Annual Environmental Report

2023

Uisce Éireann
Irish Water

Upper Liffey Valley Sewerage Scheme

D0002-01

CONTENTS

Revision Number	Description of Change	Date of Approval
1	Change to section 4.1.1 SWO Identification	20/11/2024

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2023 AER

This Annual Environmental Report has been prepared for D0002-01, Upper Liffey Valley Sewerage Scheme, in Kildare 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)

- Osberstown/ Upper Liffey Valley WWTP with a Plant Capacity PE of 130000, the treatment type is 3P - Tertiary 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
TPEFF1400D0002SW001	Osberstown/ Upper Liffey Valley WWTP	Treated	Compliant	N/A

1.4 LICENCE SPECIFIC REPORTING

Assessment / Report
Priority Substances Assessment

2 TREATMENT PLANT PERFORMANCE AND IMPACT SUMMARY

2.1 OSBERSTOWN/ UPPER LIFFEY VALLEY WWTP - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - OSBERSTOWN/ UPPER LIFFEY VALLEY 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
Ammonia-Total (as N) mg/l	43	37	21
COD-Cr mg/l	43	690	379
pH pH units	43	7.89	7.36
Total Nitrogen mg/l	43	85	35
ortho-Phosphate (as P) - unspecified mg/l	40	5.45	2.55
Suspended Solids mg/l	43	414	188
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	43	406	127
Total Phosphorus (as P) mg/l	43	13	5.44
Hydraulic Capacity	N/A	86400	38337

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 greater 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 - TPEFF1400D0002SW001

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	43	N/A	N/A	24	Pass
Suspended Solids mg/l	35	87.5	N/A	43	N/A	N/A	11	Pass
Total Nitrogen mg/l	20	24	N/A	43	N/A	N/A	9.25	Pass
Total Oxidised Nitrogen (as N) mg/l	20	24	N/A	42	N/A	N/A	7.79	Pass
Fats, Oils and Greases mg/l	15	18	N/A	10	N/A	N/A	2.84	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	10	20	N/A	43	N/A	N/A	2.78	Pass
pH pH units	6	9	N/A	43	N/A	N/A	7.82	Pass

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)
Total Phosphorus (as P) mg/l	0.9	1.08	N/A	43	N/A	N/A	0.430	Pass
Ammonia-Total (as N) mg/l	0.9	1.08	N/A	43	N/A	N/A	0.110	Pass
ortho-Phosphate (as P) - unspecified mg/l	0.5	0.6	N/A	43	N/A	N/A	0.127	Pass
Faecal coliforms cfu/100ml	N/A	N/A	N/A	10	N/A	N/A	6912	
Nitrite (as N) mg/l	N/A	N/A	N/A	43	N/A	N/A	0.020	
Nitrate (as N) mg/l	N/A	N/A	N/A	43	N/A	N/A	7.95	
Kjeldahl Nitrogen mg/l	N/A	N/A	N/A	43	N/A	N/A	1.42	

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 TPEFF1400D0002SW001

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	285423, 220755	RS09L011100	No	No	No	No	Good
Downstream	287711 222643	RS09L011300	No	Yes	No	No	Good
Downstream	286940, 221639	RS09L011200	No	Yes	No	No	Good

The results for ambient results and / or additional monitoring data sets are included in the **Appendix 7.1 - Ambient monitoring summary.**

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 and Ammonia concentrations is noted at d/s station RS09L011200, and a deterioration in BOD, Ortho-P and Ammonia concentrations is noted at d/s station RS09L011300.

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

Other causes of deterioration in water quality in the area are unknown.

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 - OSBERSTOWN/ UPPER LIFFEY VALLEY WWTP

2.1.4.1 Treatment Efficiency Report - Osberstown/ Upper Liffey Valley 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)
SS	2547807	143368	94
TN	475413	121425	74
COD	5140468	317820	94
TP	73840	5644	92
cBOD	1723671	36477	98

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

2.1.4.2 Treatment Capacity Report Summary - Osberstown/ Upper Liffey Valley 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.

Osberstown/ Upper Liffey Valley WWTP	
Peak Hydraulic Capacity (m^3/day) - As Constructed	85500
DWF to the Treatment Plant (m^3/day)	28500
Current Hydraulic Loading - annual max (m^3/day)	86400
Average Hydraulic loading to the Treatment Plant (m^3/day)	38337
Organic Capacity (PE) - As Constructed	130000
Organic Capacity (PE) - Collected Load (peak week)Note1	96408
Organic Capacity (PE) - Remaining	33592
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 - OSBERSTOWN/ UPPER LIFFEY VALLEY WWTP

'Other inputs' to the waste water treatment plant are summarised in 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)
Industrial / Commercial Sludge	1195.22	Weight (Tonnes)	14.55	0.01	Yes	Yes	Yes
Domestic /Septic Tank Sludge	5661.92	Weight (Tonnes)	68.94	0.04	Yes	Yes	Yes
Landfill Leachate (delivered by sewer network)	19510	Volume (m3)	237.56	0.14	Yes	No	Yes
Other	14007.16	Weight (Tonnes)	170.56	0.1	Yes	Yes	Yes
Waterworks Sludge	649	Weight (Tonnes)	7.9	0	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)
Spillage	Plant or equipment maintenance at WWTP	Yes	No
Uncontrolled release	Emergency overflow caused by pump failure	No	No
Uncontrolled release	SWO exceptional rainfall and overflow expected	No	Yes

