

Annual Environmental Report

2021



Paulstown

D0339-01

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7.1 PRIORITY SUBSTANCES ASSESSMENT

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2021 AER

This Annual Environmental Report has been prepared for D0339-01, Paulstown, in Kilkenny 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.

Upgrades required, IW to confirm funding

1.2 TREATMENT SUMMARY

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

- PAULSTOWN WWTP with a Plant Capacity PE of 500, the treatment type is 2 - Secondary treatment

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
TPEFF1500D0339SW001	PAULSTOWN WWTP	Treated	Compliant	N/A

1.4 LICENCE SPECIFIC REPORTING

Assessment / Report

There are no Licence Specific Reports included in this AER.

2 TREATMENT PLANT PERFORMANCE AND IMPACT SUMMARY

2.1 PAULSTOWN WWTP - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - PAULSTOWN 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	6	89	63
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	6	294	200
pH units	6	8.07	7.98
Ammonia-Total (as N) mg/l	6	74	49
Suspended Solids mg/l	6	478	246
COD-Cr mg/l	6	654	537
Total Phosphorus (as P) mg/l	6	14	9.30
Hydraulic Capacity	N/A	1444	367

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'.

2.1.2 EFFLUENT MONITORING SUMMARY - TPEFF1500D0339SW001

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	125	250	N/A	6	N/A	N/A	50	Pass
Suspended Solids mg/l	35	88	N/A	6	1	N/A	26	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	25	50	N/A	6	N/A	N/A	8.36	Pass
pH units	9.00	9.00	N/A	6	N/A	N/A	7.68	Pass
ortho-Phosphate (as P) - unspecified mg/l	5.00	6.00	N/A	6	N/A	N/A	1.84	Pass
Ammonia-Total (as N) mg/l	5.00	6.00	N/A	6	N/A	N/A	1.71	Pass
Total Nitrogen mg/l	N/A	N/A	N/A	6	N/A	N/A	14	

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	N/A	N/A	N/A	6	N/A	N/A	2.36	

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 TPEFF1500D0339SW001

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	269061, 157972	RS14B013020	No	No	No	No	Poor

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
Downstream	269005, 157843	RS14B013030	No	No	No	No	Poor

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	RS14B013020	0.750	RS14B013030	1.08	1.50	21.7
Ammonia-Total (as N) mg/l	RS14B013020	0.027	RS14B013030	0.033	0.065	8.8
ortho-Phosphate (as P) - unspecified mg/l	RS14B013020	0.017	RS14B013030	0.043	0.035	72.9
Nitrite (as N) mg/l	RS14B013020	0.010	RS14B013030	0.012	N/A	
pH units	RS14B013020	8.36	RS14B013030	8.38	N/A	
Conductivity @20°C µS/cm	RS14B013020	539	RS14B013030	535	N/A	
Sulphate mg/l	RS14B013020	36	RS14B013030	35	N/A	
Chloride mg/l	RS14B013020	23	RS14B013030	28	N/A	
Temperature °C	RS14B013020	14	RS14B013030	15	N/A	
Dissolved Oxygen % O2	RS14B013020	104	RS14B013030	102	N/A	

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
Nitrate (as N) mg/l	RS14B013020	3.73	RS14B013030	3.79	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 downstream monitoring location. 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 Ortho, concentrations downstream of the effluent discharge is noted.

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 - PAULSTOWN WWTP

2.1.4.1 Treatment Efficiency Report - PAULSTOWN 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	31572	2581	92
TP	1195	233	81
TN	8150	1384	83
COD	69022	4887	93

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)
cBOD	25724	823	97

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

2.1.4.2 Treatment Capacity Report Summary - PAULSTOWN 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.

PAULSTOWN WWTP	
Peak Hydraulic Capacity (m ³ /day) - As Constructed	675
DWF to the Treatment Plant (m ³ /day)	225
Current Hydraulic Loading - annual max (m ³ /day)	1444
Average Hydraulic loading to the Treatment Plant (m ³ /day)	367
Organic Capacity (PE) - As Constructed	500
Organic Capacity (PE) - Collected Load (peak week) ^{Note1}	1266
Organic Capacity (PE) - Remaining	0
Will the capacity be exceeded in the next three years? (Yes/No)	Yes

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 - PAULSTOWN 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)
There is no Sludge and Other Input data for the Treatment Plant included in the AER.							

