Annual Environmental Report

2023

Navan

D0059-01

CONTENTS

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2023 AER

This Annual Environmental Report has been prepared for D0059-01, Navan, in Meath in accordance with the requirements of the wastewater discharge licence for the agglomeration. Specified reports where relevant are included as an appendix to the AER.

1.1 ANNUAL STATEMENT OF MEASURES

A summary of any improvements undertaken is provided where applicable.

There were no capital works, significant changes or operational changes undertaken in 2023.

1.2 TREATMENT SUMMARY

The agglomeration is served by a wastewater treatment plant(s)

- Navan WWTP with a Plant Capacity PE of 46000, the treatment type is 3NP - Tertiary N&P removal.

1.3 ELV OVERVIEW

The overall compliance of the final effluent with the Emission Limit Values (ELVs) is shown below. More detailed information on the below ELV's can be found in Section 2.

Discharge Point Reference	Treatment Plant	Discharge Type	Compliance Status	Parameters failing if relevant
TPEFF2300D0059SW001	Navan WWTP	Treated	Compliant	N/A

1.4 LICENCE SPECIFIC REPORTING

Assessment / Report
Priority Substance Assessment
Toxicity of Final Effluent

2 TREATMENT PLANT PERFORMANCE AND IMPACT SUMMARY

2.1 NAVAN WWTP - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - NAVAN WWTP

A summary of influent monitoring for the treatment plant is presented below. This monitoring is primarily undertaken in order to determine the overall efficiency of the plant in removing pollutants from the raw wastewater.

Parameters	Number of Samples	Annual Max	Annual Mean
Total Nitrogen mg/l	26	71	36
Suspended Solids mg/l	27	608	201
Total Phosphorus (as P) mg/l	26	8.43	5.07
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	27	388	204
COD-Cr mg/l	27	728	438
Hydraulic Capacity	N/A	26450	16180

If other inputs in the form of sludge / leachate are added to the WWTP then these are included in Section 2.1.5 if applicable.

Significance of Results:

The annual mean hydraulic loading is less than the peak Treatment Plant Capacity. The annual maximum hydraulic loading is less than the peak Treatment Plant Capacity. Further details on the plant capacity and efficiency can be found under the sectional ‘Operational Performance Summary’. The design of the wastewater treatment plant allows for peak values and therefore the peak loads have not impacted on compliance with Emission Limit Values.

2.1.2 EFFLUENT MONITORING SUMMARY - TPEFF2300D0059SW001

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included Note 1	Interim % reduction from influent concentration	Number of sample results	Number of exceedances	Number of exceedances with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
COD-Cr mg/l	100	200	N/A	27	N/A	N/A	33	Pass
Suspended Solids mg/l	35	87.5	N/A	27	N/A	N/A	10	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	13	26	N/A	27	1	N/A	6.58	Pass
pH pH units	6	9	N/A	27	N/A	N/A	6.78	Pass
Ammonia-Total (as N) mg/l	3	3.6	N/A	27	N/A	N/A	0.034	Pass
Total Phosphorus (as P) mg/l	1	1.2	N/A	27	N/A	N/A	0.511	Pass
Conductivity @25°C µS/cm	N/A	N/A	N/A	2	N/A	N/A	991	
ortho-Phosphate (as P) - unspecified mg/l	N/A	N/A	N/A	27	N/A	N/A	0.265	
Total Nitrogen mg/l	N/A	N/A	N/A	1	N/A	N/A	10	

Notes:
1 – This represents the Emission Limit Values after the Interpretation provided for under Condition 2 of the licence is applied
2 – For pH the WWDA specifies a range of pH 6 - 9

Cause of Exceedance(s):

Not applicable

Significance of Results:

The WWTP is compliant with the ELV's set in the Wastewater Discharge Licence.

