



APPENDIX 8-2

HYDROLOGY SURFACE WATER SAMPLING LABORATORY RESULTS



ALS Life Sciences Ltd trading as ALS
Carrigeen Business Park, Clonmel, Co. Tipperary
Telephone: +353 (0) 52 617 8100



Report No: HYDR-938080824

Document No: EF0011

CERTIFICATE OF ANALYSIS

Client **Hydro Environmental Services**
22 Lower Main Street
Dungarvan
Co. Waterford

Date Submitted 08/08/2024
Date Reported 26/08/2024
Order Number P1540-0

For the Attention of: Hydro Environmental Services
Sample Reception 8 sample(s) received in good condition.

Comments N/A

Report Authorised by:

Rosemary Thomas
Environmental Chemistry Manager

Conditions:

1. Results in this report relate only to the items tested as received
2. Reports may not be reproduced except in full without the approval of ALS Life Sciences Ltd
3. All queries regarding this report should be addressed to the Technical Manager at the above address
4. A * next to a method reference signifies that ALS Life Sciences Ltd is NOT INAB accredited for this method
5. Results reported as CFU/cm² are calculated based on information supplied by customer regarding area swabbed
6. SUBCON* indicates analysis subcontracted to approved subcontractors who do not hold accreditation for this test
7. SUBCON^ indicates analysis subcontracted to approved subcontractors who hold accreditation for this test
8. Where sampling is undertaken by ALS personnel, sampling activities are outside the scope of INAB accreditation
9. Dil next to a method reference indicates that a dilution of the water sample was undertaken during testing
10. Statement of conformity made against the result does not take into account the uncertainty of measurement associated with the method



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Date Submitted 08/08/2024

Date Reported 26/08/2024

Order Number P1540-0

Sample Type Effluent
Client ID p1540 Lemanaghan SW1 10:45 07/08/2024
Date Tested 08/08/2024
ALS ID 6274301

Test	Result	Unit	Method
Suspended Solids	<10	mg / l	P202
Phosphorus	<0.10	mg/l P	P207
BOD 5 day Total	2	mg/l O2	P280
Ammonia	0.08	mg/l NH3-N	P281
Chloride	15.2	mg/l Cl	P281
Nitrate	<5.0	mg/l NO3	P281
Nitrite	<0.05	mg/l NO2	P281
Orthophosphate	<0.02	mg/l P	P281
Total Oxidised Nitrogen	0.61	mg/L N	P281
Nitrogen (Total)	1.2	mg/L N	P285

Sample Type Effluent
Client ID p1540 Lemanaghan SW2 10:30 07/08/2024
Date Tested 08/08/2024
ALS ID 6274302

Test	Result	Unit	Method
Suspended Solids	<10	mg / l	P202
Phosphorus	<0.10	mg/l P	P207
BOD 5 day Total	2	mg/l O2	P280
Ammonia	0.02	mg/l NH3-N	P281
Chloride	15.6	mg/l Cl	P281
Nitrate	<5.0	mg/l NO3	P281
Nitrite	<0.05	mg/l NO2	P281
Orthophosphate	<0.02	mg/l P	P281
Total Oxidised Nitrogen	0.77	mg/L N	P281
Nitrogen (Total)	1.2	mg/L N	P285

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Rosemary Thomas



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Date Submitted 08/08/2024

Date Reported 26/08/2024

Order Number P1540-0

Sample Type Effluent
Client ID p1540 Lemanaghan SW4 10:10 07/08/2024
Date Tested 08/08/2024
ALS ID 6274303

Test	Result	Unit	Method
Suspended Solids	<6	mg / l	P202
Phosphorus	<0.10	mg/l P	P207
BOD 5 day Total	3	mg/l O2	P280
Ammonia	0.02	mg/l NH3-N	P281
Chloride	16.1	mg/l Cl	P281
Nitrate	7.7	mg/l NO3	P281
Nitrite	<0.05	mg/l NO2	P281
Orthophosphate	<0.02	mg/l P	P281
Total Oxidised Nitrogen	1.74	mg/L N	P281
Nitrogen (Total)	1.5	mg/L N	P285

Sample Type Effluent
Client ID p1540 Lemanaghan SW5 13:00 07/08/2024
Date Tested 08/08/2024
ALS ID 6274304

