



APPENDIX 9-2

SURFACE WATER QUALITY LABORATORY REPORTS



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14/02/2020

21/02/2020

P1485

Report No: HYDR-210140220

Date Received

Date Reported

Order Number

Document No: EF0011

CERTIFICATE OF ANALYSIS

Client Hydro Environmental Services

22 Lower Main Street

Dungarvan
Co. Waterford

For the Attention of:

Hydro Environmental Services

Sample Reception 8 sample(s) received in good condition.

Comments Date sampled: 13.02.2020

Report Authorised by:

Rosemary Thomas
Environmental Chemistry Manager

Roseman

Conditions:

- 1. Results in this report relate only to the items tested
- 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



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Report No: HYDR-210140220

Document No: EF0011

CERTIFICATE OF ANALYSIS

-f \\\/-t		
	Order Number	P1485
	Date Reported	21/02/2020
	Date Received	14/02/2020

Sample Type	Surface Water		
Client ID	Glenard SW 1		
Date Tested	14/02/2020		
ALS ID	3884363		

<u>Test</u>	<u>Result</u>	<u>Unit</u>	Method
Suspended Solids	<5	mg / I	P202
Phosphorus	<0.10	mg/l P	P207
BOD 5 day Total with ATU	3	mg/l O2	P280
Orthophosphate	< 0.02	mg/l P	P281
Chloride	27.5	mg/I CL	P281
Nitrate	< 5.0	mg/l NO3	P281
Nitrite	< 0.05	mg/l NO2	P281
Ammonia	0.02	mg/l NH3-N	P281
Nitrogen (Total)	1.2	mg/L N	P285

Sample Type	Surface Water		
Client ID	Glenard SW		
Date Tested	14/02/2020		
ALS ID	3884364		

<u>Test</u>	<u>Result</u>	<u>Unit</u>	Method
Suspended Solids	<5	mg / I	P202
Phosphorus	<0.10	mg/l P	P207
BOD 5 day Total with ATU	3	mg/l O2	P280
Orthophosphate	< 0.02	mg/l P	P281
Chloride	27.1	mg/l CL	P281
Nitrate	<5.0	mg/l NO3	P281
Nitrite	<0.05	mg/l NO2	P281
Ammonia	0.02	mg/l NH3-N	P281
Nitrogen (Total)	<1.0	mg/L N	P285

Report Authorised by:



Tel: +353 (0) 52 617 8100 Fax:+353 (0) 52 617 8103





Report No: HYDR-210140220

Document No: EF0011

CERTIFICATE OF ANALYSIS

0	rder Number	P1485
Da	ate Reported	21/02/2020
Di	ate Received	14/02/2020

Sample Type	Surface Water		
Client ID	Glenard SW 3		
Date Tested	14/02/2020		
ALS ID	3884365		

<u>Test</u>	Result	<u>Unit</u>	<u>Method</u>
Suspended Solids	<5	mg / I	P202
Phosphorus	<0.10	mg/l P	P207
BOD 5 day Total with ATU	3	mg/l O2	P280
Orthophosphate	0.03	mg/l P	P281
Chloride	29.8	mg/l CL	P281
Nitrate	<5.0	mg/l NO3	P281
Nitrite	< 0.05	mg/l NO2	P281
Ammonia	80.0	mg/l NH3-N	P281
Nitrogen (Total)	1.1	mg/L N	P285

Sample Type	Surface Water	
Client ID	Glenard SW 4	
Date Tested	14/02/2020	
ALS ID	3884366	

<u>Test</u>	Result	<u>Unit</u>	<u>Method</u>
Suspended Solids	<5	mg / I	P202
Phosphorus	<0.10	mg/l P	P207
BOD 5 day Total with ATU	3	mg/l O2	P280
Orthophosphate	0.02	mg/l P	P281
Chloride	31.6	mg/l CL	P281
Nitrate	<5.0	mg/l NO3	P281
Nitrite	< 0.05	mg/l NO2	P281
Ammonia	80.0	mg/l NH3-N	P281
Nitrogen (Total)	<1.0	mg/L N	P285

