

Appendix 3: Chemical Analysis and Report

Rowan

River Camac Surface Water Monitoring 2021 Report 2021



Hinch Site, Saggart, Co. Dublin

Coffey Constructions Ltd

Client Ref:6613/COF0001-6

Date: 08/06/2021

Table 1: River Camac sample locations

Sample No.	Description	Location (ITM)
SW1	Upstream	X703457 Y726019
SW2	Downstream	X703356 Y726089



Figure 2: Site Sampling Locations

Section 3 Methodology

3.1 Surface Water Sampling Methodology

All monitoring procedures consider best practise guidelines to avoid contamination of the sample. Procedures aim to collect a sample that best represents the condition of the surface water at each monitoring location. The procedures also ensure the safe storage and preservation of the samples during transportation and upon receipt at the certified laboratory for analytical testing.

The following sampling procedure was followed when taking the surface water sample.

- Samples were collected in containers obtained from The Water Lab.
- Samples were taken by fully submerging each sample bottle in the water where possible. The sampling bottle was kept as steady as possible to avoid disturbing sediment.
- Notes were made of the smell, colour and contents of the water. Notes were also taken of any visible inflows and possible pollution sources near the monitoring point.
- Samples collected were sealed, bubble wrapped and placed in a freezer box with ice packs for same day delivery to The Water Lab. This kept the samples at a stable temperature.
- Chain of custody forms were completed by Rowan and delivered with the samples to The Water Lab.

3.2 Monitoring Surface Water

Surface water sampling was carried out by Mr. Ian Douglas and Ms. Eimear O'Brien of Rowan on 18th of May 2021 at monitoring locations SW1 and SW2. Monitoring locations are shown in Photographs 1&2 below and in Appendix A.



Photograph 1: SW1 (Upstream) Sampling Location



Photograph 2: SW2 (Downstream) Sampling Location

Section 4 Monitoring Results

A visual inspection was carried out on the River Camac on the surface water sample whilst taking the sample. Table 2 below outlines the visual observations at SW1 and SW2 during the sampling event:

Table 2: SW1 and SW2 Visual Inspection

Monitoring Location	Visual Inspection 18 th May 2021	Other Comments
SW1	<ul style="list-style-type: none"> • Clear sample • No odour 	Dry weather.
SW2	<ul style="list-style-type: none"> • Clear sample • No odour 	Dry weather.

The samples were taken and dropped to the lab on the day of sampling to minimise time between sampling and analysis and prevent potential contamination of the samples.

The surface water sampling results as reported by The Water Lab for SW1 and SW2 are shown in Table 3 below and the laboratory report can be found in Appendix 2.

Table 3: SW1 and SW2 Monitoring Results

Parameter	SW1 Results	SW2 Results	Units	S.I. No. 272 of 2009
pH	7.88	7.95	pH Unit	6.0 - 9.0
Total BOD	<2	<2	mg/l	Good status ≤ 1.5 (mean) or ≤ 2.6 (95%ile)
COD	<15	<15	mg/l	-
Ammonia	0.16	0.08	mg/l	Good status ≤ 0.065 (mean) or ≤ 0.140 (95%ile)
Total Suspended Solids	<8	14	mg/l	-
Total Nitrogen	2.6	2.9	mg/l	-
Total Phosphorous	<0.09	0.11	mg/l	-
Fats, Oils and Grease	<1.00	<1.00	mg/l	-
Mineral Oils	<1.00	<1.00	mg/l	-
EPH >C10 - C20 (Diesel Range)	<0.0001	<0.0001	mg/l	-
EPH >C20 - <C40 (Motor Oil Range)	<0.0001	<0.0001	mg/l	-
EPH >C8 - C10 (Petrol Range)	<0.0001	<0.0001	mg/l	-
EPH >C8 to <C40 (Total)	<0.01	<0.01	mg/l	-

The table includes limits relevant to the Surface Water Regulations 2019 (S.I. No. 77 of 2019).

Section 5 Conclusions and Recommendations

This conclusion is based on the surface water samples taken from upstream (SW1) and downstream (SW2) of the proposed infill site on the 18th of May 2021. The lab results show the results are within the limits set out in the EPA Surface Water Regulations 2019 (S.I. No. 77 of 2019).

Recommendations

- It recommended that additional annual monitoring is carried out during the period of time when the site is operational.