Incident Type	Cause	Recurring (Y/N)	Closed (Y/N)
Uncontrolled release	SWO exceptional rainfall and overflow expected	No	Yes
Abatement equipment off-line	Plant or equipment breakdown at WWTP	No	Yes
Uncontrolled release	Blocked Sewer	No	Yes
Abatement equipment off-line	Plant or equipment breakdown at WWTP	No	Yes
Uncontrolled release	Broken Sewer Pipe	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	No	Yes
Uncontrolled release	Emergency overflow caused by pump failure	No	Yes
Uncontrolled release	Emergency overflow caused by pump failure	No	Yes
Uncontrolled release	Broken Sewer Pipe	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	No	Yes

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2023	15
Number of Incidents reported to the EPA via EDEN in 2023	15

Question	Answer
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
GW2	278157 210416	Yes	High Significance	Not Meeting Criteria	Unknown	Unknown	Monitored
SW019	281185 216905	Yes	High Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW10	290250 221496	Yes	High Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW11	291938 221572	Yes	High Significance	Meeting Criteria	Unknown	Unknown	Monitored
SW13	288495 223661	Yes	High Significance	Meeting Criteria	Unknown	Unknown	Monitored
SW14	282894 227675	Yes	High Significance	Meeting Criteria	Unknown	Unknown	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
SW15	294105 224021	Yes	High Significance	Meeting Criteria	Unknown	Unknown	Monitored
SW16	294122 223047	Yes	High Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW17	284096 209917	Yes	High Significance	Meeting Criteria	Unknown	Unknown	Monitored
SW18	288003 227114	Yes	High Significance	Meeting Criteria	Unknown	Unknown	Monitored
SW19	281841 212369	No	High Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW2	286904 220669	Yes	High Significance	Meeting Criteria	5	29733	Monitored
SW2	278959 208228	Yes	High Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW20	279004 208215	Yes	High Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW21	276234 206829	Yes	High Significance	Meeting Criteria	Unknown	Unknown	Monitored
SW22	284960 221155	Yes	High 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	285213 219831	Yes	High Significance	Meeting Criteria	Unknown	Unknown	Monitored
SW5	281664 217255	Yes	High Significance	Not Meeting Criteria	0	0	Monitored
SW6	280695 215432	Yes	High Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW8	280791 214479	Yes	High Significance	Meeting Criteria	0	Unknown	Monitored
SW9	290251 221506	Yes	High Significance	Meeting Criteria	Unknown	Unknown	Monitored
TBC	281356 213626	No	High Significance	Not Meeting Criteria	Unknown	Unknown	Not Monitored
TBC	281841 212369	Yes	High Significance	Meeting Criteria	Unknown	Unknown	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 (m3)?	29733
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

SWO Summary	
Have the EPA been advised of any additional SWOs / changes to Schedule C3 and A4 under Condition 1.7?	No

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
D0002-SIP:01	Infiltration programme	C	31/03/2013	Yes	Not Started		Awaiting outputs of DAP to determine if measure applicable.
D0002-SIP:02	Infiltration programme	C	31/03/2013	Yes	Not Started		Awaiting outputs of DAP to determine if measure applicable.

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
D0002-SIP:03	Upgrade of the Monread Road Pumping Station (associate with SW9)	C	31/03/2013	Yes	Works Completed		
D0002-SIP:04	Upgrade of the Newhall Pumping Station (associated with SW3),	C	31/03/2013	Yes	Works Completed		
D0002-SIP:05	Upgrade to Blessington Road Pumping Station	C	31/03/2011	Yes	Works Completed		
D0002-SIP:06	Upgrading of sewer network to ensure all SWO comply with the criteria outlined in the DoEHLG 'Procedures and Criteria in relation to Storm Water Overflows, 1995'	C	31/12/2020	No	Works Completed		
D0002-SIP:07	Waste water sewer network rehabilitation programme	C	31/03/2013	Yes	Works Completed		
D0002-SIP:08	Waste Water treatment plant upgrade and ancillary works	C	31/03/2013	Yes	Works Completed		
D0002-SIP:09	Waste Water works network rehabilitation programme	C	31/03/2013	No	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

The utilisation of multiple capital maintenance programmes and the outputs of the workshops with the Local Authority Operations Staff held under the programme can be used to satisfy the requirements of Condition 5 regarding network integrity. Improvement works identified by way of these programmes and workshops will be included in the Improvements Summary Tables 4.2.1 and 4.2.2.

