



Moyvannan Electricity Substation

Environmental Impact Assessment Report

Annex 7.3: Laboratory Reports

Energia Renewables ROI Limited

Galetech Energy Services

Clondorgan, Stradone, Co. Cavan Ireland

Telephone +353 (0)49 555 5050

www.galetechenergyservices.com



Client: Hydro-Environmental Services
22
Lower Main Street
Dungarvan
Co. Waterford.
Waterford
IRELAND

Certificate Code: AR-24-M3-020518-01

Page Number: Page 1 of 6

PO reference:

Certificate of Analysis

Sample number	966-2024-00024431	Received on	29/08/2024
Your sample reference	P1500-4 Turlough	Analysis started on	29/08/2024
Sample Matrix	Ground water		
Sample Condition on Arrival	Satisfactory	Sample Date	28/08/2024
Time Sampled	10:00		

Test Code Analyte	SUB ⁵ Analysis Started	Method	LOQ ³	SPEC ²	Result	Units	ACCRED ⁴
Sulphate mg/L - Gallery [M300N]							
Sulphate mg/L - Gallery	29/08/24 14:00	EW175	1		2.71	mg/l	C6
Chloride mg/L - Gallery [M300S]							
Chloride mg/L - Gallery	29/08/24 14:00	EW175	5		12.1	mg/l	C6
Ammonium as NH4 (calc) - Gallery [M300T]							
Ammonium as NH4 (calc) - Gallery	29/08/24 14:00	EW175	0.01		0.0700	mg/l	C6
Phosphate (Ortho/MRP) as P2O5 (Calc) - Gallery [M300V]							
Phosphate (Ortho/MRP) as P2O5 (Calc) - Gallery	29/08/24 14:00	EW175	0.02		0.117	mg/l	C6
Ammonia as N - Gallery [M300Z]							
Ammonia as N - Gallery	29/08/24 14:00	EW175	0.01		0.0540	mg/l	C6
Nitrite (as N) - Gallery [M3016]							
Nitrite (as N) - Gallery	29/08/24 14:00	EW175	0.01		<0.01	mg/l	C6
Nitrate (as N) - Gallery [M301A]							
Nitrate (as N) - Gallery	29/08/24 14:00	EW175	1		<1	mg/l	C6
pH (Robotic Method) [M3051]							
pH	29/08/24 14:03 ^{7D}	EW152R	4		7.8		
Conductivity at 20°C (Robotic Method) [M3052]							
Conductivity at 20°C	29/08/24 14:03	EW152R	5		274	µS/cm	C6
Aluminium - Dissolved [M3157]							
Aluminium	04/09/24 13:40	EW188	5		<5	µg/l	C6
Arsenic - Dissolved [M3159]							
Arsenic	04/09/24 13:40	EW188			0.879	µg/l	C6
Calcium - Dissolved [M3165]							

Signed:

05/09/2024

Aoife De Barra - Organics & Instrumentation Team Lead

NOTES

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Sample Matrix	Ground water		
Sample Condition on Arrival	Satisfactory	Sample Date	28/08/2024
Time Sampled	10:00		

Test Code Analyte	SUB ⁵ Analysis Started	Method	LOQ ³	SPEC ²	Result	Units	ACCRED ⁴
Calcium (Ca)	04/09/24 13:40	EW188	1.08		33.8	mg/l	C6
Iron - Dissolved [M3172]							
Iron (Fe)	04/09/24 13:40	EW188	5		121	µg/l	C6
Magnesium - Dissolved [M3174]							
Magnesium (Mg)	04/09/24 13:40	EW188	1.11		14.4	mg/l	C6
Manganese - Dissolved [M3175]							
Manganese (Mn)	04/09/24 13:40	EW188			54.9	µg/l	C6
Potassium - Dissolved [M3180]							
Potassium (K)	04/09/24 13:40	EW188	0.15		5.47	mg/l	C6
Sodium - Dissolved [M3184]							
Sodium (Na)	04/09/24 13:40	EW188	1.5		6.74	mg/l	C6
Total Hardness - Dissolved [M3191]							
Total hardness	04/09/24 17:10	EW188			144	mg/l CaCO ₃	C6