2.1.3 AMBIENT MONITORING SUMMARY FOR THE TREATMENT PLANT DISCHARGE TPEFF2300D0059SW001

A summary of monitoring from ambient monitoring points associated with the wastewater discharge is provided in the sections below. For discharges to rivers upstream (U/S) and downstream (D/S) location data is provided. For other ambient points in lakes, coastal or transitional waters, monitoring data from the most appropriate monitoring station is selected.

The table below provides details of ambient monitoring locations and details of any designations as sensitive areas.

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish Grid Reference	River Station Code	Bathing Water	Drinking Water	FWPM	Shellfish	WFD Ecological Status
Upstream	288486, 269101	RS07B041900	No	No	No	No	Moderate
Downstream	291858, 271311	RS07B042000	No	No	No	No	Moderate

The table below provides a summary of monitoring results for designated ambient monitoring points. The upstream and downstream annual mean values are shown (mg/l), and the difference between both monitoring stations is given as a percentage of the Environmental Quality Standard (EQS) where relevant.

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
BOD - 5 days (Total) mg/l	RS07B041900	1.04	RS07B042000	1.30	1.50	17.6
Ammonia-Total (as N) mg/l	RS07B041900	0.026	RS07B042000	0.019	0.065	-9.9
ortho-Phosphate (as P) - unspecified mg/l	RS07B041900	0.059	RS07B042000	0.050	0.035	-27.5
Total Nitrogen mg/l	RS07B041900	3.38	RS07B042000	3.23	N/A	
Temperature °C	RS07B041900	10	RS07B042000	12	N/A	
Dissolved Oxygen mg/l	RS07B041900	11	RS07B042000	11	N/A	
Dissolved Oxygen % Saturation	RS07B041900	99	RS07B042000	100	N/A	
pH pH units	RS07B041900	8.05	RS07B042000	8.12	N/A	

Significance of Results:

The WWTP discharge was compliant with the ELV’s set in the wastewater discharge licence.

The ambient monitoring results do not meet the required EQS at the upstream and the downstream monitoring locations. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009.

Based on ambient monitoring results a deterioration in BOD concentrations downstream of the effluent discharge is noted.

A deterioration in water quality has been identified, however it is not known if it or is not caused by the WWTP.

As per the 3rd Cycle Draft Boyne Catchment Report (HA 07), the significant pressures on the At Risk Boyne_150 waterbody are Domestic Waste Water and Other (Unknown Anthropogenic pressures). There are no significant pressures listed for the Boyne_140 waterbody. The Navan WWTP is not listed as a significant pressure in the Cycle 3 report.

The discharge from the wastewater treatment plant does not have an observable negative impact on the Water Framework Directive status.

2.1.4 OPERATIONAL PERFORMANCE SUMMARY - NAVAN WWTP

2.1.4.1 Treatment Efficiency Report - Navan WWTP

Treatment efficiency is based on the removal of key pollutants from the influent wastewater by the treatment plant. In essence the calculation is based on the balance of load coming into the plant versus the load leaving the plant. The efficiency is presented as a percentage removal rate.

A summary presentation of the efficiency of the treatment process including information for all the parameters specified in the licence is included below:

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)
cBOD	1131962	31242	97
COD	2427774	158298	93
SS	1113320	48879	96
TN	204715	40427	80
TP	28522	2424	92

Note: The above data is based on sample results for the number of dates reported.

2.1.4.2 Treatment Capacity Report Summary - Navan WWTP

Treatment capacity is an assessment of the hydraulic (flow) and organic (the amount of pollutants) load a treatment plant is designed to treat versus the current loading of that plant.

Navan WWTP	
Peak Hydraulic Capacity (m^3/day) - As Constructed	33750
DWF to the Treatment Plant (m^3/day)	12500
Current Hydraulic Loading - annual max (m^3/day)	26450
Average Hydraulic loading to the Treatment Plant (m^3/day)	16180
Organic Capacity (PE) - As Constructed	46000
Organic Capacity (PE) - Collected Load (peak week)[Note1]	39479
Organic Capacity (PE) - Remaining	6521
Will the capacity be exceeded in the next three years? (Yes/No)	No

Nominal design capacities can be based on conservative design principles. In some cases assessment of existing plants has shown organic capacities significantly higher than the nominal design capacity. Accordingly plants that appear to be overloaded when comparing a collected peak load with the nominal design capacity can be fully compliant due to the safety factors in the original design.