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
D0002-01-Drinking Water Abstraction Point Risk Assessment	Yes	No
D0002-01-Priority Substances Assessment	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?	Yes
List reason e.g. additional SWO identified	Additional SWOs
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	Yes
List reason e.g. changes to monitoring requirements	Ambient Monitoring Location Changes
Have these processes commenced?	No
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER	N/A

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

Date: 18/11/2024

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 - Ambient Monitoring Summary
Appendix 7.2 - Priority Substances Assessment

ULVSS Ambient Monitoring Summary 2023

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish National Grid Reference (Easting, Northing)	EPA Feature Coding Tool code	Receiving Waters Designation (Yes/No)			
			Bathing Water	Drinking Water	FWPM	Shellfish
Upstream Monitoring Point	285423, 220755	RS09L011100	No	No	No	No
Downstream Monitoring Point #1	286940, 221639	RS09L011200	No	Yes	No	No
Downstream Monitoring Point #2	287711, 222643	RS09L011300	No	Yes	No	No

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Current WFD Status	cBOD	o-Phosphate (as P)	Ammonia (as N)
Upstream Monitoring Point	Good	1.010	0.031	0.085
Downstream Monitoring Point #1	Good	1.217	0.028	0.099
Downstream Monitoring Point #2	Good	1.209	0.032	0.089
Difference between Upstream and Downstream #1		0.208	-0.003	0.014
Difference between Upstream and Downstream #2		*0.199*	*0.001*	*0.004*
EQS		1.500	0.035	0.065
% of EQS *#1*		13.83%	-8.66%	21.64%
% of EQS *#2*		13.28%	3.27%	5.75%

2023 ULVSS Ambient Monitoring Data

Upstream Results										
Station Name	Sample Date	Temperature oC	pH pH units	BOD mg/ l	DO mg/l	Total Nitrogen mg/l	Faecal Coliforms cfu	Ammonia mg/l	Ortho-Phosphate mg/l	OFG (mg/l)
u/s SW1	11-Jan-2023	9.1	7.55	2	11.16	2.45	1200	0.03	0.03	3
u/s SW1	8-Feb-2023	7.2	7.9	0.7	12.01	2.14	100	0.15	0.03	< 2
u/s SW1	8-Mar-2023	6.7	7.83	2.3	11.87	2.25	360	0.02	0.03	11
u/s SW1	12-Apr-2023	9.6	7.51	1.2	10.2	1.42	21000	0.02	0.02	8
u/s SW1	10-May-2023	14.2	7.65	0.8	9.51	1.74	400	0.24	0.04	< 2
u/s SW1	14-June-2023	19.7	7.59	0.7	8.47	1.6	1000	0.13	0.02	11
u/s SW1	12-July-2023	16.3	7.24	0.6	8.6	1.42	240	0.19	0.04	3
u/s SW1	9-Aug-2023	17.1	8.14	0.7	8.35	1.01	600	0.02	0.03	3
u/s SW1	13-Sep-2023	14.4	8.2	0.4	8.97	2.47		0.05	0.07	
u/s SW1	11-Oct-2023	14.1	8.36	1	9.36	1.22	1500	0.08	0.02	< 2
u/s SW1	29/11/2023	7.5	7.31	<1		1.2	110	<0.01	<0.02	<2
u/s SW1	13/12/2023	8	7.4	<1	11.03	11	210	<0.015	<0.01	2
	Mean	**12.35**	**7.75**	**1.01**	**9.85**	**1.72**	**2,651**	**0.085**	**0.031**	**4.47**
	95%ile	**18.27**	**8.27**	**2.14**	**11.94**	**6.31**	**11,250**	**0.213**	**0.054**	**11.00**

Downstream Results										
Station Name	Sample Date	Temperature oC	pH pH units	BOD mg/ l	DO mg/l	Total Nitrogen mg/l	Faecal Coliforms cfu	Ammonia mg/l	Ortho-Phosphate mg/l	OFG (mg/l)
d/s SW1	11-Jan-2023	8.7	7.61	2	11.34	2.14	1500	0.06	0.002	4
d/s SW1	8-Feb-2023	7.2	7.88	1	11.86	2.66	500	0.1	0.03	3
d/s SW1	8-Mar-2023	6.8	7.82	1.8	11.82	2.32	600	0.02	0.03	< 2
d/s SW1	12-Apr-2023	8.6	7.48	1.3	10.42	2.97	24000	0.02	0.03	< 2
d/s SW1	10-May-2023	14	7.66	0.9	9.58	2.11	1000	0.25	0.07	4
d/s SW1	14-June-2023	18.6	8.62	0.8		1.91	1000	0.2	0.02	3
d/s SW1	12-July-2023	15.3	7.02	0.7	8.73	1.46	330	0.27	0.03	5
d/s SW1	9-Aug-2023	17	8.1	0.8	8.4	1.09	330	0.01	0.04	2
d/s SW1	13-Sep-2023	15	8.24	0.4	9.15	2.18		0.12	0.03	
d/s SW1	11-Oct-2023	14.3	8.29	1.2	9.1	1.65	840	0.11	0.02	< 2
d/s SW1	29/11/2023	7.5	7.3	3		1.2	190	<0.01	0.03	<2
d/s SW1	13/12/2023	8	7.59	<1	11.14	6.2	180	0.024	<0.01	<2
	Mean	**11.750**	**7.801**	**1.217**	**10.154**	**2.324**	**2,770**	**0.099**	**0.028**	**2.552**
	95%ile	**17.720**	**8.439**	**2.450**	**11.842**	**4.424**	**12,750**	**0.259**	**0.054**	**4.500**

