Yes	No	Yes
Total Phosphorus as P	CLS 151	+/- 18.01 %	Yes	No	Yes
trans-1,2-Dichloroethene	CLS 183		Yes	No	Yes
trans-1,3-Dichloropropene	CLS 183 (trans-1,3-dichloropropene is accredited in potable waters only.)		Yes	No	Yes
Trichloroethene	CLS 183	+/- 46.72 %	Yes	No	Yes
Trichlorofluoromethane (CFC-11)	CLS 183		Yes	No	Yes
Vinyl Chloride	CLS 183		Yes	No	Yes
Visual Inspection/Odour		0	No	No	Yes
Zinc, total	ICP-MS CLS 129	+/- 9.38 %	Yes	No	Yes

*Analysis carried out in a GMP approved, FDA inspected facility (MedPharma site only).

**Laboratory Analysis, Sampling, Food Safety Monitoring and Analysts on Contract are all ISO 9001 certified.

Lab No	Sample ID	Sample Condition on Receipt	Sampling Date
1808572	MW-6 11.11.2024	Good condition	11/11/2024

CERTIFICATE OF ANALYSIS

Client : John Boyle
Bord na Mona (Clonbullogue)
Edenderry Power Plant
Balykileen, Edenderry
Co Offaly

Report No. : 581963
Date of Receipt : 11/11/2024
Start Date of Analysis : 11/11/2024
Date of Report : 20/12/2024
Order Number : 3132119
Sample taken by : CLS

Lab No	Sample Description	Test	Ref.	Result	Units
1808573	MW-7 11.11.2024	1,1,1,2-Tetrachloroethane	I,R	<0.5	ug/l
		1,1,1-Trichloroethane	I,R	<0.5	ug/l
		1,1,2,2-Tetrachloroethane	I,R	<0.5	ug/l
		1,1,2-Trichloroethane	I,R	<2	ug/l
		1,1-Dichloroethane	I,R	<0.5	ug/l
		1,1-Dichloroethene	I,R	<0.5	ug/l
		1,1-Dichloropropene	I,R	<0.5	ug/l
		1,2,3-Trichlorobenzene	I,R	<0.5	ug/l
		1,2,3-Trichloropropane	I,R	<1	ug/l
		1,2,4-Trichlorobenzene	I,R	<0.5	ug/l
		1,2,4-Trimethylbenzene (Pseudocumene)	I,R	<2	ug/l
		1,2-Dibromoethane (EDB)	I,R	<4	ug/l
		1,2-Dichlorobenzene	I,R	<1	ug/l
		1,2-Dichloroethane	I,R	<0.2	ug/l
		1,2-Dichloropropane	I,R	<0.5	ug/l
		1,3,5-Trimethylbenzene (Mesitylene)	I,R	<4	ug/l
		1,3-Butadiene	I,R	<0.5	ug/l
		1,3-Dichloropropane	I,R	<0.5	ug/l
		1-Chlorobutane (n-Butyl Chloride)	I,R	<0.5	ug/l
		4-Isopropyltoluene (p-Cymene)	I,R	<1	ug/l
		Aluminium, Total	I,R	32	ug/l
		Ammonia as N	I,R	3.56	mg/l
		Antimony, total	I,R	<0.6	ug/l
		Arsenic, total	I,R	5	ug/l
		Barium, total	I,R	374	ug/l
		Benzene (0.1ug/l) by GCMS	I,R	<0.1	ug/l
		Beryllium, total	I,R	<0.6	ug/l
		Boron, total	I,R	13	ug/l
		Bromobenzene	I,R	<1	ug/l
		Bromochloromethane	I,R	<2	ug/l
		Bromodichloromethane	I,R	<0.5	ug/l
		Bromoform (Tribromomethane)	I,R	<0.5	ug/l
		Bromomethane (methyl bromide)	I,R	<0.5	ug/l
		Cadmium, total	I,R	<0.6	ug/l
		Calcium, total	I,R	188	mg/l
		Carbon Disulfide	I,R	<0.5	ug/l
		Carbon Tetrachloride (Tetrachloromethane)	I,R	<0.5	ug/l
		Chlorobenzene	R	<0.5	ug/l
		Chloroform (Trichloromethane)	I,R	<1	ug/l
		Chromium, total	I,R	2	ug/l
		cis-1,2-Dichloroethene	I,R	<0.5	ug/l
		cis-1,3-Dichloropropene	I,R	<0.1	ug/l
		Cobalt, total	I,R	<0.6	ug/l
		Conductivity @20C	I,R	1125	uS/cm
		Copper, total	I,R	27	ug/l
		Dibromochloromethane	I,R	<0.5	ug/l

	Dibromomethane	R	<0.5	ug/l
	Dichlorodifluoromethane (CFC-12)	I,R	<1	ug/l
	Diethyl Ether (Ethyl Ether)	I,R	<1	ug/l
	DIPE (Diisopropyl Ether)	I,R	<0.5	ug/l
	ETBE (Ethyl Tert-Butyl Ether)	I,R	<2	ug/l
	Ethylbenzene by GCMS	I,R	<2	ug/l
	Fluoride (konelab)	I,R	0.56	mg/l
	Hexachlorobutadiene	I,R	<0.5	ug/l
	Hexachloroethane	I,R	<0.5	ug/l
	Iodomethane (Methyl Iodide)	I,R	<0.1	ug/l
	Iron, total	I,R	19269	ug/l
	Lead, total	I,R	<0.6	ug/l
	m/p-Xylene by GCMS	I,R	<4	ug/l
	Magnesium, total	I,R	10	mg/l
	Manganese, total	I,R	731	ug/l
	Mercury, total	I,R	<0.06	ug/l
	Methyl Acetate	I,R	<5	ug/l
	MTBE (Methyl Tert-Butyl Ether) by GCMS	I,R	<2	ug/l
	Naphthalene by GCMS	I,R	<1	ug/l
	n-Butylbenzene	I,R	<2	ug/l
	Nickel, total	I,R	1	ug/l
	n-Propylbenzene	I,R	<4	ug/l
	Odour (absence/presence)	R	Absent	
	Orthophosphate as PO4-P	I,R	0.049	mg/l
	o-Xylene by GCMS	I,R	<2	ug/l
	Pentachloroethane	I,R	<2	ug/l
	Pesticides (OCP)	S	See attached excel	ng/l
	Pesticides (OPP)	S	See attached excel	ug/l
	pH	I,R	6.8	pH
	Potassium, total	I,R	20	mg/l
	Selenium, total	I,R	<0.6	ug/l
	Sodium, total	I,R	47	mg/l
	Styrene	I,R	<2	ug/l
	Sulphate (SO4)	I,R	7.45	mg/l
	SVOCs (W) (GEO94)	S	See attached excel	ug/l
	TAAE (Tert-Amyl Ethyl Ether)	I,R	<1	ug/l
	TAME (Tert-Amyl Methyl Ether) (1,1Dimethylpropylmethylether)	I,R	<0.1	ug/l
	Temperature (site)	F,R	10.6	°C
	Tert-Butylbenzene	I,R	<1	ug/l
	Tetrachloroethene	I,R	<0.5	ug/l
	Tetrahydrofuran	I,R	<1	ug/l
	Tin, total	I,R	<0.6	ug/l
	Toluene by GCMS	I,R	<0.5	ug/l
	Total Phosphorus as P	I,R	0.18	mg/l
	trans-1,2-Dichloroethene	I,R	<0.5	ug/l
	trans-1,3-Dichloropropene	I,R	<0.5	ug/l
	Trichloroethene	I,R	<2	ug/l
	Trichlorofluoromethane (CFC-11)	I,R	<1	ug/l
	Vinyl Chloride	I,R	<0.5	ug/l
	Visual Inspection/Odour	R	Clear liquid with no odour.	
	Zinc, total	I,R	<6	ug/l



Complete Laboratory Solutions

Complete Laboratory Solutions

[Tel] 091 574355

[Fax] 091 574356

[Email] services@cls.ie

[web] www.cls.ie



Approved by:

Ann Marie Nee

**AnnMarie Nee
Environmental Account
Manager**

See below for test specifications and accreditation status.

This report only relates to items tested and shall not be reproduced but in full with the permission of CLS.
est. is an estimated count.

CLS will test food, water and swabs samples within 24 hours of receipt.

Where samples have been taken by the Client, results apply to the samples as received.



Complete Laboratory Solutions

Complete Laboratory Solutions

[Tel] 091 574355

[Fax] 091 574356

[Email] services@cls.ie

[web] www.cls.ie

In-House Test	Specification	Expanded Measurement of Uncertainty	17025	GMP/FDA*	ISO**
1,1,1,2-Tetrachloroethane	CLS 183		Yes	No	Yes
1,1,1-Trichloroethane	CLS 183		Yes	No	Yes
1,1,2,2-Tetrachloroethane	CLS 183		Yes	No	Yes
1,1,2-Trichloroethane	CLS 183		Yes	No	Yes
1,1-Dichloroethane	CLS 183		Yes	No	Yes
1,1-Dichloroethene	CLS 183		Yes	No	Yes
1,1-Dichloropropene	CLS 183	0	Yes	No	Yes
1,2,3-Trichlorobenzene	CLS 183		Yes	No	Yes
1,2,3-Trichloropropane	CLS 183		Yes	No	Yes
1,2,4-Trichlorobenzene	CLS 183		Yes	No	Yes
1,2,4-Trimethylbenzene (Pseudocumene)	CLS 183		Yes	No	Yes
1,2-Dibromoethane (EDB)	CLS 183		Yes	No	Yes
1,2-Dichlorobenzene	CLS 183		Yes	No	Yes
1,2-Dichloroethane	CLS 183	0	Yes	No	Yes
1,2-Dichloropropane	CLS 183		Yes	No	Yes
1,3,5-Trimethylbenzene (Mesitylene)	CLS 183		Yes	No	Yes
1,3-Butadiene	CLS 183		Yes	No	Yes
1,3-Dichloropropane	CLS 183		Yes	No	Yes
1-Chlorobutane (n-Butyl Chloride)	CLS 183	0	Yes	No	Yes
4-Isopropyltoluene (p-Cymene)	CLS 183		Yes	No	Yes
Aluminium, Total	ICP-MS CLS129	+/- 11.75 %	Yes	No	Yes
Ammonia as N	Konelab CLS 40	+/- 15.2 %	Yes	No	Yes
Antimony, total	ICP-MS CLS 129	+/- 13.23 %	Yes	No	Yes
Arsenic, total	ICP-MS CLS 129	+/- 9.34 %	Yes	No	Yes
Barium, total	ICP-MS CLS129	+/-33@250ug/l	Yes	No	Yes
Benzene (0.1ug/l) by GCMS	CLS 183		Yes	No	Yes
Beryllium, total	ICP-MS CLS129	+/- 11.67 %	Yes	No	Yes
Boron, total	ICP-MS CLS129	+/-15@200ug/l	Yes	No	Yes
Bromobenzene	CLS 183		Yes	No	Yes
Bromochloromethane	CLS 183		Yes	No	Yes
Bromodichloromethane	CLS 183	+/- 12.14 %	Yes	No	Yes
Bromoform (Tribromomethane)	CLS 183	+/- 12.37 %	Yes	No	Yes
Bromomethane (methyl bromide)	CLS 183		Yes	No	Yes
Cadmium, total	ICP-MS CLS 129	+/- 10.42 %	Yes	No	Yes
Calcium, total	ICP-MS CLS129	+/-5.5@30mg/l	Yes	No	Yes
Carbon Disulfide	CLS 183		Yes	No	Yes
Carbon Tetrachloride (Tetrachloromethane)	CLS 183	0	Yes	No	Yes
Chlorobenzene	CLS 183		No	No	Yes
Chloroform (Trichloromethane)	CLS 183	+/- 14.56 %	Yes	No	Yes
Chromium, total	ICP-MS CLS129	+/- 8.38 %	Yes	No	Yes
cis-1,2-Dichloroethene	CLS 183		Yes	No	Yes
cis-1,3-Dichloropropene	CLS 183 (cis-1,3-dichloropropene is accredited in potable-, and ground waters only.)		Yes	No	Yes
Cobalt, total	ICP-MS CLS129	+/-0.7@5ug/l	Yes	No	Yes
Conductivity @20C	CLS 67	+/- 4.92 %	Yes	No	Yes
Copper, total	ICP-MS CLS 129	+/- 11.28 %	Yes	No	Yes
Dibromochloromethane	CLS 183	+/- 6.07 %	Yes	No	Yes
Dibromomethane	CLS 183 (Dibromomethane is accredited in ground waters only.)		No	No	Yes
Dichlorodifluoromethane (CFC-12)	CLS 183	0	Yes	No	Yes
Diethyl Ether (Ethyl Ether)	CLS 183		Yes	No	Yes