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Report No: HYDR-210140220

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CERTIFICATE OF ANALYSIS

Ord	der Number	P1485
Dat	te Reported	21/02/2020
Dat	te Received	14/02/2020

Sample TypeSurface WaterClient IDGlenard SW 5Date Tested14/02/2020ALS ID3884367

<u>Test</u>	Result	<u>Unit</u>	<u>Method</u>
Suspended Solids	<5	mg / I	P202
Phosphorus	<0.10	mg/l P	P207
BOD 5 day Total with ATU	3	mg/l O2	P280
Orthophosphate	<0.02	mg/l P	P281
Chloride	29.9	mg/l CL	P281
Nitrate	<5.0	mg/l NO3	P281
Nitrite	< 0.05	mg/I NO2	P281
Ammonia	0.02	mg/l NH3-N	P281
Nitrogen (Total)	<1.0	mg/L N	P285

Sample TypeSurface WaterClient IDGlenard SW 6Date Tested14/02/2020ALS ID3884368

<u>Test</u>	Result	<u>Unit</u>	Method
Suspended Solids	8	mg / I	P202
Phosphorus	<0.10	mg/l P	P207
BOD 5 day Total with ATU	3	mg/l O2	P280
Orthophosphate	0.04	mg/l P	P281
Chloride	38.9	mg/l CL	P281
Nitrate	<5.0	mg/l NO3	P281
Nitrite	< 0.05	mg/l NO2	P281
Ammonia	0.06	mg/l NH3-N	P281
Nitrogen (Total)	<1.0	mg/L N	P285

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CERTIFICATE OF ANALYSIS

	Order Number	P1485
I	Date Reported	21/02/2020
	Date Received	14/02/2020

Sample Type	Surface Water		
Client ID	Glenard SW 7		
Date Tested	14/02/2020		
ALS ID	3884369		

<u>Test</u>	Result	<u>Unit</u>	Method
Suspended Solids	11	mg / I	P202
Phosphorus	<0.10	mg/l P	P207
BOD 5 day Total with ATU	4	mg/l O2	P280
Orthophosphate	< 0.02	mg/l P	P281
Chloride	46.2	mg/l CL	P281
Nitrate	<5.0	mg/l NO3	P281
Nitrite	< 0.05	mg/l NO2	P281
Ammonia	0.02	mg/l NH3-N	P281
Nitrogen (Total)	1.1	mg/L N	P285

Sample Type	Surface Water			
Client ID	Glenard SW 8			
Date Tested	14/02/2020			
ALS ID	3884370			

Test	Result	<u>Unit</u>	Method
Suspended Solids	40	mg / I	P202
Phosphorus	<0.10	mg/l P	P207
BOD 5 day Total with ATU	3	mg/l O2	P280
Orthophosphate	< 0.02	mg/l P	P281
Chloride	40.4	mg/I CL	P281
Nitrate	<5.0	mg/l NO3	P281
Nitrite	< 0.05	mg/l NO2	P281
Ammonia	0.02	mg/l NH3-N	P281
Nitrogen (Total)	<1.0	mg/L N	P285

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31/10/2019

06/11/2019

N/A

Report No: HYDR-235311019

Date Received

Date Reported

Order Number

Document No: EF0011

CERTIFICATE OF ANALYSIS

Client Hydro Environmental Services

22 Lower Main Street

Dungarvan
Co. Waterford

Dungarvan

Hydro Environmental Services

Sample Reception 4 sample(s) received in good condition.

Comments N/A

For the Attention of:

Report Authorised by:

Rosemary Thomas
Environmental Chemistry Manager

Roseman

Conditions:

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- 2. Reports may not be reproduced except in full without the approval of ALS Life Sciences Ltd
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Report No: HYDR-235311019

