

Annual Environmental Report 2014

Agglomeration Name:	Ballivor
Licence Register No.	D0254-01



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Section 1. Executive Summary and Introduction to the 2014 AER

1.1 Summary report on 2014

This Annual Environmental Report has been prepared for D0254-01, Ballivor, in County Meath in accordance with the requirements of the wastewater discharge licence for the agglomeration. Specified assessments are included as an appendix to the AER as follows:

- Storm water overflow assessment
- Priority substances assessment

The agglomeration is served by a wastewater treatment plant with a Design PE of 2,000. The treatment process includes the following:-

- preliminary treatment (including screening / grit removal)
- primary treatment
- secondary treatment - conventional activated sludge / SBR / RBC etc.
- chemical dosing for phosphorus removal
- tertiary treatment – sand filter (not in operation at present).

The final effluent from the Primary Discharge Point was compliant with the Emission Limit Values in 2014.

110,540kgs of sludge (as kgs dry solids) were removed from the wastewater treatment plant in 2014 as dewatered sludge cake. Sludge cake was transferred to P Brady, Rosmeen, Kells, County Meath.

There was no major capital or operational changes undertaken in 2014.

An Annual Statement of Measures is included in Appendix 7.1.

Section 2. Monitoring Reports Summary

2.1 Summary report on monthly influent monitoring

Table 2.1 - Influent Monitoring Summary

	BOD (mg/l)	COD (mg/l)	SS (mg/l)	TP (mg/l)	TN (mg/l)	Hydraulic Loading (m ³ /d)	Organic Loading (PE/day)
Number of Samples	12	12	12	12	12		
Annual Max.	782	943	1,095	7	63	1,077	3,508
Annual Mean	187	285	287	4	37	537	1,675

Significance of results

The annual mean hydraulic loading is less than the 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

Table 2.2 - Effluent Monitoring Summary

	BOD	COD	TSS	NH ₄	OP
	mg/l	mg/l	mg/l	mg/l	mg/l
WWDL ELV (Schedule A)	5	125	35	1	0.5
ELV with Condition 2 Interpretation included	10	250	88	1.2	0.6
Number of sample results	12	12	12	12	12
Number of sample results above WWDL ELV	0	0	0	0	0
Number of sample results above ELV with Condition 2 Interpretation included	0	0	0	0	0
Annual Mean (for parameters where a mean ELV applies)	3	25	7	0.109	0.098
Overall Compliance (Pass/Fail)	Pass	Pass	Pass	Pass	Pass

Significance of results

The WWTP was compliant with the ELVs set in the wastewater discharge licence. There were zero samples non-compliant with the ELVs in relation to all parameters. The impact on receiving waters is assessed further in Section 2.3.

2.3 Ambient monitoring summary

Table 2.3 - Ambient Monitoring Report 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 ambient monitoring results indicate that the discharge is impacting on water quality?
Upstream monitoring point	268768E 259910N	RS07B520620	Moderate	n/a
Downstream monitoring point	269682E 253736N	RS07B520690	Moderate	No

The results for the upstream and downstream monitoring are included as in Appendix 7.2.

Significance of results

The WWTP was compliant with the ELVs set in the wastewater discharge licence as detailed in Section 2.2.

There was an increase in Ammonia, Ortho-P and BOD (based on mean and 95%ile concentrations) at the downstream monitoring location. However the status of the water body is “moderate” both upstream and downstream of the discharge point and the plant is compliant with the ELVs for BOD, Ammonia and Ortho-phosphate.

2.4 Data collection and reporting requirements under the Urban Waste Water Treatment Directive

The electronic submission of data was completed on the 27th January 2015.

2.5 Pollutant Release and Transfer Register (PRTR) - report for previous year

A PRTR is not required as the agglomeration is less than 2000 p.e.

Section 3 Operational Reports Summary

3.1 Treatment Efficiency Report

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

Table 3.1 - Treatment Efficiency Report Summary

	cBOD (kg/yr)	COD (kg/yr)	SS (kg/yr)	Total P (kg/yr)	Total N (kg/yr)	Comment
Influent mass loading (kg/year)	36,679	55,797	56,294	704	7,184	
Effluent mass emission (kg/year)	554	4,419	1,114	33	3,492	
% Efficiency (% reduction of influent load)	98%	92%	98%	95%	51%	

3.2 Treatment Capacity Report

Table 3.2 - Treatment Capacity Report Summary

Hydraulic Capacity – Design / As Constructed (dry weather flow) (m ³ /year)	163,119
Hydraulic Capacity – Design / As Constructed (peak flow) (m ³ /year)	489,356
Hydraulic Capacity – Current loading (m ³ /year)	196,019
Hydraulic Capacity – Remaining (m ³ /year)	293,337
Organic Capacity - Design / As Constructed (PE)	2,000
Organic Capacity - Current loading (PE)	1,675
Organic Capacity – Remaining (PE)	325
Will the capacity be exceeded in the next three years? (Yes / No)	No

3.3 Extent of Agglomeration Summary Report

In this section Irish Water is required to report on the amount of urban waste water generated within the agglomeration. It does not include any waste water collected and treated in a private system and discharged to water under a Section 4 Licence issued under the Water Pollution Acts 1977 (as amended):

Table 3.3 - Extent of Agglomeration Summary Report

	% of p.e. load generated in the agglomeration
Load generated in the agglomeration that is collected in the sewer network	100%
Load collected in the agglomeration that enters treatment plant	100%
Load collected in the sewer network but discharged without treatment	0%

Load generated in the agglomeration that is collected in the sewer network is the total load generated and collected in the municipal network within the boundary of the agglomeration.

Load collected in the agglomerations that enters treatment plant is that portion of the previous figure which enters the waste water treatment plant

Load collected but discharged without treatment is that portion of the first figure which is discharged without treatment.

The data in Table 3.3 above is based on influent monitoring as detailed in Section 2.1 above.

3.4 Complaints Summary

There were no complaints of an environmental nature in 2014.

Table 3.4 - Complaints Summary Table:

Number	Date & Time	Nature of Complaint	Cause of Complaint	Actions taken to resolve issue	Closed (Y/N)
None					

3.5 Reported Incidents Summary

There were no reported incidents in 2014.

Table 3.5.1 - Summary of Incidents

Incident Type (e.g. Non-compliance, Emission, spillage, Emergency Overflow Activation)	Incident Description	Cause	No. of incidents	Corrective Action	Authorities Contacted <small>Note 1</small>	Reported to EPA (Yes/No)	Closed (Y/N)
None							

Note 1: For shellfish waters notify the Marine Institute (MI) Sea Fisheries Protection Authority (SFPA) Food Safety Authority (FSAI) and An Bord Iascaigh Mhara (BIM). This should also include any other authorities that should be contacted arising from the findings of any Licence Specific Reports also e.g. Drinking Water Abstraction Impact Risk Assessment, Fresh Water Pearl Mussel Impact Assessments etc.

Table 3.5.2 - Summary of Overall Incidents

Number of Incidents in 2014	0
Number of Incidents reported to the EPA via EDEN in 2014	0
Explanation of any discrepancies between the two numbers above	N/A

3.6 Sludge / Other inputs to the WWTP

‘Other inputs’ to the waste water treatment plant are summarised in Table 3.6 below.