2.1.5 SLUDGE / OTHER INPUTS - NAVAN WWTP

'Other inputs' to the waste water treatment plant are summarised in the table below.

Input type	Quantity	Unit	P.E.	% of load to WWTP	Included in Influent Monitoring (Y/N)?	Is there a leachate/sludge acceptance procedure for the WWTP?	Is there a dedicated leachate/sludge acceptance facility for the WWTP? (Y/N)
Waterworks Sludge	21350	Weight (Tonnes)	260	0.36	Yes	Yes	Yes
Landfill Leachate (delivered by tanker)	2226	Volume (m3)	27	0.04	Yes	Yes	Yes

3 COMPLAINTS AND INCIDENTS

3.1 COMPLAINTS SUMMARY

A summary of complaints of an environmental nature related to the discharge(s) to water from the WWTP and network is included below.

Number of Complaints	Nature of Complaint	Number Open Complaints	Number Closed Complaints
There were no relevant environmental complaints in 2023.			

3.2 REPORTED INCIDENTS SUMMARY

Environmental incidents that arise in an agglomeration are reported on an on-going basis in accordance with our waste water discharge licences. Where an incident occurs and it is reportable under the licence, it is reported to the Environmental Protection Agency through their Environmental Data Exchange Network, or in some instances by telephone. Some incidents which arise in the agglomeration are recorded by Uisce Éireann but may not be reportable under our licence for example where the incident does not have an impact on environmental performance.

A summary of reported incidents is included below.

3.2.1 SUMMARY OF INCIDENTS

Incident Type	Cause	Recurring (Y/N)	Closed (Y/N)
Abatement equipment off-line	Plant or equipment breakdown at WWTP	No	Yes
Abatement equipment off-line	Plant or equipment breakdown at WWTP	No	Yes
Abatement equipment off-line	Screen not operating	No	No

Incident Type	Cause	Recurring (Y/N)	Closed (Y/N)
Uncontrolled release	Emergency overflow caused by pump failure	No	Yes
Abatement equipment off-line	Plant or equipment breakdown at WWTP	No	Yes
Uncontrolled release	Emergency overflow caused by power failure	No	Yes

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2023	6
Number of Incidents reported to the EPA via EDEN in 2023	6
Explanation of any discrepancies between the two numbers above	N/A

4 INFRASTRUCTURAL ASSESSMENTS AND PROGRAMME OF IMPROVEMENTS

4.1 STORM WATER OVERFLOW IDENTIFICATION AND INSPECTION REPORT

A summary of the operation of the storm water overflows and their significance where known is included below:

4.1.1 SWO IDENTIFICATION

WWDL Name / Code for Storm Water Overflow (chamber) where applicable	Irish Grid Ref. (outfall)	Included in Schedule of the WWDL	Significance of the overflow(High / Medium / Low)	Assessed against DoEHLG Criteria	No. of times activated in 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
SW11	287961 266645	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW12	288482 265674	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW2	288376 268808	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW6	286581 268367	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	Not Monitored
SW8	287252 267761	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW9	286813 266104	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored

WWDL Name / Code for Storm Water Overflow (chamber) where applicable	Irish Grid Ref. (outfall)	Included in Schedule of the WWDL	Significance of the overflow(High / Medium / Low)	Assessed against DoEHLG Criteria	No. of times activated in 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
SW3	288082 268258	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	Not Monitored
SW5	287211 267990	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW7	287187 267931	Yes	Low Significance	Not yet Assessed	Unknown	Unknown	Not Monitored

Any TBC SWO(s) were identified as part of the on-going National SWO programme and will be updated in subsequent AER(s) once the information is confirmed.