Test	Result	Unit	Method
Suspended Solids	<6	mg / l	P202
Phosphorus	<0.10	mg/l P	P207
BOD 5 day Total	2	mg/l O2	P280
Ammonia	0.08	mg/l NH3-N	P281
Chloride	17.6	mg/l Cl	P281
Nitrate	<5.0	mg/l NO3	P281
Nitrite	<0.05	mg/l NO2	P281
Orthophosphate	<0.02	mg/l P	P281
Total Oxidised Nitrogen	1.12	mg/L N	P281
Nitrogen (Total)	1.4	mg/L N	P285

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Date Submitted 08/08/2024

Date Reported 26/08/2024

Order Number P1540-0

Sample Type Effluent
Client ID p1540 Lemanaghan SW6 12:40 07/08/2024
Date Tested 08/08/2024
ALS ID 6274305

Test	Result	Unit	Method
Suspended Solids	8	mg / l	P202
Phosphorus	<0.10	mg/l P	P207
BOD 5 day Total	3	mg/l O2	P280
Ammonia	0.05	mg/l NH3-N	P281
Chloride	15.6	mg/l Cl	P281
Nitrate	7.9	mg/l NO3	P281
Nitrite	<0.05	mg/l NO2	P281
Orthophosphate	<0.02	mg/l P	P281
Total Oxidised Nitrogen	1.80	mg/L N	P281
Nitrogen (Total)	2.6	mg/L N	P285

Sample Type Effluent
Client ID p1540 Lemanaghan SW8 11:30 07/08/2024
Date Tested 08/08/2024
ALS ID 6274306

Test	Result	Unit	Method
Suspended Solids	<6	mg / l	P202
Phosphorus	<0.10	mg/l P	P207
BOD 5 day Total	1	mg/l O2	P280
Ammonia	0.02	mg/l NH3-N	P281
Chloride	25.0	mg/l Cl	P281
Nitrate	8.6	mg/l NO3	P281
Nitrite	<0.05	mg/l NO2	P281
Orthophosphate	<0.02	mg/l P	P281
Total Oxidised Nitrogen	1.95	mg/L N	P281
Nitrogen (Total)	2.4	mg/L N	P285

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Date Submitted 08/08/2024

Date Reported 26/08/2024

Order Number P1540-0

Sample Type Effluent
Client ID p1540 Lemanaghan SW9 12:19 07/08/2024
Date Tested 08/08/2024
ALS ID 6274307

Test	Result	Unit	Method
Suspended Solids	<6	mg / l	P202
Phosphorus	<0.10	mg/l P	P207
BOD 5 day Total	<1	mg/l O2	P280
Ammonia	0.06	mg/l NH3-N	P281
Chloride	19.6	mg/l Cl	P281
Nitrate	10.4	mg/l NO3	P281
Nitrite	<0.05	mg/l NO2	P281
Orthophosphate	<0.02	mg/l P	P281
Total Oxidised Nitrogen	2.35	mg/L N	P281
Nitrogen (Total)	3.7	mg/L N	P285

Sample Type Effluent
Client ID p1540 Lemanaghan SW10 11:05 07/08/2024
Date Tested 08/08/2024
ALS ID 6274308

Test	Result	Unit	Method
Suspended Solids	<6	mg / l	P202
Phosphorus	<0.10	mg/l P	P207
BOD 5 day Total	4	mg/l O2	P280
Ammonia	1.94	mg/l NH3-N	P281
Chloride	14.3	mg/l Cl	P281
Nitrate	<5.0	mg/l NO3	P281
Nitrite	<0.05	mg/l NO2	P281
Orthophosphate	<0.02	mg/l P	P281
Total Oxidised Nitrogen	<0.25	mg/L N	P281
Nitrogen (Total)	3.4	mg/L N	P285

Report Authorised by:

Rosemary Thomas

CERTIFICATE OF ANALYSIS



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Telephone: +353 (0) 52 617 8100
www.alsglobal.ie

Page 1 of 4

Hydro Environmental Services
Hydro Environmental Services
22 Lower Main Street
Dungarvan, Co. Waterford
Ireland

Certificate Number: CLN028362-1 Final
Date Reported: 30/04/2025
Date Analysis Started: 18/04/2025