Table 3.6 - Other Inputs

Input type	m3/year	PE/year	% of load to WWTP	Is there a leachate/sludge acceptance procedure for the WWTP? (Y/N)	Is there a dedicated leachate/sludge acceptance facility for the WWTP? (Y/N)
Domestic /Septic Tank Sludge	0	0	0	N/A	N/A
Industrial / Commercial Sludge	0	0	0	N/A	N/A
Landfill Leachate (delivered by tanker)	0	0	0	N/A	N/A
Landfill Leachate (delivered by sewer network)	0	0	0	N/A	N/A
Other (specify)	0	0	0	N/A	N/A

Notes:

1. Other Inputs include; septic tank sludge, industrial /commercial sludge, landfill leachate and any other sludge that is collected and added to the treatment plant.
2. Sludge that is added to a dedicated sludge reception facility at a waste water treatment plant not included in Table 3.6. Only include sludge which is added to the waste water treatment process stream. Enter zero where there are no inputs

Section 4. Infrastructural Assessments and Programme of Improvements

4.1 Storm water overflow identification and inspection report

The Storm Water Overflow Identification & Inspection report is included in Appendix 7.3. A summary of the significance and operation is included below.

Table 4.1.1 - SWO Identification and Inspection Summary Report

WWDL Name / Code for Storm Water Overflow	Irish Grid Ref.	Included in Schedule A4 of the WWDL	Significance of the overflow (High / Medium / Low)	Compliance with DoEHLG Criteria	No. of times activated in 2014 (No. of events)	Total volume discharged in 2014 (m ³)	Total volume discharged in 2014 (P.E.)	Estimated /Measured data
D0254-01/SW2	269071E 253830N	Yes	Low	Compliant	Unknown	Unknown	Unknown	E

Table 4.1.2 - SWO Identification and Inspection Summary Report

How much sewage was discharged via SWOs in the agglomeration in the year (m ³ /yr)?	Unknown
How much sewage was discharged via SWOs in the agglomeration in the year (p.e.)?	Unknown
What % of the total volume of sewage generated in the agglomeration was discharged via SWOs in the agglomeration in 2014?	Unknown
Is each SWO identified as non-compliant with DoEHLG Guidance included in the Programme of Improvements?	N/A
The SWO assessment includes the requirements of Schedule A3 & C3	C2
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.

In 2015 existing hydraulic constraints will be remedied by replacing pipe work between the aeration tanks and clarifiers and raising the outlet weirs in the clarifiers which will increase capacity of wastewater treatment works. Work to be completed in 2015.

Table 4.2.1 - Specified Improvement Programme Summary

Specified Improvement Programmes (under Schedule A and C of WWDL)	Licence Schedule (A or C)	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works ((i) Not Started; (ii) At planning stage; (iii) Work ongoing on-site; (iv) Commissioning Phase; (v) Completed; (vi) Delayed;)	% Construction Work Completed	Timeframe for Completing the Work	Comments
N/A							

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

Table 4.2.2 - Improvement Programme Summary

Improvement Identifier	Improvement Description	Improvement Source	Progress (% completed)	Expected Completion Date	Comments
		WWTP assessment (Condition 5.2).			
Sewer Integrity Tool (Condition 5.2).	N/A	Sewer Integrity Tool (Condition 5.2).	100%		See Appendix 7.5
		Secondary discharges assessment (Condition 5.2).			
SWO Assessment		SWO Assessment (Condition 4 & 5.2).			See Appendix 7.3
Not Required	N/A	Drinking Water Abstraction Risk Assessment (Condition 4)			
Not Required	N/A	Shellfish Impact Risk Assessment (Condition 5)			
Not required	N/A	Pearl Mussel Impact Assessment (Condition 4)			

		Improved Operational Control			
		Incident Reduction			
Priority Substances	<i>None</i>	Elimination/Reduction of Priority Substances	100%		See Appendix 7.6

Improvements identified above also include measures taken to prevent environmental damage anticipated following events or accidents/incidents associated with discharges or overflows from the waste water works and as such are considered to fulfil any Statement of Measures requirements. Refer also to Appendix 7.1 which summarises the Annual Statement of Measures.

Table 4.2.3 - Sewer Integrity Risk Assessment Tool Summary

The Improvement Programme should include an assessment of the integrity of the existing wastewater works for the following:	Risk Assessment Rating (High, Medium, Low)	Risk Assessment Score	Comment
Hydraulic Risk Assessment Score	High	140	See Appendix 7.5
Environmental Risk Assessment Score	Low	110	See Appendix 7.5
Structural Risk Assessment Score	High	150	See Appendix 7.5
Operation & Maintenance Risk Assessment Score	Low	20	See Appendix 7.5
Overall Risk Score for the agglomeration	High	420	See Appendix 7.5

Section 5. Licence Specific Reports

Licence Specific Reports Summary Table

Licence Specific Report	Required in 2014 AER or outstanding from previous AER	Included in 2014 AER	Reference to relevant section of AER
Priority Substances Assessment	Yes	Yes	Full report in Appendix 7.6.
Drinking Water Abstraction Point Risk Assessment	No	No	N/A
Habitats Impact Assessment	No	No	N/A
Shellfish Impact Assessment	No	No	N/A
Pearl Mussel Report	No	No	N/A
Toxicity/Leachate Management	No	No	N/A
Toxicity of Final Effluent Report	No	No	N/A

Licence Specific Reports Summary of Findings

Licence Specific Report	Recommendations in Report	Summary of Recommendations in Report
Priority Substances Assessment	No	<p>No parameters have been identified as potentially being higher than the required EQS following dilution at 95 percentile flows therefore no impact on the receiving waters is anticipated.</p> <p>Based on the assessment carried out it is not considered that any further sampling or analysis is required.</p>
Drinking Water Abstraction Point Risk Assessment	N/A	
Habitats Impact Assessment	N/A	
Shellfish Impact Assessment	N/A	
Pearl Mussel Report	N/A	
Toxicity/Leachate Management	N/A	
Toxicity of Final Effluent Report	N/A	

5.1 Priority Substances Assessment

The Priority Substances Assessment report is included in Appendix 7.6. A summary of the findings of this report is included below.

Table 5.1 - Priority Substance Assessment Summary

	<i>Licensee self- assessment checks to determine whether all relevant information is included in the Assessment.</i>
Does the assessment use the Desk Top Study Method or Screening Analysis to determine if the discharge contains the parameters in Appendix 1 of the EPA guidance	Desk Top Study
Does the assessment include a review of Trade inputs to the works?	Yes
Does the assessment include a review of other inputs to the works?	Yes
Does the report include an assessment of the significance of the results where a listed material is present in the discharge? (e.g. impact on the relevant EQS standard for the receiving water)	Yes
Does the assessment identify that priority substances may be impacting the receiving water?	No
Does the Improvement Programme for the agglomeration include the elimination / reduction of all priority substances identified as having an impact on receiving water quality?	No

5.2 Drinking Water Abstraction Point Risk Assessment.

Not required.

5.3 Shellfish Impact Assessment Report.

Not required.

5.4 Toxicity / Leachate Management

Not required.

5.5 Toxicity of the Final Effluent Report

Not required.

5.6 Pearl Mussel Measures Report

Not required.

5.7 Habitats Impact Assessment Report

Not required.