SWO Summary	
How much wastewater discharge by metered SWOs during the year (m^3)?	Unknown
Is each SWO identified as not meeting DoEHLG Guidance included in the Programme of Improvements?	Yes
The SWO Assessment included the requirements of relevant of WWDL schedules?	Yes
Have the EPA been advised of any additional SWOs / changes to Schedule C3 and A4 under Condition 1.7?	N/A

4.2 REPORT ON PROGRESS MADE AND PROPOSALS BEING DEVELOPED TO MEET THE IMPROVEMENT PROGRAMME REQUIREMENTS

4.2.1 SPECIFIED IMPROVEMENT PROGRAMME SUMMARY

A wastewater discharge licence may require a number of reports on specific subject areas to be prepared for the agglomeration in question. These reports are submitted to the EPA as part of the Annual Environmental Report. This section provides a list of the various reports required for this agglomeration and a brief summary of their recommendations.

Specified Improvement Programmes (under Schedule A and C of WWDL)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
D0059-SIP:01	Upgrading of sewer network to ensure all SWO's comply with criteria set out in DoEHLG.....	C	31/01/2011	Yes	Works Completed		
D0059-SIP:02	Waste water sewer network rehabilitation works and improvements	C	31/01/2011	Yes	Works Completed		

A summary of the status of any other improvements identified by under Condition 5 assessments- is included below.

4.2.2 IMPROVEMENT PROGRAMME SUMMARY

Improvement Identifier	Improvement Description / or any Operational Improvements	Improvement Source	Expected Completion Date	Comments
No additional improvements planned at this time.				

4.2.3 SEWER INTEGRITY RISK ASSESSMENT

N/A

5 LICENCE SPECIFIC REPORTS

A wastewater discharge licence may require a number of reports on specific subject areas to be prepared for the agglomeration in question. These reports are submitted to the EPA as part of the Annual Environmental Report. This section provides a list of the various reports required for this agglomeration and a brief summary of their recommendations.

Licence Specific Report	Required by licence	Included in this AER
Priority Substances Assessment	Yes	Yes
Toxicity of Final Effluent	Yes	Yes

6 CERTIFICATION AND SIGN OFF

6.1 SUMMARY OF AER CONTENTS

Parameter	Answer
Does the AER include an Executive Summary?	Yes
Does the AER include an assessment of the performance of the Waste Water Works (i.e. have the results of assessments been interpreted against WWDL requirements and or Environmental Quality Standards)?	Yes
Is there a need to advise the EPA for Consideration of a Technical Amendment/Review of the Licence?	No
List reason e.g. additional SWO identified	N/A
Is there a need to request/advise the EPA of any modification to the existing WWDL with respect to condition 4 changes to monitoring location, frequency etc	No
List reason e.g. changes to monitoring requirements	N/A
Have these processes commenced?	N/A
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER	Yes

I certify that the information given in this Annual Environmental Report is truthful, accurate and complete:

Date: 28/02/2024

This AER has been produced by Uisce Éireann's Environmental Information System (EIMS) and has been electronically signed off in that system for and on behalf of,

Eleanor Roche

Head of Environmental Regulation.

7 APPENDIX

Appendix
Appendix 7.1 - Priority Substances Assessment
Appendix 7.2 - Toxicity of Final Effluent

Certificate of Analysis

Customer:	Uisce Éireann	**Project:**	Dangerous Substance- Navan
Address:		**Site**	Navan
		Date Received:	11/08/2023
		Condition of Sample:	Satisfactory
Report to:	Kieran Cunningham	**Date Analysed:**	11/08/2023 - 16/10/2023
Customer PO		**Issue Date:**	16/10/2023
Quote No.		**BATCH NUMBER:**	**23-31753**

Conor Murphy
Operations Manager

Index to symbols used & Notes

*	Analysis is not INAB/UKAS accredited
**	Adapted from Standard Methods for the Examination of Water and Wastewater.
***	Customer specific limits
(F)	Analysis carried out at our Farranfore Laboratory.
(D)	Analysis carried out at our Dunrine Laboratory.
LOQ	Parameter Limit of Quantification
Note 6	Subcontracted Parameter.