Appendix A: Site Layout



Appendix B: SW1 & SW2 Lab Results



Contact Name:	Ian Douglas	Date Sampled:	18/05/2021
Customer Name:	Rowan Engineering Consultants	Date Received:	18/05/2021
Address:	Scurlockstown Business Park	Sample Location:	Coffey
	Trim		Coffey
	Co Meath	Date Analysis Started:	18/05/2021
		Date Analysis Completed:	08/06/2021
	Ireland	Sample Type:	Surface Water
Sample Condition:	Satisfactory	Sample Description:	S1
Sample ID:	N2860	Grab/Composites:	Grab

TEST REPORT

Parameter	Result	Units	Method	Accreditation Status
Total BOD	<2	mg/l O2	SOP-LTM-001	***
COD	<15	mg/l O2	SOP-LTM-002	***
pH	7.88	pH units	SOP-LTM-004	***
Ammonia	0.18	mg/l NH3-N	SOP-LTM-007	***
Total Suspended Solids	<8	mg/l	SOP-LTM-003	***
Total Phosphorous	<0.09	mg/l P	SOP-LTM-008	***
Fats, Oils and Grease	<1.00	mg/l	Sub-C	**
Mineral Oils	<1.00	mg/l	Sub-C	***
EPH >C8 to <C40 (Total)	<0.01	mg/l	Sub-C	**
EPH >C8 - C10 (Petrol Range)	<0.0001	mg/l	Sub-C	**
EPH >C10 - C20 (Diesel Range)	<0.0001	mg/l	Sub-C	**
EPH >C20 - <C40 (Motor Oil Range)	<0.0001	mg/l	Sub-C	**
Total Nitrogen	2.8	mg/l N	SOP-LTM-005	***

Comments:

Signed:

Date:

08/06/2021

Mr Kevin Harte - Technical Supervisor

The above results relate to the sample(s) tested.
This report shall not be reproduced unless all data is included and by agreement with The Water Lab.

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* INAB accredited
** Accredited by Sub-con lab
*** Non-accredited

Version 04



Report Notes

Accreditation Status

Accreditation Status is denoted as follows:

- INAB accredited to ISO 17025
- Accredited by Sub-con Lab to ISO 17025
- Non-accredited

Sub-contracted accreditation is provided by the sub-con lab's own accreditation provider.

Microbiological Analysis

The results obtained from microbiological testing in cfu/100ml should be interpreted as follows:

- 0 cfu/100ml - Not detected in the volume of sample analysed
- 1 - 3 cfu/100ml - Less than 4 cfu/100ml detected
- 4 - 9cfu/100ml - Estimated result

Sample results for Micro analysis tested outside 24 hours from the time of sampling may have impacted the validity of results.

This will be noted in the report comments section of the report if it applies to this sample.

Sampling

Samples taken by staff of The Water Lab follow SOP-LGM-001-Sampling. Specific sampling requirements for individual tests are described on those test SOPs.

Testing

All results of Laboratory testing apply to the sample as received, except where indicated otherwise.

All in-house testing is performed at The Water Lab's premises at the M4 Business Park in Celbridge, Co. Kildare. Subcontracted testing is performed at the premises of the subcontractor used, and these tests are noted as 'Sub-C' in the method section of the report. Testing performed at the site of sampling is noted as '(on-site)' in the parameter section of the report.



Contact Name:	Ian Douglas	Date Sampled:	18/05/2021
Customer Name:	Rowan Engineering Consultants	Date Received:	18/05/2021
Address:	Scuitockstown Business Park	Sample Location:	Colley
	Trim		Colley
	Co. Meath	Date Analysis Started:	18/05/2021
		Date Analysis Completed:	08/06/2021
	Ireland	Sample Type:	Surface Water
Sample Condition:	Satisfactory	Sample Description:	S2
Sample ID:	N2861	Grab/Composite:	Grab

TEST REPORT

Parameter	Result	Units	Method	Accreditation Status
Total BOD	<2	mg/l O2	SOP-LTM 001	***
COD	<15	mg/l O2	SOP-LTM-002	***
pH	7.95	pH units	SOP-LTM 004	***
Ammonia	0.08	mg/l NH3 N	SOP LTM-007	***
Total Suspended Solids	14	mg/l	SOP-LTM 003	***
Total Phosphorous	0.11	mg/l P	SOP-LTM 006	***
Fats, Oils and Grease	<1.00	mg/l	Sub-C	**
Mineral Oils	<1.00	mg/l	Sub-C	***
EPH >C8 to <C40 (Total)	<0.01	mg/l	Sub-C	**
EPH >C8 - C10 (Petrol Range)	<0.0001	mg/l	Sub-C	**
EPH >C10 - C20 (Diesel Range)	<0.0001	mg/l	Sub-C	**
EPH >C20 - <C40 (Motor Oil Range)	<0.0001	mg/l	Sub-C	**
Total Nitrogen	2.9	mg/l N	SOP-LTM 005	***

Comments:	
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Signed

Date: 08/06/2021

Mr Kevin Harte - Technical Supervisor

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