Document No: EF0011

CERTIFICATE OF ANALYSIS

 Date Received
 31/10/2019

 Date Reported
 06/11/2019

Order Number N/A

Sample Type Water

Client ID 29.10.2019 Glenard SW1

Date Tested 31/10/2019 **ALS ID** 3737169

<u>Test</u>	<u>Result</u>	<u>Unit</u>	Method
Suspended Solids	8	mg / I	P202
Phosphorus	0.12	mg/l P	P207
BOD 5 day Total with ATU	3	mg/I O2	P280
Orthophosphate	0.06	mg/l P	P281
Chloride	15.1	mg/I CL	P281
Nitrate	<5.0	mg/l NO3	P281
Nitrite	< 0.05	mg/l NO2	P281
Ammonia	0.02	mg/l NH3-N	P281
Nitrogen (Total)	1.1	mg/L N	P285

Sample Type Water

Client ID 29.10.2019 Glenard SW2

 Date Tested
 31/10/2019

 ALS ID
 3737170

<u>Test</u>	Result	<u>Unit</u>	Method
Suspended Solids	6	mg / I	P202
Phosphorus	0.11	mg/l P	P207
BOD 5 day Total with ATU	4	mg/l O2	P280
Orthophosphate	0.03	mg/l P	P281
Chloride	16.3	mg/I CL	P281
Nitrate	<5.0	mg/l NO3	P281
Nitrite	< 0.05	mg/l NO2	P281
Ammonia	0.02	mg/l NH3-N	P281
Nitrogen (Total)	1.1	mg/L N	P285

Report Authorised by:

Rosemany Thomas



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Report No: HYDR-235311019

Document No: EF0011

CERTIFICATE OF ANALYSIS

 Date Received
 31/10/2019

 Date Reported
 06/11/2019

Order Number N/A

Sample Type Water

Client ID 29.10.2019 Glenard SW3

Date Tested 31/10/2019 **ALS ID** 3737171

<u>Test</u>	Result	<u>Unit</u>	<u>Method</u>
Suspended Solids	10	mg / I	P202
Phosphorus	0.14	mg/l P	P207
BOD 5 day Total with ATU	4	mg/l O2	P280
Orthophosphate	0.06	mg/l P	P281
Chloride	19.0	mg/l CL	P281
Nitrate	9.2	mg/l NO3	P281
Nitrite	< 0.05	mg/l NO2	P281
Ammonia	0.04	mg/l NH3-N	P281
Nitrogen (Total)	1.1	mg/L N	P285

Sample Type Water

Client ID 29.10.2019 Glenard SW4

 Date Tested
 31/10/2019

 ALS ID
 3737172

<u>Test</u>	<u>Result</u>	<u>Unit</u>	Method
Suspended Solids	6	mg / I	P202
Phosphorus	0.14	mg/l P	P207
BOD 5 day Total with ATU	3	mg/l O2	P280
Orthophosphate	0.06	mg/l P	P281
Chloride	17.7	mg/l CL	P281
Nitrate	<5.0	mg/l NO3	P281
Nitrite	<0.05	mg/l NO2	P281
Ammonia	0.03	mg/l NH3-N	P281
Nitrogen (Total)	<1.0	mg/L N	P285

Report Authorised by:

Rosemany Thomas



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10/06/2020

17/06/2020

P1485

Report No: HYDR-345100620

Date Received

Date Reported

Order Number

Document No: EF0011

SUPPLEMENTARY CERTIFICATE OF ANALYSIS

Client Hydro Environmental Services

22 Lower Main Street

Dungarvan
Co. Waterford

For the Attention of: Hydro Environmental Services

Sample Reception 9 sample(s) received in good condition.

Comments N/A

Report Authorised by:

Rosemary Thomas
Environmental Chemistry Manager

Roseman

Conditions:

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- 9. Dil next to a method reference indicates that a dilution of the water sample was undertaken during testing
- 10. This supplementary certificate replaces the previous certificate which must be destroyed



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Report No: HYDR-345100620

Document No: EF0011

SUPPLEMENTARY CERTIFICATE OF ANALYSIS

 Date Received
 10/06/2020

 Date Reported
 17/06/2020

 Order Number
 P1485

Sample Type Water

Client ID 8/6/20 Glenard SW1

Date Tested 10/06/2020 **ALS ID** 4026648

Test	<u>Result</u>	<u>Unit</u>	Method
Suspended Solids	7	mg / I	P202
Phosphorus	<0.10	mg/l P	P207
pH	7.2	pH units	P233
Turbidity	15.10	NTU	P239
BOD 5 day Total	<1	mg/l O2	P280
Ammonia	<0.02	mg/l NH3-N	P281
Chloride	21.2	mg/l CL	P281
Nitrate	<5.0	mg/l NO3	P281
Nitrite	< 0.05	mg/l NO2	P281
Orthophosphate	0.03	mg/l P	P281
Conductivity @ 20°C	144	μs/cm	P284
Nitrogen (Total)	<1.0	mg/L N	P285

