



### CERTIFICATE OF ANALYSIS

Client : Killian Farrell (Deputy Manager)  
Mayo County Council, Derrinnumera Landfill  
Derrinnumera  
Newport  
Co. Mayo

Report No. : 433071  
Date of Receipt : 27/11/2020  
Start Date of Analysis : 27/11/2020  
Date of Report : 21/12/2020  
Order Number : 5658429  
Sample taken by : Client

Lab No	Sample Description	Test	Ref.	Result	Units
1106450	CM-SW1 Claremorris Historic landfill	BOD	I,R	<3	mg/l
		Suspended Solids	I,R	4	mg/l
		COD	I,R	39	mg/l
		pH	I,R	7.4	pH Units
		Conductivity @20C	I,R	985	uS/cm
		Copper, total	I,R	<1.2	ug/l
		Sodium, total	I,R	28	mg/l
		Chloride	I,R	40.7	mg/l
		Temperature	R	17.1@lab	°C
		Dissolved Oxygen (%)	R	102.3 @ lab	%Sat
		Iron, total	I,R	553	ug/l
		Potassium, total	I,R	30	mg/l
		Cyanide (Total)	S,	<0.009	mg/l
		Magnesium, total	I,R	20	mg/l
		Sulphate	I,R	19.9	mg/l
		Ammonia as N	I,R	15	mg/l
		Arsenic, total	I,R	<0.6	ug/l
		Manganese, total	I,R	189	ug/l
		Zinc, total	I,R	19	ug/l
		Chromium, total	I,R	1	ug/l
		Calcium, total	I,R	138	mg/l
		Boron	I,R	129	ug/l
		Nickel, total	I,R	2	ug/l
		Lead, total	I,R	<0.6	ug/l
		Cadmium, total	I,R	<0.6	ug/l
		Fluoride by ISE	I,R	<0.1	mg/l
		Molybdate Reactive Phosphorus (MRP unfiltered) as PO4-P	I,R	0.198	mg/l
		Mercury, total (in water)	S,	0.02	ug/l
		Alkalinity Total by Autotitration	I,R	488	mg/l CaCO3



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.

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In-House Test	Specification	Measurement of Uncertainty	17025	GMP/FDA*	ISO**
BOD	CLS 12	+/- 9.33 %	Yes	No	Yes
Suspended Solids	CLS 13	+/- 43 @ 500 mg/l	Yes	No	Yes
COD	CLS 52	+/- 4.48 %	Yes	No	Yes
pH	CLS 26	+/- 0.133 pH units	Yes	No	Yes
Conductivity @20C	CLS 67	+/- 4.92 %	Yes	No	Yes
Copper, total	ICP-MS CLS 129	+/- 11.28 %	Yes	No	Yes
Sodium, total	ICP-MS CLS129	+/- 11.62 %	Yes	No	Yes
Chloride	Konelab CLS 36	+/- 12.10 %	Yes	No	Yes
Temperature	Probe	0	No	No	Yes
Dissolved Oxygen (%)	CLS 75	0	No	No	Yes
Iron, total	ICP-MS CLS129	+/- 10.28 %	Yes	No	Yes
Potassium, total	ICP-MS CLS129	+/-0.53@5mg/l	Yes	No	Yes
Magnesium, total	ICP-MS CLS129	+/-0.74@4mg/l	Yes	No	Yes
Sulphate	Konelab CLS 88	+/- 7.29 %	Yes	No	Yes
Ammonia as N	Konelab CLS 40	+/- 5.13 %	Yes	No	Yes
Arsenic, total	ICP-MS CLS 129	+/- 9.34 %	Yes	No	Yes
Manganese, total	ICP-MS CLS129	+/- 14.53 %	Yes	No	Yes
Zinc, total	ICP-MS CLS 129	+/- 9.38 %	Yes	No	Yes
Chromium, total	ICP-MS CLS129	+/- 8.38 %	Yes	No	Yes
Calcium, total	ICP-MS CLS129	+/-5.5@30mg/l	Yes	No	Yes
Boron	ICP-MS CLS129	+/-15@200ug/l	Yes	No	Yes
Nickel, total	ICP-MS CLS129	+/- 7.91 %	Yes	No	Yes
Lead, total	ICP-MS CLS 129	+/-20@100ug/l	Yes	No	Yes
Cadmium, total	ICP-MS CLS 129	+/- 10.42 %	Yes	No	Yes
Fluoride by ISE	CLS 182	0	Yes	No	Yes
Molybdate Reactive Phosphorus (MRP unfiltered) as PO4-P	Konelab CLS 35	+/- 0.04 @ 0.3 mg/l PO4	Yes	No	Yes
Alkalinity Total by Autotitration	CLS 195	0	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
1106450	CM-SW1 Claremorris Historic landfill	Good condition	26/11/2020