Section 6. Certification and Sign Off

Table 6.1 - Summary of AER Contents

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 (<i>insert lines as required</i>)	N/A
Is there a need to request/advise the EPA of any modifications to the existing WWDL? Refer to Condition 1.7 (changes to works/discharges) & Condition 4 (changes to monitoring location, frequency etc.)	No
List reason e.g. failure to complete specified works within dates specified in the licence, changes to monitoring requirements (<i>insert lines as required</i>)	N/A
Have these processes commenced? (i.e. Request for Technical Amendment / Licence Review / Change Request)	N/A
Are all outstanding reports and assessments from previous AER's included as an appendix to this AER?	N/A
List outstanding reports (<i>insert lines as required</i>)	N/A

Declaration by Irish Water

The AER contains the following;

- Introduction and background to 2014 AER
- Monitoring reports summary.
- Operational reports summary.
- Infrastructural Assessment and Programme of Improvements.
- Licence specific reports.
- Certification and Sign Off
- Appendices

I certify that to the best of my knowledge the information given in this Annual Environmental Report is truthful, accurate and complete:

Signed:



Date: 12/03/2015

Gerry Galvin
Chief Technical Advisor

Section 7. Appendix

Appendix 7.1 - Annual Statement of Measures

Appendix 7.2 - Ambient Monitoring Summary

Appendix 7.3 - Storm Water Overflow Identification and Inspection Report

Appendix 7.4 – Specified Improvement Programme

Appendix 7.5 – Sewer Integrity Tool Output

Appendix 7.6 - Priority Substances Assessment

Appendix 7.1

Annual Statement of Measures

No additional measures have been taken in 2014 in relation to the prevention of environmental damage. The need for measures to prevent environmental damage will be reviewed on an annual basis.

Appendix 7.2

Ambient Monitoring Summary

		Date		Ammonia	Ortho P	DO	BOD	Total N
				mgN/L	mgP/L	% Sat	mg/L	mg/L
14-066	U/S BALLIVOR	20-Feb-14		0.189	0.051	83.1	2.23	1.78
14-156	U/S BALLIVOR	24-Apr-14		0.08	0.044	81.9	1.66	1.89
14-293	U/S BALLIVOR	10-Jun-14		0.054	0.058	8.04	3.27	
14-507	U/S BALLIVOR	03-Jul-14		0.063	0.061	91.7	2.12	
14-749	U/S BALLIVOR	19-Aug-14		0.071	0.043	94.3	1.61	1.19
14-826	U/S BALLIVOR	12-Sep-14		0.058	0.055	100.1	1.45	1.16
14-933	U/S BALLIVOR	08-Oct-14		0.025	0.035		3.18	1.11
14-989	U/S BALLIVOR	22-Oct-14		0.032	0.035		2.17	1.27
14-1108	U/S BALLIVOR	20-Nov-14		0.21	0.049	76.4	1.58	1.82
14-1198	U/S BALLIVOR	02-Dec-14		0.14	0.05	81.4	1.96	1.66
			Mean	0.092	0.048	77.118	2.123	1.485
			95% ile	0.201	0.060	98.070	3.230	1.866
14-067	D/S BALLIVOR	20-Feb-14		0.336	0.069	83.7	3.24	2.21
14-157	D/S BALLIVOR	24-Apr-14		0.063	0.051	89.3	3.56	3.52
14-294	D/S BALLIVOR	10-Jun-14		0.055	0.061	8.65	3.33	
14-508	D/S BALLIVOR	03-Jul-14		0.063	0.132	86.8	3.1	
14-750	D/S	19-Aug-14		0.063	0.072	91	0.75	2.71

		Date		Ammonia	Ortho P	DO	BOD	Total N
				mgN/L	mgP/L	% Sat	mg/L	mg/L
	BALLIVOR							
14-827	D/S BALLIVOR	12-Sep-14		0.106	0.084	98.9	2.38	5.53
14-934	D/S BALLIVOR	08-Oct-14		0.029	0.049		3.16	3.15
14-990	D/S BALLIVOR	22-Oct-14		0.038	0.043		4.27	2.51
14-1109	D/S BALLIVOR	20-Nov-14		0.245	0.055	82.4	1.84	2.11
14-1199	D/S BALLIVOR	02-Dec-14		0.164	0.048	77.5	2.22	2.34
			Mean	0.116	0.066	77.281	2.785	3.010
			95% ile	0.295	0.110	96.135	3.951	4.827

EQS as per EC Environmental Objectives (Surface Water) Regulations 2009:

<u>Ammonia</u>	High Status	≤ 0.040 mgN/L (mean) ≤ 0.090 mgN/L (95% ile)	Good Status	≤ 0.060 mgN/L (mean) ≤ 0.14 mgN/L (95% ile)
<u>Ortho P</u>	High Status	≤ 0.025 mgP/L (mean) ≤ 0.045 mgP/L (95% ile)	Good Status	≤ 0.035 mgP/L (mean) ≤ 0.075 mgP/L (95% ile)
<u>B.O.D.</u>	High Status	≤ 1.3 mgO ₂ /L (mean) ≤ 2.2 mgO ₂ /L (95% ile)	Good Status	≤ 1.5 mgO ₂ /L (mean) ≤ 2.2 mgO ₂ /L (95% ile)
<u>D.O.</u>	Lower Limit Upper Limit	80 % saturation (95% ile) 120 % saturation (95% ile)		

Appendix 7.3

Storm water overflow identification and inspection report

Condition 4.12 of the WWDL for Trim requires the following with regard storm water overflows:

4.11 Storm water overflows

4.11.1 The licensee shall, prior to the date for submission of the second AER (required under Condition 6.11), carry out an investigation for the identification and assessment of storm water overflows. A report on the storm water overflows shall be submitted to the Agency as part of the second AER. The assessment shall include a determination of compliance with the criteria for storm water overflows, as set out in the DoEHLG 'Procedures and Criteria in Relation to Storm Water Overflows', 1995 and any other guidance as may be specified by the Agency.

4.11.2 The licensee shall carry out an assessment of storm water overflows at least once every three years thereafter and report to the Agency on each occasion as part of the AER. The assessment shall include a determination of compliance with the criteria for storm water overflows, as set out in the DoEHLG 'Procedures and Criteria in Relation to Storm Water Overflows', 1995 and any other guidance as may be specified by the Agency. The licensee shall maintain a written record of all assessments and remedial measures arising from the assessment.

The only storm water overflows identified in Schedule A.4 of the licence is as:

EDEN Code	Licence Code	Location	Receiving Waters
TPEFF2300D0254SW002	SW002	269071E 253830N	River Ballivor

SW002

This is an overflow from the on-site storm tank. Flows in excess of 2.5DWF are screened and sent to the storm tank. When flow recedes the contents of the tanks is pumped back to the inlet works.

When peak design flows are exceeded the storm tank overflows to the River Ballivor.

The on-site storm tank has a capacity of: 495 m³
 Dry Weather Flow to the treatment plant: 18.625 m³/hr
 95%ile flow in River Ballivor: 0.006 m³/s = 21.6 m³/hr
 (at Ballivor Hydrometric Station 07044)

Dilution factor in river Ballivor: 21.6/18.625 = 1.16

The required storage volume based on a dilution rate of $>1 = 120\text{l/head}$

The required storage volume = $120\text{l/head} \times 2,000\text{pe} = 240\text{m}^3$

The volume of the stormwater tank is 495m^3 .

The stormwater tank capacity is approximately 52% larger than that required and therefore complies with the design criteria as per Procedures and Criteria for Storm Water Overflows', published by the Dept. of the Environment, 1995.

Therefore SW002 is fully compliant with the DoEHLG "Procedures and Criteria for Storm Water Overflows", 1995.