Sample Type Water

Client ID 8/6/20 Glenard SW2

 Date Tested
 10/06/2020

 ALS ID
 4026649

Test Suspended Solids Phosphorus pH Turbidity BOD 5 day Total Ammonia Chloride Nitrate Nitrite Orthophosphate Conductivity @ 20°C	Result 6 <0.10 7.0 20.90 <1 <0.02 21.9 <5.0 <0.05 0.05 104	Unit mg / I mg / I mg/I P pH units NTU mg/I O2 mg/I NH3-N mg/I CL mg/I NO3 mg/I NO2 mg/I P µs/cm	Method P202 P207 P233 P239 P280 P281 P281 P281 P281 P281 P281
Conductivity @ 20°C Nitrogen (Total)	104 <1.0	μs/cm mg/L N	P284 P285
This ogon (Total)	11.0	g/ = 14	. 200

Report Authorised by:

Rosemany Thomas



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Report No: HYDR-345100620

Document No: EF0011

SUPPLEMENTARY CERTIFICATE OF ANALYSIS

 Date Received
 10/06/2020

 Date Reported
 17/06/2020

 Order Number
 P1485

Sample Type Water

Client ID 8/6/20 Glenard SW3

Date Tested 10/06/2020 **ALS ID** 4026650

Test	Result	Unit	Method
Suspended Solids	<5	mg / I	P202
Suspended Solids	4.3	mg / I	P202*
Phosphorus	<0.10	mg/l P	P207
pH	7.1	pH units	P233
Turbidity	23.50	NTU	P239
BOD 5 day Total	<1	mg/l O2	P280
Ammonia	<0.02	mg/l NH3-N	P281
Chloride	22.4	mg/l CL	P281
Nitrate	<5.0	mg/l NO3	P281
Nitrite	< 0.05	mg/l NO2	P281
Orthophosphate	0.04	mg/l P	P281
Conductivity @ 20°C	158	μs/cm	P284
Nitrogen (Total)	<1.0	mg/L N	P285

Sample Type Water

Client ID 8/6/20 Glenard SW4

 Date Tested
 10/06/2020

 ALS ID
 4026651

<u>Test</u>	<u>Result</u>	<u>Unit</u>	Method
Suspended Solids	<5	mg / I	P202
Suspended Solids	2.8	mg / I	P202*
Phosphorus	<0.10	mg/l P	P207
рН	7.3	pH units	P233
Turbidity	17.10	NTU	P239
BOD 5 day Total	<1	mg/l O2	P280
Ammonia	< 0.02	mg/l NH3-N	P281
Chloride	23.0	mg/I CL	P281
Nitrate	<5.0	mg/l NO3	P281
Nitrite	< 0.05	mg/l NO2	P281
Orthophosphate	0.04	mg/l P	P281
Conductivity @ 20°C	159	μs/cm	P284
Nitrogen (Total)	<1.0	mg/L N	P285

Report Authorised by:

Bosemany Thomas



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Report No: HYDR-345100620

Document No: EF0011

SUPPLEMENTARY CERTIFICATE OF ANALYSIS

 Date Received
 10/06/2020

 Date Reported
 17/06/2020

 Order Number
 P1485

Sample Type Water

Client ID 8/6/20 Glenard SW5

 Date Tested
 10/06/2020

 ALS ID
 4026652

Result	<u>Unit</u>	Method
14	mg / I	P202
<0.10	mg/l P	P207
6.3	pH units	P233
38.50	NTU	P239
1	mg/l O2	P280
0.16	mg/l NH3-N	P281
18.9	mg/I CL	P281
<5.0	mg/l NO3	P281
< 0.05	mg/l NO2	P281
< 0.02	mg/l P	P281
116	μs/cm	P284
<1.0	mg/L N	P285
	14 <0.10 6.3 38.50 1 0.16 18.9 <5.0 <0.05 <0.02 116	14 mg / l <0.10 mg/l P 6.3 pH units 38.50 NTU 1 mg/l O2 0.16 mg/l NH3-N 18.9 mg/l CL <5.0 mg/l NO3 <0.05 mg/l NO2 <0.02 mg/l P 116 μs/cm