Lab Ref.	Sample Details	Method Number	Test	Result	Units	Flag
CLN89827	Prod: Rcvd Dt: 18/04/2025 Start Testing: 18/04/2025 Description: P1540 Lemanaghan SW1 12:45 17/04/2025 Spt: Water Sample Type: Surface Waters	P280	BOD 5 day Total	2	mg/L O ₂	
		P202	Suspended Solids	<5	mg/L	
		P281	Chloride	15.8	mg/L Cl	
		P285	Total Nitrogen	1.6	mg/L N	
		P281	Total Oxidised Nitrogen (TON)	1.14	mg/L N	
		P281	Ammonia	0.13	mg/L NH ₃ -N	
		P281	Nitrate	<5.0	mg/L NO ₃	
		P281	Nitrite	<0.05	mg/L NO ₂	
		P207	Total Phosphorus	<0.10	mg/L P	
		P293	Orthophosphate	<0.02	mg/L P	
CLN89828	Prod: Rcvd Dt: 18/04/2025 Start Testing: 18/04/2025 Description: P1540 Lemanaghan SW2 13:00 17/04/2025 Spt: Water Sample Type: Surface Waters	P280	BOD 5 day Total	2	mg/L O ₂	
		P202	Suspended Solids	<5	mg/L	
		P281	Chloride	16.8	mg/L Cl	
		P285	Total Nitrogen	2.4	mg/L N	
		P281	Total Oxidised Nitrogen (TON)	1.21	mg/L N	
		P281	Ammonia	0.07	mg/L NH ₃ -N	
		P281	Nitrate	5.3	mg/L NO ₃	
		P281	Nitrite	<0.05	mg/L NO ₂	
		P207	Total Phosphorus	<0.10	mg/L P	
		P293	Orthophosphate	<0.02	mg/L P	
CLN89829	Prod: Rcvd Dt: 18/04/2025 Start Testing: 18/04/2025 Description: P1540 Lemanaghan SW3 13:15 17/04/2025 Spt: Water Sample Type: Surface Waters	P280	BOD 5 day Total	4	mg/L O ₂	
		P202	Suspended Solids	16	mg/L	
		P281	Chloride	18.7	mg/L Cl	
		P285	Total Nitrogen	<1.0	mg/L N	
		P281	Total Oxidised Nitrogen (TON)	<0.25	mg/L N	
		P281	Ammonia	1.31	mg/L NH ₃ -N	
		P281	Nitrate	<5.0	mg/L NO ₃	
		P281	Nitrite	<0.05	mg/L NO ₂	
		P207	Total Phosphorus	0.10	mg/L P	
		P293	Orthophosphate	<0.02	mg/L P	



Certificate Number: CLN028362-1 Final

Page 2 of 4

Lab Ref.	Sample Details	Method Number	Test	Result	Units	Flag
CLN89830	Prod: Rcvd Dt: 18/04/2025 Start Testing: 18/04/2025 Description: P1540 Lemanaghan SW4 13:45 17/04/2025 Spt: Water Sample Type: Surface Waters	P280	BOD 5 day Total	<1	mg/L O ₂	
		P202	Suspended Solids	<5	mg/L	
		P281	Chloride	16.3	mg/L Cl	
		P285	Total Nitrogen	2.6	mg/L N	
		P281	Total Oxidised Nitrogen (TON)	2.22	mg/L N	
		P281	Ammonia	0.03	mg/L NH ₃ -N	
		P281	Nitrate	9.7	mg/L NO ₃	
		P281	Nitrite	<0.05	mg/L NO ₂	
		P207	Total Phosphorus	<0.10	mg/L P	
		P293	Orthophosphate	<0.02	mg/L P	
CLN89831	Prod: Rcvd Dt: 18/04/2025 Start Testing: 18/04/2025 Description: P1540 Lemanaghan SW5 14:00 17/04/2025 Spt: Water Sample Type: Surface Waters	P280	BOD 5 day Total	<1	mg/L O ₂	
		P202	Suspended Solids	<5	mg/L	
		P281	Chloride	17.7	mg/L Cl	
		P285	Total Nitrogen	3.1	mg/L N	
		P281	Total Oxidised Nitrogen (TON)	2.26	mg/L N	
		P281	Ammonia	0.05	mg/L NH ₃ -N	
		P281	Nitrate	10.2	mg/L NO ₃	
		P281	Nitrite	<0.05	mg/L NO ₂	
		P207	Total Phosphorus	<0.10	mg/L P	
		P293	Orthophosphate	<0.02	mg/L P	
CLN89832	Prod: Rcvd Dt: 18/04/2025 Start Testing: 18/04/2025 Description: P1540 Lemanaghan SW6 14:30 17/04/2025 Spt: Water Sample Type: Surface Waters	P280	BOD 5 day Total	<1	mg/L O ₂	
		P202	Suspended Solids	<5	mg/L	
		P281	Chloride	15.7	mg/L Cl	
		P285	Total Nitrogen	2.0	mg/L N	
		P281	Total Oxidised Nitrogen (TON)	1.68	mg/L N	
		P281	Ammonia	<0.02	mg/L NH ₃ -N	
		P281	Nitrate	7.5	mg/L NO ₃	
		P281	Nitrite	<0.05	mg/L NO ₂	
		P207	Total Phosphorus	0.13	mg/L P	
		P293	Orthophosphate	<0.02	mg/L P	