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 2021.			

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 Irish Water 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	No. of incident occurrences	Recurring (Y/N)	Closed (Y/N)
Breach of ELV	WWTP biological sludge issue	1	Yes	Yes

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2021	1
Number of Incidents reported to the EPA via EDEN in 2021	1
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 2021 (No. of events)	Total volume discharged in 2021 (m3)	Monitoring Status
SW2	256182, 177619	Yes	Low	Meeting	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 sewage was discharged via SWOs in the agglomeration in the year (m3)?	Unknown
Is each SWO identified as not meeting DoEHLG Guidance included in the Programme of Improvements?	N/A
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
D0339-SIP:01	Complete upgrade works to meet the requirements of Condition 5.5	C	31/12/2015	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

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	Year included in AER	Included in this AER
Priority Substances Assessment	Yes	2015	No

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
Has a Technical amendment/licence review application been submitted to the Agency by IW?	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	N/A

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

Date: 07/04/2022

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

Katherine Walshe

Acting Head of Environmental Regulation

7 APPENDIX

Appendix
Appendix 7.1 - Priority Substances Assessment

Confidential Report

Client: Kilkenny County Council

Date: 21 October 2021



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Monitored Entity Name	Monitored Entity Code	Station Name	Station Code	Sample Code	Sample Date	Sampling Method	Laboratory	Env Parameter	Result	Measurement Unit	Accredited	Limit of Detection	Irish Water/EPA requirement
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	TMS	pH	7.63	pH Units	Yes In House	Not applicable	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	TMS	Chloride	140	mg/l	Yes In House	1	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	TMS	Conductivity (at 20 oC)	1021	µS/cm	Yes In House	100	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Total Hardness (as CaCO ₃)	295	mg/l	Yes Subcontracted	Not applicable	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	Elab	Cyanide	< 5	µg/l	Yes Subcontracted	5	5
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	TMS	Fluoride	360	µg/l	Yes In House	10	250
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	2,4-D	< 0.05	µg/l	Yes Subcontracted	0.05	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS Prague	2,6-Dichlorobenzamide	< 0.050	µg/l	Yes Subcontracted	0.05	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Trichlorobenzene (all isomers)	< 0.03	µg/l	Yes Subcontracted	0.03	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Atrazine	< 0.020	µg/l	Yes Subcontracted	0.02	1
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	alpha-HCH - Hexachlorocyclohexane	< 0.003	µg/l	Yes Subcontracted	0.003	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	beta-HCH - Hexachlorocyclohexane	< 0.003	µg/l	Yes Subcontracted	0.003	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Dichlobenil	4	ng/l	Yes Subcontracted	2	Not applicable

Prepared by:


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 Senior Laboratory Analyst

Approved by:


 Dr Imelda Shanahan
 Technical Manager

Confidential Report

Client: Kilkenny County Council

Date: 21 October 2021



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 Tallaght Web: www.tmsenv.ie
 Dublin 24



Monitored Entity Name	Monitored Entity Code	Station Name	Station Code	Sample Code	Sample Date	Sampling Method	Laboratory	Env Parameter	Result	Measurement Unit	Accredited	Limit of Detection	Irish Water/EPA requirement
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Dieldrin	< 4	ng/l	Yes Subcontracted	4	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Diuron	0.03	µg/l	Yes Subcontracted	0.01	0.9
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	gamma-HCH - Hexachlorocyclohexane	< 0.0027	µg/l	Yes Subcontracted	0.0027	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Hexachlorocyclohexane (all isomers)	< 0.0087	µg/l	Yes Subcontracted	0.0087	0.02
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Glyphosate	0.908	µg/l	Yes Subcontracted	0.1	30
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	Synlab	Hexachlorobutadiene	< 0.2	µg/l	Yes Subcontracted	0.2	0.5
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Isodrin	< 0.004	µg/l	Yes Subcontracted	0.004	1
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Isoproturon	< 0.01	µg/l	Yes Subcontracted	0.01	0.5
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	MCPA	0.1	µg/l	Yes Subcontracted	0.05	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Mecoprop	< 0.04	µg/l	Yes Subcontracted	0.04	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Simazine	< 0.020	µg/l	Yes Subcontracted	0.02	2
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Linuron	< 0.01	µg/l	Yes Subcontracted	0.01	0.35
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Antimony (filtered)	< 1.3	µg/l	Yes Subcontracted	1.6	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Arsenic (filtered)	0.3	µg/l	Yes Subcontracted	0.24	12.5