DIPE (Diisopropyl Ether)	CLS 183		Yes	No	Yes
ETBE (Ethyl Tert-Butyl Ether)	CLS 183		Yes	No	Yes
Ethylbenzene by GCMS	CLS 183		Yes	No	Yes
Fluoride (konelab)	CLS 213	+/- 19 %	Yes	No	Yes
Hexachlorobutadiene	CLS 183		Yes	No	Yes
Hexachloroethane	CLS 183 (Hexachloroethane is accredited in potable-, and surface waters only.)		Yes	No	Yes
Iodomethane (Methyl Iodide)	CLS 183		Yes	No	Yes
Iron, total	ICP-MS CLS129	+/- 10.28 %	Yes	No	Yes
Lead, total	ICP-MS CLS 129	+/-20@100ug/l	Yes	No	Yes
m/p-Xylene by GCMS	CLS 183		Yes	No	Yes
Magnesium, total	ICP-MS CLS129	+/-0.74@4mg/l	Yes	No	Yes
Manganese, total	ICP-MS CLS129	+/- 14.53 %	Yes	No	Yes
Mercury, total	ICP-MS CLS 129	+/- 27.72 %	Yes	No	Yes
Methyl Acetate	CLS 183 (Methyl acetate is accredited in potable waters only.)		Yes	No	Yes
MTBE (Methyl Tert-Butyl Ether) by GCMS	CLS 183		Yes	No	Yes
Naphthalene by GCMS	CLS 183		Yes	No	Yes
n-Butylbenzene	CLS 183		Yes	No	Yes
Nickel, total	ICP-MS CLS129	+/- 7.91 %	Yes	No	Yes
n-Propylbenzene	CLS 183		Yes	No	Yes
Odour (absence/presence)			No	No	Yes
Orthophosphate as PO4-P	Konelab CLS 35	+/- 24.55 %	Yes	No	Yes
o-Xylene by GCMS	CLS 183		Yes	No	Yes
Pentachloroethane	CLS 183		Yes	No	Yes
pH	CLS 26	+/- 0.133 pH units	Yes	No	Yes
Potassium, total	ICP-MS CLS129	+/-0.53@5mg/l	Yes	No	Yes
Selenium, total	ICP-MS CLS129	+/-0.9@5ug/l	Yes	No	Yes
Sodium, total	ICP-MS CLS129	+/- 11.62 %	Yes	No	Yes
Styrene	CLS 183		Yes	No	Yes
Sulphate (SO4)	Konelab CLS 88	+/- 7.29 %	Yes	No	Yes
TAEE (Tert-Amyl Ethyl Ether)	CLS 183		Yes	No	Yes
TAME (Tert-Amyl Methyl Ether) (1,1Dimethylpropylmethylether)	CLS 183		Yes	No	Yes
Temperature (site)	Probe	+/- 0.1 °C	No	No	Yes
Tert-Butylbenzene	CLS 183		Yes	No	Yes
Tetrachloroethene	CLS 183	+/- 44.60 %	Yes	No	Yes
Tetrahydrofuran	CLS 183		Yes	No	Yes
Tin, total	ICP-MS CLS129	+/-0.6@5ug/l	Yes	No	Yes
Toluene by GCMS	CLS 183		Yes	No	Yes
Total Phosphorus as P	CLS 151	+/- 18.01 %	Yes	No	Yes
trans-1,2-Dichloroethene	CLS 183		Yes	No	Yes
trans-1,3-Dichloropropene	CLS 183 (trans-1,3-dichloropropene is accredited in potable waters only.)		Yes	No	Yes
Trichloroethene	CLS 183	+/- 46.72 %	Yes	No	Yes
Trichlorofluoromethane (CFC-11)	CLS 183		Yes	No	Yes
Vinyl Chloride	CLS 183		Yes	No	Yes
Visual Inspection/Odour		0	No	No	Yes
Zinc, total	ICP-MS CLS 129	+/- 9.38 %	Yes	No	Yes

*Analysis carried out in a GMP approved, FDA inspected facility (MedPharma site only).

**Laboratory Analysis, Sampling, Food Safety Monitoring and Analysts on Contract are all ISO 9001 certified.

Lab No	Sample ID	Sample Condition on Receipt	Sampling Date
1808573	MW-7 11.11.2024	Good condition	11/11/2024

CERTIFICATE OF ANALYSIS

Client : John Boyle
Bord na Mona (Clonbullogue)
Edenderry Power Plant
Balykileen, Edenderry
Co Offaly

Report No. : 581964
Date of Receipt : 11/11/2024
Start Date of Analysis : 11/11/2024
Date of Report : 20/12/2024
Order Number : 3132119
Sample taken by : CLS

Lab No	Sample Description	Test	Ref.	Result	Units
1808574	MW-8 11.11.2024	1,1,1,2-Tetrachloroethane	I,R	<0.5	ug/l
		1,1,1-Trichloroethane	I,R	<0.5	ug/l
		1,1,2,2-Tetrachloroethane	I,R	<0.5	ug/l
		1,1,2-Trichloroethane	I,R	<2	ug/l
		1,1-Dichloroethane	I,R	<0.5	ug/l
		1,1-Dichloroethene	I,R	<0.5	ug/l
		1,1-Dichloropropene	I,R	<0.5	ug/l
		1,2,3-Trichlorobenzene	I,R	<0.5	ug/l
		1,2,3-Trichloropropane	I,R	<1	ug/l
		1,2,4-Trichlorobenzene	I,R	<0.5	ug/l
		1,2,4-Trimethylbenzene (Pseudocumene)	I,R	<2	ug/l
		1,2-Dibromoethane (EDB)	I,R	<4	ug/l
		1,2-Dichlorobenzene	I,R	<1	ug/l
		1,2-Dichloroethane	I,R	<0.2	ug/l
		1,2-Dichloropropane	I,R	<0.5	ug/l
		1,3,5-Trimethylbenzene (Mesitylene)	I,R	<4	ug/l
		1,3-Butadiene	I,R	<0.5	ug/l
		1,3-Dichloropropane	I,R	<0.5	ug/l
		1-Chlorobutane (n-Butyl Chloride)	I,R	<0.5	ug/l
		4-Isopropyltoluene (p-Cymene)	I,R	<1	ug/l
		Aluminium, Total	I,R	133	ug/l
		Ammonia as N	I,R	3.01	mg/l
		Antimony, total	I,R	<0.6	ug/l
		Arsenic, total	I,R	52	ug/l
		Barium, total	I,R	768	ug/l
		Benzene (0.1ug/l) by GCMS	I,R	<0.1	ug/l
		Beryllium, total	I,R	<0.6	ug/l
		Boron, total	I,R	23	ug/l
		Bromobenzene	I,R	<1	ug/l
		Bromochloromethane	I,R	<2	ug/l
		Bromodichloromethane	I,R	<0.5	ug/l
		Bromoform (Tribromomethane)	I,R	<0.5	ug/l
		Bromomethane (methyl bromide)	I,R	<0.5	ug/l
		Cadmium, total	I,R	<0.6	ug/l
		Calcium, total	I,R	184	mg/l
		Carbon Disulfide	I,R	<0.5	ug/l
		Carbon Tetrachloride (Tetrachloromethane)	I,R	<0.5	ug/l
		Chlorobenzene	R	<0.5	ug/l
		Chloroform (Trichloromethane)	I,R	<1	ug/l
		Chromium, total	I,R	1	ug/l
		cis-1,2-Dichloroethene	I,R	<0.5	ug/l
		cis-1,3-Dichloropropene	I,R	<0.1	ug/l
		Cobalt, total	I,R	2	ug/l
		Conductivity @20C	I,R	865	uS/cm
		Copper, total	I,R	2	ug/l
		Dibromochloromethane	I,R	<0.5	ug/l

	Dibromomethane	R	<0.5	ug/l
	Dichlorodifluoromethane (CFC-12)	I,R	<1	ug/l
	Diethyl Ether (Ethyl Ether)	I,R	<1	ug/l
	DIPE (Diisopropyl Ether)	I,R	<0.5	ug/l
	ETBE (Ethyl Tert-Butyl Ether)	I,R	<2	ug/l
	Ethylbenzene by GCMS	I,R	<2	ug/l
	Fluoride (konelab)	I,R	<0.2	mg/l
	Hexachlorobutadiene	I,R	<0.5	ug/l
	Hexachloroethane	I,R	<0.5	ug/l
	Iodomethane (Methyl Iodide)	I,R	<0.1	ug/l
	Iron, total	I,R	20647	ug/l
	Lead, total	I,R	6	ug/l
	m/p-Xylene by GCMS	I,R	<4	ug/l
	Magnesium, total	I,R	10	mg/l
	Manganese, total	I,R	606	ug/l
	Mercury, total	I,R	<0.06	ug/l
	Methyl Acetate	I,R	<5	ug/l
	MTBE (Methyl Tert-Butyl Ether) by GCMS	I,R	<2	ug/l
	Naphthalene by GCMS	I,R	<1	ug/l
	n-Butylbenzene	I,R	<2	ug/l
	Nickel, total	I,R	20	ug/l
	n-Propylbenzene	I,R	<4	ug/l
	Odour (absence/presence)	R	Absent	
	Orthophosphate as PO4-P	I,R	<0.01	mg/l
	o-Xylene by GCMS	I,R	<2	ug/l
	Pentachloroethane	I,R	<2	ug/l
	Pesticides (OCP)	S	See attached excel	ng/l
	Pesticides (OPP)	S	See attached excel	ug/l
	pH	I,R	6.9	pH Units
	Potassium, total	I,R	1	mg/l
	Selenium, total	I,R	<0.6	ug/l
	Sodium, total	I,R	8	mg/l
	Styrene	I,R	<2	ug/l
	Sulphate (SO4)	I,R	63.8	mg/l
	SVOCs (W) (GEO94)	S	See attached excel	ug/l
	TAAE (Tert-Amyl Ethyl Ether)	I,R	<1	ug/l
	TAME (Tert-Amyl Methyl Ether) (1,1Dimethylpropylmethylether)	I,R	<0.1	ug/l
	Temperature (site)	F,R	9.6	°C
	Tert-Butylbenzene	I,R	<1	ug/l
	Tetrachloroethene	I,R	<0.5	ug/l
	Tetrahydrofuran	I,R	<1	ug/l
	Tin, total	I,R	<0.6	ug/l
	Toluene by GCMS	I,R	<0.5	ug/l
	Total Phosphorus as P	I,R	0.36	mg/l
	trans-1,2-Dichloroethene	I,R	<0.5	ug/l
	trans-1,3-Dichloropropene	I,R	<0.5	ug/l
	Trichloroethene	I,R	<2	ug/l
	Trichlorofluoromethane (CFC-11)	I,R	<1	ug/l
	Vinyl Chloride	I,R	<0.5	ug/l
	Visual Inspection/Odour	R	Clear liquid with black particles and a moderate smell.	
	Zinc, total	I,R	10	ug/l



Complete Laboratory Solutions

Complete Laboratory Solutions

[Tel] 091 574355

[Fax] 091 574356

[Email] services@cls.ie

[web] www.cls.ie



Approved by:

Ann Marie Nee

**AnnMarie Nee
Environmental Account
Manager**

See below for test specifications and accreditation status.

This report only relates to items tested and shall not be reproduced but in full with the permission of CLS.
est. is an estimated count.

CLS will test food, water and swabs samples within 24 hours of receipt.