⁴ Accreditation Information

C6: ISO/IEC 17025:2017 INAB 138-T
YA: Accredited (External Subcontractor)

Signed: _____



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PO reference:

Sample number	966-2024-00024432	Received on	29/08/2024
Your sample reference	P1500-4 Farm Well	Analysis started on	29/08/2024
Sample Matrix	Ground water		
Sample Condition on Arrival	Satisfactory	Sample Date	28/08/2024
Time Sampled	11:00		

Test Code Analyte	SUB ⁵ Analysis Started	Method	LOQ ³	SPEC ²	Result	Units	ACCRED ⁴
Sulphate mg/L - Gallery [M300N]							
Sulphate mg/L - Gallery	29/08/24 14:00	EW175	1		10.5	mg/l	C6
Chloride mg/L - Gallery [M300S]							
Chloride mg/L - Gallery	29/08/24 14:00	EW175	5		18.4	mg/l	C6
Ammonium as NH₄ (calc) - Gallery [M300T]							
Ammonium as NH ₄ (calc) - Gallery	29/08/24 14:00	EW175	0.01		0.0130	mg/l	C6
Phosphate (Ortho/MRP) as P₂O₅ (Calc) - Gallery [M300V]							
Phosphate (Ortho/MRP) as P ₂ O ₅ (Calc) - Gallery	29/08/24 14:00	EW175	0.02		0.0210	mg/l	C6
Ammonia as N - Gallery [M300Z]							
Ammonia as N - Gallery	29/08/24 14:00	EW175	0.01		0.0100	mg/l	C6
Nitrite (as N) - Gallery [M3016]							
Nitrite (as N) - Gallery	29/08/24 14:00	EW175	0.01		<0.01	mg/l	C6
Nitrate (as N) - Gallery [M301A]							
Nitrate (as N) - Gallery	29/08/24 14:00	EW175	1		11.1	mg/l	C6
pH (Robotic Method) [M3051]							
pH	29/08/24 14:03 ^{7D}	EW152R	4		7.2		
Conductivity at 20°C (Robotic Method) [M3052]							
Conductivity at 20°C	29/08/24 14:03	EW152R	5		775	µS/cm	C6
Aluminium - Dissolved [M3157]							
Aluminium	04/09/24 13:40	EW188	5		<5	µg/l	C6
Arsenic - Dissolved [M3159]							
Arsenic	04/09/24 13:40	EW188			<0.2	µg/l	C6
Calcium - Dissolved [M3165]							
Calcium (Ca)	04/09/24 13:40	EW188	1.08		134	mg/l	
Iron - Dissolved [M3172]							

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Your sample reference	P1500-4 Farm Well	Analysis started on	29/08/2024
Sample Matrix	Ground water		
Sample Condition on Arrival	Satisfactory	Sample Date	28/08/2024
Time Sampled	11:00		

Test Code Analyte	SUB ⁵ Analysis Started	Method	LOQ ³	SPEC ²	Result	Units	ACCRED ⁴
Iron (Fe)	04/09/24 13:40	EW188	5		<5	µg/l	C6
Magnesium - Dissolved [M3174]							
Magnesium (Mg)	04/09/24 13:40	EW188	1.11		30.2	mg/l	C6
Manganese - Dissolved [M3175]							
Manganese (Mn)	04/09/24 13:40	EW188			<1	µg/l	C6
Potassium - Dissolved [M3180]							
Potassium (K)	04/09/24 13:40	EW188	0.15		0.774	mg/l	C6
Sodium - Dissolved [M3184]							
Sodium (Na)	04/09/24 13:40	EW188	1.5		9.74	mg/l	C6
Total Hardness - Dissolved [M3191]							
Total hardness	04/09/24 17:10	EW188			459	mg/l CaCO ₃	

⁴ Accreditation Information

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Page Number: Page 5 of 6

PO reference:

Sample number	966-2024-00024433	Received on	29/08/2024
Your sample reference	P1500-4 Cross River	Analysis started on	29/08/2024
Sample Matrix	Surface water		
Sample Condition on Arrival	Satisfactory	Sample Date	28/08/2024
Time Sampled	13:00		