Notes

- **The results relate only to the items tested.**
- **Opinions and interpretations expressed herein are outside the scope of INAB accreditation.**
- **The analysis report shall not be reproduced except in full without written approval of the laboratory.**
- **Sampling is outside the scope of the laboratory activities.**

Notes for Drinking Water samples

Note A	The water should not be aggressive
Note B	Compliance must be ensured with the conditions that [NO3]/50 + [NO2]/3 =1
Note C	Acceptable to customers and no abnormal change
Note D	In the case of surface water treatment, a parametric value not exceeding 1 NTU in the water ex treatment works must be strived for
Note F	Fluoridated supplies 0.8 mg/L; Natural supplies 1.5 mg/L.

Customer Sample Ref:	Navan WWTP Dangerous Substance	**Customer Sample Code:**	23-0500
Project:	Dangerous Substance- Navan	**Sampled By:**	Kieran Cunningham
Our Reference:	100469 (23-31753)	**Sample Matrix:**	Other Water
Date Sampled:	10/08/2023	**Time Sampled:**	:

Method:		Parameter:	Units	LOQ	Result
		Chemical Analysis: (F)			
SCP 027B		Chloride	mg/L	*0.5*	94.6
- Note 6		Cyanide	µg/L	*10*	< 10
SCP 063		Fluoride	µg/L	*100*	194
SCP 038/073	*	Barium (Ba)	µg/L	*1*	71
SCP 038/073	*	Tin (Sn)	µg/L	*10*	< 10
- Note 6		Trichlorobenzene- sum of isomers	µg/L	*0.50*	< 0.50
- Note 6		Hexachlorocyclohexane- sum of isomers	µg/L	*0.003*	< 0.003
SCP 114A		Xylene- sum of isomers	µg/L	*0.1*	< 0.1
		Dangerous Substances Suite			
		Chemical Analysis: (F)			
SCP 052		Hydrogen Ion (pH)	pH units	*4.0*	7.2
SCP 052		Conductivity	µS/cm @ 20 ℃	*15*	887
SCP 027I		Total Hardness	mg/L CaCO3	*5*	292
SCP 038/073		Antimony	µg/L	*1*	< 1
SCP 038/073		Arsenic	µg/L	*1*	< 1
SCP 038/073		Boron	µg/L	*20*	216
SCP 038/073		Cadmium	µg/L	*0.45*	< 0.45
SCP 038/073		Chromium	µg/L	*1*	< 1
SCP 038/073		Cobalt (Co)	µg/L	*1*	< 1
SCP 038/073		Copper	µg/L	*1*	4
SCP 038/073		Lead	µg/L	*1*	< 1
SCP 038/073		Mercury	µg/L	*0.5*	< 0.5
SCP 038/073		Molybdenum (Mo)	µg/L	*5*	< 5
SCP 038/073		Nickel	µg/L	*1*	2
SCP 038/073		Selenium	µg/L	*5.00*	< 5.00
SCP 073		Vanadium (V)	µg/L	*1.0*	< 1.0
SCP 038/73		Zinc (Zn)	µg/L	*8*	14
SCP 114A		Benzene	µg/L	*0.1*	< 0.1
- Note 6		Hexachlorobenzene	µg/L	*0.050*	< 0.050
SCP 114A		Carbon tetrachloride	µg/L	*1*	< 1
- Note 6		Dichloromethane	µg/L	*0.5*	< 0.5
SCP 114A		1,2-Dichloroethane	µg/L	*0.2*	< 0.2
SCP 114A		Chloroform	µg/L	*2*	< 2
SCP 114A		Ethylbenzene	µg/L	*0.5*	< 0.5
SCP 114A		Hexachlorobutadiene	µg/L	*0.5*	< 0.5
SCP 114A		Tetrachloroethene	µg/L	*0.1*	< 0.1
SCP 114A		Toluene	µg/L	*0.5*	< 0.5
SCP 114A		Trichloroethene	µg/L	*0.1*	< 0.1