Where samples have been taken by the Client, results apply to the samples as received.



Complete Laboratory Solutions

Complete Laboratory Solutions

[Tel] 091 574355

[Fax] 091 574356

[Email] services@cls.ie

[web] www.cls.ie

In-House Test	Specification	Expanded Measurement of Uncertainty	17025	GMP/FDA*	ISO**
1,1,1,2-Tetrachloroethane	CLS 183		Yes	No	Yes
1,1,1-Trichloroethane	CLS 183		Yes	No	Yes
1,1,2,2-Tetrachloroethane	CLS 183		Yes	No	Yes
1,1,2-Trichloroethane	CLS 183		Yes	No	Yes
1,1-Dichloroethane	CLS 183		Yes	No	Yes
1,1-Dichloroethene	CLS 183		Yes	No	Yes
1,1-Dichloropropene	CLS 183	0	Yes	No	Yes
1,2,3-Trichlorobenzene	CLS 183		Yes	No	Yes
1,2,3-Trichloropropane	CLS 183		Yes	No	Yes
1,2,4-Trichlorobenzene	CLS 183		Yes	No	Yes
1,2,4-Trimethylbenzene (Pseudocumene)	CLS 183		Yes	No	Yes
1,2-Dibromoethane (EDB)	CLS 183		Yes	No	Yes
1,2-Dichlorobenzene	CLS 183		Yes	No	Yes
1,2-Dichloroethane	CLS 183	0	Yes	No	Yes
1,2-Dichloropropane	CLS 183		Yes	No	Yes
1,3,5-Trimethylbenzene (Mesitylene)	CLS 183		Yes	No	Yes
1,3-Butadiene	CLS 183		Yes	No	Yes
1,3-Dichloropropane	CLS 183		Yes	No	Yes
1-Chlorobutane (n-Butyl Chloride)	CLS 183	0	Yes	No	Yes
4-Isopropyltoluene (p-Cymene)	CLS 183		Yes	No	Yes
Aluminium, Total	ICP-MS CLS129	+/- 11.75 %	Yes	No	Yes
Ammonia as N	Konelab CLS 40	+/- 15.2 %	Yes	No	Yes
Antimony, total	ICP-MS CLS 129	+/- 13.23 %	Yes	No	Yes
Arsenic, total	ICP-MS CLS 129	+/- 9.34 %	Yes	No	Yes
Barium, total	ICP-MS CLS129	+/-33@250ug/l	Yes	No	Yes
Benzene (0.1ug/l) by GCMS	CLS 183		Yes	No	Yes
Beryllium, total	ICP-MS CLS129	+/- 11.67 %	Yes	No	Yes
Boron, total	ICP-MS CLS129	+/-15@200ug/l	Yes	No	Yes
Bromobenzene	CLS 183		Yes	No	Yes
Bromochloromethane	CLS 183		Yes	No	Yes
Bromodichloromethane	CLS 183	+/- 12.14 %	Yes	No	Yes
Bromoform (Tribromomethane)	CLS 183	+/- 12.37 %	Yes	No	Yes
Bromomethane (methyl bromide)	CLS 183		Yes	No	Yes
Cadmium, total	ICP-MS CLS 129	+/- 10.42 %	Yes	No	Yes
Calcium, total	ICP-MS CLS129	+/-5.5@30mg/l	Yes	No	Yes
Carbon Disulfide	CLS 183		Yes	No	Yes
Carbon Tetrachloride (Tetrachloromethane)	CLS 183	0	Yes	No	Yes
Chlorobenzene	CLS 183		No	No	Yes
Chloroform (Trichloromethane)	CLS 183	+/- 14.56 %	Yes	No	Yes
Chromium, total	ICP-MS CLS129	+/- 8.38 %	Yes	No	Yes
cis-1,2-Dichloroethene	CLS 183		Yes	No	Yes
cis-1,3-Dichloropropene	CLS 183 (cis-1,3-dichloropropene is accredited in potable-, and ground waters only.)		Yes	No	Yes
Cobalt, total	ICP-MS CLS129	+/-0.7@5ug/l	Yes	No	Yes
Conductivity @20C	CLS 67	+/- 4.92 %	Yes	No	Yes
Copper, total	ICP-MS CLS 129	+/- 11.28 %	Yes	No	Yes
Dibromochloromethane	CLS 183	+/- 6.07 %	Yes	No	Yes
Dibromomethane	CLS 183 (Dibromomethane is accredited in ground waters only.)		No	No	Yes
Dichlorodifluoromethane (CFC-12)	CLS 183	0	Yes	No	Yes
Diethyl Ether (Ethyl Ether)	CLS 183		Yes	No	Yes

DIPE (Diisopropyl Ether)	CLS 183		Yes	No	Yes
ETBE (Ethyl Tert-Butyl Ether)	CLS 183		Yes	No	Yes
Ethylbenzene by GCMS	CLS 183		Yes	No	Yes
Fluoride (konelab)	CLS 213	+/- 19 %	Yes	No	Yes
Hexachlorobutadiene	CLS 183		Yes	No	Yes
Hexachloroethane	CLS 183 (Hexachloroethane is accredited in potable-, and surface waters only.)		Yes	No	Yes
Iodomethane (Methyl Iodide)	CLS 183		Yes	No	Yes
Iron, total	ICP-MS CLS129	+/- 10.28 %	Yes	No	Yes
Lead, total	ICP-MS CLS 129	+/-20@100ug/l	Yes	No	Yes
m/p-Xylene by GCMS	CLS 183		Yes	No	Yes
Magnesium, total	ICP-MS CLS129	+/-0.74@4mg/l	Yes	No	Yes
Manganese, total	ICP-MS CLS129	+/- 14.53 %	Yes	No	Yes
Mercury, total	ICP-MS CLS 129	+/- 27.72 %	Yes	No	Yes
Methyl Acetate	CLS 183 (Methyl acetate is accredited in potable waters only.)		Yes	No	Yes
MTBE (Methyl Tert-Butyl Ether) by GCMS	CLS 183		Yes	No	Yes
Naphthalene by GCMS	CLS 183		Yes	No	Yes
n-Butylbenzene	CLS 183		Yes	No	Yes
Nickel, total	ICP-MS CLS129	+/- 7.91 %	Yes	No	Yes
n-Propylbenzene	CLS 183		Yes	No	Yes
Odour (absence/presence)			No	No	Yes
Orthophosphate as PO4-P	Konelab CLS 35	+/- 24.55 %	Yes	No	Yes
o-Xylene by GCMS	CLS 183		Yes	No	Yes
Pentachloroethane	CLS 183		Yes	No	Yes
pH	CLS 26	+/- 0.133 pH units	Yes	No	Yes
Potassium, total	ICP-MS CLS129	+/-0.53@5mg/l	Yes	No	Yes
Selenium, total	ICP-MS CLS129	+/-0.9@5ug/l	Yes	No	Yes
Sodium, total	ICP-MS CLS129	+/- 11.62 %	Yes	No	Yes
Styrene	CLS 183		Yes	No	Yes
Sulphate (SO4)	Konelab CLS 88	+/- 7.29 %	Yes	No	Yes
TAEE (Tert-Amyl Ethyl Ether)	CLS 183		Yes	No	Yes
TAME (Tert-Amyl Methyl Ether) (1,1Dimethylpropylmethylether)	CLS 183		Yes	No	Yes
Temperature (site)	Probe	+/- 0.1 °C	No	No	Yes
Tert-Butylbenzene	CLS 183		Yes	No	Yes
Tetrachloroethene	CLS 183	+/- 44.60 %	Yes	No	Yes
Tetrahydrofuran	CLS 183		Yes	No	Yes
Tin, total	ICP-MS CLS129	+/-0.6@5ug/l	Yes	No	Yes
Toluene by GCMS	CLS 183		Yes	No	Yes
Total Phosphorus as P	CLS 151	+/- 18.01 %	Yes	No	Yes
trans-1,2-Dichloroethene	CLS 183		Yes	No	Yes
trans-1,3-Dichloropropene	CLS 183 (trans-1,3-dichloropropene is accredited in potable waters only.)		Yes	No	Yes
Trichloroethene	CLS 183	+/- 46.72 %	Yes	No	Yes
Trichlorofluoromethane (CFC-11)	CLS 183		Yes	No	Yes
Vinyl Chloride	CLS 183		Yes	No	Yes
Visual Inspection/Odour		0	No	No	Yes
Zinc, total	ICP-MS CLS 129	+/- 9.38 %	Yes	No	Yes

*Analysis carried out in a GMP approved, FDA inspected facility (MedPharma site only).

**Laboratory Analysis, Sampling, Food Safety Monitoring and Analysts on Contract are all ISO 9001 certified.

Lab No	Sample ID	Sample Condition on Receipt	Sampling Date
1808574	MW-8 11.11.2024	Good condition	11/11/2024

CERTIFICATE OF ANALYSIS

Client : John Boyle
Bord na Mona (Clonbullogue)
Edenderry Power Plant
Balykileen, Edenderry
Co Offaly

Report No. : 581965
Date of Receipt : 11/11/2024
Start Date of Analysis : 11/11/2024
Date of Report : 20/12/2024
Order Number : 3132119
Sample taken by : CLS

Lab No	Sample Description	Test	Ref.	Result	Units
1808575	MW-9 11.11.2024	1,1,1,2-Tetrachloroethane	I,R	<0.5	ug/l
		1,1,1-Trichloroethane	I,R	<0.5	ug/l
		1,1,2,2-Tetrachloroethane	I,R	<0.5	ug/l
		1,1,2-Trichloroethane	I,R	<2	ug/l
		1,1-Dichloroethane	I,R	<0.5	ug/l
		1,1-Dichloroethene	I,R	<0.5	ug/l
		1,1-Dichloropropene	I,R	<0.5	ug/l
		1,2,3-Trichlorobenzene	I,R	<0.5	ug/l
		1,2,3-Trichloropropane	I,R	<1	ug/l
		1,2,4-Trichlorobenzene	I,R	<0.5	ug/l
		1,2,4-Trimethylbenzene (Pseudocumene)	I,R	<2	ug/l
		1,2-Dibromoethane (EDB)	I,R	<4	ug/l
		1,2-Dichlorobenzene	I,R	<1	ug/l
		1,2-Dichloroethane	I,R	<0.2	ug/l
		1,2-Dichloropropane	I,R	<0.5	ug/l
		1,3,5-Trimethylbenzene (Mesitylene)	I,R	<4	ug/l
		1,3-Butadiene	I,R	<0.5	ug/l
		1,3-Dichloropropane	I,R	<0.5	ug/l
		1-Chlorobutane (n-Butyl Chloride)	I,R	<0.5	ug/l
		4-Isopropyltoluene (p-Cymene)	I,R	<1	ug/l
		Aluminium, Total	I,R	30	ug/l
		Ammonia as N	I,R	2.89	mg/l
		Antimony, total	I,R	<0.6	ug/l
		Arsenic, total	I,R	59	ug/l
		Barium, total	I,R	552	ug/l
		Benzene (0.1ug/l) by GCMS	I,R	<0.1	ug/l
		Beryllium, total	I,R	<0.6	ug/l
		Boron, total	I,R	<12	ug/l
		Bromobenzene	I,R	<1	ug/l
		Bromochloromethane	I,R	<2	ug/l
		Bromodichloromethane	I,R	<0.5	ug/l
		Bromoform (Tribromomethane)	I,R	<0.5	ug/l
		Bromomethane (methyl bromide)	I,R	<0.5	ug/l
		Cadmium, total	I,R	<0.6	ug/l
		Calcium, total	I,R	140	mg/l
		Carbon Disulfide	I,R	<0.5	ug/l
		Carbon Tetrachloride (Tetrachloromethane)	I,R	<0.5	ug/l
		Chlorobenzene	R	<0.5	ug/l
		Chloroform (Trichloromethane)	I,R	<1	ug/l
		Chromium, total	I,R	1	ug/l
		cis-1,2-Dichloroethene	I,R	<0.5	ug/l
		cis-1,3-Dichloropropene	I,R	<0.1	ug/l
		Cobalt, total	I,R	2	ug/l
		Conductivity @20C	I,R	678	uS/cm
		Copper, total	I,R	1	ug/l
		Dibromochloromethane	I,R	<0.5	ug/l