Test Code Analyte	SUB ⁵ Analysis Started	Method	LOQ ³	SPEC ²	Result	Units	ACCRED ⁴
Suspended Solids [M3002]							
Suspended Solids	30/08/24 10:12	EW013	5		<5	mg/l	C6
Chemical Oxygen Demand (COD) [M3004]							
Chemical oxygen demand (COD)	02/09/24 12:30	EW094	8		8.00	mg/l	C6
Total Nitrogen [M3007]							
Total Nitrogen	02/09/24 09:41	EW140	1		1.69	mg/l	C6
Sulphate mg/L - Gallery [M300N]							
Sulphate mg/L - Gallery	29/08/24 14:00	EW175	1		10.5	mg/l	C6
Phosphate (Ortho/MRP) as P - Gallery [M300P]							
Phosphate (Ortho/MRP) as P - Gallery	29/08/24 14:00	EW175	0.01		0.0140	mg/l	C6
Fluoride mg/L - Gallery [M300Q]							
Fluoride mg/L - Gallery	29/08/24 14:00	EW175	0.2		<0.2	mg/l	C6
Chloride mg/L - Gallery [M300S]							
Chloride mg/L - Gallery	29/08/24 14:00	EW175	5		17.2	mg/l	C6
Ammonia as N - Gallery [M300Z]							
Ammonia as N - Gallery	29/08/24 14:00	EW175	0.01		0.0200	mg/l	C6
Nitrate (as N) - Gallery [M301A]							
Nitrate (as N) - Gallery	29/08/24 14:00	EW175	1		1.90	mg/l	C6
Biochemical Oxygen Demand (BOD) Robotic Method [M304E]							
Biochemical oxygen demand (BOD) 5d by Robotic Method	29/08/24 17:01	Ew001R	1		<1	mg/l	C6
pH (Robotic Method) [M3051]							
pH	29/08/24 14:03 ^{7D}	EW152R	4		7.4		
Arsenic - Trace [M3236]							
Arsenic	04/09/24 13:40		0.2		0.399	µg/l	C6
Cadmium - Trace [M3240]							

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Sample Matrix	Surface water		
Sample Condition on Arrival	Satisfactory	Sample Date	28/08/2024
Time Sampled	13:00		

Test Code Analyte	SUB ⁵ Analysis Started	Method	LOQ ³	SPEC ²	Result	Units	ACCRED ⁴
Cadmium	04/09/24 13:40		0.1		<0.1	µg/l	C6
Chromium - Trace [M3242]							
Chromium (Cr)	04/09/24 13:40		1		<1	µg/l	C6
Copper - Trace [M3244]							
Copper (Cu)	04/09/24 13:40		0.003		<0.003	mg/l	C6
Lead - Trace [M3246]							
Lead (Pb)	04/09/24 13:40		0.5		<0.5	µg/l	C6
Mercury - Trace [M3249]							
Mercury	04/09/24 13:40		0.03		<0.03	µg/l	C6
Nickel - Trace [M3251]							
Nickel (Ni)	04/09/24 13:40		0.5		1.18	µg/l	C6
Zinc - Trace [M3269]							
Zinc (Zn)	04/09/24 13:40	EW188	1		<1	µg/l	C6
Nitrite (as N) - Gallery [M3285]							
Nitrite (as N) - Gallery	29/08/24 14:00		0.1		<0.1	mg/l	
TPH 3 Band (C6-10-21-40) in water [M502B]							
TPH >C10-C21	* 29/08/24 14:39		0.1		<0.1	µg/l	
TPH >C21-C40	* 29/08/24 14:39		0.1		<0.1	µg/l	
TPH >C6-C10	* 29/08/24 14:39		0.1		<0.1	µg/l	
TPH Total >C6-C40	* 29/08/24 14:39		10		<10	µg/l	YA
Validation	* 29/08/24 14:39				0		
Validation	* 29/08/24 14:39				0		

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C6: ISO/IEC 17025:2017 INAB 138-T
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