Customer Sample Ref:	Navan WWTP Dangerous Substance	**Customer Sample Code:**	23-0500
Project:	Dangerous Substance- Navan	**Sampled By:**	Kieran Cunningham
Our Reference:	100469 (23-31753)	**Sample Matrix:**	Other Water
Date Sampled:	10/08/2023	**Time Sampled:**	:

Method:	Parameter:	Units	LOQ	Result
SCP 060B	Acenaphthene	µg/L	*0.005*	< 0.005
SCP 060B	Acenaphthylene	µg/L	*0.005*	< 0.005
SCP 060B	Anthracene	µg/L	*0.005*	< 0.005
SCP 060B	Benz(a)anthracene	µg/L	*0.005*	< 0.005
SCP 060B	Benzo(a)pyrene	µg/L	*0.003*	< 0.003
SCP 060B	Benzo(b)fluoranthene	µg/L	*0.005*	< 0.005
SCP 060B	Benzo(k)fluoranthene	µg/L	*0.005*	< 0.005
SCP 060B	Benzo(ghi)perylene	µg/L	*0.005*	< 0.005
SCP 060B	Chrysene	µg/L	*0.005*	< 0.005
SCP 060B	Dibenz(a,h)anthracene	µg/L	*0.005*	< 0.005
SCP 060B	Fluoranthene	µg/L	*0.005*	< 0.005
SCP 060B	Fluorene	µg/L	*0.005*	< 0.005
SCP 060B	Indeno(1,2,3-cd)pyrene	µg/L	*0.005*	< 0.005
SCP 060B	Naphthalene	µg/L	*0.005*	< 0.005
SCP 060B	Phenanthrene	µg/L	*0.005*	< 0.005
SCP 060B	Pyrene	µg/L	*0.005*	< 0.005
SCP 060B	Sum Benzo (b)&(k) fluoranthene	µg/L	*0.005*	< 0.005
SCP 060B	Total PAH's (sum of 16)	µg/L	*0.078*	< 0.078
SCP 060B	Dieldrin	ng/L	*5*	< 5
SCP 060B	Dichlobenil	ng/L	*5*	< 5
- Note 6	2,4-D	µg/L	*0.10*	< 0.10
- Note 6	MCPA	µg/L	*0.10*	< 0.10
- Note 6	MCPP (Mecoprop)	µg/L	*0.10*	< 0.10
- Note 6	Glyphosate	µg/L	*0.1*	0.2
- Note 6	Diuron	µg/L	*0.03*	< 0.03
- Note 6	Isoproturon	µg/L	*0.10*	< 0.10
- Note 6	Linuron	µg/L	*0.10*	< 0.10
- Note 6	Atrazine	µg/L	*0.100*	< 0.100
- Note 6	Simazine	µg/L	*0.100*	< 0.100
- Note 6	2, 6-dichlorobenzamide	µg/L	*0.1*	< 0.1
- Note 6	Isodrin	µg/L	*0.050*	< 0.050

Certificate of Analysis

Customer:	Uisce Éireann	**Site/Project:**	Dangerous Substances- Navan
Local Authority:	Meath County Council	**Date Received:**	20/12/2023
		Condition of Sample(s):	Satisfactory
Customer Contact:	Kieran Cunningham	**Date Analysed:**	20/12/2023 - 31/01/2024
Customer PO		**Issue Date:**	06/02/2024
Quote No.		**BATCH NUMBER:**	**23-37004**

Sadhbh O' Brien

Sadhbh O Brien
Chemistry Team Lead

Index to symbols used:

*	Analysis is not INAB accredited
**	Adapted from Standard Methods for the Examination of Water and Wastewater.
***	S.I. No. 122 of 2014 and S.I No. 99 of 2023 - European Union (Drinking Water) Regulations 2014, 2017 and 2023
(F)	Analysis carried out at our Farranfore Laboratory.
(D)	Analysis carried out at our Dunrine Laboratory.
LOD	Parameter Limit of Quantification

Notes

Note A	The water should not be aggressive.
Note C	Acceptable to customers and no abnormal change.
Note D	In the case of surface water treatment, a parametric value not exceeding 1 NTU in the water ex treatment works must be strived for.
Note E	Irish water parametric limit for TVC is <100 cfu/mL.
Note F	Fluoridated supplies 0.8 mg/L; Natural supplies 1.5 mg/L.
Note 6	Subcontracted Parameter.