Certificate Number: CLN028362-1 Final

Page 3 of 4

Lab Ref.	Sample Details	Method Number	Test	Result	Units	Flag
CLN89833	Prod: Rcvd Dt: 18/04/2025 Start Testing: 18/04/2025 Description: P1540 Lemanaghan SW7 14:45 17/04/2025 Spt: Water Sample Type: Surface Waters	P280	BOD 5 day Total	<1	mg/L O ₂	
		P202	Suspended Solids	<5	mg/L	
		P281	Chloride	15.9	mg/L Cl	
		P285	Total Nitrogen	2.1	mg/L N	
		P281	Total Oxidised Nitrogen (TON)	1.43	mg/L N	
		P281	Ammonia	<0.02	mg/L NH ₃ -N	
		P281	Nitrate	6.2	mg/L NO ₃	
		P281	Nitrite	<0.05	mg/L NO ₂	
		P207	Total Phosphorus	<0.10	mg/L P	
		P293	Orthophosphate	<0.02	mg/L P	
CLN89834	Prod: Rcvd Dt: 18/04/2025 Start Testing: 18/04/2025 Description: P1540 Lemanaghan SW8 15:00 17/04/2025 Spt: Water Sample Type: Surface Waters	P280	BOD 5 day Total	2	mg/L O ₂	
		P202	Suspended Solids	7	mg/L	
		P281	Chloride	30.3	mg/L Cl	
		P285	Total Nitrogen	2.5	mg/L N	
		P281	Total Oxidised Nitrogen (TON)	2.24	mg/L N	
		P281	Ammonia	0.10	mg/L NH ₃ -N	
		P281	Nitrate	9.7	mg/L NO ₃	
		P281	Nitrite	<0.05	mg/L NO ₂	
		P207	Total Phosphorus	<0.10	mg/L P	
		P293	Orthophosphate	<0.02	mg/L P	
CLN89835	Prod: Rcvd Dt: 18/04/2025 Start Testing: 18/04/2025 Description: P1540 Lemanaghan SW9 15:20 17/04/2025 Spt: Water Sample Type: Surface Waters	P280	BOD 5 day Total	<1	mg/L O ₂	
		P202	Suspended Solids	<5	mg/L	
		P281	Chloride	19.8	mg/L Cl	
		P285	Total Nitrogen	2.0	mg/L N	
		P281	Total Oxidised Nitrogen (TON)	1.93	mg/L N	
		P281	Ammonia	0.04	mg/L NH ₃ -N	
		P281	Nitrate	8.4	mg/L NO ₃	
		P281	Nitrite	<0.05	mg/L NO ₂	
		P207	Total Phosphorus	<0.10	mg/L P	
		P293	Orthophosphate	<0.02	mg/L P	



Certificate Number: CLN028362-1 Final

Page 4 of 4

Lab Ref.	Sample Details	Method Number	Test	Result	Units	Flag
CLN89836	Prod: Rcvd Dt: 18/04/2025 Start Testing: 18/04/2025 Description: P1540 Lemanaghan SW10 15:30 17/04/2025 Spt: Water Sample Type: Surface Waters	P280	BOD 5 day Total	7	mg/L O ₂	
		P202	Suspended Solids	60	mg/L	
		P281	Chloride	16.4	mg/L Cl	
		P285	Total Nitrogen	<1.0	mg/L N	
		P281	Total Oxidised Nitrogen (TON)	0.83	mg/L N	
		P281	Ammonia	0.91	mg/L NH ₃ -N	
		P281	Nitrate	<5.0	mg/L NO ₃	
		P281	Nitrite	<0.05	mg/L NO ₂	
		P207	Total Phosphorus	0.15	mg/L P	
		P293	Orthophosphate	<0.02	mg/L P	

Certificate approved and electronically signed on 30/04/25 16:37

By Ciara Gildea, Senior Environmental Chemistry Analyst

For and on Behalf of ALS Life Sciences Ltd

Disclaimers:

The testing results in this certificate relate only to the samples described above.

Unless otherwise stated, all results are expressed on an as received basis.

Statement of conformity made against the result does not take into account the uncertainty of measurement associated to the method.

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