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Monitored Entity Name	Monitored Entity Code	Station Name	Station Code	Sample Code	Sample Date	Sampling Method	Laboratory	Env Parameter	Result	Measurement Unit	Accredited	Limit of Detection	Irish Water/EPA requirement
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Barium (filtered)	14	µg/l	Yes Subcontracted	2	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Boron (filtered)	< 56	µg/l	Yes Subcontracted	56	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Cadmium (filtered)	< 0.02	µg/l	Yes Subcontracted	0.07	0.225
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Chromium (filtered)	0.27	µg/l	Yes Subcontracted	2	2.5
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Cobalt (filtered)	< 0.12	µg/l	Yes Subcontracted	0.08	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Copper (filtered)	< 4.0	µg/l	Yes Subcontracted	1.8	2.5
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Lead (filtered)	< 0.30	µg/l	Yes Subcontracted	0.3	1
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Mercury (filtered)	< 0.010	µg/l	Yes Subcontracted	0.01	0.5
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Molybdenum (filtered)	< 2.50	µg/l	Yes Subcontracted	2.7	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Nickel (filtered)	< 1.0	µg/l	Yes Subcontracted	1	17
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Selenium (filtered)	< 1.2	µg/l	Yes Subcontracted	0.6	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Tin (filtered)	< 1.5	µg/l	Yes Subcontracted	1.5	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Vanadium (filtered)	0.2	µg/l	Yes Subcontracted	0.08	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Zinc (Filtered)	18	µg/l	Yes Subcontracted	4	4

Prepared by:


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 Dublin 24




Monitored Entity Name	Monitored Entity Code	Station Name	Station Code	Sample Code	Sample Date	Sampling Method	Laboratory	Env Parameter	Result	Measurement Unit	Accredited	Limit of Detection	Irish Water/EPA requirement
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Acenaphthene	< 0.010	µg/l	Yes Subcontracted	0.01	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Acenaphthylene	< 0.010	µg/l	Yes Subcontracted	0.01	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Anthracene	< 0.010	µg/l	Yes Subcontracted	0.01	0.05
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Benzo(a)anthracene	< 0.010	µg/l	Yes Subcontracted	0.01	0.01
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Benzo(g,h,i)perylene	< 0.010	µg/l	Yes Subcontracted	0.01	0.01
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Benzo(a)pyrene	< 0.010	µg/l	Yes Subcontracted	0.01	0.01
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Benzo(b)fluoranthene	< 0.010	µg/l	Yes Subcontracted	0.01	0.01
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Benzo(k)fluoranthene	0.011	µg/l	Yes Subcontracted	0.01	0.01
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Chrysene	< 0.010	µg/l	Yes Subcontracted	0.01	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Dibenz (a,h) anthracene	< 0.010	µg/l	Yes Subcontracted	0.01	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Fluoranthene	< 0.010	µg/l	Yes Subcontracted	0.01	0.6
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Fluorene	< 0.010	µg/l	Yes Subcontracted	0.01	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Indeno(1,2,3-c,d)pyrene	< 0.010	µg/l	Yes Subcontracted	0.01	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Naphthalene	< 0.010	µg/l	Yes Subcontracted	0.01	65

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Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Phenanthrene	< 0.010	µg/l	Yes Subcontracted	0.01	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Pyrene	< 0.010	µg/l	Yes Subcontracted	0.01	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Polyaromatic Hydrocarbons (PAH) -Sum	0.011	µg/l	Yes Subcontracted	0.01	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	1,2-Dichloroethane	< 1.00	µg/l	Yes Subcontracted	1.0	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Benzene	< 1.00	µg/l	Yes Subcontracted	1.0	5
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Carbon Tetrachloride	< 1.00	µg/l	Yes Subcontracted	1.0	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Chloroform - Trichloromethane	< 1.00	µg/l	Yes Subcontracted	1.0	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Dichloromethane	< 1.00	µg/l	Yes Subcontracted	1.0	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Ethyl benzene	< 1.00	µg/l	Yes Subcontracted	1.0	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	m&p xylene	< 1.00	µg/l	Yes Subcontracted	1.0	5
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	o-xylene	< 1.00	µg/l	Yes Subcontracted	1.0	5
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Trichloroethene - Trichloroethylene	< 1.00	µg/l	Yes Subcontracted	1.0	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Tetrachloroethene - Tetrachloroethylene	< 1.00	µg/l	Yes Subcontracted	1.0	Not applicable

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Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Toluene	< 1.00	µg/l	Yes Subcontracted	1.0	5
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Hexachlorobenzene	< 0.002	µg/l	Yes Subcontracted	0.002	0.5
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28892-3	18/08/2021	Composite	ALS	Xylenes (Total)	< 2	µg/l	Yes Subcontracted	2.0	5

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Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	TMS	pH	7.53	pH Units	Yes In House	Not applicable	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	TMS	Chloride	155	mg/l	Yes In House	1	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	TMS	Conductivity (at 20 oC)	1061	µS/cm	Yes In House	100	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Total Hardness (as CaCO3)	309	mg/l	Yes Subcontracted	Not applicable	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	Elab	Cyanide	< 5	µg/l	Yes Subcontracted	5	5
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	TMS	Fluoride	440	µg/l	Yes In House	10	250
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	2,4-D	< 0.05	µg/l	Yes Subcontracted	0.05	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS Prague	2,6-Dichlorobenzamide	< 0.050	µg/l	Yes Subcontracted	0.05	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Trichlorobenzene (all isomers)	< 0.03	µg/l	Yes Subcontracted	0.03	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Atrazine	< 0.02	µg/l	Yes Subcontracted	0.02	1
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	alpha-HCH - Hexachlorocyclohexane	< 0.004	µg/l	Yes Subcontracted	0.003	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	beta-HCH - Hexachlorocyclohexane	< 0.004	µg/l	Yes Subcontracted	0.003	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Dichlobenil	< 4	ng/l	Yes Subcontracted	2	Not applicable

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Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Dieldrin	< 5	ng/l	Yes Subcontracted	4	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Diuron	0.058	µg/l	Yes Subcontracted	0.01	0.9
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	gamma-HCH - Hexachlorocyclohexane	< 0.0043	µg/l	Yes Subcontracted	0.0027	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Hexachlorocyclohexane (all isomers)	< 0.0123	µg/l	Yes Subcontracted	0.0087	0.02
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Glyphosate	0.737	µg/l	Yes Subcontracted	0.1	30
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	Synlab	Hexachlorobutadiene	< 0.2	µg/l	Yes Subcontracted	0.05	0.5
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Isodrin	< 0.006	µg/l	Yes Subcontracted	1	1
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Isoproturon	< 0.01	µg/l	Yes Subcontracted	0.01	0.5
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	MCPA	< 0.05	µg/l	Yes Subcontracted	0.05	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Mecoprop	< 0.04	µg/l	Yes Subcontracted	0.04	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Simazine	< 0.022	µg/l	Yes Subcontracted	0.02	2
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Linuron	< 0.01	µg/l	Yes Subcontracted	0.01	0.35
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Antimony (filtered)	< 1.3	µg/l	Yes Subcontracted	1.3	Not applicable

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Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Arsenic (filtered)	0.35	µg/l	Yes Subcontracted	0.24	12.5
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Barium (filtered)	14	µg/l	Yes Subcontracted	2	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Boron (filtered)	< 56	µg/l	Yes Subcontracted	56	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Cadmium (filtered)	< 0.02	µg/l	Yes Subcontracted	0.02	0.225
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Chromium (filtered)	0.35	µg/l	Yes Subcontracted	2	2.5
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Cobalt (filtered)	0.14	µg/l	Yes Subcontracted	0.08	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Copper (filtered)	6.6	µg/l	Yes Subcontracted	1.8	2.5
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Lead (filtered)	< 0.30	µg/l	Yes Subcontracted	0.3	1
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Mercury (filtered)	< 0.010	µg/l	Yes Subcontracted	0.01	0.5
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Molybdenum (filtered)	< 2.50	µg/l	Yes Subcontracted	2.7	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Nickel (filtered)	< 1.0	µg/l	Yes Subcontracted	1	17
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Selenium (filtered)	< 1.2	µg/l	Yes Subcontracted	0.6	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Tin (filtered)	< 1.5	µg/l	Yes Subcontracted	1.5	Not applicable

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Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Vanadium (filtered)	0.25	µg/l	Yes Subcontracted	0.08	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Zinc (Filtered)	33	µg/l	Yes Subcontracted	4	4
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Acenaphthene	< 0.01	µg/l	Yes Subcontracted	0.01	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Acenaphthylene	< 0.01	µg/l	Yes Subcontracted	0.01	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Anthracene	< 0.01	µg/l	Yes Subcontracted	0.01	0.05
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Benzo(a)anthracene	< 0.01	µg/l	Yes Subcontracted	0.01	0.01
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Benzo(g,h,i)perylene	< 0.01	µg/l	Yes Subcontracted	0.01	0.01
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Benzo(a)pyrene	< 0.01	µg/l	Yes Subcontracted	0.01	0.01
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Benzo(b)fluoranthene	< 0.01	µg/l	Yes Subcontracted	0.01	0.01
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Benzo(k)fluoranthene	< 0.01	µg/l	Yes Subcontracted	0.01	0.01
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Chrysene	< 0.01	µg/l	Yes Subcontracted	0.01	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Dibenz (a,h) anthracene	< 0.01	µg/l	Yes Subcontracted	0.01	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Fluoranthene	< 0.01	µg/l	Yes Subcontracted	0.01	0.6

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Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Fluorene	< 0.01	µg/l	Yes Subcontracted	0.01	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Indeno(1,2,3-c,d)pyrene	< 0.01	µg/l	Yes Subcontracted	0.01	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Naphthalene	< 0.01	µg/l	Yes Subcontracted	0.01	65
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Phenanthrene	< 0.01	µg/l	Yes Subcontracted	0.01	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Pyrene	< 0.01	µg/l	Yes Subcontracted	0.01	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Polyaromatic Hydrocarbons (PAH) -Sum	< 0.01	µg/l	Yes Subcontracted	0.01	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	1,2-Dichloroethane	< 1.00	µg/l	Yes Subcontracted	1.0	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Benzene	< 1.00	µg/l	Yes Subcontracted	1.0	5
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Carbon Tetrachloride	< 1.00	µg/l	Yes Subcontracted	1.0	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Chloroform - Trichloromethane	< 1.00	µg/l	Yes Subcontracted	1.0	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Dichloromethane	< 1.00	µg/l	Yes Subcontracted	1.0	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Ethyl benzene	< 1.00	µg/l	Yes Subcontracted	1.0	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	m&p xylene	< 1.00	µg/l	Yes Subcontracted	1.0	5

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Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	o-xylene	< 1.00	µg/l	Yes Subcontracted	1.0	5
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Trichloroethene - Trichloroethylene	< 1.00	µg/l	Yes Subcontracted	1.0	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Tetrachloroethene - Tetrachloroethylene	< 1.00	µg/l	Yes Subcontracted	1.0	Not applicable
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Toluene	< 1.00	µg/l	Yes Subcontracted	1.0	5
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Hexachlorobenzene	< 0.004	µg/l	Yes Subcontracted	0.002	0.5
Paulstown	D0339	Paulstown WWTP	TPEFF1500D0339SW001	28388-3	14/04/2021	Composite	ALS	Xylenes (Total)	< 2.00	µg/l	Yes Subcontracted	1.0	5

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