- **The results relate only to the items tested.**
- **Opinions and interpretations expressed herein are outside the scope of INAB accreditation.**
- **The analysis report shall not be reproduced except in full without written approval of the laboratory.**
- **Sampling is outside the scope of the laboratory activities.**

Customer Sample Ref:	23-0874 Navan	**Customer Sample Code:**	23-0874
		Sample Condition:	Satisfactory
Entity Name:		**Entity Code:**	
Site / Project:	Compliance	**Sampled By:**	Customer
Our Reference:	114780 (23-37004) -	**Sample Matrix:**	Effluent
Date Sampled:	18/12/2023	**Time Sampled:**	:

Method:		Parameter:	Units	LOQ	Result	***Limits
		Chemical Analysis: (F)				
SCP 052		Hydrogen Ion (pH)	pH units	4.0	7.6	
SCP 052		Conductivity	µS/cm @ 20 ℃	15	897	
SCP 027B		Chloride	mg/L	0.5	92.5	
- Note 6		Cyanide	µg/L	10	< 10	
SCP 063		Fluoride	µg/L	100	143	
SCP 027I		Total Hardness	mg/L CaCO3	5	289	
SCP 038/073	*	Barium (Ba)	µg/L	1	65	
SCP 038/073	*	Tin (Sn)	µg/L	10	< 10	
SCP 038/073		Antimony	µg/L	1	< 1	
SCP 038/073		Arsenic	µg/L	1	< 1	
SCP 038/073		Boron	µg/L	20	156	
SCP 038/073		Cadmium	µg/L	0.45	< 0.45	
SCP 038/073		Chromium	µg/L	1	< 1	
SCP 038/073		Cobalt (Co)	µg/L	1	< 1	
SCP 038/073		Copper	µg/L	1	6	
SCP 038/073		Lead	µg/L	1	< 1	
SCP 038/073		Mercury	µg/L	0.5	< 0.5	
SCP 038/073		Molybdenum (Mo)	µg/L	5	< 5	
SCP 038/073		Nickel	µg/L	1	2	
SCP 038/073		Selenium	µg/L	5.00	< 5.00	
SCP 073		Vanadium (V)	µg/L	1.0	< 1.0	
SCP 038/73		Zinc (Zn)	µg/L	8	20	
SCP 114A		Benzene	µg/L	0.1	< 0.1	
- Note 6		Hexachlorobenzene	µg/L	0.050	< 0.050	
SCP 114A		Carbon tetrachloride	µg/L	1	< 1	
- Note 6		Dichloromethane	µg/L	0.5	< 1.0	
SCP 114A		1,2-Dichloroethane	µg/L	0.2	< 0.2	
SCP 114A		Chloroform	µg/L	2	< 2	
SCP 114A		Ethylbenzene	µg/L	0.5	< 0.5	
SCP 114A		Hexachlorobutadiene	µg/L	0.5	< 0.5	
SCP 114A		Tetrachloroethene	µg/L	0.1	< 0.1	
SCP 114A		Toluene	µg/L	0.5	< 0.5	
SCP 114A		Trichloroethene	µg/L	0.1	< 0.1	
SCP 060B		Acenaphthene	µg/L	0.005	< 0.005	
SCP 060B		Acenaphthylene	µg/L	0.005	< 0.005	
SCP 060B		Anthracene	µg/L	0.005	< 0.005	
SCP 060B		Benz(a)anthracene	µg/L	0.005	< 0.005	
SCP 060B		Benzo(a)pyrene	µg/L	0.003	< 0.003	
SCP 060B		Benzo(b)fluoranthene	µg/L	0.005	< 0.005	