Downstream Results										
Station Name	Sample Date	Temperature oC	pH pH units	BOD mg/ l	DO mg/l	Total Nitrogen mg/l	Faecal Coliforms cfu	Ammonia mg/l	Ortho-Phosphate mg/l	OFG (mg/l)
d/s SW2	11-Jan-2023	9.1	7.62	2	11.26	2.22	1500	0.06	0.005	< 2
d/s SW2	8-Feb-2023	7.3	7.91	0.9	11.9	2.6	100	0.1	0.03	< 2
d/s SW2	8-Mar-2023	6.8	7.81	1.6	11.79	3.02	510	0.01	0.03	5
d/s SW2	12-Apr-2023	8.8	7.47	1.6	10.42	1.46	22000	0.01	0.03	< 2
d/s SW2	10-May-2023	14.1	7.66	1.1	9.61	2.26	900	0.27	0.11	< 2
d/s SW2	14-June-2023	18.4	7.59	0.7	8.66	2	1000	0.26	0.03	3
d/s SW2	12-July-2023	15.3	7.3	0.7	8.7	1.47	280	0.14	0.03	4
d/s SW2	9-Aug-2023	16.8	8.08	0.5	8.3	0.96	490	0.01	0.04	2
d/s SW2	13-Sep-2023	14.6	8.28	0.5	9.21	3.67		0.07	0.04	
d/s SW2	11-Oct-2023	14.3	8.28	1.2	9.09	1.95	1200	0.1	0.03	< 2
d/s SW2	29/11/2023	7.5	7.3	3		1.1	180	<0.01	<0.01	<2
d/s SW2	13/12/2023	8	7.72	<1	11.07	12	90	0.03	<0.01	<2
	Mean	**11.75**	**7.75**	**1.21**	**10.00**	**2.89**	**2,568**	**0.089**	**0.032**	**2.17**
	95%ile	**17.52**	**8.28**	**2.45**	**11.85**	**7.42**	**11,750**	**0.265**	**0.072**	**4.50**

Certificate of Analysis

Customer:	Uisce Éireann	**Project:**	PRTR Monitoring- Oberstown
Address:	Devoy Park Naas Co. Kildare	**Site**	Oberstown
		Date Received:	27/07/2023
		Condition of Sample:	Satisfactory
Report to:	Caroline Murphy	**Date Analysed:**	27/07/2023 - 12/10/2023
Customer PO		**Issue Date:**	20/10/2023
Quote No.		**BATCH NUMBER:**	**23-31221**

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

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- **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:	Oberstown Effluent	**Customer Sample Code:**	
Project:	PRTR Monitoring- Oberstown	**Sampled By:**	KCC
Our Reference:	98862 (23-31221)	**Sample Matrix:**	Effluent
Date Sampled:	27/07/2023	**Time Sampled:**	:

Method:	Parameter:	Units	LOQ	Result
	Chemical Analysis: (F)			
SCP 027B	Chloride	mg/L	*0.5*	52.9
- Note 6	Alachlor	µg/L	*0.01*	< 0.01
- Note 6	Chlorfenvinphos	µg/L	*0.15*	< 0.15
- Note 6	Chlorpyriphos	µg/L	*0.00*	< 0.00
- Note 6	Di(2-ethylhexyl)phthalate (DEHP)	µg/L	*1.00*	< 2.00
- Note 6	Mirex	µg/L	*0.01*	< 0.01
- Note 6	Toxaphene	µg/L	*0.10*	< 0.10
- Note 6	Trifluralin	µg/L	*0.05*	< 0.05
	Chemical Analysis: (F)			
SCP 065A	Total Nitrogen	mg/L	*0.5*	12.9
SCP 038/073	Arsenic	µg/L	*1*	< 1
SCP 038/073	Cadmium	µg/L	*0.45*	< 0.45
SCP 038/073	Chromium	µg/L	*1*	< 1
SCP 038/073	Copper	µg/L	*1*	2
SCP 038/073	Lead	µg/L	*1*	< 1
SCP 038/073	Mercury	µg/L	*0.5*	< 0.5
SCP 038/073	Nickel	µg/L	*1*	4
SCP 038/73	Zinc (Zn)	µg/L	*8*	17
SCP 114A	Benzene	µg/L	*0.1*	< 0.1
- Note 6	Diuron	µg/L	*0.03*	< 0.03
- Note 6	Hexachlorobenzene	µg/L	*0.050*	< 0.050
- Note 6	Isoproturon	µg/L	*0.10*	< 0.10
- Note 6	Dichloromethane	µg/L	*0.5*	< 0.5
- Note 6	Isodrin	µg/L	*0.050*	< 0.050
- Note 6	Aldrin	µg/L	*0.003*	< 0.003
- Note 6	Endrin	µg/L	*0.003*	< 0.003
- Note 6	Gamma-HCH (Lindane)	µg/L	*0.0500*	< 0.0500
- Note 6	Heptachlor	µg/L	*0.003*	< 0.003
SCP 114A	1,2-Dichloroethane	µg/L	*0.2*	< 0.2
- Note 6	Atrazine	µg/L	*0.100*	< 0.100
SCP 114A	Ethylbenzene	µg/L	*0.5*	< 0.5
- Note 6	Simazine	µg/L	*0.100*	< 0.100
SCP 114A	Tetrachloroethene	µg/L	*0.1*	< 0.1
SCP 114A	Toluene	µg/L	*0.5*	< 0.5
- Note 6	Tributyl tin (TBT)	µg/L	*0.02*	< 0.02
SCP 114A	Vinyl Chloride	µg/L	*0.1*	< 0.1