Dibromomethane	R	<0.5	ug/l
Dichlorodifluoromethane (CFC-12)	I,R	<1	ug/l
Diethyl Ether (Ethyl Ether)	I,R	<1	ug/l
DIPE (Diisopropyl Ether)	I,R	<0.5	ug/l
ETBE (Ethyl Tert-Butyl Ether)	I,R	<2	ug/l
Ethylbenzene by GCMS	I,R	<2	ug/l
Fluoride (konelab)	I,R	0.41	mg/l
Hexachlorobutadiene	I,R	<0.5	ug/l
Hexachloroethane	I,R	<0.5	ug/l
Iodomethane (Methyl Iodide)	I,R	<0.1	ug/l
Iron, total	I,R	11789	ug/l
Lead, total	I,R	2	ug/l
m/p-Xylene by GCMS	I,R	<4	ug/l
Magnesium, total	I,R	8	mg/l
Manganese, total	I,R	240	ug/l
Mercury, total	I,R	<0.06	ug/l
Methyl Acetate	I,R	<5	ug/l
MTBE (Methyl Tert-Butyl Ether) by GCMS	I,R	<2	ug/l
Naphthalene by GCMS	I,R	<1	ug/l
n-Butylbenzene	I,R	<2	ug/l
Nickel, total	I,R	22	ug/l
n-Propylbenzene	I,R	<4	ug/l
Odour (absence/presence)	R	Absent	
Orthophosphate as PO4-P	I,R	0.142	mg/l
o-Xylene by GCMS	I,R	<2	ug/l
Pentachloroethane	I,R	<2	ug/l
Pesticides (OCP)	S	See attached excel	ng/l
Pesticides (OPP)	S	See attached excel	ug/l
pH	I,R	6.9	pH
Potassium, total	I,R	1	mg/l
Selenium, total	I,R	<0.6	ug/l
Sodium, total	I,R	7	mg/l
Styrene	I,R	<2	ug/l
Sulphate (SO4)	I,R	<5	mg/l
SVOCs (W) (GEO94)	S	See attached excel	ug/l
TAAE (Tert-Amyl Ethyl Ether)	I,R	<1	ug/l
TAME (Tert-Amyl Methyl Ether) (1,1Dimethylpropylmethylether)	I,R	<0.1	ug/l
Temperature (site)	F,R	10.3	°C
Tert-Butylbenzene	I,R	<1	ug/l
Tetrachloroethene	I,R	<0.5	ug/l
Tetrahydrofuran	I,R	<1	ug/l
Tin, total	I,R	<0.6	ug/l
Toluene by GCMS	I,R	<0.5	ug/l
Total Phosphorus as P	I,R	0.32	mg/l
trans-1,2-Dichloroethene	I,R	<0.5	ug/l
trans-1,3-Dichloropropene	I,R	<0.5	ug/l
Trichloroethene	I,R	<2	ug/l
Trichlorofluoromethane (CFC-11)	I,R	<1	ug/l
Vinyl Chloride	I,R	<0.5	ug/l
Visual Inspection/Odour	R	Clear with black particles, strong odour.	
Zinc, total	I,R	<6	ug/l



Complete Laboratory Solutions

Complete Laboratory Solutions

[Tel] 091 574355

[Fax] 091 574356

[Email] services@cls.ie

[web] www.cls.ie



Approved by:

Ann Marie Nee

**AnnMarie Nee
Environmental Account
Manager**

See below for test specifications and accreditation status.

This report only relates to items tested and shall not be reproduced but in full with the permission of CLS.
est. is an estimated count.

CLS will test food, water and swabs samples within 24 hours of receipt.

Where samples have been taken by the Client, results apply to the samples as received.



Complete Laboratory Solutions

Complete Laboratory Solutions

[Tel] 091 574355

[Fax] 091 574356

[Email] services@cls.ie

[web] www.cls.ie

In-House Test	Specification	Expanded Measurement of Uncertainty	17025	GMP/FDA*	ISO**
1,1,1,2-Tetrachloroethane	CLS 183		Yes	No	Yes
1,1,1-Trichloroethane	CLS 183		Yes	No	Yes
1,1,2,2-Tetrachloroethane	CLS 183		Yes	No	Yes
1,1,2-Trichloroethane	CLS 183		Yes	No	Yes
1,1-Dichloroethane	CLS 183		Yes	No	Yes
1,1-Dichloroethene	CLS 183		Yes	No	Yes
1,1-Dichloropropene	CLS 183	0	Yes	No	Yes
1,2,3-Trichlorobenzene	CLS 183		Yes	No	Yes
1,2,3-Trichloropropane	CLS 183		Yes	No	Yes
1,2,4-Trichlorobenzene	CLS 183		Yes	No	Yes
1,2,4-Trimethylbenzene (Pseudocumene)	CLS 183		Yes	No	Yes
1,2-Dibromoethane (EDB)	CLS 183		Yes	No	Yes
1,2-Dichlorobenzene	CLS 183		Yes	No	Yes
1,2-Dichloroethane	CLS 183	0	Yes	No	Yes
1,2-Dichloropropane	CLS 183		Yes	No	Yes
1,3,5-Trimethylbenzene (Mesitylene)	CLS 183		Yes	No	Yes
1,3-Butadiene	CLS 183		Yes	No	Yes
1,3-Dichloropropane	CLS 183		Yes	No	Yes
1-Chlorobutane (n-Butyl Chloride)	CLS 183	0	Yes	No	Yes
4-Isopropyltoluene (p-Cymene)	CLS 183		Yes	No	Yes
Aluminium, Total	ICP-MS CLS129	+/- 11.75 %	Yes	No	Yes
Ammonia as N	Konelab CLS 40	+/- 15.2 %	Yes	No	Yes
Antimony, total	ICP-MS CLS 129	+/- 13.23 %	Yes	No	Yes
Arsenic, total	ICP-MS CLS 129	+/- 9.34 %	Yes	No	Yes
Barium, total	ICP-MS CLS129	+/-33@250ug/l	Yes	No	Yes
Benzene (0.1ug/l) by GCMS	CLS 183		Yes	No	Yes
Beryllium, total	ICP-MS CLS129	+/- 11.67 %	Yes	No	Yes
Boron, total	ICP-MS CLS129	+/-15@200ug/l	Yes	No	Yes
Bromobenzene	CLS 183		Yes	No	Yes
Bromochloromethane	CLS 183		Yes	No	Yes
Bromodichloromethane	CLS 183	+/- 12.14 %	Yes	No	Yes
Bromoform (Tribromomethane)	CLS 183	+/- 12.37 %	Yes	No	Yes
Bromomethane (methyl bromide)	CLS 183		Yes	No	Yes
Cadmium, total	ICP-MS CLS 129	+/- 10.42 %	Yes	No	Yes
Calcium, total	ICP-MS CLS129	+/-5.5@30mg/l	Yes	No	Yes
Carbon Disulfide	CLS 183		Yes	No	Yes
Carbon Tetrachloride (Tetrachloromethane)	CLS 183	0	Yes	No	Yes
Chlorobenzene	CLS 183		No	No	Yes
Chloroform (Trichloromethane)	CLS 183	+/- 14.56 %	Yes	No	Yes
Chromium, total	ICP-MS CLS129	+/- 8.38 %	Yes	No	Yes
cis-1,2-Dichloroethene	CLS 183		Yes	No	Yes
cis-1,3-Dichloropropene	CLS 183 (cis-1,3-dichloropropene is accredited in potable-, and ground waters only.)		Yes	No	Yes
Cobalt, total	ICP-MS CLS129	+/-0.7@5ug/l	Yes	No	Yes
Conductivity @20C	CLS 67	+/- 4.92 %	Yes	No	Yes
Copper, total	ICP-MS CLS 129	+/- 11.28 %	Yes	No	Yes
Dibromochloromethane	CLS 183	+/- 6.07 %	Yes	No	Yes
Dibromomethane	CLS 183 (Dibromomethane is accredited in ground waters only.)		No	No	Yes
Dichlorodifluoromethane (CFC-12)	CLS 183	0	Yes	No	Yes
Diethyl Ether (Ethyl Ether)	CLS 183		Yes	No	Yes

DIPE (Diisopropyl Ether)	CLS 183		Yes	No	Yes
ETBE (Ethyl Tert-Butyl Ether)	CLS 183		Yes	No	Yes
Ethylbenzene by GCMS	CLS 183		Yes	No	Yes
Fluoride (konelab)	CLS 213	+/- 19 %	Yes	No	Yes
Hexachlorobutadiene	CLS 183		Yes	No	Yes
Hexachloroethane	CLS 183 (Hexachloroethane is accredited in potable-, and surface waters only.)		Yes	No	Yes
Iodomethane (Methyl Iodide)	CLS 183		Yes	No	Yes
Iron, total	ICP-MS CLS129	+/- 10.28 %	Yes	No	Yes
Lead, total	ICP-MS CLS 129	+/-20@100ug/l	Yes	No	Yes
m/p-Xylene by GCMS	CLS 183		Yes	No	Yes
Magnesium, total	ICP-MS CLS129	+/-0.74@4mg/l	Yes	No	Yes
Manganese, total	ICP-MS CLS129	+/- 14.53 %	Yes	No	Yes
Mercury, total	ICP-MS CLS 129	+/- 27.72 %	Yes	No	Yes
Methyl Acetate	CLS 183 (Methyl acetate is accredited in potable waters only.)		Yes	No	Yes
MTBE (Methyl Tert-Butyl Ether) by GCMS	CLS 183		Yes	No	Yes
Naphthalene by GCMS	CLS 183		Yes	No	Yes
n-Butylbenzene	CLS 183		Yes	No	Yes
Nickel, total	ICP-MS CLS129	+/- 7.91 %	Yes	No	Yes
n-Propylbenzene	CLS 183		Yes	No	Yes
Odour (absence/presence)			No	No	Yes
Orthophosphate as PO4-P	Konelab CLS 35	+/- 24.55 %	Yes	No	Yes
o-Xylene by GCMS	CLS 183		Yes	No	Yes
Pentachloroethane	CLS 183		Yes	No	Yes
pH	CLS 26	+/- 0.133 pH units	Yes	No	Yes
Potassium, total	ICP-MS CLS129	+/-0.53@5mg/l	Yes	No	Yes
Selenium, total	ICP-MS CLS129	+/-0.9@5ug/l	Yes	No	Yes
Sodium, total	ICP-MS CLS129	+/- 11.62 %	Yes	No	Yes
Styrene	CLS 183		Yes	No	Yes
Sulphate (SO4)	Konelab CLS 88	+/- 7.29 %	Yes	No	Yes
TAEE (Tert-Amyl Ethyl Ether)	CLS 183		Yes	No	Yes
TAME (Tert-Amyl Methyl Ether) (1,1Dimethylpropylmethylether)	CLS 183		Yes	No	Yes
Temperature (site)	Probe	+/- 0.1 °C	No	No	Yes
Tert-Butylbenzene	CLS 183		Yes	No	Yes
Tetrachloroethene	CLS 183	+/- 44.60 %	Yes	No	Yes
Tetrahydrofuran	CLS 183		Yes	No	Yes
Tin, total	ICP-MS CLS129	+/-0.6@5ug/l	Yes	No	Yes
Toluene by GCMS	CLS 183		Yes	No	Yes
Total Phosphorus as P	CLS 151	+/- 18.01 %	Yes	No	Yes
trans-1,2-Dichloroethene	CLS 183		Yes	No	Yes
trans-1,3-Dichloropropene	CLS 183 (trans-1,3-dichloropropene is accredited in potable waters only.)		Yes	No	Yes
Trichloroethene	CLS 183	+/- 46.72 %	Yes	No	Yes
Trichlorofluoromethane (CFC-11)	CLS 183		Yes	No	Yes
Vinyl Chloride	CLS 183		Yes	No	Yes
Visual Inspection/Odour		0	No	No	Yes
Zinc, total	ICP-MS CLS 129	+/- 9.38 %	Yes	No	Yes

*Analysis carried out in a GMP approved, FDA inspected facility (MedPharma site only).