Customer Sample Ref:	23-0874 Navan	**Customer Sample Code:**	23-0874
		Sample Condition:	Satisfactory
Entity Name:		**Entity Code:**	
Site / Project:	Compliance	**Sampled By:**	Customer
Our Reference:	114780 (23-37004) -	**Sample Matrix:**	Effluent
Date Sampled:	18/12/2023	**Time Sampled:**	:

Method:	Parameter:	Units	LOQ	Result	***Limits
SCP 060B	Benzo(k)fluoranthene	µg/L	0.005	< 0.005	
SCP 060B	Benzo(ghi)perylene	µg/L	0.005	< 0.005	
SCP 060B	Chrysene	µg/L	0.005	< 0.005	
SCP 060B	Dibenz(a,h)anthracene	µg/L	0.005	< 0.005	
SCP 060B	Fluoranthene	µg/L	0.005	< 0.005	
SCP 060B	Fluorene	µg/L	0.005	< 0.005	
SCP 060B	Indeno(1,2,3-cd)pyrene	µg/L	0.005	< 0.005	
SCP 060B	Naphthalene	µg/L	0.005	< 0.005	
SCP 060B	Phenanthrene	µg/L	0.005	0.011	
SCP 060B	Pyrene	µg/L	0.005	< 0.005	
SCP 060B	Sum Benzo (b)&(k) fluoranthene	µg/L	0.005	< 0.005	
SCP 060B	Total PAH's (sum of 16)	µg/L	0.078	< 0.078	
SCP 060B	Dieldrin	ng/L	5	< 5	
SCP 060B	Dichlobenil	ng/L	5	< 5	
- Note 6	2,4-D	µg/L	0.10	< 0.10	
- Note 6	MCPA	µg/L	0.10	< 0.10	
- Note 6	MCPP (Mecoprop)	µg/L	0.10	< 0.10	
- Note 6	Glyphosate	µg/L	0.1	0.1	
- Note 6	Diuron	µg/L	0.03	< 0.05	
- Note 6	Isoproturon	µg/L	0.10	< 0.10	
- Note 6	Linuron	µg/L	0.10	< 0.10	
- Note 6	Atrazine	µg/L	0.100	< 0.100	
	Chemical Analysis: (F)				
- Note 6	Simazine	µg/L	0.100	< 0.100	
- Note 6	2, 6-dichlorobenzamide	µg/L	0.1	< 0.1	
- Note 6	Isodrin	µg/L	0.050	< 0.050	
- Note 6	Trichlorobenzene- sum of isomers	µg/L	0.50	< 3.00	
- Note 6	Hexachlorocyclohexane- sum of isomers	µg/L	0.003	< 0.200	
SCP 114A	Xylene- sum of isomers	µg/L	0.1	< 0.1	

Certificate of Analysis

Revision 1

T.E. Laboratories
Loughmartin Business Park
Templeowen, Tullow
Co. Carlow

Client Code: cl76_009
Client Name: Irish Water/Meath County Council
Contact: Kieran Cunningham
Address: Meath County Council

Batch Number: 007026
Sample Code: 007026-001
Quotation Number: Q01862
Date Submitted: 04/10/2023
Date/Time Sampled: 04/10/2023 12:00
Date Started: 05/10/2023
Sampling Method: Not given
Report Date: 06/11/2023
Sample Type: Effluent

Sample Description: 23-0646 Navan F.E.
Effluent (Navan WWTP)
Other 1: Other 2: Other 3:

Test /Parameter	Sub	SOP	Units	Results	MAC Value	Accredited *	Exceedance Flag	Notes
TOXICITY (MICROTOX)	Y							
Microtox 5 mins			%	<5				
Microtox 15 mins			%	<5				
Microtox 30 mins			%	<5				