Customer Sample Ref:	Oberstown Effluent	**Customer Sample Code:**	
Project:	PRTR Monitoring- Oberstown	**Sampled By:**	KCC
Our Reference:	98862 (23-31221)	**Sample Matrix:**	Effluent
Date Sampled:	27/07/2023	**Time Sampled:**	:

Method:	Parameter:	Units	LOQ	Result
- Note 6	AOX	mg/L	*0.01*	0.09
	PAH's Water (default)			
	Chemical Analysis: (F)			
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	Total PAH's (sum of 16)	µg/L	*0.078*	< 0.078
	Polychlorinated biphenyls (PCB's 7 congeners) EXTE			
- Note 6	Total Polychlorinated biphenyl (7 congers)	µg/L	*0.07*	< 0.07
	PRTR monitoring			
	Chemical Analysis: (F)			
- Note 6	Cyanide	µg/L	*10*	< 10
SCP 063	Fluoride	mg/L	*0.1*	1.9
- Note 6	Hexachlorobutadiene	µg/L	*0.5*	< 0.5
- Note 6	Trichlorobenzene- sum of isomers	µg/L	*0.50*	< 0.50
- Note 6	Trichloroethene	µg/L	*0.1*	< 0.1
SCP 114A	Xylene- sum of isomers	µg/L	*0.1*	< 0.1
- Note 6	Nonylphenol Ethoxylate	µg/L	*0.30*	< 0.60
- Note 6	Total detected EPA-Phenols	µg/L	*100.00*	< 100.00
- Note 6	Triphenyl Tin	µg/L	*0.05*	< 0.05
- Note 6	Organo Tin	µg/L	*0.05*	< 0.05
- Note 6	Chloroalkane C10-C13	µg/L	*50.00*	< 50.00
SCP 060B	Dieldrin	ng/L	*5*	< 5

Certificate of Analysis

Customer:	Uisce Éireann	**Site/Project:**	PRTR Monitoring- Oberstown
Local Authority:	Kildare County Council	**Date Received:**	31/08/2023
		Condition of Sample(s):	Satisfactory
Customer Contact:	Caroline Murphy	**Date Analysed:**	31/08/2023 - 16/11/2023
Customer PO		**Issue Date:**	20/11/2023
Quote No.		**BATCH NUMBER:**	**23-32507**

Conor Murphy
Operations Manager

Index to symbols used:

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**	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.

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Customer Sample Ref:	Oberstown Effluent	**Customer Sample Code:**	
		Sample Condition:	Satisfactory
Entity Name:		**Entity Code:**	
Site / Project:	Compliance	**Sampled By:**	KCC
Our Reference:	102492 (23-32507) -	**Sample Matrix:**	Effluent
Date Sampled:	31/08/2023	**Time Sampled:**	:

Method:	Parameter:	Units	LOQ	Result	***Limits
	Chemical Analysis: (F)				
SCP 027B	Chloride	mg/L	0.5	108.0	
SCP 065A	Total Nitrogen	mg/L	0.5	10.4	
SCP 038/073	Arsenic	µg/L	1	< 1	
SCP 038/073	Cadmium	µg/L	0.45	< 0.45	
SCP 038/073	Chromium	µg/L	1	< 1	
SCP 038/073	Copper	µg/L	1	2	
SCP 038/073	Lead	µg/L	1	< 1	
SCP 038/073	Mercury	µg/L	0.5	< 0.5	
SCP 038/073	Nickel	µg/L	1	6	
SCP 038/73	Zinc (Zn)	µg/L	8	37	
SCP 114A	Benzene	µg/L	0.1	< 0.1	
SCP 114A	1,2-Dichloroethane	µg/L	0.2	< 0.2	
SCP 114A	Ethylbenzene	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	Vinyl Chloride	µg/L	0.1	< 0.1	
- Note 6	Cyanide	µg/L	10	< 10	
SCP 063	Fluoride	mg/L	0.1	0.2	
- Note 6	Hexachlorobenzene	µg/L	0.050	< 0.050	
- Note 6	Hexachlorobutadiene	µg/L	0.5	< 0.5	
- Note 6	Dichloromethane	µg/L	0.5	1.0	
- Note 6	Trichlorobenzene- sum of isomers	µg/L	0.50	< 0.50	
- Note 6	Trichloroethene	µg/L	0.1	< 0.1	
SCP 114A	Xylene- sum of isomers	µg/L	0.1	< 0.1	
- Note 6	Chlorpyriphos	µg/L	0.00	< 0.00	
- Note 6	Di(2-ethylhexyl)phthalate (DEHP)	µg/L	1.00	< 1.00	
- Note 6	Toxaphene	µg/L	0.10	< 0.10	
- Note 6	Trifluralin	µg/L	0.05	< 0.05	
- Note 6	Alachlor	µg/L	0.01	< 0.01	
	Chemical Analysis: (F)				
- Note 6	Aldrin	µg/L	0.003	< 0.003	
- Note 6	Endrin	µg/L	0.003	< 0.003	
- Note 6	Gamma-HCH (Lindane)	µg/L	0.0500	< 0.0500	
- Note 6	Heptachlor	µg/L	0.003	< 0.003	
- Note 6	Isodrin	µg/L	0.050	< 0.050	
- Note 6	Mirex	µg/L	0.01	< 0.01	

Customer Sample Ref:	Oberstown Effluent	**Customer Sample Code:**	
		Sample Condition:	Satisfactory
Entity Name:		**Entity Code:**	
Site / Project:	Compliance	**Sampled By:**	KCC
Our Reference:	102492 (23-32507) -	**Sample Matrix:**	Effluent
Date Sampled:	31/08/2023	**Time Sampled:**	:

Method:	Parameter:	Units	LOQ	Result	***Limits
- Note 6	Total Polychlorinated biphenyl (7 congers)	µg/L	0.07	< 0.07	
	Chemical Analysis: (F)				
- Note 6	Nonylphenol Ethoxylate	µg/L	0.30	< 0.30	
- Note 6	Total detected EPA-Phenols	µg/L	100.00	< 100.00	
- Note 6	Tributyl tin (TBT)	µg/L	0.02	< 0.02	
- Note 6	Triphenyl Tin	µg/L	0.05	< 0.05	
- Note 6	Organo Tin	µg/L	0.05	< 0.05	
- Note 6	Chloroalkane C10-C13	µg/L	50.00	< 50.00	
SCP 060B	Anthracene	µg/L	0.005	< 0.005	
SCP 060B	Benzo(ghi)perylene	µg/L	0.005	< 0.005	
SCP 060B	Dieldrin	ng/L	5	< 5	
SCP 060B	Fluoranthene	µg/L	0.005	< 0.005	
SCP 060B	Naphthalene	µg/L	0.005	< 0.005	
SCP 060B	Total PAH's (sum of 16)	µg/L	0.078	< 0.078	
- Note 6	Atrazine	µg/L	0.100	< 0.100	
- Note 6	Diuron	µg/L	0.03	< 0.03	
- Note 6	Isoproturon	µg/L	0.10	< 0.10	
- Note 6	Simazine	µg/L	0.100	< 0.100	
SCP 060B	Acenaphthene	µg/L	0.005	< 0.005	
SCP 060B	Acenaphthylene	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	Chrysene	µg/L	0.005	< 0.005	
SCP 060B	Dibenz(a,h)anthracene	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	Phenanthrene	µg/L	0.005	< 0.005	
SCP 060B	Pyrene	µg/L	0.005	< 0.005	
- Note 6	Chlorfenvinphos	µg/L	0.15	< 0.15	
- Note 6	AOX	mg/L	0.01	< 0.01	

Certificate of Analysis

Customer:	Uisce Éireann	**Site/Project:**	PRTR Monitoring- Oberstown
Local Authority:	Kildare County Council	**Date Received:**	25/10/2023
		Condition of Sample(s):	Satisfactory
Customer Contact:	Caroline Murphy	**Date Analysed:**	25/10/2023 - 16/11/2023
Customer PO		**Issue Date:**	20/11/2023
Quote No.		**BATCH NUMBER:**	**23-34709**

Conor Murphy
Operations Manager

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.

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Customer Sample Ref:	Oberstown Effluent	**Customer Sample Code:**	
		Sample Condition:	Satisfactory
Entity Name:		**Entity Code:**	
Site / Project:	Compliance	**Sampled By:**	Customer
Our Reference:	108452 (23-34709) -	**Sample Matrix:**	Effluent
Date Sampled:	24/10/2023	**Time Sampled:**	:

Method:	Parameter:	Units	LOQ	Result	***Limits
	Chemical Analysis: (F)				
SCP 027B	Chloride	mg/L	0.5	55.7	
- Note 6	Cyanide	µg/L	10	< 10	
SCP 063	Fluoride	mg/L	0.1	0.2	
SCP 065A	Total Nitrogen	mg/L	0.5	7.9	
SCP 038/073	Arsenic	µg/L	1	1	
SCP 038/073	Cadmium	µg/L	0.45	< 0.45	
SCP 038/073	Chromium	µg/L	1	5	
SCP 038/073	Copper	µg/L	1	3	
SCP 038/073	Lead	µg/L	1	< 1	
SCP 038/073	Mercury	µg/L	0.5	< 0.5	
SCP 038/073	Nickel	µg/L	1	29	
SCP 038/73	Zinc (Zn)	µg/L	8	17	
SCP 114A	1,2-Dichloroethane	µg/L	0.2	< 0.2	
SCP 114A	Benzene	µg/L	0.1	< 0.1	
- Note 6	Hexachlorobenzene	µg/L	0.050	< 0.050	
- Note 6	Hexachlorobutadiene	µg/L	0.5	< 0.5	
- Note 6	Dichloromethane	µg/L	0.5	2.0	
SCP 114A	Tetrachloroethene	µg/L	0.1	< 0.1	
SCP 114A	Toluene	µg/L	0.5	< 0.5	
- Note 6	Trichlorobenzene- sum of isomers	µg/L	0.50	< 0.50	
- Note 6	Trichloroethene	µg/L	0.1	< 0.1	
SCP 114A	Vinyl Chloride	µg/L	0.1	< 0.1	
SCP 114A	Xylene- sum of isomers	µg/L	0.1	< 0.1	
SCP 114A	Ethylbenzene	µg/L	0.5	< 0.5	
- Note 6	Chlorpyriphos	µg/L	0.00	< 0.00	
- Note 6	Di(2-ethylhexyl)phthalate (DEHP)	µg/L	1.00	< 1.00	
- Note 6	Toxaphene	µg/L	0.10	< 0.10	
- Note 6	Trifluralin	µg/L	0.05	< 0.05	
- Note 6	Alachlor	µg/L	0.01	< 0.01	
	Chemical Analysis: (F)				
- Note 6	Aldrin	µg/L	0.003	< 0.003	
- Note 6	Endrin	µg/L	0.003	< 0.003	
- Note 6	Gamma-HCH (Lindane)	µg/L	0.0500	< 0.0500	
- Note 6	Heptachlor	µg/L	0.003	< 0.003	
- Note 6	Isodrin	µg/L	0.050	< 0.050	
- Note 6	Mirex	µg/L	0.01	< 0.01	

Customer Sample Ref:	Oberstown Effluent	**Customer Sample Code:**	
		Sample Condition:	Satisfactory
Entity Name:		**Entity Code:**	
Site / Project:	Compliance	**Sampled By:**	Customer
Our Reference:	108452 (23-34709) -	**Sample Matrix:**	Effluent
Date Sampled:	24/10/2023	**Time Sampled:**	:

Method:	Parameter:	Units	LOQ	Result	***Limits
- Note 6	Total Polychlorinated biphenyl (7 congers)	µg/L	0.07	< 0.07	
	Chemical Analysis: (F)				
- Note 6	Nonylphenol Ethoxylate	µg/L	0.30	< 0.30	
- Note 6	Total detected EPA-Phenols	µg/L	100.00	< 100.00	
- Note 6	Tributyl tin (TBT)	µg/L	0.02	< 0.02	
- Note 6	Triphenyl Tin	µg/L	0.05	< 0.05	
- Note 6	Organo Tin	µg/L	0.05	< 0.05	
- Note 6	Chloroalkane C10-C13	µg/L	50.00	< 50.00	
SCP 060B	Anthracene	µg/L	0.005	< 0.005	
SCP 060B	Benzo(ghi)perylene	µg/L	0.005	< 0.005	
SCP 060B	Dieldrin	ng/L	5	< 5	
SCP 060B	Fluoranthene	µg/L	0.005	< 0.005	
SCP 060B	Naphthalene	µg/L	0.005	< 0.005	
SCP 060B	Total PAH's (sum of 16)	µg/L	0.078	< 0.078	
- Note 6	Atrazine	µg/L	0.100	< 0.100	
	Chemical Analysis: (F)				
- Note 6	Diuron	µg/L	0.03	< 0.03	
- Note 6	Isoproturon	µg/L	0.10	< 0.10	
- Note 6	Simazine	µg/L	0.100	< 0.100	
SCP 060B	Acenaphthene	µg/L	0.005	< 0.005	
SCP 060B	Acenaphthylene	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	Chrysene	µg/L	0.005	< 0.005	
SCP 060B	Dibenz(a,h)anthracene	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	Phenanthrene	µg/L	0.005	< 0.005	
SCP 060B	Pyrene	µg/L	0.005	< 0.005	
- Note 6	Chlorfenvinphos	µg/L	0.15	< 0.15	
- Note 6	AOX	mg/L	0.01	< 0.01	

Certificate of Analysis

Customer:	Uisce Éireann	**Site/Project:**	PRTR Monitoring- Oberstown
Local Authority:	Kildare County Council	**Date Received:**	15/12/2023
		Condition of Sample(s):	Satisfactory
Customer Contact:	Caroline Murphy	**Date Analysed:**	15/12/2023 - 06/02/2024
Customer PO		**Issue Date:**	07/02/2024
Quote No.		**BATCH NUMBER:**	**23-36789**

Jake Grunfield
Laboratory Analyst

Index to symbols used:

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***	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.