Sample Type Water

Client ID 8/6/20 Glenard SW6

 Date Tested
 10/06/2020

 ALS ID
 4026653

Test Suspended Solids Suspended Solids Phosphorus pH Turbidity BOD 5 day Total Ammonia Chloride Nitrate Nitrite Orthophosphate	Result <5 4.3 0.10 7.0 6.02 1 <0.02 22.5 <5.0 <0.05 0.07	Unit mg / I mg / I mg/I P pH units NTU mg/I O2 mg/I NH3-N mg/I CL mg/I NO3 mg/I NO2 mg/I P	Method P202 P202* P207 P233 P239 P280 P281 P281 P281 P281
Conductivity @ 20°C	134	μs/cm	P284
Nitrogen (Total)	<1.0	mg/L N	P285

Report Authorised by:

Rosemany Thomas



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SUPPLEMENTARY CERTIFICATE OF ANALYSIS

 Date Received
 10/06/2020

 Date Reported
 17/06/2020

 Order Number
 P1485

Sample Type Water

Client ID 8/6/20 Glenard SW7

Date Tested 10/06/2020 **ALS ID** 4026654

Test	Result	Unit	Method
Suspended Solids	<5	mg / I	P202
Suspended Solids	1.5	mg / I	P202*
Phosphorus	<0.10	mg/l P	P207
pН	7.6	pH units	P233
Turbidity	2.30	NTU	P239
BOD 5 day Total	1	mg/l O2	P280
Ammonia	<0.02	mg/l NH3-N	P281
Chloride	23.1	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
Conductivity @ 20°C	191	μs/cm	P284
Nitrogen (Total)	<1.0	mg/L N	P285

Sample Type Water

Client ID 8/6/20 Glenard SW8

 Date Tested
 10/06/2020

 ALS ID
 4026655

<u>Test</u> Suspended Solids	Result 6	<u>Unit</u> mg / I	Method P202
Phosphorus	<0.10	mg/l P	P207
рН	7.7	pH units	P233
Turbidity	4.71	NTU	P239
BOD 5 day Total	<1	mg/l O2	P280
Ammonia	0.02	mg/l NH3-N	P281
Chloride	20.1	mg/I CL	P281
Nitrate	<5.0	mg/l NO3	P281
Nitrite	< 0.05	mg/l NO2	P281
Orthophosphate	0.02	mg/l P	P281
Conductivity @ 20°C	231	μs/cm	P284
Nitrogen (Total)	<1.0	mg/L N	P285

Report Authorised by:

Gosemany Thomas



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Document No: EF0011

SUPPLEMENTARY CERTIFICATE OF ANALYSIS

 Date Received
 10/06/2020

 Date Reported
 17/06/2020

 Order Number
 P1485

Sample Type Water

Client ID 8/6/20 Glenard SW9

 Date Tested
 10/06/2020

 ALS ID
 4026656

Test	<u>Result</u>	<u>Unit</u>	Method
Suspended Solids	13	mg / I	P202
Phosphorus	0.11	mg/l P	P207
pH	6.2	pH units	P233
Turbidity	23.50	NTU	P239
BOD 5 day Total	2	mg/l O2	P280
Ammonia	0.09	mg/l NH3-N	P281
Chloride	23.9	mg/l CL	P281
Nitrate	<5.0	mg/l NO3	P281
Nitrite	< 0.05	mg/l NO2	P281
Orthophosphate	0.04	mg/l P	P281
Conductivity @ 20°C	139	μs/cm	P284
Nitrogen (Total)	1.3	mg/L N	P285

Report Authorised by: