

Annual Environmental Report

2018



Kinsale

D0132-01

TABLE OF CONTENTS

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2018 AER

- 1.1 LICENCE SPECIFIC REPORTING INCLUDED IN AER
- 1.2 TREATMENT TYPE
 - 1.2.1 KINSALE WWTP
- 1.3 ELV OVERVIEW
 - 1.3.1 KINSALE WWTP
- 1.4 SLUDGE REMOVAL

2 MONITORING REPORTS SUMMARY

- 2.1 SUMMARY REPORT ON MONTHLY INFLUENT MONITORING
 - 2.1.1 INFLUENT MONITORING SUMMARY - KINSALE WWTP
- 2.2 DISCHARGES FROM THE AGGLOMERATION
 - 2.2.1 EFFLUENT MONITORING SUMMARY - KINSALE WWTP
- 2.3 AMBIENT MONITORING SUMMARY
 - 2.3.1 AMBIENT MONITORING REPORT SUMMARY - KINSALE WWTP
 - 2.3.2 AMBIENT MONITORING PARAMETER MEAN (MG/L) - KINSALE WWTP

3 OPERATIONAL REPORTS SUMMARY

- 3.1 TREATMENT EFFICIENCY REPORT
 - 3.1.1 TREATMENT EFFICIENCY REPORT SUMMARY - KINSALE WWTP
- 3.2 TREATMENT CAPACITY REPORT SUMMARY
- 3.3 COMPLAINTS SUMMARY
- 3.4 REPORTED INCIDENTS SUMMARY
 - 3.4.1 SUMMARY OF INCIDENTS
 - 3.4.2 SUMMARY OF OVERALL INCIDENTS
- 3.5 SLUDGE / OTHER INPUTS TO THE WWTP

4 INFRASTRUCTURAL ASSESSMENTS AND PROGRAMME OF IMPROVEMENTS

- 4.1 STORM WATER OVERFLOW IDENTIFICATION AND INSPECTION REPORT
 - 4.1.1 SWO IDENTIFICATION
 - 4.1.2 INSPECTION SUMMARY REPORT
- 4.2 REPORT ON PROGRESS MADE AND PROPOSALS BEING DEVELOPED TO MEET THE IMPROVEMENT PROGRAMME REQUIREMENTS

4.2.1 SPECIFIED IMPROVEMENT PROGRAMME SUMMARY

4.2.2 IMPROVEMENT PROGRAMME SUMMARY

4.2.3 SEWER INTEGRITY RISK ASSESSMENT SUMMARY

5 LICENCE SPECIFIC REPORTS

6 CERTIFICATION AND SIGN OFF

6.1 SUMMARY OF AER CONTENTS

6.2 DECLARATION BY IRISH WATER

7 APPENDIX

7.1 AMBIENT MONITORING SUMMARY

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2018 AER

This Annual Environmental Report has been prepared for D0132-01, Kinsale, in Cork in accordance with the requirements of the wastewater discharge licence for the agglomeration. Specified reports are included as an appendix to the AER as follows:

1.1 Licence specific reporting included in AER

Assessment / Report	Included in AER
There is no Licence Specific Reports included in the AER.	

1.2 Treatment Type

The agglomeration is served by a wastewater treatment plant KINSALE WWTP with a Plant Capacity PE of 9800. The treatment process includes the following:

1.2.1 KINSALE WWTP

Treatment type	Yes / No	Details
Preliminary Treatment	No	
Primary Treatment	Yes	Screen
Secondary Treatment	Yes	SBR
Nutrient Removal	Yes	Phosphorous removal
Tertiary Treatment	Yes	UV Disinfection

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 2.2 Discharges from the agglomeration.

1.3 ELV Overview

1.3.1 KINSALE WWTP

Compliance Status	
Were all parameters compliant for KINSALE WWTP treatment plant	No
Where noncompliant see table 2.2.1 for details of parameters	

1.4 Sludge Removal

The amount of sludge removed from the wastewater treatment plant is shown below along with the transported destination of the sludge from the treatment plant.

Treatment Plant	Sludge type	Quantity	Unit	% Dry Solids	Destination
KINSALE WWTP	Cake Sludge	12.4	Weight (Tonnes)	22.1	Mallow / Midlaton
KINSALE WWTP	Cake Sludge	14.26	Weight (Tonnes)	21.3	Portlaw
KINSALE WWTP	Cake Sludge	12.94	Weight (Tonnes)	21.3	Portlaw
KINSALE WWTP	Cake Sludge	12.32	Weight (Tonnes)	21.4	Mallow / Midleton
KINSALE WWTP	Cake Sludge	25.15	Weight (Tonnes)	21.1	Mallow /Midleton
KINSALE WWTP	Cake Sludge	53.35	Weight (Tonnes)	20.9	Mallow /Midleton
KINSALE WWTP	Cake Sludge	55.61	Weight (Tonnes)	21.6	Mallow /Midleton
KINSALE WWTP	Cake Sludge	26.22	Weight (Tonnes)	20.8	Mallow /Midleton
KINSALE WWTP	Cake Sludge	55.08	Weight (Tonnes)	21.5	Mallow /Midleton

Treatment Plant	Sludge type	Quantity	Unit	% Dry Solids	Destination
KINSALE WWTP	Cake Sludge	53.7	Weight (Tonnes)	21.6	Mallow ?Midleton
KINSALE WWTP	Cake Sludge	27.2	Weight (Tonnes)	21.1	Mallow /Midleton

Annual Statement of Measures

None

2 MONITORING REPORTS SUMMARY

2.1 Summary report on monthly influent monitoring

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

2.1.1 Influent Monitoring Summary - KINSALE WWTP

Parameters	Number of Samples	Annual Max	Annual Mean
COD-Cr mg/l	4	693	318.66
Suspended Solids mg/l	4	254	101.86
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	4	211	76.54
Hydraulic Capacity	0	11170	3982

If other inputs in the form of sludge / leachate are added to the WWTP then these are included in Section 3.5 if applicable

Significance of Results:

The annual mean hydraulic loading is less than the peak Treatment Plant Capacity as detailed further in Section 3.2. The annual maximum hydraulic loading is greater than the peak Treatment Plant Capacity as detailed further in Section 3.2. 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.

2.2 Discharges from the agglomeration

2.2.1 Effluent Monitoring Summary - KINSALE WWTP

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included Note 1	Interim % reduction from influent concentration	Number of sample results	Number of exceedences	Number of with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
Cadmium - unspecified µg/l	0	0	0	2	0	0	0.13	Pass
2,4-Dichlorophenol µg/l	0	0	0	2	0	0	0.08	Pass
Antimony - filtered µg/l	0	0	0	2	0	0	0.56	Pass
Benzo(a)pyrene µg/l	0	0	0	2	0	0	0.04	Pass
alpha BHC / Alpha-HCH µg/l	0	0	0	1	0	0	0.03	Pass
Anthracene µg/l	0	0	0	1	0	0	0.04	Pass
Ammonia-Total (as N) mg/l	5	6	0	10	0	0	1.32	Pass
Acenaphthylene µg/l	0	0	0	1	0	0	0.04	Pass
Copper - unspecified µg/l	0	0	0	1	0	0	5	Pass
Dieldrin µg/l	0	0	0	2	0	0	4.12	Pass
Enterococci (Intestinal) no./100mls	0	0	0	4	0	0	1073.93	Pass
Dibenzo(a,h)anthracene µg/l	0	0	0	1	0	0	0.04	Pass
Cobalt - filtered µg/l	0	0	0	2	0	0	11.15	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 exceedences	Number of with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
ortho-Phosphate (as P) - unspecified mg/l	1	1.2	0	12	2	2	0.48	Fail
Faecal coliforms no./100mls	0	0	0	4	0	0	1168.91	Pass
Molybdenum - filtered µg/l	0	0	0	2	0	0	3	Pass
Nickel - unspecified µg/l	0	0	0	2	0	0	3.8	Pass
Mercury - unspecified µg/l	0	0	0	2	0	0	0.07	Pass
Toluene µg/l	0	0	0	2	0	0	0.5	Pass
Hexachlorobenzene µg/l	0	0	0	1	0	0	0	Pass
Vanadium - filtered µg/l	0	0	0	2	0	0	3	Pass
Phenanthrene µg/l	0	0	0	1	0	0	0.04	Pass
Xylenes (Total) µg/l	0	0	0	1	0	0	0.5	Pass
Tin - filtered µg/l	0	0	0	2	0	0	3	Pass
Arsenic - unspecified µg/l	0	0	0	2	0	0	1.46	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 exceedences	Number of with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
Carbon Tetrachloride µg/l	0	0	0	2	0	0	0.5	Pass
Benzo(b)fluoranthene µg/l	0	0	0	2	0	0	0.04	Pass
Barium - filtered µg/l	0	0	0	2	0	0	6.88	Pass
E. Coli no./100mls	0	0	0	4	0	0	294.17	Pass
Chloride mg/l	0	0	0	2	0	0	5232.72	Pass
Dichlobenil µg/l	0	0	0	2	0	0	3.09	Pass
Chrysene µg/l	0	0	0	1	0	0	0.04	Pass
Faecal coliforms cfu/100ml	0	0	0	8	0	0	2038.5	Pass
Chromium - unspecified mg/l	0	0	0	2	0	0	1.18	Pass
Linuron µg/l	0	0	0	2	0	0	0.35	Pass
Naphthalene µg/l	0	0	0	2	0	0	0.04	Pass
Total Oxidised Nitrogen (as N) mg/l	10	12	0	10	0	0	0.68	Pass
Tetrachloroethylene µg/l	0	0	0	2	0	0	0.1	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 exceedences	Number of with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
Benzo(k)fluoranthene µg/l	0	0	0	2	0	0	0.04	Pass
Acenaphthene µg/l	0	0	0	1	0	0	0.04	Pass
Benzene µg/l	0	0	0	2	0	0	0.1	Pass
Boron - filtered mg/l	0	0	0	2	0	0	381.24	Pass
Atrazine µg/l	0	0	0	2	0	0	0.03	Pass
Benzo(g,h,i)perylene µg/l	0	0	0	2	0	0	0.04	Pass
Enterococci (Intestinal) cfu/100ml	0	0	0	8	0	0	863.09	Pass
Cyanide µg/l	0	0	0	2	0	0	657.36	Pass
Diuron µg/l	0	0	0	2	0	0	0.35	Pass
Isodrin µg/l	0	0	0	2	0	0	4.46	Pass
Indeno(1,2,3-c,d)pyrene µg/l	0	0	0	2	0	0	0.04	Pass
Fluorene µg/l	0	0	0	1	0	0	0.04	Pass
Isoproturon µg/l	0	0	0	2	0	0	0.35	Pass
Lead - unspecified µg/l	0	0	0	2	0	0	3.86	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 exceedences	Number of with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
Glyphosate µg/l	0	0	0	2	0	0	0.13	Pass
Fluoride mg/l	0	0	0	2	0	0	0.23	Pass
Hexachlorobutadiene µg/l	0	0	0	2	0	0	0.5	Pass
Total Phosphorus (as P) mg/l	0	0	0	12	0	0	0.6	Pass
Zinc - unspecified µg/l	0	0	0	2	0	0	38.11	Pass
Total Nitrogen mg/l	0	0	0	12	0	0	3.82	Pass
Selenium - filtered µg/l	0	0	0	2	0	0	3	Pass
Polyaromatic Hydrocarbons (PAH) - Sum µg/l	0	0	0	2	0	0	0.04	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	20	40	0	12	0	0	2.11	Pass
COD-Cr mg/l	125	250	0	12	0	0	34.03	Pass
Copper - unspecified mg/l	0	0	0	1	0	0	15	Pass
Chloromethane µg/l	0	0	0	2	0	0	5	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 exceedences	Number of with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
Ethylbenzene µg/l	0	0	0	1	0	0	0.5	Pass
E. Coli cfu/100ml	0	0	0	8	0	0	4356.67	Pass
Conductivity 20 C µS/cm	0	0	0	2	0	0	8252.84	Pass
Fluoranthene µg/l	0	0	0	2	0	0	0.04	Pass
MCPA µg/l	0	0	0	2	0	0	0.08	Pass
pH pH units	0	0	0	13	0	0	7.34	Pass
Total Hardness (as CaCO3) mg/l	0	0	0	2	0	0	1055.47	Pass
Mecoprop µg/l	0	0	0	2	0	0	0.07	Pass
Trichlorobenzene (all isomers) µg/l	0	0	0	1	0	0	0.01	Pass
2,6-Dichlorobenzamide µg/l	0	0	0	2	0	0	0.1	Pass
Suspended Solids mg/l	35	87.5	0	12	0	0	8	Pass
Simazine µg/l	0	0	0	2	0	0	0.03	Pass

Notes:

1- This represents the Emission Limit Values after the Interpretation provided for under Condition 2 of the licence is applied

2 - For parameters where a mean ELV applies

Cause of Exceedance(s):

Caused by a lower than required dose rate of ferric.

Significance of Results:

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

2.3 Ambient monitoring summary

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.

2.3.1 Ambient Monitoring Report Summary - KINSALE WWTP

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	Code	Bathing Water	Drinking Water	FWPM	Shellfish	WFD Status
Downstream	163204, 49049	TPEFF0500D0132SW001	No	No	No	No	Moderate

2.3.2 Ambient Monitoring Parameter Summary - KINSALE WWTP

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 not compliant with the ELV's set in the wastewater discharge licence.

The ambient monitoring results meet the required EQS.

The discharge from the wastewater treatment plant do not have an observable impact on the water quality.

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

Other Potential cause of deterioration in water quality relevant to this area are: The EQS assessed relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009, as amended.

3 OPERATIONAL REPORTS SUMMARY

3.1 Treatment Efficiency Report

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:

3.1.1 Treatment Efficiency Report Summary - KINSALE WWTP

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)	Comment
TP		825.05		
cBOD	132989.67	2903.28	97.82	
TN		5269.19		
SS	176998.81	11026.92	93.77	
COD	553690.31	46928.98	91.52	

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

3.2 Treatment Capacity Report Summary

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.

KINSALE WWTP	
Peak Hydraulic Capacity (m3/day) - As Constructed	6615

KINSALE WWTP	
DWF to the Treatment Plant (m3/day)	2205
Current Hydraulic Loading - annual max (m3/day)	11170
Average Hydraulic loading to the Treatment Plant (m3/day)	3982
Organic Capacity (PE) - As Constructed	9800
Organic Capacity (PE) - Collected Load (peak week)	8187
Organic Capacity (PE) - Remaining	1613
Will the capacity be exceeded in the next three years? (Yes/No)	No

3.3 Complaints Summary

A summary of complaints of an environmental nature is included below.

Number of Complaints	Nature of Complaint	Number Open Complaints	Number Closed Complaints
8	Blocked Sewer	0	8

3.4 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.

3.4.1 Summary of Incidents

Incident Type	Cause	No. of incident occurrences	Recurring (Y/N)	Closed (Y/N)
Uncontrolled release	Other	30	Yes	No
Uncontrolled release	Other	1	No	Yes
Non-compliance	Plant or Equipment Calibrationat WWTP	1	No	Yes
Other	Plant or equipment breakdown at WWTP	1	No	Yes
Uncontrolled release	Other	1	No	Yes
Non-compliance	Dosing Pump Failure	1	No	Yes

3.4.2 Summary of Overall Incidents

Question	Answer
Number of Incidents in 2018	6
Number of Incidents reported to the EPA via EDEN in 2018	6
Explanation of any discrepancies between the two numbers above	

3.5 Sludge / Other inputs to the 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)? ³	Is there a leachate/sludge acceptance procedure for the WWTP?	Is there a dedicated leachate/sludge acceptance facility for the WWTP? ² (Y/N)
Domestic /Septic Tank Sludge	30	Volume (m3)	134	100	Yes	Yes	Yes

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:

No Appendix Included

4.1.1 SWO Identification

WWDL Name / Code for Storm Water Overflow	Irish Grid Ref.	Included in Schedule A4 of the WWDL	Significance of the overflow(High / Medium / Low)	Assessed against DoEHLG Criteria	No. of times activated in 2018 (No. of events)	Total volume discharged in 2018 (m3)	Monitoring Status
SW002 / TPEFF0500D0132SW002 SUMMERCOVE	165478, 49761	Yes	Low	Meeting			Not Monitored
SW003 SCILLY	164236, 50240	No	Low	Not Meeting			Not Monitored
SW006 EMMET PLACE	163971, 50374	Yes	Low	Not Meeting			Not Monitored
SW007 PIER RD.	164168, 50069	No	Low	Meeting			Not Monitored
SW008 THE CAUSEWAY	163040, 49563	No	Low	Meeting			Not Monitored
SW010 GUBBIN'S QUAY	164234, 49812	No	Low	Meeting			Not Monitored

WWDL Name / Code for Storm Water Overflow	Irish Grid Ref.	Included in Schedule A4 of the WWDL	Significance of the overflow(High / Medium / Low)	Assessed against DoEHLG Criteria	No. of times activated in 2018 (No. of events)	Total volume discharged in 2018 (m3)	Monitoring Status
SW011 WORLD'S END	164249, 49705	No	Low	Not Meeting			Not Monitored

4.1.2 Inspection Summary Report

SWO Summary	
How much sewage was discharged via SWOs in the agglomeration in the year (m3)?	
Is each SWO identified as non meeting DoEHLG Guidance included in the Programme of Improvements?	No
The SWO Assessment included the requirements of relevant of WWDL schedules?	Yes
Have the EPA been advised of any additional SWOs / charges 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 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)	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
There are no Specified Improvement Programmes for this Agglomeration.						

A summary of the status of any improvements identified by under Condition 5.2 is included below.

4.2.2 Improvement Programme Summary

Improvement Identifier	Improvement Description	Improvement Source	Expected Completion Date	Comments
There are no Improvements Programme for this Agglomeration.				

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 Table".

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 list of the various reports required for this agglomeration and a brief summary of their recommendations.

5.a Licence Specific Reports Summary Table

Licence Specific Report	Required by licence	Year included in AER	Included in this AER	Reference to relevant section of AER (e.g. Appendix X).
There is no Licence Specific Report Required in this AER Annual Review.				

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	
Is there a need to request/advise the EPA of any modifications to the existing WWDL?	No
List reason e.g. changes to monitoring requirements	
Have these processes commenced?	
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER	No

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

Signed: Date: 09/04/2019

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 ,

Eleanor Roche

Acting Head of Environmental Regulation.

7 APPENDIX

In the appendix include all the detailed or site specific reports that are relevant to the AER. Reports omitted from previous AERs should also be appended here.

Appendix

Appendix 7.1 - Ambient monitoring summary

NONCOMPLIANCE SUMMARY

Kinsale D0132-01					Sample Code	68935	69641	70228	70982	71476	72464	73290	74031	74665	75326	76166
					Sample Date	10/01/2018	07/02/2018	07/03/2018	11/04/2018	02/05/2018	13/06/2018	11/07/2018	08/08/2018	05/09/2018	10/10/2018	08/11/2018
					Sample Type	Comp										
Flow m ³ /Day	ELV	Max ELV	Frequency	Actual												
BOD mg/L	20	40	12	12	3.1	6.9	1.4	0.5	1.7	1.2	1.8	1.3	8	1.1	3.1	
COD mg/L	125	250	12	12	34	49	28	10.5	29	77	41	39	52	41	31	
Suspended Solids mg/L	35	87.5	12	12	10	24	1.25	3	11	5	6	4	18	10	13	
Orthophosphate (P) mg/l	1	1.2	12	12	0.09	0.53	0.07	0.07	0.15	0.76	2.46	0.07	0.86	1.26	0.06	
Ammonia (N) mg/l	5	6	12	12	0.6	3.9	0.3	4.9	0.4	0.5	0.3	0.2	0.2	0.0175	0.27	
TP-P mg/l	n/a		12	12	0.19	0.82	0.12	0.12	0.25	0.93	2.89	0.19	1.04	1.39	0.17	
TN-N (mg/l)	n/a		12	11	2.6		4.92	8.3	1.9	3.48	4.21	1.77	5.06	0.6	2.3	
pH	6 to 9		12	13	7.4	7.4	7.4	7.6	7.2	7.4	7.5	7.2	7.3	7.3	7.1	
TON (N)	10	12	12	12	0.25	0.25	0.51	2.44	0.25	0.25	0.25	0.58	0.25	1.87	1.94	
E.Coli cfu/100mls	n/a		12	12	40	<1	3000	<1	340	5475	24196	8390	>241960	1000	146	
Intestinal enterococci CFU/100mls	n/a		12	12	51	12	2000	390	10	956	1576	1100	2750	3100	98	
Faecal Coliforms cfu/100mls	n/a		12	12	40	<1	3000	1200	430	>24196	>24196	11530	>24196	5100	160	

Effluent Monitoring Summary												
	BOD (mg/l)	COD (mg/l)	TSS (mg/l)	PO4 (mg/l)	NH3 (mg/l)	pH	TON	TP	TN			
WWDL ELV (ScheduleA)	20	125	35	1	5	6 to 9	10	n/a	n/a			
ELV with Condition 2 interpretation included	40	250	87.5	1.2	6	6 to 9	12	0	0			
Number of sample results	12	12	12	12	12	13	12	12	11			
Number of sample results above WWDL ELV	0	0	0	2	0	0	0	n/a	n/a			
Number of sample results above WWDL ELV with condition 2 interpretation included	0	0	0	2	0	N/A	0	n/a	n/a			
Annual Mean (for parameters where a mean ELV applies)	N/A	N/A	N/A	N/A	N/A	N/A	n/a	n/a	n/a			
Overall Compliance (PASS/FAIL)								N/A	N/A			

INLET			1	2	3	4	Mean	% Compliance with
Sample Code			70226	71477	73289	75325		
Sample Date			07/03/2018	02/05/2018	11/07/2018	10/10/2018		
Sample Type			Grab	Comp	Comp	Comp		
Flow m ³ /Day	Frequency	Actual						
BOD mg/L	4	4	60	55	211	58	96.0	100.0
COD mg/L	4	4	248	116	693	450	376.8	100.0
Suspended Solids mg/L	4	4	114	32	254	83	120.8	100.0
PO4 mg/l	4	4	0.025	0.39	2.15	0.93	0.87	100.0
TON mg/l	4	3	0.51	0.25	0.25	<0.02	0.34	75.0
NH3 (mg/l)	4	4	7.4	7.7	26	13.7	13.70	100.0

Influent Monitoring Summary						
	BOD (mg/l)	COD(mg/l)	SS (mg/l)	TPO4 (mg/l)	NH3-N	TON (mg/l)
Number of samples	4	4	4	3	4	4
Annual Max	211	693	254	0.51	26	26
Annual Mean	96.0	376.8	120.8	0.34	13.70	13.70

Ambient (Transitional)				Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Median	95%ile	Impact ?	
Sample Code				70225	71478	73286	75329							
EQS				Sample Date	07/03/2018	02/05/2018	11/07/2018	10/10/2018						
	Mean	95%ile	Frequency	Actual									Median	95%ILE
D.O % O ₂	70%<95%ile		4	4	98.5	106	110	98.6				102.3	109.4	No
Temperature C°	≤ 1.5 C° increase		4	4	6.3	11.9	19.3	15.4				13.7	18.715	
pH	n/a		4	4	8	8	8.2	8				8.0	8.17	
BOD mg/L	95 %ile ≤ 4		4	4	0.5	1.2	1.7	1.2				1.2	1.625	No
Suspended Solids	n/a		4	4	9	21	31	24				22.5	29.95	
Ammonia (N) mg/l	n/a		4	3	0.057	0.03	0.5	<0.0350				0.1	0.4557	
TN (N) mg/l	n/a		4	3	1.17	0.88	<0.5	2.17				1.2	2.07	
TON (N) mg/l	n/a		4	3	0.91	0.616	<0.02	0.22				0.6	0.8806	
E.Coli MPN/100mls	n/a		4	2	41	<1	<10	200				120.5	192.05	
Intestinal enterococci CFU/100mls	n/a		4	2	6	7	<10	<100				6.5	6.95	
Faecal Coliforms MPN/100mls	n/a		4	3	41	160	10	<100				41.0	148.1	

Ambient Monitoring Summary				
Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish Grid Reference	EPA Feature Coding tool Code	Current EQS Status	Does Assessment of the monitoring results indicate the discharge is impacting on water quality
Downstream Monitoring Point	E163204 N49049	TPEFFOSO OD0132SW 001	Eutrophic	

			% Compliance with ELV Limits Schedule A.1	% Compliance with Condition 2.1	% Compliance with Frequency Schedule B.1
76678	76679	76913			
05/12/2018	05/12/2018	12/12/2018			
Comp	Grab	Grab			
1			83.33	83.33	100.0
22			83.33	83.33	100.0
4			83.33	83.33	100.0
0.5			66.67	66.67	100.0
0.2			83.33	83.33	100.0
0.52					100.0
1.2					91.7
7.4		7.3			108.3
0.25			83.33	83.33	100
	<100				100
	<100				100
	<100				100

76913	Kinsale SW001 Primary Discharge	12/12/2018	1	WW_SUBCONT	2,4 D	<0.10	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1	WW_SUBCONT	2,6-Dichlorobenzamide	<0.10	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1	WW_SUBCONT	Acenaphthene	<0.04	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1	WW_SUBCONT	Acenaphthylene	<0.04	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1	WW_SUBCONT	Anthracene	<0.04	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1	WW_SUBCONT	Antimony	0.7	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1	WW_SUBCONT	Arsenic	1.7	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1	WW_SUBCONT	Atrazine	<0.02	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1	WW_SUBCONT	Barium	8.9	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1	WW_SUBCONT	Benzene	<0.1	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1	WW_SUBCONT	Benzo(a)pyrene	<0.04	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1	WW_SUBCONT	Benzo(b)fluoranthene	<0.04	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1	WW_SUBCONT	Benzo(g,h,i)perylene	<0.04	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1	WW_SUBCONT	Boron	580	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1	WW_SUBCONT	Carbon Tetrachloride	<0.5	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1	WW_SUBCONT	Chloride	1700	mg_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1	WW_SUBCONT	Chromium	1.8	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1	WW_SUBCONT	Conductivity at 20C	5498	uS_cm
76913	Kinsale SW001 Primary Discharge	12/12/2018	1	WW_SUBCONT	Copper	15	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1	WW_SUBCONT	Cyanide	1000	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1	WW_SUBCONT	Dibenz (a,h) anthracene	<0.04	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1	WW_SUBCONT	Dichlobenil	<0.002	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1	WW_SUBCONT	Dichloromethane	<5	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1	WW_SUBCONT	Dieldrin	<0.004	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1	WW_SUBCONT	Diuron	<0.5	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1	WW_SUBCONT	Ethyl Benzene	<0.5	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1	WW_SUBCONT	Fluoranthene	<0.04	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1	WW_SUBCONT	Fluorene	<0.04	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1	WW_SUBCONT	Fluoride	0.14	mg_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1	WW_SUBCONT	Glyphosate	0.1	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1	WW_SUBCONT	Hardness Total	705.7	mg_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1	WW_SUBCONT	Hexachlorobenzene	<0.002	ug_l

76913	Kinsale SW001 Primary Discharge	12/12/2018	1 WW_SUBCONT	Hexachlorobutadiene	<0.5	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1 WW_SUBCONT	Hexachlorocyclohexane (Total HCH)	<0.027	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1 WW_SUBCONT	Indeno(1,2,3-cd)pyrene	<0.04	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1 WW_SUBCONT	Isodrin	<0.004	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1 WW_SUBCONT	Isoproturon	<0.5	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1 WW_SUBCONT	Lead	5.4	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1 WW_SUBCONT	Linuron	<0.5	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1 WW_SUBCONT	MCPA	<0.10	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1 WW_SUBCONT	Mecoprop Total	<0.08	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1 WW_SUBCONT	Mercury	<0.06	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1 WW_SUBCONT	Molybdenum	<3	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1 WW_SUBCONT	Naphthalene	<0.04	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1 WW_SUBCONT	Nickel	5.0	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1 WW_SUBCONT	pH	6.7	pH_unit
76913	Kinsale SW001 Primary Discharge	12/12/2018	1 WW_SUBCONT	Phenanthrene	<0.04	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1 WW_SUBCONT	Polyaromatic Hydrocarbons	<0.04	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1 WW_SUBCONT	Selenium	<3	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1 WW_SUBCONT	Simazine	<0.02	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1 WW_SUBCONT	Tetrachloroethylene	<0.1	ug_l
76913	Kinsale SW001 Primary Discharge	12/12/2018	1 WW_SUBCONT	Tin	<3	ug_l