**Laboratory Analysis, Sampling, Food Safety Monitoring and Analysts on Contract are all ISO 9001 certified.

Lab No	Sample ID	Sample Condition on Receipt	Sampling Date
1808575	MW-9 11.11.2024	Good condition	11/11/2024

CERTIFICATE OF ANALYSIS

Client : John Boyle
 Bord na Mona (Clonbullogue)
 Edenderry Power Plant
 Balykileen, Edenderry
 Co Offaly

Report No. : 581966
 Date of Receipt : 11/11/2024
 Start Date of Analysis : 11/11/2024
 Date of Report : 20/12/2024
 Order Number : 3132119
 Sample taken by : CLS

Lab No	Sample Description	Test	Ref.	Result	Units
1808576	MW-10 11.11.2024	1,1,1,2-Tetrachloroethane	I,R	<0.5	ug/l
		1,1,1-Trichloroethane	I,R	<0.5	ug/l
		1,1,2,2-Tetrachloroethane	I,R	<0.5	ug/l
		1,1,2-Trichloroethane	I,R	<2	ug/l
		1,1-Dichloroethane	I,R	<0.5	ug/l
		1,1-Dichloroethene	I,R	<0.5	ug/l
		1,1-Dichloropropene	I,R	<0.5	ug/l
		1,2,3-Trichlorobenzene	I,R	<0.5	ug/l
		1,2,3-Trichloropropane	I,R	<1	ug/l
		1,2,4-Trichlorobenzene	I,R	<0.5	ug/l
		1,2,4-Trimethylbenzene (Pseudocumene)	I,R	<2	ug/l
		1,2-Dibromoethane (EDB)	I,R	<4	ug/l
		1,2-Dichlorobenzene	I,R	<1	ug/l
		1,2-Dichloroethane	I,R	<0.2	ug/l
		1,2-Dichloropropane	I,R	<0.5	ug/l
		1,3,5-Trimethylbenzene (Mesitylene)	I,R	<4	ug/l
		1,3-Butadiene	I,R	<0.5	ug/l
		1,3-Dichloropropane	I,R	<0.5	ug/l
		1-Chlorobutane (n-Butyl Chloride)	I,R	<0.5	ug/l
		4-Isopropyltoluene (p-Cymene)	I,R	<1	ug/l
		Aluminium, Total	I,R	9	ug/l
		Ammonia as N	I,R	3.23	mg/l
		Antimony, total	I,R	<0.6	ug/l
		Arsenic, total	I,R	42	ug/l
		Barium, total	I,R	554	ug/l
		Benzene (0.1ug/l) by GCMS	I,R	<0.1	ug/l
		Beryllium, total	I,R	<0.6	ug/l
		Boron, total	I,R	12	ug/l
		Bromobenzene	I,R	<1	ug/l
		Bromochloromethane	I,R	<2	ug/l
		Bromodichloromethane	I,R	<0.5	ug/l
		Bromoform (Tribromomethane)	I,R	<0.5	ug/l
		Bromomethane (methyl bromide)	I,R	<0.5	ug/l
		Cadmium, total	I,R	<0.6	ug/l
		Calcium, total	I,R	154	mg/l
		Carbon Disulfide	I,R	<0.5	ug/l
		Carbon Tetrachloride (Tetrachloromethane)	I,R	<0.5	ug/l
		Chlorobenzene	R	<0.5	ug/l
		Chloroform (Trichloromethane)	I,R	<1	ug/l
		Chromium, total	I,R	1	ug/l
		cis-1,2-Dichloroethene	I,R	<0.5	ug/l
		cis-1,3-Dichloropropene	I,R	<0.1	ug/l
		Cobalt, total	I,R	9	ug/l
		Conductivity @20C	I,R	775	uS/cm
		Copper, total	I,R	22	ug/l
		Dibromochloromethane	I,R	<0.5	ug/l

	Dibromomethane	R	<0.5	ug/l
	Dichlorodifluoromethane (CFC-12)	I,R	<1	ug/l
	Diethyl Ether (Ethyl Ether)	I,R	<1	ug/l
	DIPE (Diisopropyl Ether)	I,R	<0.5	ug/l
	ETBE (Ethyl Tert-Butyl Ether)	I,R	<2	ug/l
	Ethylbenzene by GCMS	I,R	<2	ug/l
	Fluoride (konelab)	I,R	<0.2	mg/l
	Hexachlorobutadiene	I,R	<0.5	ug/l
	Hexachloroethane	I,R	<0.5	ug/l
	Iodomethane (Methyl Iodide)	I,R	<0.1	ug/l
	Iron, total	I,R	23811	ug/l
	Lead, total	I,R	<0.6	ug/l
	m/p-Xylene by GCMS	I,R	<4	ug/l
	Magnesium, total	I,R	5	mg/l
	Manganese, total	I,R	469	ug/l
	Mercury, total	I,R	<0.06	ug/l
	Methyl Acetate	I,R	<5	ug/l
	MTBE (Methyl Tert-Butyl Ether) by GCMS	I,R	<2	ug/l
	Naphthalene by GCMS	I,R	<1	ug/l
	n-Butylbenzene	I,R	<2	ug/l
	Nickel, total	I,R	45	ug/l
	n-Propylbenzene	I,R	<4	ug/l
	Odour (absence/presence)	R	Absent	
	Orthophosphate as PO4-P	I,R	<0.01	mg/l
	o-Xylene by GCMS	I,R	<2	ug/l
	Pentachloroethane	I,R	<2	ug/l
	Pesticides (OCP)	S	See attached excel	ng/l
	Pesticides (OPP)	S	See attached excel	ug/l
	pH	I,R	6.8	pH
	Potassium, total	I,R	1	mg/l
	Selenium, total	I,R	<0.6	ug/l
	Sodium, total	I,R	12	mg/l
	Styrene	I,R	<2	ug/l
	Sulphate (SO4)	I,R	<5	mg/l
	SVOCs (W) (GEO94)	S	See attached excel	ug/l
	TAAE (Tert-Amyl Ethyl Ether)	I,R	<1	ug/l
	TAME (Tert-Amyl Methyl Ether) (1,1Dimethylpropylmethylether)	I,R	<0.1	ug/l
	Temperature (site)	F,R	10.0	°C
	Tert-Butylbenzene	I,R	<1	ug/l
	Tetrachloroethene	I,R	<0.5	ug/l
	Tetrahydrofuran	I,R	<1	ug/l
	Tin, total	I,R	<0.6	ug/l
	Toluene by GCMS	I,R	<0.5	ug/l
	Total Phosphorus as P	I,R	0.31	mg/l
	trans-1,2-Dichloroethene	I,R	<0.5	ug/l
	trans-1,3-Dichloropropene	I,R	<0.5	ug/l
	Trichloroethene	I,R	<2	ug/l
	Trichlorofluoromethane (CFC-11)	I,R	<1	ug/l
	Vinyl Chloride	I,R	<0.5	ug/l
	Visual Inspection/Odour	R	Clear liquid with a mild odour	
	Zinc, total	I,R	7	ug/l



Complete Laboratory Solutions

Complete Laboratory Solutions

[Tel] 091 574355

[Fax] 091 574356

[Email] services@cls.ie

[web] www.cls.ie



Approved by:

Ann Marie Nee

**AnnMarie Nee
Environmental Account
Manager**

See below for test specifications and accreditation status.

This report only relates to items tested and shall not be reproduced but in full with the permission of CLS.
est. is an estimated count.

CLS will test food, water and swabs samples within 24 hours of receipt.

Where samples have been taken by the Client, results apply to the samples as received.

In-House Test	Specification	Expanded Measurement of Uncertainty	17025	GMP/FDA*	ISO**
1,1,1,2-Tetrachloroethane	CLS 183		Yes	No	Yes
1,1,1-Trichloroethane	CLS 183		Yes	No	Yes
1,1,2,2-Tetrachloroethane	CLS 183		Yes	No	Yes
1,1,2-Trichloroethane	CLS 183		Yes	No	Yes
1,1-Dichloroethane	CLS 183		Yes	No	Yes
1,1-Dichloroethene	CLS 183		Yes	No	Yes
1,1-Dichloropropene	CLS 183	0	Yes	No	Yes
1,2,3-Trichlorobenzene	CLS 183		Yes	No	Yes
1,2,3-Trichloropropane	CLS 183		Yes	No	Yes
1,2,4-Trichlorobenzene	CLS 183		Yes	No	Yes
1,2,4-Trimethylbenzene (Pseudocumene)	CLS 183		Yes	No	Yes
1,2-Dibromoethane (EDB)	CLS 183		Yes	No	Yes
1,2-Dichlorobenzene	CLS 183		Yes	No	Yes
1,2-Dichloroethane	CLS 183	0	Yes	No	Yes
1,2-Dichloropropane	CLS 183		Yes	No	Yes
1,3,5-Trimethylbenzene (Mesitylene)	CLS 183		Yes	No	Yes
1,3-Butadiene	CLS 183		Yes	No	Yes
1,3-Dichloropropane	CLS 183		Yes	No	Yes
1-Chlorobutane (n-Butyl Chloride)	CLS 183	0	Yes	No	Yes
4-Isopropyltoluene (p-Cymene)	CLS 183		Yes	No	Yes
Aluminium, Total	ICP-MS CLS129	+/- 11.75 %	Yes	No	Yes
Ammonia as N	Konelab CLS 40	+/- 15.2 %	Yes	No	Yes
Antimony, total	ICP-MS CLS 129	+/- 13.23 %	Yes	No	Yes
Arsenic, total	ICP-MS CLS 129	+/- 9.34 %	Yes	No	Yes
Barium, total	ICP-MS CLS129	+/-33@250ug/l	Yes	No	Yes
Benzene (0.1ug/l) by GCMS	CLS 183		Yes	No	Yes
Beryllium, total	ICP-MS CLS129	+/- 11.67 %	Yes	No	Yes
Boron, total	ICP-MS CLS129	+/-15@200ug/l	Yes	No	Yes
Bromobenzene	CLS 183		Yes	No	Yes
Bromochloromethane	CLS 183		Yes	No	Yes
Bromodichloromethane	CLS 183	+/- 12.14 %	Yes	No	Yes
Bromoform (Tribromomethane)	CLS 183	+/- 12.37 %	Yes	No	Yes
Bromomethane (methyl bromide)	CLS 183		Yes	No	Yes
Cadmium, total	ICP-MS CLS 129	+/- 10.42 %	Yes	No	Yes
Calcium, total	ICP-MS CLS129	+/-5.5@30mg/l	Yes	No	Yes
Carbon Disulfide	CLS 183		Yes	No	Yes
Carbon Tetrachloride (Tetrachloromethane)	CLS 183	0	Yes	No	Yes
Chlorobenzene	CLS 183		No	No	Yes
Chloroform (Trichloromethane)	CLS 183	+/- 14.56 %	Yes	No	Yes
Chromium, total	ICP-MS CLS129	+/- 8.38 %	Yes	No	Yes
cis-1,2-Dichloroethene	CLS 183		Yes	No	Yes
cis-1,3-Dichloropropene	CLS 183 (cis-1,3-dichloropropene is accredited in potable-, and ground waters only.)		Yes	No	Yes
Cobalt, total	ICP-MS CLS129	+/-0.7@5ug/l	Yes	No	Yes
Conductivity @20C	CLS 67	+/- 4.92 %	Yes	No	Yes
Copper, total	ICP-MS CLS 129	+/- 11.28 %	Yes	No	Yes
Dibromochloromethane	CLS 183	+/- 6.07 %	Yes	No	Yes
Dibromomethane	CLS 183 (Dibromomethane is accredited in ground waters only.)		No	No	Yes
Dichlorodifluoromethane (CFC-12)	CLS 183	0	Yes	No	Yes
Diethyl Ether (Ethyl Ether)	CLS 183		Yes	No	Yes

