



CERTIFICATE OF ANALYSIS

Client : Michael J. Murphy
 Kiltiernan Group Water Scheme
 Caheradoo
 Kilcolgan
 Co. Galway

Report No. : 417419
 Date of Receipt : 02/06/2020
 Start Date of Analysis : 02/06/2020
 Date of Report : 16/06/2020
 Order Number :
 Sample taken by : Client

Lab No	Sample Description	Test	Ref.	Result	Units
1052089	Kiltiernan GWS. Raw Water. 02/06/20	BOD	I, R	<1	mg/l
		Colour	I, R	<4	mg/l Pt Co
		COD	I, R	<10	mg/l
		Turbidity	I, R	<0.2	N.T.U.
		pH	I, R	7.1	pH Units
		Conductivity @20C	I, R	686	uS/cm
		Nitrite as N	I, R	<0.005	mg/l
		Copper, total	I, R	5	ug/l
		Sodium, total	I, R	14	mg/l
		Chloride	I, R	32.4	mg/l
		Ammonium as NH4	I, R	0.036	mg/l
		Nitrate as NO3	I, R	8.3	mg/l
		Dissolved Oxygen (%)	R	95.8@lab	%Sat
		Iron, total	I, R	12	ug/l
		Potassium, total	I, R	3	mg/l
		Total Hardness (Kone)	I, R	255	mg/l CaCO3
		Magnesium, total	I, R	11	mg/l
		Sulphate	I, R	8.84	mg/l
		Orthophosphate as PO4-P	I, R	<0.01	mg/l
		Arsenic, total	I, R	<0.5	ug/l
		Manganese, total	I, R	<5	ug/l
		Zinc, total	I, R	<5	ug/l
		Calcium, total	I, R	104	mg/l
		Aluminium, dissolved	I, R	5	ug/l
		Iron, dissolved	I, R	<10	ug/l
		Manganese, dissolved	I, R	<5	ug/l
		Copper, dissolved	I, R	4	ug/l
		Lead, dissolved	I, R	<0.5	ug/l
		Chromium, dissolved	I, R	<0.5	ug/l
		Nickel, dissolved	I, R	<0.5	ug/l
		Cadmium, dissolved	I, R	<0.5	ug/l
		Arsenic, dissolved	I, R	<0.5	ug/l
		Zinc, dissolved	I, R	<5	ug/l
		Barium, dissolved	I, R	13	ug/l
		PAH by GCMS	S,	0.015	ug/l
		TOC	I, R	1.31	mg/l
		Clostridium Perfringens in Water	I, R	0	cfu/100ml
		Strontium, dissolved	I, R	216	ug/l
		E coli (Filtration) (Environmental Waters)	I, R	0	cfu/100ml
		Total Coliforms (Filtration) (Environmental Waters)	I, R	0	cfu/100ml
TPH (>C5 - C44) by GC-FID	I, R	<20	ug/l		
Silica Si O2	R	4.07	mg/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
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.

0cfu is reported in waters, this refers to 'not detected in volume tested'

It is recommended that water samples requiring microbiological analysis should be tested within 24 hours of sampling. 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	17025	GMP/FDA*	ISO**
BOD	CLS 12	Yes	No	Yes
Colour	CLS 29	Yes	No	Yes
COD	CLS 52	Yes	No	Yes
Turbidity	CLS 30	Yes	No	Yes
pH	CLS 26	Yes	No	Yes
Conductivity @20C	CLS 67	Yes	No	Yes
Nitrite as N	Konelab CLS 37	Yes	No	Yes
Copper, total	ICP-MS CLS 129	Yes	No	Yes
Sodium, total	ICP-MS CLS129	Yes	No	Yes
Chloride	Konelab CLS 36	Yes	No	Yes
Ammonium as NH4	Konelab CLS 40	Yes	No	Yes
Nitrate as NO3	Konelab CLS 39	Yes	No	Yes
Dissolved Oxygen (%)	CLS 75	No	No	Yes
Iron, total	ICP-MS CLS129	Yes	No	Yes
Potassium, total	ICP-MS CLS129	Yes	No	Yes
Total Hardness (Kone)	Konelab CLS 77	Yes	No	Yes
Magnesium, total	ICP-MS CLS129	Yes	No	Yes
Sulphate	Konelab CLS 88	Yes	No	Yes
Orthophosphate as PO4-P	Konelab CLS 35	Yes	No	Yes
Arsenic, total	ICP-MS CLS 129	Yes	No	Yes
Manganese, total	ICP-MS CLS129	Yes	No	Yes
Zinc, total	ICP-MS CLS 129	Yes	No	Yes
Calcium, total	ICP-MS CLS129	Yes	No	Yes
Aluminium, dissolved	ICP-MS CLS129	Yes	No	Yes
Iron, dissolved	ICP-MS CLS 129	Yes	No	Yes
Manganese, dissolved	ICP-MS CLS129	Yes	No	Yes
Copper, dissolved	ICP-MS CLS 129	Yes	No	Yes
Lead, dissolved	ICP-MS CLS129	Yes	No	Yes
Chromium, dissolved	ICP-MS CLS 129	Yes	No	Yes
Nickel, dissolved	ICP-MS CLS129	Yes	No	Yes
Cadmium, dissolved	ICP-MS CLS129	Yes	No	Yes
Arsenic, dissolved	ICP-MS CLS129	Yes	No	Yes
Zinc, dissolved	ICP-MS CLS 129	Yes	No	Yes
Barium, dissolved	ICP-MS CLS129	Yes	No	Yes
TOC	CLS 150	Yes	No	Yes
Clostridium Perfringens in Water	CLS 43	Yes	No	Yes
Strontium, dissolved	ICP-MS CLS129	Yes	No	Yes
E coli (Filtration) (Environmental Waters)	CLS 16	Yes	No	Yes
Total Coliforms (Filtration) (Environmental Waters)	CLS 16	Yes	No	Yes
TPH (>C5 - C44) by GC-FID	CLS 193	Yes	No	Yes
Silica Si O2	Standard methods for the examination of water and waste water	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
1052089	Kiltiernan GWS. Raw Water. 02/06/20	Good condition	02/06/2020



Complete Laboratory Solutions

Complete Laboratory Solutions

[Tel] 091 574355

[Fax] 091 574356

[Email] services@cls.ie

[web] www.cls.ie