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- **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:	Oberstown Effluent	**Customer Sample Code:**	
		Sample Condition:	Satisfactory
Entity Name:		**Entity Code:**	
Site / Project:	Compliance	**Sampled By:**	Customer
Our Reference:	114181 (23-36789) -	**Sample Matrix:**	Effluent
Date Sampled:	13/12/2023	**Time Sampled:**	:

Method:	Parameter:	Units	LOQ	Result	***Limits
	Chemical Analysis: (F)				
SCP 027B	Chloride	mg/L	0.5	105.9	
- Note 6	Cyanide	µg/L	10	< 10	
SCP 063	Fluoride	mg/L	0.1	0.2	
SCP 065A	Total Nitrogen	mg/L	0.5	9.9	
SCP 038/073	Arsenic	µg/L	1	< 1	
SCP 038/073	Cadmium	µg/L	0.45	< 0.45	
SCP 038/073	Chromium	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	Nickel	µg/L	1	3	
SCP 038/73	Zinc (Zn)	µg/L	8	39	
SCP 114A	1,2-Dichloroethane	µg/L	0.2	< 0.2	
SCP 114A	Benzene	µg/L	0.1	< 0.1	
- Note 6	Hexachlorobenzene	µg/L	0.050	< 0.050	
- Note 6	Hexachlorobutadiene	µg/L	0.5	< 0.5	
- Note 6	Dichloromethane	µg/L	0.5	< 1.0	
SCP 114A	Tetrachloroethene	µg/L	0.1	< 0.1	
SCP 114A	Toluene	µg/L	0.5	< 0.5	
- Note 6	Trichlorobenzene- sum of isomers	µg/L	0.50	< 0.50	
- Note 6	Trichloroethene	µg/L	0.1	< 0.1	
SCP 114A	Vinyl Chloride	µg/L	0.1	< 0.1	
SCP 114A	Xylene- sum of isomers	µg/L	0.1	< 0.1	
SCP 114A	Ethylbenzene	µg/L	0.5	< 0.5	
- Note 6	Chlorpyriphos	µg/L	0.00	< 0.05	
- Note 6	Di(2-ethylhexyl)phthalate (DEHP)	µg/L	1.00	< 2.00	
- Note 6	Toxaphene	µg/L	0.10	< 0.10	
- Note 6	Trifluralin	µg/L	0.05	< 0.05	
- Note 6	Alachlor	µg/L	0.01	< 0.01	
	Chemical Analysis: (F)				
- Note 6	Aldrin	µg/L	0.003	< 0.010	
- Note 6	Endrin	µg/L	0.003	< 0.010	
- Note 6	Gamma-HCH (Lindane)	µg/L	0.0500	< 0.0500	
- Note 6	Heptachlor	µg/L	0.003	< 0.010	
- Note 6	Isodrin	µg/L	0.050	< 0.050	
- Note 6	Mirex	µg/L	0.01	< 0.01	

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Date Sampled:	13/12/2023	**Time Sampled:**	:

Method:	Parameter:	Units	LOQ	Result	***Limits
- Note 6	Total Polychlorinated biphenyl (7 congers)	µg/L	0.07	< 0.07	
	Chemical Analysis: (F)				
- Note 6	Nonylphenol Ethoxylate	µg/L	0.30	< 0.60	
- Note 6	Total detected EPA-Phenols	µg/L	100.00	< 100.00	
- Note 6	Tributyl tin (TBT)	µg/L	0.02	< 0.05	
- Note 6	Triphenyl Tin	µg/L	0.05	< 0.05	
- Note 6	Organo Tin	µg/L	0.05	< 0.40	
- Note 6	Chloroalkane C10-C13	µg/L	50.00	< 50.00	
SCP 060B	Anthracene	µg/L	0.005	< 0.005	
SCP 060B	Benzo(ghi)perylene	µg/L	0.005	< 0.005	
SCP 060B	Dieldrin	ng/L	5	< 5	
SCP 060B	Fluoranthene	µg/L	0.005	< 0.005	
SCP 060B	Naphthalene	µg/L	0.005	< 0.005	
SCP 060B	Total PAH's (sum of 16)	µg/L	0.078	< 0.078	
- Note 6	Atrazine	µg/L	0.100	< 0.100	
	Chemical Analysis: (F)				
- Note 6	Diuron	µg/L	0.03	< 0.05	
- Note 6	Isoproturon	µg/L	0.10	< 0.10	
- Note 6	Simazine	µg/L	0.100	< 0.100	
SCP 060B	Acenaphthene	µg/L	0.005	< 0.005	
SCP 060B	Acenaphthylene	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	Chrysene	µg/L	0.005	< 0.005	
SCP 060B	Dibenz(a,h)anthracene	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	Phenanthrene	µg/L	0.005	< 0.005	
SCP 060B	Pyrene	µg/L	0.005	< 0.005	
- Note 6	Chlorfenvinphos	µg/L	0.15	< 0.15	
- Note 6	AOX	mg/L	0.01	0.07	