DIPE (Diisopropyl Ether)	CLS 183		Yes	No	Yes
ETBE (Ethyl Tert-Butyl Ether)	CLS 183		Yes	No	Yes
Ethylbenzene by GCMS	CLS 183		Yes	No	Yes
Fluoride (konelab)	CLS 213	+/- 19 %	Yes	No	Yes
Hexachlorobutadiene	CLS 183		Yes	No	Yes
Hexachloroethane	CLS 183 (Hexachloroethane is accredited in potable-, and surface waters only.)		Yes	No	Yes
Iodomethane (Methyl Iodide)	CLS 183		Yes	No	Yes
Iron, total	ICP-MS CLS129	+/- 10.28 %	Yes	No	Yes
Lead, total	ICP-MS CLS 129	+/-20@100ug/l	Yes	No	Yes
m/p-Xylene by GCMS	CLS 183		Yes	No	Yes
Magnesium, total	ICP-MS CLS129	+/-0.74@4mg/l	Yes	No	Yes
Manganese, total	ICP-MS CLS129	+/- 14.53 %	Yes	No	Yes
Mercury, total	ICP-MS CLS 129	+/- 27.72 %	Yes	No	Yes
Methyl Acetate	CLS 183 (Methyl acetate is accredited in potable waters only.)		Yes	No	Yes
MTBE (Methyl Tert-Butyl Ether) by GCMS	CLS 183		Yes	No	Yes
Naphthalene by GCMS	CLS 183		Yes	No	Yes
n-Butylbenzene	CLS 183		Yes	No	Yes
Nickel, total	ICP-MS CLS129	+/- 7.91 %	Yes	No	Yes
n-Propylbenzene	CLS 183		Yes	No	Yes
Odour (absence/presence)			No	No	Yes
Orthophosphate as PO4-P	Konelab CLS 35	+/- 24.55 %	Yes	No	Yes
o-Xylene by GCMS	CLS 183		Yes	No	Yes
Pentachloroethane	CLS 183		Yes	No	Yes
pH	CLS 26	+/- 0.133 pH units	Yes	No	Yes
Potassium, total	ICP-MS CLS129	+/-0.53@5mg/l	Yes	No	Yes
Selenium, total	ICP-MS CLS129	+/-0.9@5ug/l	Yes	No	Yes
Sodium, total	ICP-MS CLS129	+/- 11.62 %	Yes	No	Yes
Styrene	CLS 183		Yes	No	Yes
Sulphate (SO4)	Konelab CLS 88	+/- 7.29 %	Yes	No	Yes
TAEE (Tert-Amyl Ethyl Ether)	CLS 183		Yes	No	Yes
TAME (Tert-Amyl Methyl Ether) (1,1Dimethylpropylmethylether)	CLS 183		Yes	No	Yes
Temperature (site)	Probe	+/- 0.1 °C	No	No	Yes
Tert-Butylbenzene	CLS 183		Yes	No	Yes
Tetrachloroethene	CLS 183	+/- 44.60 %	Yes	No	Yes
Tetrahydrofuran	CLS 183		Yes	No	Yes
Tin, total	ICP-MS CLS129	+/-0.6@5ug/l	Yes	No	Yes
Toluene by GCMS	CLS 183		Yes	No	Yes
Total Phosphorus as P	CLS 151	+/- 18.01 %	Yes	No	Yes
trans-1,2-Dichloroethene	CLS 183		Yes	No	Yes
trans-1,3-Dichloropropene	CLS 183 (trans-1,3-dichloropropene is accredited in potable waters only.)		Yes	No	Yes
Trichloroethene	CLS 183	+/- 46.72 %	Yes	No	Yes
Trichlorofluoromethane (CFC-11)	CLS 183		Yes	No	Yes
Vinyl Chloride	CLS 183		Yes	No	Yes
Visual Inspection/Odour		0	No	No	Yes
Zinc, total	ICP-MS CLS 129	+/- 9.38 %	Yes	No	Yes

*Analysis carried out in a GMP approved, FDA inspected facility (MedPharma site only).

**Laboratory Analysis, Sampling, Food Safety Monitoring and Analysts on Contract are all ISO 9001 certified.

Lab No	Sample ID	Sample Condition on Receipt	Sampling Date
1808576	MW-10 11.11.2024	Good condition	11/11/2024

CERTIFICATE OF ANALYSIS

Client : John Boyle
 Bord na Mona (Clonbullogue)
 Edenderry Power Plant
 Balykileen, Edenderry
 Co Offaly

Report No. : 581967
 Date of Receipt : 11/11/2024
 Start Date of Analysis : 11/11/2024
 Date of Report : 20/12/2024
 Order Number : 3132119
 Sample taken by : CLS

Lab No	Sample Description	Test	Ref.	Result	Units
1808577	MW-11 11.11.2024	1,1,1,2-Tetrachloroethane	I,R	<0.5	ug/l
		1,1,1-Trichloroethane	I,R	<0.5	ug/l
		1,1,2,2-Tetrachloroethane	I,R	<0.5	ug/l
		1,1,2-Trichloroethane	I,R	<2	ug/l
		1,1-Dichloroethane	I,R	<0.5	ug/l
		1,1-Dichloroethene	I,R	<0.5	ug/l
		1,1-Dichloropropene	I,R	<0.5	ug/l
		1,2,3-Trichlorobenzene	I,R	<0.5	ug/l
		1,2,3-Trichloropropane	I,R	<1	ug/l
		1,2,4-Trichlorobenzene	I,R	<0.5	ug/l
		1,2,4-Trimethylbenzene (Pseudocumene)	I,R	<2	ug/l
		1,2-Dibromoethane (EDB)	I,R	<4	ug/l
		1,2-Dichlorobenzene	I,R	<1	ug/l
		1,2-Dichloroethane	I,R	<0.2	ug/l
		1,2-Dichloropropane	I,R	<0.5	ug/l
		1,3,5-Trimethylbenzene (Mesitylene)	I,R	<4	ug/l
		1,3-Butadiene	I,R	<0.5	ug/l
		1,3-Dichloropropane	I,R	<0.5	ug/l
		1-Chlorobutane (n-Butyl Chloride)	I,R	<0.5	ug/l
		4-Isopropyltoluene (p-Cymene)	I,R	<1	ug/l
		Aluminium, Total	I,R	21	ug/l
		Ammonia as N	I,R	2.98	mg/l
		Antimony, total	I,R	<0.6	ug/l
		Arsenic, total	I,R	11	ug/l
		Barium, total	I,R	437	ug/l
		Benzene (0.1ug/l) by GCMS	I,R	<0.1	ug/l
		Beryllium, total	I,R	<0.6	ug/l
		Boron, total	I,R	<12	ug/l
		Bromobenzene	I,R	<1	ug/l
		Bromochloromethane	I,R	<2	ug/l
		Bromodichloromethane	I,R	<0.5	ug/l
		Bromoform (Tribromomethane)	I,R	<0.5	ug/l
		Bromomethane (methyl bromide)	I,R	<0.5	ug/l
		Cadmium, total	I,R	<0.6	ug/l
		Calcium, total	I,R	166	mg/l
		Carbon Disulfide	I,R	<0.5	ug/l
		Carbon Tetrachloride (Tetrachloromethane)	I,R	<0.5	ug/l
		Chlorobenzene	R	<0.5	ug/l
		Chloroform (Trichloromethane)	I,R	<1	ug/l
		Chromium, total	I,R	1	ug/l
		cis-1,2-Dichloroethene	I,R	<0.5	ug/l
		cis-1,3-Dichloropropene	I,R	<0.1	ug/l
		Cobalt, total	I,R	<0.6	ug/l
		Conductivity @20C	I,R	925	uS/cm
		Copper, total	I,R	23	ug/l
		Dibromochloromethane	I,R	<0.5	ug/l

	Dibromomethane	R	<0.5	ug/l
	Dichlorodifluoromethane (CFC-12)	I,R	<1	ug/l
	Diethyl Ether (Ethyl Ether)	I,R	<1	ug/l
	DIPE (Diisopropyl Ether)	I,R	<0.5	ug/l
	ETBE (Ethyl Tert-Butyl Ether)	I,R	<2	ug/l
	Ethylbenzene by GCMS	I,R	<2	ug/l
	Fluoride (konelab)	I,R	0.24	mg/l
	Hexachlorobutadiene	I,R	<0.5	ug/l
	Hexachloroethane	I,R	<0.5	ug/l
	Iodomethane (Methyl Iodide)	I,R	<0.1	ug/l
	Iron, total	I,R	13026	ug/l
	Lead, total	I,R	<0.6	ug/l
	m/p-Xylene by GCMS	I,R	<4	ug/l
	Magnesium, total	I,R	12	mg/l
	Manganese, total	I,R	676	ug/l
	Mercury, total	I,R	<0.06	ug/l
	Methyl Acetate	I,R	<5	ug/l
	MTBE (Methyl Tert-Butyl Ether) by GCMS	I,R	<2	ug/l
	Naphthalene by GCMS	I,R	<1	ug/l
	n-Butylbenzene	I,R	<2	ug/l
	Nickel, total	I,R	1	ug/l
	n-Propylbenzene	I,R	<4	ug/l
	Odour (absence/presence)	R	Absent	
	Orthophosphate as PO4-P	I,R	0.079	mg/l
	o-Xylene by GCMS	I,R	<2	ug/l
	Pentachloroethane	I,R	<2	ug/l
	Pesticides (OCP)	S	See attached excel	ng/l
	Pesticides (OPP)	S	See attached excel	ug/l
	pH	I,R	6.8	pH Units
	Potassium, total	I,R	21	mg/l
	Selenium, total	I,R	<0.6	ug/l
	Sodium, total	I,R	26	mg/l
	Styrene	I,R	<2	ug/l
	Sulphate (SO4)	I,R	<5	mg/l
	SVOCs (W) (GEO94)	S	See attached excel	ug/l
	TAEE (Tert-Amyl Ethyl Ether)	I,R	<1	ug/l
	TAME (Tert-Amyl Methyl Ether) (1,1Dimethylpropylmethylether)	I,R	<0.1	ug/l
	Temperature (site)	F,R	10.9	°C
	Tert-Butylbenzene	I,R	<1	ug/l
	Tetrachloroethene	I,R	<0.5	ug/l
	Tetrahydrofuran	I,R	<1	ug/l
	Tin, total	I,R	<0.6	ug/l
	Toluene by GCMS	I,R	<0.5	ug/l
	Total Phosphorus as P	I,R	0.26	mg/l
	trans-1,2-Dichloroethene	I,R	<0.5	ug/l
	trans-1,3-Dichloropropene	I,R	<0.5	ug/l
	Trichloroethene	I,R	<2	ug/l
	Trichlorofluoromethane (CFC-11)	I,R	<1	ug/l
	Vinyl Chloride	I,R	<0.5	ug/l
	Visual Inspection/Odour	R	Clear liquid with a mild odour.	
	Zinc, total	I,R	<6	ug/l



Complete Laboratory Solutions

Complete Laboratory Solutions

[Tel] 091 574355

[Fax] 091 574356

[Email] services@cls.ie

[web] www.cls.ie



Approved by:

Ann Marie Nee

**AnnMarie Nee
Environmental Account
Manager**

See below for test specifications and accreditation status.

This report only relates to items tested and shall not be reproduced but in full with the permission of CLS.
est. is an estimated count.

CLS will test food, water and swabs samples within 24 hours of receipt.

Where samples have been taken by the Client, results apply to the samples as received.