NAME OF RECEIVING WATER: River Ballivor				GIS CO -ORDINATES OF DISCHARGE: 269071E 253830N
SECONDARY DISCHARGE POINT CODE: D0254-01/SW002				PHOTOGRAPHS TAKEN: NO VIDEO TAKEN: NO
TIME IN:				WEATHER: Dry
TIME OUT:				WEATHER CONDITIONS OVER 24HRS: Dry
	Yes	No	N/A	COMMENTS
14.1 Was there evidence of the operation of the storm water overflow?		✓		
14.2 Is there a system in place to monitor the frequency of the operation of the SWO?		✓		
14.3 Is the SWO operating according to the criteria specified in the Procedures and Criteria in relation to Storm Water Overflows?		✓		Based on size of storm tanks and dilution available in receiving waters
14.4 Is the SWO causing significant visual/aesthetic impact or resulting in public complaints?		✓		

14.5 Have the local authority evaluated whether there is deterioration in the water quality of the receiving water due to the operation of the SWO?	✓			Overflow from storm tanks discharged with final effluent. Ambient monitoring upstream and downstream of outfall carried out 10 times per year.
14.6 Have the local authority evaluated whether the SWO gives rise to failure to meet the requirements of national Regulations (for example, the Bathing Water Regulations)?	✓			
14.7 Does the SWO operate in dry weather?		✓		
14.8 Was there evidence of gross solids or litter in the receiving water associated with the SWO discharge resulting in an impairment of, or an interference with, amenities or the environment?		✓		

Appendix 7.4

Specified Improvement Programme

In 2015 existing hydraulic constraints will be remedied by replacing pipe work between the aeration tanks and clarifiers and raising the outlet weirs in the clarifiers which will increase capacity of wastewater treatment works. Work to be completed in 2015.

Appendix 7.5

Sewer Integrity Tool Output

Section 1.1 Agglomeration Details					
Name		Ballivor			
Licence Number		D00254-01			
Insert Name of Catchment if the Risk Assessment is for part of an agglomeration (only divide agglomeration where p.e. >5,000p.e. and where such division is warranted)		Insert Catchment Name (e.g., Downtown Pumping Station network). Refer to Guidance Notes for rules on division of large agglomerations.			
Date Licence Issued		06/11/2016			
Current Date		28/01/2015			
		Year	Year	Year	Year
		2014	2016	2017	2018
Waste Water Works - Wastewater Treatment Plant Details		Unit			
1.1 Is there an existing WWTP in operation?		Yes		Yes	Yes
Section 1.2 BOD Loading & Population Equivalent					
1.2	Average Daily Influent Flow or Average Total Flow in system (if no measured data exists, insert estimated figure)	l/day, measured	537000		
1.3	Average Daily Influent BOD or Average BOD Load from area served (no measured data exists, insert estimated figure)	mg/l, measured	187		
1.4	Total BOD Load	kg/day	100,419		
1.5	Average Population Equivalent (@0.06kg/person/day)	p.e.	1674		
1.6	Estimated (existing) Non-Domestic Load	p.e.	100		
1.7	Estimated Domestic Load	p.e.	1574		
1.8	Occupancy Rate for the Agglomeration	pop/house	3.08		
1.9	Estimated Number of Connected Properties	houses	511		
1.10	Number of properties within the agglomeration when compared with CSO Data or An Post Geodirectory	houses	550		
Section 1.3 Hydraulic Details					
1.11	Average Dry Weather Flow arriving at WWTP OR Total Average DWF in system (if no measured data exists insert estimated figure)	l/s, measured	5,327		
1.12	Estimated 3DWF	l/sec	15.98		
1.13	Annual Average Peak Flow to WWTP or discharging from whole system if there is no existing WWTP	l/s, measured	12.46		
1.14	This Annual Average Peak as Multiples of Dry Weather Flow (Peak Factor)	Nr	3.00		
1.15	Highest Peak Flow Recorded (Insert UNKNOWN if no records exist)	l/s	12.46		
1.16	Does this Peak Flow (multiple of DWF) cause hydraulic capacity problems within the network?	---	No	Yes	Yes
1.17	Total Rainfall for Previous Year	mm	921.6		
1.18	Comparison - Mean Annual Rainfall for the agglomeration	mm	869.7		
1.18.1	Define the Weather Station Used		Dunsany		
1.19	If Storm Water Storage is available at the Wastewater Treatment plant, what is the volume of the storm tank?	m³	495		
1.20	Is the capacity of the storm tank sufficient to capture and retain all overflows to the tank?	---	No	No	No
1.21	Total monthly average volume of Storm Water Stored or Returned for Treatment within the Waste Water Treatment Plant	m³ per month	495		
1.22	If the answer to 1.20 above is No, What is the estimated frequency of Overflows from the Storm Tank? (N/A if no overflow)		2 to 5 times per month	< 1 per month	1 to 2 times per month
Waste Water Works - Sewer Network Details					
Section 1.4 Waste Water Works - Gravity Sewer Details					
1.23	What database is used to maintain records of the sewer network	No Records Avail			
1.23.1	If other or combination of the above please describe	Describe			
1.24	Total length of sewers (use drop down menus to define whether these figures are estimated or measured)	km Estimated	#VALUE!	0.00	0.00
1.24.1	Total length of sewers > 450mm Diameter	km Estimated	Unknown		
1.24.2	Total length of sewers > 300mm but < 450mm in Diameter	km Estimated	Unknown		
1.24.3	Total length of sewers > 225mm but < 300mm in Diameter	km Measured	Unknown		
1.24.4	Total length of sewers < 225mm in Diameter	km Estimated	Unknown		
1.24.5	Other	km Estimated	Unknown		
1.25	Pipeline Material	% Estimated	Unknown		
1.25.1	What portion of the sewer network consists of Concrete Pipes	% Estimated	Unknown		
1.25.2	What portion of the sewer network consists of Plastic Pipes	% Estimated	Unknown		
1.25.3	What portion of the sewer network consists of Clay materials	% Estimated	Unknown		
1.25.4	What portion of the sewer network consists of Brick Type Sewers	% Estimated	Unknown		
1.25.5	What portion of the sewer network consists of Other Materials	% Estimated	Unknown		
1.26	Total number of Storm Water Overflows (Enter '1' if none and state under item 1.27 that there are no SWOs in the network do not leave blank)	Nr	1		
1.27	What Screening or other mechanical devices are employed at the storm water overflows	screen			
	SWO No. _ located at _	Describe	SW2		
1.28	Water Quality at the receiving waters	moderate			
1.28.1	Where the receiving water is a river - indicate the EPA Biological Rating of the Receiving Water for each SWO below (Particularly if there is more than one receiving water within the agglomeration)				
	SWO No.2 located at WwTP	Describe			
1.28.2	Where the receiving water is a coastal water indicate the Status of the Receiving Water for each SWO below (Particularly if there is more than one receiving water within the agglomeration)				
	SWO No. _ located at _	Describe			
1.28.3	With reference to the SWO's detailed above define if the receiving waters are sensitive in accordance with the Urban Wastewater Treatment Regulations as amended.				
	SWO No. _ located at _	Describe	Not Listed		
	SWO No. _ located at _				
1.28.4	With reference to the SWO's detailed above define are the receiving waters Protected Areas (designated or awaiting designation)				
	SWO No. _ located at _	Designation			
1.28.5	With reference to the SWO's detailed above define do the receiving waters have any other designations.				
	SWO No. _ located at _	Designation			

Section 1.5 Waste Water Works - Pumping Stations					
1.29	Number of Pumping Stations (operated by the Local Authority)	Nr	0		
1.30	Total Length of Rising Mains (operated by the Local Authority)	km	0		
1.31	Rising Main Material				
1.31.1	What portion of the rising mains consists of ductile iron pipes	% Measured	N/A		
1.31.2	What portion of the rising mains consists of plastic pipes	% Measured	N/A		
1.31.3	What portion of the rising mains consists of other materials	% Estimated	N/A		
1.32	Discharge Capacity of the Pump Set (s) at normal duty point				
	At Pump Station ____ at _____				
1.33	What percentage of the pumping stations have recorded flow data (i.e. if all pumping stations have flow meters on the rising mains then this would read 100%)	%	0.00%		
1.34	Available Storage Capacity at Pump Stations				
	At Pump Station ____ at _____	m³	0		
1.35	Total Number of "Licenced Secondary Discharge Points and Stormwater Overflows" at pumping stations	Nr	1		
1.36	Total Number of "Emergency Overflow Points" at pumping stations	Nr	0		
1.37	What Screening or other mechanical devices are employed at the secondary discharge points or emergency overflows?				
	At Pump Station ____ at _____	Describe	n/a		
1.38	Water Quality at the receiving waters at each pumping station location				
1.38.1	Where the receiving water is a river - indicate the EPA Biological Rating of the Receiving Water for each secondary discharge point or emergency overflow at each pumping station (Particularly if there is more than one receiving water within the agglomeration)				
	At Pump Station ____ at _____	Describe	Q5		
1.38.2	Where the receiving water is a coastal water indicate the Status of the Receiving Water for each secondary discharge point or emergency overflow at each pumping station (Particularly if there is more than one receiving water within the agglomeration)				
	At Pump Station ____ at _____	Describe	Enter Status		
1.38.3	With reference to the pumping stations, for each secondary discharge point or emergency overflow detailed above, define if the receiving waters are sensitive in accordance with the Urban Wastewater Treatment Regulations as amended				
	At Pump Station ____ at _____		Sensitive		
1.38.4	With reference to the pumping stations, for each secondary discharge point or emergency overflow detailed above, are the receiving waters Protected Areas (designated or awaiting designation)				
	At Pump Station ____ at _____	Designation			
1.38.5	With reference to the pumping stations, for each secondary discharge point or emergency overflow detailed above, do the receiving waters have any other designations.				
	At Pump Station 1	Designation			
1.39	Estimated Number of Private Pumping Stations within the agglomeration (not operated by the Local Authority)	Nr	0		
Section 1.6 Reporting					
Section 1.6.1 Reported Number of Sewer Related Complaints					
1.40	Number of Reported Complaints	Nr	0		
1.41	Number of Reported Complaints which have been rectified	Nr	0		
Section 1.6.2 Reported/Recorded/Estimated Number of Secondary Discharges					
1.42	Number of Reported Secondary Discharges	Nr	0		
1.43	Number of Recorded Secondary Discharges	Nr	0		
1.44	Estimated Total Number of Secondary Discharges	Nr	0		
Section 1.6.3 Reported/Recorded/Estimated Number of Emergency Overflow Discharges from Pumping Stations					
1.45	Number of Reported Emergency Overflow Discharges	Nr	0		
1.46	Number of Recorded Emergency Overflow Discharges	Nr	0		
1.47	Estimated Total Number of Emergency Overflow Discharges	Nr	0		
Section 1.7 Operational Staff					
1.48	In the four boxes below, describe the extent of operation staff employed by the Local Authority to maintain and operate the sewer network and pumping stations.				
1.48.1	For example, 1 Nr. Fulltime Caretaker employed at General Operative Level (with basis H&S training) to operate & maintain the sewer network. 1 Nr. Part-time Caretaker employed as a Mechanical Fitter (FETAC Level 5) to operate & maintain the pumping stations.				
1.48.2					
1.48.3					
1.48.4					
Waste Water Works - Investment Details					
Section 1.8 Capital Investment works carried out since most recent report (including works not included on WSIP Programme or not WSIP funded)					
1.49	Sewers Upgraded or Replaced	m	0		
1.50	Sewers Rehabilitated	m	0		
1.51	Manholes Rehabilitated	Nr	0		
1.52	Local Repairs	Nr	0		
1.53	Total Length of sewers Upgraded, Replaced or Rehabilitated	m	0		
1.54	Pumping Stations Operated by Local Authority Upgraded or Repaired	Nr	0		
1.55	WWTW operated by Local Authority Upgraded or Replaced	Nr	0		
1.56	In the following two cells describe the actual Capital Investment undertaken in the reporting period.				
1.56.1	For example : Sewer Rehabilitation Contract Works being undertaken under the WSIP				
1.56.2					
Section 1.9 Licence Specified Improvements Works					
1.57	The Local Authority is required to report on the extent of Improvements Works which have been specified under the Licence as issued by the EPA. Reference which AER contains this information				
Section 1.10 Other Updates Since Last Report					
1.58	For example : 50% of the sewer network is currently being upgraded under the WSIP with an investment of €1.5m in 2010.				
1.59	For example : 2% of the sewer network is currently being replaced under the Local Authorities Annual Maintenance Fund				

Section 2.1 Hydraulic Risk Assessment					
Query	Description	Prompt	Risk Score	Short Commentary by the Local Authority	Comment or Action to be Taken
2.1	<u>Has a Hydraulic Performance Assessment been undertaken for the Sewer Network (e.g., Computer Model or other Engineering Design or Design Review) ?</u>	No	40		If the answer is No assess the need and cost benefit of developing a computer model or engineering design assessment of the Sewer Network and complete Query 2.12. If the answer is Yes proceed to Queries 2.1.1 to 2.1.4 inclusive
2.1.1	If Answer to Query 2.1 is Yes, what % of the Network is covered by the hydraulic assessment ?	N/A	0		The % coverage of the Network by the Hydraulic Assessment can be estimated by the area assessed against the area served by the Network. ENTER "N/A" IF COMPUTER MODEL or DESIGN DOES NOT EXIST. DO NOT LEAVE BLANK OR ENTER "0".
2.1.2	How many years has it been since the completion of the hydraulic assessment ?	N/A	0		Select N/A response if no design assessment or design exists.
2.1.3	Are the outcomes of the Hydraulic Assessment being implemented ?	N/A	0		Select N/A response if no design assessment or design exists.
2.1.4	How many years has it been since the outcomes of the hydraulic assessment have been implemented ?	N/A	0		Select N/A response if no hydraulic performance assessment or design exists. For ongoing works select "less than 5".
2.2	<u>Has a Dynamic Computer Model been used to Assess the Hydraulic Performance of the Sewer Network ?</u>	No	10		Computer Model means a Hydroworks/Infoworks Model, Micro-Drainage Model or equivalent.
2.3	<u>Has a Manhole Survey been undertaken in accordance with WRc Documentation "Model Contract Document for Manhole Location Surveys and the Production of Record Maps" ?</u>	No	10		If the answer is No assess the need and cost benefit of undertaking a Manhole Survey and complete Query 2.12. If the answer is Yes proceed to Query 2.2.1
2.3.1	If yes, how many years has it been since the survey was undertaken or updated?	more than 10	0		Select N/A if no Manhole Survey has been undertaken. Enter N/A value for Confidence Grade if Prompt Box is "N/A"
2.4	<u>Has a Flow Survey been undertaken in accordance with WRc Documentation "A Guide to Short Term Flow Surveys of Sewer Systems" and "Contract Documents for Short Term Sewer Flows" ?</u>	No	20		If the answer is No assess the need and cost benefit of undertaking a Flow Monitoring Survey and complete Query 2.12. If answer is Yes Proceed to Query 2.5
2.5	<u>What was this Flow Survey Information Used for ?</u>				
2.5.1	To Determine the extent of Problematic Sewer Catchments	N/A	0		Select N/A if no Flow Survey has been undertaken.
2.5.2	To Verify a Computer or Mathematical Model of the Network	N/A	0		Select N/A if no Flow Survey has been undertaken.
2.6	<u>Have Performance Criteria been developed to determine the short, medium or long term capacity of the sewer network ?</u>	No	10		If the answer is No assess the Future Needs of the Sewer Network and complete Query 2.12. If the answer is Yes proceed to Query 2.8
2.7	<u>How many flood events resulting from surcharge in the network have occurred in the past 3 years?</u>	None	0		Flood events in this context means water/sewage backing up from the Network causing flooding of properties or causing disruption of traffic
2.8	<u>Are there deficiencies in performance criteria within the sewer network ?</u>	Yes	20		If the answer is No , Proceed to Query 2.10 and complete Query 2.12. If the answer is Yes proceed to Query 2.9
2.9	<u>Have the causes of these deficiencies in the Performance Criteria been identified and rectified ?</u>	No	10		If the answer is No , consider further examination of the hydraulic model (if available) and complete Query 2.12. If the answer is Yes proceed to Query 2.10
2.10	<u>Can the Hydraulic Assessment (defined in Query 2.1 above) be used to determine the benefit of reducing the contributory Impermeable Areas or extent of surface water contributions</u>	No	10		If the answer is No , consider further development of the Hydraulic Assessment (or model if available) and complete Query 2.12. If the answer is Yes proceed to Query 2.11
2.11	<u>Has an Impermeable Area Survey been carried out for the agglomeration or parts of the agglomeration ?</u>	No	10		If the answer is No , consider the need and cost benefit of undertaking an Impermeable Survey for parts of the agglomeration which are under hydraulic pressure and complete Query 2.12.
Total Risk Assessment Score (RAS)			140		
2.12	<u>Prepare Assessment of Needs & Sewer Upgrade Implementation Plan</u>	In the AER Attach Assessment of Needs and Rehabilitation Implementation Plan as separate documents			
2.13	In the AER provide Summary of Proposed Works or Direction to be taken to improve hydraulic efficiency				

Section 3.1 Environmental Risk Assessment					
Query	Description	Prompt	Risk Score	Short Commentary by the Local Authority	Comment or Action to be Taken
3.1	<u>What Environmental or Discharge Quality Data is available with regard to the sewer network ?</u>	N/A	0		Select N/A if no discharges, secondary discharges or overflows from network; if discharges do exist complete Query 3.12
3.1.1	<u>Do trade effluents discharge to the sewer network?</u>	No	0		If the answer is No , proceed to Query 3.1.2. If the answer is Yes , Proceed to Query 3.2
3.1.2	<u>Are there Storm Water Overflows within the network ?</u>	Yes	20		If the answer is No , proceed to Query 3.1.3. If the answer is Yes , Proceed to Query 3.3
3.1.3	<u>Are there Secondary Discharges within the network (excluding Emergency Overflows at Pump Stations)?</u>	No	0		If the answer is No , proceed to Query 3.1.4.
3.1.4	<u>Is there any evidence that exfiltration is occurring from the network ?</u>	No	0		If the answer is No , does all wastewater enter a wastewater treatment plant (insert summary details in the AER)? If Yes , Proceed to Query 3.6
3.2	<u>If Answer to Query 3.1.1 is "Yes", what % of trade effluents have a licence to Discharge to the Public Sewer ?</u>	N/A	0		Select N/A if answer to Query 3.1.1 is No . If not all trade effluents are licenced, Local Authority should consider issuing and controlling such discharges under the appropriate Legislation.
3.2.1	<u>Are all licenced trade Discharges compliant with their relevant licence and associated conditions.</u>	Yes	0		Answer N/A if none of the trade effluents are licenced. Answer No if this information is unknown. If the answer is Unknown or No , consider issuing a direction to the relevant Licence. If the answer is Yes , no further action is needed.
3.2.2	<u>If Answer to Query 3.2.1 is "No", state what % of Trade Discharges are NOT compliant with their relevant licence and associated conditions (where that non-compliance led to enforcement action)</u>	0 - 10%	0		Select N/A if answer to Query 3.2.1 is Yes. If N/A is selected as answer to Query 3.2.2
3.3	<u>In accordance with the DoEHLG paper "Procedures & Criteria in relation to Storm Water Overflows", what % of storm water overflows in the system have been classified for their significance?</u>	N/A	0		If the answer is No , consider a review of each discharge within the sewer network complete and Query 3.11. If the answer is Yes , proceed to Query 3.6
3.4	<u>Have samples from any Secondary Discharges within the system been analysed ?</u>	N/A	0		Select N/A if no secondary discharges in system. If the answer to Query 3.4 is No , consider examining the quality of each secondary discharge within the sewer network complete Query 3.11. If the answer is Yes , proceed to Query
3.5	<u>What percentage of discharges from the system are known to cause environmental pollution of the receiving waters ?</u>	None	0		If the answer is greater than 50% then detail, in the AER, the Improvement Programme necessary to reduce this percentage.
3.6	<u>In relation to possible exfiltration has a risk analysis of ground water contamination or pollution been undertaken ?</u>	No	20		Select N/A if answer to Query 3.1.4 is No . If the answer is No , consider undertaking ground water risk analysis and complete Query 3.12 If the answer is Yes , proceed to Query 3.6
3.6.1	<u>If Answer to Query 3.6 is "Yes", have any groundwater aquifers been identified in the area of the Network, and/or Discharge Points?</u>	N/A	0		Select N/A if no risk analysis of groundwater contamination has been undertaken.
3.6.2	<u>If Answer to Query 3.6.1 is "Yes", state the classification of groundwater aquifer identified in the area?</u>	N/A	0		Select N/A if no risk analysis of groundwater contamination has been undertaken.
3.6.3	<u>In relation to Query 3.6.1, is the aquifer used as a source for Public, Private or Group Water Supply Schemes?</u>	No	0		Select N/A if no risk analysis of groundwater contamination has been undertaken.
3.7	<u>Has an Impact Assessment of each Storm Water Overflow been undertaken in accordance with the DoEHLG paper "Procedures & Criteria in relation to Storm Water Overflows" including setting performance criteria?</u>	No	40		If the answer is No , consider assessing the risk category of the receiving waters. If the answer is Yes , proceed to Query 3.8 and provide summary details of the assessment in the AER.
3.8	<u>What percentage of storm water overflows comply with the performance criteria referred to in Query 3.7?</u>	N/A	30		Select N/A if answer to Query 3.7 is No or if there are no SWOs in system. (Risk Score is locked at 0 if no SWOs in system is stated in Agglomeration Details)
3.9	<u>Have the causes of these Capacity Deficiencies (storm water overflows & Secondary Discharges) been identified ?</u>	N/A	0		Select N/A if answer to Query 3.7 is No or if there are no SWOs in system. If the answer to Query 3.9 is No , consider further examination of the environmental model or assimilation model.
Total Risk Assessment Score (RAS)			110		
3.10	<u>Prepare Assessment of Needs & Sewer Upgrade Implementation Plan</u>	In the AER Attach Assessment of Needs and Rehabilitation Implementation Plan as separate documents			
3.11	Provide Summary Details (in the AER) of records upstream and downstream of licenced discharges with regard to Environmental Performance of the network. These details can be included as part of the AER submitted for the agglomeration.				

Section 4.1 Structural Risk Assessment					
Query	Description	Prompt	Risk Score	Short Commentary by the Local Authority	Comment or Action to be Taken
4.1	Has a CCTV Survey been undertaken in accordance with WRc Documentation "Model Contract Document for Sewer Condition Inspections" and "Manual of Sewer Condition Classification" ?	No	10		If the answer is No assess the need and benefit of undertaking CCTV Survey. If Yes Proceed to Query 4.2
4.1.1	How many years has it been since the completion of the CCTV Survey?	N/A	0		If no CCTV has been undertaken, select "N/A" response
4.2	What was this CCTV Survey Information Used for?	N/A	10		Select N/A if answer to Query 4.1 is NO.
4.3	Has the CCTV Survey been used to Assess the Structural Condition of the Sewer Network or targeted sections of the Sewer Network?	No	5		If no CCTV has been undertaken, select "No" response. If the answer is No assess the need and benefit of undertaking an assessment of the Structural Condition of the Sewer Network. If the answer is Yes proceed to Q
4.4	Have Performance Criteria been developed to determine the short, medium or long term structural condition of the sewer network ?	No	5		If the answer is No , enter "unknown" in response to Queries 4.4.1 to 4.4.5; consider assessing the Future Needs of the Sewer Network. If the answer is Yes proceed to Queries 4
4.4.1	What % of the Total Sewer Length contains Collapsed or Imminent Collapse of Sewers (Grade 5)	unknown	30		Insert Percentage of Overall Network Length; If a sewer length contains a Grade 5 collapse, include the total length of that sewer in calculating the %. If information is not available type "Unknown" into Prompt Box
4.4.2	What % of Total Sewer Length contains Sewers Likely to Collapse (Grade 4)	unknown	25		Insert Percentage of Overall Network Length; If a sewer length contains a Grade 4 condition, include the total length of that sewer in calculating the %. If information is not available type "Unknown" into Prompt Box
4.4.3	What % of Total Sewer Length contains sewers with Further Possible Deterioration (Grade 3)	unknown	10		Insert Percentage of Overall Network Length; If a sewer length contains a Grade 3 deterioration, include the total length of that sewer in calculating the %. If information is not available type "Unknown" into Prompt Box
4.4.4	What % of Total Sewer Length contains sewers with Minimal Collapse (Grade 2)	unknown	5		Insert Percentage of Overall Network Length; If a sewer length contains a Grade 2 feature, include the total length of that sewer in calculating the %. If information is not available type "Unknown" into Prompt Box
4.4.5	What % of Total Sewer Length contains sewers of Acceptable Structural Condition (Grade 1)	unknown	5		Insert Percentage of Overall Network Length. If information is not available type "Unknown" into Prompt Box
If all % lengths are known, Check Total Length = 100%			75		If answers to Queries 4.4.1, 4.4.2 or 4.4.3 are above a set level, the RAS for Query 4 is automatically set at the maximum of 140.
4.5	What % of the deficiencies, as detailed in Items 4.4.1, 4.4.2 and 4.4.3, have been rectified ?	N/A	35		Select N/A if answer to Query 4.4 is No . If the answer is No , Proceed to Query 4.6 If the answer is Yes , what monitoring is in place to ensure continued acceptance of structural condition? Proceed to Query 4.7
4.6	Have the causes of the Structural Deficiencies (Grades 3, 4 and 5) been identified or is there a Preventative Maintenance Programme in place?	No	10		If the answer is No , consider further examination of the sewer network, the structural loading conditions, gradients and possible H ₂ S Formation. If Yes completed Query 4.7
Total Risk Assessment Score (RAS)			150		
4.7	Prepare Assessment of Needs & Sewer Rehabilitation Implementation Plan	In the AER Attach Assessment of Needs and Rehabilitation Implementation Plan as separate documents			

Section 5.1 O&M Risk Assessment					
Query	Description	Prompt	Risk Score	Short Commentary by the Local Authority	Comment or Action to be Taken
5.1	<u>Are complaints of an environmental nature recorded and held in a central database?</u>	Yes	0		Consider setting up Central Database for Complaints
5.2	<u>Is there an emergency response procedure in place?</u>	Yes	0		Consider setting up target response times for dealing with Complaints
5.3	<u>What has been the highest frequency of flooding in the network due to hydraulic inadequacy, over the past 5 years?</u>	None	0		Refers to flooding from the Network only, not natural flooding from rivers/streams/high tides. Select the highest number of events in any 12 month period.
5.4	<u>What has been the highest frequency of flooding in the network due to operational causes over the past 5 years?</u>	None	0		Refers to flooding from the Network only, not natural flooding from rivers/streams/high tides. Select the highest number of events in any 12 month period.
5.5	<u>What has been the highest frequency of surcharging of critical sewers in the network, over the past 5 years?</u>	None	0		Select the highest number of events in any 12 month period.
5.6	<u>What has been the highest frequency of reportable incidents in the network, over the past 5 years?</u>	None	0		Select the highest number of events in any 12 month period.
5.7	<u>What has been the highest frequency of reportable incidents due to discharges, for whatever reason, from Pumping Station Emergency Overflows in the network, over the past 5 years?</u>	None	0		Select the highest number of events at any given Pumping Station in any 12 month period.
5.8	<u>What has been the highest frequency of blockages in sewers in the network over the past 5 years?</u>	unknown	20		Select the highest number of events per km of sewer network in any 12 month period.
5.9	<u>What has been the highest frequency of collapses in sewers in the network over the past 5 years?</u>	None	0		Select the highest number of events in any 12 month period.
5.10	<u>What has been the highest frequency of bursts in rising mains in the network over the past 5 years?</u>	None	0		Select the highest number of events in any 12 month period.
Total Risk Assessment Score (RAS)			20		
5.11	<u>Prepare Up Dated Operational and Maintenance Plan</u>				

Section 6.1 Summary of Risk Assessment Scores				
Element	Risk Assessment Score	Risk Category	% Risk Score	Maximum Risk Score
Section 2.1 Hydraulic Risk Assessment	140	High Risk	93%	150
Section 3.1 Environmental Risk Assessment	110	Low Risk	22%	500
Section 4.1 Structural Risk Assessment	150	High Risk	100%	150
Section 5.1 O&M Risk Assessment	20	Low Risk	10%	200
Total RAS for Network	420	High Risk	42%	1000

If the total RAS is greater than 750, or if any of the individual RASs are greater than 75% of the Maximum Available Score, the Risk category for the Network is graded "High Risk"

Appendix 7.6

Priority Substances Assessment

Priority Substances Assessment

Agglomeration Name:	Ballivor
Licence Register No.	D0254-01



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Appendix 1 - Screening

Appendix 2 – Priority Substance Screening Flowchart

Appendix 3 – Receiving Waters Priority Substance Data

Introduction

This report has been prepared for D0254-01, Ballivor, in County Meath in accordance with the requirements of Condition 4.12 of the wastewater discharge licence for the agglomeration.