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### CERTIFICATE OF ANALYSIS

Client : Killian Farrell (Deputy Manager)  
 Mayo County Council, Derrinnumera Landfill  
 Derrinnumera  
 Newport  
 Co. Mayo

Report No. : 433072  
 Date of Receipt : 27/11/2020  
 Start Date of Analysis : 27/11/2020  
 Date of Report : 21/12/2020  
 Order Number : 5658429  
 Sample taken by : Client

Lab No	Sample Description	Test	Ref.	Result	Units
1106451	CM-SW5 Claremorris Historic landfill	BOD	I,R	<3	mg/l
		Suspended Solids	I,R	<2	mg/l
		COD	I,R	39	mg/l
		pH	I,R	7.3	pH Units
		Conductivity @20C	I,R	449	uS/cm
		Copper, total	I,R	1	ug/l
		Sodium, total	I,R	10	mg/l
		Chloride	I,R	16.7	mg/l
		Temperature	R	17.0@lab	°C
		Dissolved Oxygen (%)	R	101.8 @ lab	%Sat
		Iron, total	I,R	464	ug/l
		Potassium, total	I,R	2	mg/l
		Cyanide (Total)	S,	<0.009	mg/l
		Magnesium, total	I,R	4	mg/l
		Sulphate	I,R	11	mg/l
		Ammonia as N	I,R	0.268	mg/l
		Arsenic, total	I,R	<0.6	ug/l
		Manganese, total	I,R	36	ug/l
		Zinc, total	I,R	7	ug/l
		Chromium, total	I,R	0.6	ug/l
		Calcium, total	I,R	88	mg/l
		Boron	I,R	16	ug/l
		Nickel, total	I,R	2	ug/l
		Lead, total	I,R	1	ug/l
		Cadmium, total	I,R	<0.6	ug/l
		Fluoride by ISE	I,R	<0.1	mg/l
		Molybdate Reactive Phosphorus (MRP unfiltered) as PO4-P	I,R	0.025	mg/l
		Mercury, total (in water)	S,	<0.01	ug/l
		Alkalinity Total by Autotitration	I,R	212	mg/l CaCO3

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Approved by:



**AnnMarie Nee**  
**Environmental Services Administrator**

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COD	CLS 52	+/- 4.48 %	Yes	No	Yes
pH	CLS 26	+/- 0.133 pH units	Yes	No	Yes
Conductivity @20C	CLS 67	+/- 4.92 %	Yes	No	Yes
Copper, total	ICP-MS CLS 129	+/- 11.28 %	Yes	No	Yes
Sodium, total	ICP-MS CLS129	+/- 11.62 %	Yes	No	Yes
Chloride	Konelab CLS 36	+/- 12.10 %	Yes	No	Yes
Temperature	Probe	0	No	No	Yes
Dissolved Oxygen (%)	CLS 75	0	No	No	Yes
Iron, total	ICP-MS CLS129	+/- 10.28 %	Yes	No	Yes
Potassium, total	ICP-MS CLS129	+/-0.53@5mg/l	Yes	No	Yes
Magnesium, total	ICP-MS CLS129	+/-0.74@4mg/l	Yes	No	Yes
Sulphate	Konelab CLS 88	+/- 7.29 %	Yes	No	Yes
Ammonia as N	Konelab CLS 40	+/- 5.13 %	Yes	No	Yes
Arsenic, total	ICP-MS CLS 129	+/- 9.34 %	Yes	No	Yes
Manganese, total	ICP-MS CLS129	+/- 14.53 %	Yes	No	Yes
Zinc, total	ICP-MS CLS 129	+/- 9.38 %	Yes	No	Yes
Chromium, total	ICP-MS CLS129	+/- 8.38 %	Yes	No	Yes
Calcium, total	ICP-MS CLS129	+/-5.5@30mg/l	Yes	No	Yes
Boron	ICP-MS CLS129	+/-15@200ug/l	Yes	No	Yes
Nickel, total	ICP-MS CLS129	+/- 7.91 %	Yes	No	Yes
Lead, total	ICP-MS CLS 129	+/-20@100ug/l	Yes	No	Yes
Cadmium, total	ICP-MS CLS 129	+/- 10.42 %	Yes	No	Yes
Fluoride by ISE	CLS 182	0	Yes	No	Yes
Molybdate Reactive Phosphorus (MRP unfiltered) as PO4-P	Konelab CLS 35	+/- 0.04 @ 0.3 mg/l PO4	Yes	No	Yes
Alkalinity Total by Autotitration	CLS 195	0	Yes	No	Yes

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Lab No	Sample ID	Sample Condition on Receipt	Sampling Date
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