In-House Test	Specification	Expanded Measurement of Uncertainty	17025	GMP/FDA*	ISO**
1,1,1,2-Tetrachloroethane	CLS 183		Yes	No	Yes
1,1,1-Trichloroethane	CLS 183		Yes	No	Yes
1,1,2,2-Tetrachloroethane	CLS 183		Yes	No	Yes
1,1,2-Trichloroethane	CLS 183		Yes	No	Yes
1,1-Dichloroethane	CLS 183		Yes	No	Yes
1,1-Dichloroethene	CLS 183		Yes	No	Yes
1,1-Dichloropropene	CLS 183	0	Yes	No	Yes
1,2,3-Trichlorobenzene	CLS 183		Yes	No	Yes
1,2,3-Trichloropropane	CLS 183		Yes	No	Yes
1,2,4-Trichlorobenzene	CLS 183		Yes	No	Yes
1,2,4-Trimethylbenzene (Pseudocumene)	CLS 183		Yes	No	Yes
1,2-Dibromoethane (EDB)	CLS 183		Yes	No	Yes
1,2-Dichlorobenzene	CLS 183		Yes	No	Yes
1,2-Dichloroethane	CLS 183	0	Yes	No	Yes
1,2-Dichloropropane	CLS 183		Yes	No	Yes
1,3,5-Trimethylbenzene (Mesitylene)	CLS 183		Yes	No	Yes
1,3-Butadiene	CLS 183		Yes	No	Yes
1,3-Dichloropropane	CLS 183		Yes	No	Yes
1-Chlorobutane (n-Butyl Chloride)	CLS 183	0	Yes	No	Yes
4-Isopropyltoluene (p-Cymene)	CLS 183		Yes	No	Yes
Aluminium, Total	ICP-MS CLS129	+/- 11.75 %	Yes	No	Yes
Ammonia as N	Konelab CLS 40	+/- 15.2 %	Yes	No	Yes
Antimony, total	ICP-MS CLS 129	+/- 13.23 %	Yes	No	Yes
Arsenic, total	ICP-MS CLS 129	+/- 9.34 %	Yes	No	Yes
Barium, total	ICP-MS CLS129	+/-33@250ug/l	Yes	No	Yes
Benzene (0.1ug/l) by GCMS	CLS 183		Yes	No	Yes
Beryllium, total	ICP-MS CLS129	+/- 11.67 %	Yes	No	Yes
Boron, total	ICP-MS CLS129	+/-15@200ug/l	Yes	No	Yes
Bromobenzene	CLS 183		Yes	No	Yes
Bromochloromethane	CLS 183		Yes	No	Yes
Bromodichloromethane	CLS 183	+/- 12.14 %	Yes	No	Yes
Bromoform (Tribromomethane)	CLS 183	+/- 12.37 %	Yes	No	Yes
Bromomethane (methyl bromide)	CLS 183		Yes	No	Yes
Cadmium, total	ICP-MS CLS 129	+/- 10.42 %	Yes	No	Yes
Calcium, total	ICP-MS CLS129	+/-5.5@30mg/l	Yes	No	Yes
Carbon Disulfide	CLS 183		Yes	No	Yes
Carbon Tetrachloride (Tetrachloromethane)	CLS 183	0	Yes	No	Yes
Chlorobenzene	CLS 183		No	No	Yes
Chloroform (Trichloromethane)	CLS 183	+/- 14.56 %	Yes	No	Yes
Chromium, total	ICP-MS CLS129	+/- 8.38 %	Yes	No	Yes
cis-1,2-Dichloroethene	CLS 183		Yes	No	Yes
cis-1,3-Dichloropropene	CLS 183 (cis-1,3-dichloropropene is accredited in potable-, and ground waters only.)		Yes	No	Yes
Cobalt, total	ICP-MS CLS129	+/-0.7@5ug/l	Yes	No	Yes
Conductivity @20C	CLS 67	+/- 4.92 %	Yes	No	Yes
Copper, total	ICP-MS CLS 129	+/- 11.28 %	Yes	No	Yes
Dibromochloromethane	CLS 183	+/- 6.07 %	Yes	No	Yes
Dibromomethane	CLS 183 (Dibromomethane is accredited in ground waters only.)		No	No	Yes
Dichlorodifluoromethane (CFC-12)	CLS 183	0	Yes	No	Yes
Diethyl Ether (Ethyl Ether)	CLS 183		Yes	No	Yes

DIPE (Diisopropyl Ether)	CLS 183		Yes	No	Yes
ETBE (Ethyl Tert-Butyl Ether)	CLS 183		Yes	No	Yes
Ethylbenzene by GCMS	CLS 183		Yes	No	Yes
Fluoride (konelab)	CLS 213	+/- 19 %	Yes	No	Yes
Hexachlorobutadiene	CLS 183		Yes	No	Yes
Hexachloroethane	CLS 183 (Hexachloroethane is accredited in potable-, and surface waters only.)		Yes	No	Yes
Iodomethane (Methyl Iodide)	CLS 183		Yes	No	Yes
Iron, total	ICP-MS CLS129	+/- 10.28 %	Yes	No	Yes
Lead, total	ICP-MS CLS 129	+/-20@100ug/l	Yes	No	Yes
m/p-Xylene by GCMS	CLS 183		Yes	No	Yes
Magnesium, total	ICP-MS CLS129	+/-0.74@4mg/l	Yes	No	Yes
Manganese, total	ICP-MS CLS129	+/- 14.53 %	Yes	No	Yes
Mercury, total	ICP-MS CLS 129	+/- 27.72 %	Yes	No	Yes
Methyl Acetate	CLS 183 (Methyl acetate is accredited in potable waters only.)		Yes	No	Yes
MTBE (Methyl Tert-Butyl Ether) by GCMS	CLS 183		Yes	No	Yes
Naphthalene by GCMS	CLS 183		Yes	No	Yes
n-Butylbenzene	CLS 183		Yes	No	Yes
Nickel, total	ICP-MS CLS129	+/- 7.91 %	Yes	No	Yes
n-Propylbenzene	CLS 183		Yes	No	Yes
Odour (absence/presence)			No	No	Yes
Orthophosphate as PO4-P	Konelab CLS 35	+/- 24.55 %	Yes	No	Yes
o-Xylene by GCMS	CLS 183		Yes	No	Yes
Pentachloroethane	CLS 183		Yes	No	Yes
pH	CLS 26	+/- 0.133 pH units	Yes	No	Yes
Potassium, total	ICP-MS CLS129	+/-0.53@5mg/l	Yes	No	Yes
Selenium, total	ICP-MS CLS129	+/-0.9@5ug/l	Yes	No	Yes
Sodium, total	ICP-MS CLS129	+/- 11.62 %	Yes	No	Yes
Styrene	CLS 183		Yes	No	Yes
Sulphate (SO4)	Konelab CLS 88	+/- 7.29 %	Yes	No	Yes
TAEE (Tert-Amyl Ethyl Ether)	CLS 183		Yes	No	Yes
TAME (Tert-Amyl Methyl Ether) (1,1Dimethylpropylmethylether)	CLS 183		Yes	No	Yes
Temperature (site)	Probe	+/- 0.1 °C	No	No	Yes
Tert-Butylbenzene	CLS 183		Yes	No	Yes
Tetrachloroethene	CLS 183	+/- 44.60 %	Yes	No	Yes
Tetrahydrofuran	CLS 183		Yes	No	Yes
Tin, total	ICP-MS CLS129	+/-0.6@5ug/l	Yes	No	Yes
Toluene by GCMS	CLS 183		Yes	No	Yes
Total Phosphorus as P	CLS 151	+/- 18.01 %	Yes	No	Yes
trans-1,2-Dichloroethene	CLS 183		Yes	No	Yes
trans-1,3-Dichloropropene	CLS 183 (trans-1,3-dichloropropene is accredited in potable waters only.)		Yes	No	Yes
Trichloroethene	CLS 183	+/- 46.72 %	Yes	No	Yes
Trichlorofluoromethane (CFC-11)	CLS 183		Yes	No	Yes
Vinyl Chloride	CLS 183		Yes	No	Yes
Visual Inspection/Odour		0	No	No	Yes
Zinc, total	ICP-MS CLS 129	+/- 9.38 %	Yes	No	Yes

*Analysis carried out in a GMP approved, FDA inspected facility (MedPharma site only).

**Laboratory Analysis, Sampling, Food Safety Monitoring and Analysts on Contract are all ISO 9001 certified.

Lab No	Sample ID	Sample Condition on Receipt	Sampling Date
1808577	MW-11 11.11.2024	Good condition	11/11/2024

**Bord na Mona SW/GW
samples 11.11.2024**

		MW-6 11.11.2024 1808572	MW-7 11.11.2024 1808573	MW-8 11.11.2024 1808574	MW-9 11.11.2024 1808575	MW-10 11.11.2024 1808576	MW-11 11.11.2024 1808577	MW-2 11.11.2024 1808569	MW-3 11.11.2024 1808570	MW-5 11.11.2025 1808571
Customer Sample Ref.										
ACID HERBICIDES	2,3,6-TBA	<0.50	<0.10	<0.20	<2.00	<0.20	<1.00	<0.20	<0.20	<0.40
	2,4-D	<0.50	<0.10	<0.20	<2.00	<0.20	<1.00	<0.20	<0.20	<0.40
	2,4-DB	<0.50	<0.10	<0.20	<2.00	<0.20	<1.00	<0.20	<0.20	<0.40
	2,4,5-T	<0.50	<0.10	<0.20	<2.00	<0.20	<1.00	<0.20	<0.20	<0.40
	Benazolin	<0.50	<0.10	<0.20	<2.00	<0.20	<1.00	<0.20	<0.20	<0.40
	Bentazone	<0.50	<0.10	<0.20	<2.00	<0.20	<1.00	<0.20	<0.20	<0.40
	Chlopyralid	<0.50	<0.10	<0.20	<2.00	<0.20	<1.00	<0.20	<0.20	<0.40
	Bromoxynil	<0.50	<0.10	<0.20	<2.00	<0.20	<1.00	<0.20	<0.20	<0.40
	Dicamba	<0.50	<0.10	<0.20	<2.00	<0.20	<1.00	<0.20	<0.20	<0.40
	Dichlorprop	<0.50	<0.10	<0.20	<2.00	<0.20	<1.00	<0.20	<0.20	<0.40
	Fenoprop	<0.50	<0.10	<0.20	<2.00	<0.20	<1.00	<0.20	<0.20	<0.40
	Ioxynil	<0.50	<0.10	<0.20	<2.00	<0.20	<1.00	<0.20	<0.20	<0.40
	MCPA	<0.50	<0.10	<0.20	<2.00	<0.20	<1.00	<0.20	<0.20	<0.40
	MCPB	<0.50	<0.10	<0.20	<2.00	<0.20	<1.00	<0.20	<0.20	<0.40
	Triclopyr	<0.50	<0.10	<0.20	<2.00	<0.20	<1.00	<0.20	<0.20	<0.40
	Mecoprop	<0.40	<0.08	<0.16	<1.60	<0.16	<0.80	<0.16	<0.16	<0.32
	Fluoroxypyr	<0.50	<0.10	<0.20	<2.00	<0.20	<1.00	<0.20	<0.20	<0.40
	1,2,3-Trichlorobenzene	<17	<10	<10	<10	<10	<10	<10	<10	<10
	1,2,4-Trichlorobenzene	<29	<10	<10	<10	<10	<10	<10	<15	<15
	1,3,5-Trichlorobenzene	<23	<10	<10	<10	<10	<10	<10	<12	<12
	Aldrin	<24	<5	<5	<5	<5	<5	<5	<12	<12
	alpha-Endosulphan	See A/C	See A/C	See A/C	See A/C	See A/C	See A/C	See A/C	See A/C	See A/C
	alpha-HCH	<29	<6	<6	<6	<6	<6	<6	<15	<15
	beta-Endosulphan	See A/C	See A/C	See A/C	See A/C	See A/C	See A/C	See A/C	See A/C	See A/C
	beta-HCH	<19	<4	<4	<4	<4	<4	<4	<10	<10
	alpha-Chlordane	<25	<5	<5	<5	<5	<5	<5	<13	<13
	Dichlobenil	<17	<4	<4	<4	<4	<4	<4	<9	<9
	Dieldrin	<34	<7	<7	<7	<7	<7	<7	<17	<17
	Endrin	<27	<6	<6	<6	<6	<6	<6	<14	<14
	gamma-HCH	<30	<6	<6	<6	<6	<6	<6	<15	<15
	Heptachlor Epoxide	<28	<6	<6	<6	<6	<6	<6	<14	<14
	Hexachlorobenzene	<21	<5	<5	<5	<5	<5	<5	<11	<11
	Hexachlorobutadiene	<14	<7	<7	<7	<7	<7	<7	<7	<7
	Isodrin	<28	<6	<6	<6	<6	<6	<6	<14	<14
	o,p - DDE	<16	<4	<4	<4	<4	<4	<4	<8	<8
	p,p - DDE	<19	<4	<4	<4	<4	<4	<4	<10	<10
	o,p - TDE	<18	<4	<4	<4	<4	<4	<4	<9	<9
	p,p - TDE	<23	<5	<5	<5	<5	<5	<5	<12	<12
	o,p - DDT	<20	<4	<4	<4	<4	<4	<4	<10	<10
	p,p - DDT	<24	<5	<5	<5	<5	<5	<5	<12	<12

Key

N/S - Not Scheduled

I/S - Insufficient Sample

To Follow - analysis incomplete (interim reports only)

**Bord na Mona SW/GW
samples 11.11.2024**

		MW-6 11.11.2024 1808572	MW-7 11.11.2024 1808573	MW-8 11.11.2024 1808574	MW-9 11.11.2024 1808575	MW-10 11.11.2024 1808576	MW-11 11.11.2024 1808577	MW-2 11.11.2024 1808569	MW-3 11.11.2024 1808570	MW-5 11.11.2025 1808571
Customer Sample Ref.										
Organochlorine Pesticides	Tecnazene	<67	<14	<14	<14	<14	<14	<14	<34	<34
	gamma-Chlordane	<24	<5	<5	<5	<5	<5	<5	<12	<12
	Triallate	<82	<17	<17	<17	23	19	<17	<41	<41
	Trifluralin	<72	<30	<30	<30	<30	<30	<30	<36	<36
Organophosphoro us Pesticides	Azinphos-ethyl	<0.017	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.009	<0.009
	Azinphos-methyl	<0.014	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.007	<0.007
	Carbophenothion	<0.027	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.014	<0.014
	Chlorfenvinphos	<0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.013	<0.013
	Chlorpyrifos	<0.013	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.007	<0.007
	Diazinon	<0.047	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.024	<0.024
	Dichlorvos	See A/C	See A/C	See A/C	See A/C	See A/C	See A/C	See A/C	See A/C	See A/C
	Dimethoate	<0.028	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
	Fenitrothion	<0.018	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.009	<0.009
	Fenthion	<0.020	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.010	<0.010
	Malathion	<0.020	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.010	<0.010
	Mevinphos	See A/C	See A/C	See A/C	See A/C	See A/C	See A/C	See A/C	See A/C	See A/C
	Parathion-ethyl	<0.017	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.009	<0.009
	Parathion-methyl	<0.016	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.008	<0.008
	Phorate	<0.024	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.012	<0.012
	Phosalone	<0.030	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.015	<0.015
	Pirimiphos-methyl	<0.018	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.009	<0.009
	Propetamphos	<0.015	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.008	<0.008
	Triazophos	<0.016	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.008	<0.008
	1,2,4-Trichlorobenzene	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<1.00
	1,2-Dichlorobenzene	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<1.00
	1,3-Dichlorobenzene	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<1.00
	1,4-Dichlorobenzene	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<1.00
	2,4,5-Trichlorophenol	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<1.00
	2,4,6-Trichlorophenol	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<1.00
	2,4-Dichlorophenol	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<1.00
	2,4-Dimethylphenol	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<1.00
	2,4-Dinitrotoluene	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<100	<10.0
	2,6-Dinitrotoluene	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<100	<10.0
	2-Chloronaphthalene	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<1.00
	2-Chlorophenol	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<1.00
	2-Methylnaphthalene	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<1.00
	2-Methylphenol	<1.00	<1.00	<1.00	<1.00	1.21	<1.00	2.23	<10.0	1.16
	2-Nitrophenol	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<1.00
	3&4-Methylphenol	<1.00	<1.00	<1.00	<1.00	1.02	<1.00	2.11	12	1.37

Key

N/S - Not Scheduled

I/S - Insufficient Sample

To Follow - analysis incomplete (interim reports only)

**Bord na Mona SW/GW
samples 11.11.2024**

Customer Sample Ref.	MW-6 11.11.2024 1808572	MW-7 11.11.2024 1808573	MW-8 11.11.2024 1808574	MW-9 11.11.2024 1808575	MW-10 11.11.2024 1808576	MW-11 11.11.2024 1808577	MW-2 11.11.2024 1808569	MW-3 11.11.2024 1808570	MW-5 11.11.2025 1808571
4-Bromophenyl phenyl ether	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<100	<10.0
4-Chloro-3-methylphenol	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<1.00
4-Chlorophenyl phenyl ether	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<1.00
4-Nitrophenol	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<500	<50.0
Acenaphthene	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<1.00
Acenaphthylene	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<1.00
Anthracene	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<1.00
Benz(a)anthracene	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<1.00
Benzo(a)pyrene	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<1.00
Benzo(b)fluoranthene	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<1.00
Benzo(ghi)perylene	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<1.00
Benzo(k)fluoranthene	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<1.00
Benzyl butyl phthalate	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<100	<10.0
Bis(2-chloroethoxy)methane	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<100	<10.0
Bis(2-chloroethyl)ether	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	<100	<10.00
Bis(2-ethylhexyl)phthalate	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<100	<10.0
Bis(chloroisopropyl)ether	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<100	<10.0
Carbazole	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<100	<10.0
Chrysene	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<1.00
Dibenzo(ah)anthracene	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<1.00
Dibenzofuran	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<1.00
Diethylphthalate	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<100	<10.0
Dimethylphthalate	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<100	<10.0
Di-n-butylphthalate	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<500	<50.0
Di-n-octyl phthalate	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<100	<10.0
Diphenylamine	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<100	<10.0
Fluoranthene	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<1.00
Fluorene	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<1.00
Hexachlorobenzene	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<1.00
Hexachlorobutadiene	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<1.00
Hexachloroethane	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<100	<10.0
Indeno(1,2,3-cd)Pyrene	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<1.00
Isophorone	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<100	<10.0
Naphthalene	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<1.00
Nitrobenzene	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<100	<10.0
n-Nitroso-di-n-propylamine	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<100	<10.0
Pentachlorophenol	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<100	<10.0

Key

N/S - Not Scheduled

I/S - Insufficient Sample

To Follow - analysis incomplete (interim reports only)

**Bord na Mona SW/GW
samples 11.11.2024**

		MW-6 11.11.2024	MW-7 11.11.2024	MW-8 11.11.2024	MW-9 11.11.2024	MW-10 11.11.2024	MW-11 11.11.2024	MW-2 11.11.2024	MW-3 11.11.2024	MW-5 11.11.2025
Customer Sample Ref.		1808572	1808573	1808574	1808575	1808576	1808577	1808569	1808570	1808571
Phenols	Phenanthrene	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<1.00
	Phenol	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<50.0	<5.00
	Pyrene	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<1.00
Detergent	Anionic surfactants (MBAS) (W)							0.056	0.122	0.052

Key

N/S - Not Scheduled

I/S - Insufficient Sample

To Follow - analysis incomplete (interim reports only)

CERTIFICATE OF ANALYSIS

Client : John Boyle
 Bord na Mona (Clonbullogue)
 Edenderry Power Plant
 Balykileen, Edenderry
 Co Offaly

Report No. : 579415
 Date of Receipt : 02/12/2024
 Start Date of Analysis : 02/12/2024
 Date of Report : 10/12/2024
 Order Number : 3085231
 Sample taken by : CLS

Lab No	Sample Description	Test	Ref.	Result	Units
1815444	MW-2 02.12.2024	Ammonia as N	I,R	2.23	mg/l
		Conductivity @20C	I,R	764	uS/cm
		pH	I,R	7.0	pH Units
		Sulphate (SO4)	I,R	21.3	mg/l
		Visual Inspection/Odour	R	Clear liquid with strong odour	
1815445	MW-3 02.12.2024	Ammonia as N	I,R	2.03	mg/l
		Conductivity @20C	I,R	1534	uS/cm
		pH	I,R	6.6	pH Units
		Sulphate (SO4)	I,R	805	mg/l
		Visual Inspection/Odour	R	Slight brown liquid with mild odour	
1815446	MW-5 02.12.2024	Ammonia as N	I,R	6.25	mg/l
		Conductivity @20C	I,R	476	uS/cm
		pH	I,R	7.2	pH Units
		Sulphate (SO4)	I,R	<5	mg/l
		Visual Inspection/Odour	R	Slight brown liquid with mild odour	
1815454	MW-6 02.12.2024	Ammonia as N	I,R	6.9	mg/l
		Conductivity @20C	I,R	537	uS/cm
		pH	I,R	7.0	pH Units
		Sulphate (SO4)	I,R	<5	mg/l
		Visual Inspection/Odour	R	Brown liquid with mild odour	
1815458	MW-7 02.12.2024	Ammonia as N	I,R	3.68	mg/l
		Conductivity @20C	I,R	1105	uS/cm
		pH	I,R	6.7	pH Units
		Sulphate (SO4)	I,R	13.3	mg/l
		Visual Inspection/Odour	R	Clear liquid with moderate odour	
1815461	MW-8 02.12.2024	Ammonia as N	I,R	3.06	mg/l
		Conductivity @20C	I,R	864	uS/cm
		pH	I,R	7.0	pH Units
		Sulphate (SO4)	I,R	51.8	mg/l
		Visual Inspection/Odour	R	Slight brown liquid with moderate odour	
1815463	MW-9 02.12.2024	Ammonia as N	I,R	2.77	mg/l
		Conductivity @20C	I,R	687	uS/cm
		pH	I,R	7.0	pH Units
		Sulphate (SO4)	I,R	<5	mg/l
		Visual Inspection/Odour	R	Clear liquid with moderate odour	
1815464	MW-10 02.12.2024	Ammonia as N	I,R	3.24	mg/l
		Conductivity @20C	I,R	779	uS/cm
		pH	I,R	6.9	pH Units
		Sulphate (SO4)	I,R	<5	mg/l
		Visual Inspection/Odour	R	Clear liquid with mild odour	
1815466	MW-11 02.12.2024	Ammonia as N	I,R	3.39	mg/l
		Conductivity @20C	I,R	685	uS/cm
		pH	I,R	6.8	pH Units
		Sulphate (SO4)	I,R	<5	mg/l
		Visual Inspection/Odour	R	Clear liquid with moderate odour	



Complete Laboratory Solutions

Complete Laboratory Solutions

[Tel] 091 574355

[Fax] 091 574356

[Email] services@cls.ie

[web] www.cls.ie



Approved by:

Luiza Singh

**Luiza Singh
Deputy Quality
Manager**

See below for test specifications and accreditation status.

This report only relates to items tested and shall not be reproduced but in full with the permission of CLS.
est. is an estimated count.

CLS will test food, water and swabs samples within 24 hours of receipt.

Where samples have been taken by the Client, results apply to the samples as received.

In-House Test	Specification	Expanded Measurement of Uncertainty	17025	GMP/FDA*	ISO**
Ammonia as N	Konelab CLS 40	+/- 15.2 %	Yes	No	Yes
Conductivity @20C	CLS 67	+/- 4.92 %	Yes	No	Yes
pH	CLS 26	+/- 0.133 pH units	Yes	No	Yes
Sulphate (SO4)	Konelab CLS 88	+/- 7.29 %	Yes	No	Yes
Visual Inspection/Odour		0	No	No	Yes

*Analysis carried out in a GMP approved, FDA inspected facility (MedPharma site only).

**Laboratory Analysis, Sampling, Food Safety Monitoring and Analysts on Contract are all ISO 9001 certified.

Lab No	Sample ID	Sample Condition on Receipt	Sampling Date
1815444	MW-2 02.12.2024	Good condition	02/12/2024
1815445	MW-3 02.12.2024	Good condition	02/12/2024
1815446	MW-5 02.12.2024	Good condition	02/12/2024
1815454	MW-6 02.12.2024	Good condition	02/12/2024
1815458	MW-7 02.12.2024	Good condition	02/12/2024
1815461	MW-8 02.12.2024	Good condition	02/12/2024
1815463	MW-9 02.12.2024	Good condition	02/12/2024
1815464	MW-10 02.12.2024	Good condition	02/12/2024
1815466	MW-11 02.12.2024	Good condition	02/12/2024