This desk top study has been undertaken to determine the necessity, if any, for analysis of the discharge to comply with the condition in the wastewater discharge licence based on the *Guidance on the Screening for Priority Substances for Waste Water Discharge Licences*, issued by the EPA. Relevant inputs to the waste water works, any relevant measurements / calculations / estimates of emissions from the discharge point and any relevant measurements undertaken at representative downstream monitoring locations have been taken into account in the preparation of this report.

Details of the emissions concentration for the primary discharge and impact on the receiving water are included in Appendix 1.

Desktop Study

1.1 Assessment of Analysis Required

A. Review of all industrial inputs into WWTP

There are no known industrial inputs into the Ballivor WWTP.

Table 2.1 – List of Non-Domestic Discharges to WWTP

Licensee Name / Landfill Name / Other Imports	Type of Industry	Type of Licence (IED / IPPC / Section 16 / Unlicensed)	Potential Source of Dangerous / Priority Substances (Yes / No)	Dangerous / Priority Substances Monitoring Undertaken (Yes / No)
None				

B. Discharge monitoring

Any analysis data available for the relevant parameters is included in Appendix 1 with details of the sample data and/or source of the data.

C. Downstream monitoring location's participation in relevant monitoring programme

Any analysis data available for a representative downstream monitoring location from the discharge point for the relevant parameters is included in Appendix 3 with details of the sample data and/or source of the data.

D. Participation in PRTR reporting

The emissions of specific organic compounds and metals (priority substances) have been estimated for the discharge utilising the EPA's urban WWTP calculation tool for PRTR reporting. It is noted from the EPA's report, *An Inventory of Emissions to Waters in Ireland*, that extensive assessment of emission factors was undertaken during 2011 / 2012 that focussed on the evaluation of inputs / output concentrations and removal efficiency using a variety of different sized plants and wastewater treatment options. This has led to the significant refinement of the electronic templates toolkit used for WWTP assessment using the PRTR tool.

All parameters listed in Appendix 1 have emissions data available for the discharge from the PRTR tool. The Total Halogenated Organic Compound Value from the PRTR reporting has been used to give a conservative estimate for Trichloromethane.

The emission concentration from the PRTR has been included in the table in Appendix 1 where analysis data is not available.

1.2 Review outcome of Desktop study

Following the desktop study, all parameters in Appendix 1 have been assessed to establish any potential impact on the receiving waters. It is proposed that a review of all non-domestic loads to the wastewater treatment plant is undertaken by Irish Water in 2015. This will be undertaken in parallel with a review of the national monitoring programme for priority substances in wastewater also proposed to be undertaken by Irish Water in 2015 in consultation with the EPA. It is proposed that this review of the non-domestic discharges and the national monitoring programme, in consultation with the EPA, will lead to recommendation of parameters to be monitored and frequency of monitoring at the WWTP. This desktop study is considered to provide partial characterisation of the wastewater.

Assessment of Significance and Recommendations

The assessment carried out above indicates that data is available for all parameters based on either analysis or the PRTR toolkit. The level of dilution is based on 95 percentile flows and the EQS is based on Annual Average concentration requirements. As such the results of the analysis undertaken are conservative.

No parameters have been identified as potentially being higher than the required EQS following dilution at 95 percentile flows therefore no impact on the receiving waters is anticipated.

Based on the assessment carried out it is not considered that any further sampling or analysis is required.

The EPA have prepared a report on priority substances, *An Inventory of Emissions to Waters in Ireland*. This document states that Ireland appears to have relatively few problems associated with the presence of Priority / Priority Hazardous substances in its surface waters. It identifies that wastewater discharges are a potential source of metals in receiving waters with lead being the main metal identified as associated with wastewater discharges. However, metals exceedances, in particular those for cadmium, lead, and nickel are primarily associated with areas of historic mining activity. Similarly PAH's have been identified in stormwater overflows but the most significant source is considered to be rainfall.

A consultation process with the EPA is proposed to be undertaken by Irish Water in 2015 to establish appropriate levels of monitoring for priority and dangerous substances, taking into account the particular requirements of the Water Framework Directive. This will allow a targeted monitoring programme to be undertaken in areas where priority substances have been identified or industrial discharges or imports provide a potential source, and where there is a shortfall of existing monitoring data.

Does the assessment use the Desk Top Study Method or Screening Analysis to determine if the discharge contains the parameters in Appendix 1 of the EPA guidance	Desk Top Study
Does the assessment include a review of Trade inputs to the works?	Yes
Does the assessment include a review of other inputs to the works?	Yes
Does the report include an assessment of the significance of the results where a listed material is present in the discharge? (e.g. impact on the relevant EQS standard for the receiving water)	Yes
Does the assessment identify that priority substances may be impacting the receiving water?	No
Does the Improvement Programme for the agglomeration include the elimination / reduction of all priority substances identified as having an impact on receiving water quality?	No

Appendix 1 – Screening of Parameters for Priority Substances

Parameters to be Screened for in Waste Water Discharges Parameters to be Screened for in Waste Water Discharges

AA: average annual

EQS: environmental quality standards

Dilution factor in receiving water: 2.37 (EPA hydrotool)

No.	Compound	Group of compounds	AA-EQS Inland SW (µg/l)	AA-EQS Other SW (µg/l)	Measured /Estimated Conc. (µg/l) ¹	Data Source [Sample / PRTR / Other (state)]	Sample Date (if applicable)	Effluent Concentration above AA concentration (Yes/No)	Effluent Concentration above AA concentration after dilution (Yes/No)
1	Benzene	VOCs	10	8					
2	Carbon tetrachloride	VOCs	12	12					
3	1,2-Dichloroethane	VOCs	10	10					
4	Dichloromethane	VOCs	20	20					
5	Tetrachloroethylene	VOCs	10	10					
6	Trichloroethylene	VOCs	10	10					
7	Trichlorobenzenes	VOCs	0.4	0.4					
8	Trichloromethane	VOCs	2.5	2.5					
9	Xylenes (all isomers)	VOCs	10	10					
10	Ethyl Benzene	VOCs	10	10					
11	Toluene	VOCs	10	10					
12	Naphthlene	PAHs	2.4	1.2					
13	Fluoranthene	PAHs	0.1	0.1					
14	Benzo[k]fluoranthene	PAHs	0.03	0.03					
15	Benzo[ghi]perylene	PAHs	0.002	0.002					
16	Indeno[1,2,3-c,d]pyrene	PAHs	0.002	0.002					
17	Benzo[b]fluoranthene	PAHs	0.03	0.03					
18	Benzo[a]pyrene	PAHs	0.05	0.05					
19	Di(2-ethylhexyl)phthalate	Plasticiser	1.3	1.3					

No.	Compound	Group of compounds	AA-EQS Inland SW (µg/l)	AA-EQS Other SW (µg/l)	Measured /Estimated Conc. (µg/l) ¹	Data Source [Sample / PRTR / Other (state)]	Sample Date (if applicable)	Effluent Concentration above AA concentration (Yes/No)	Effluent Concentration above AA concentration after dilution (Yes/No)
	(DEHP)								
20	Isodrin	Pesticides	0.01	0.005					
21	Dieldrin	Pesticides	0.01	0.005					
22	Diuron	Pesticides	0.2	0.2					
23	Isoproturon	Pesticides	0.3	0.3					
24	Atrazine	Pesticides	0.6	0.6					
25	Simazine	Pesticides	1	1					
26	Glyphosate	Pesticides	60	-					
27	Mecoprop	Pesticides	0.02	0.02					
28	2,4-D	Pesticides	n/a	n/a				n/a	n/a
29	MCPA	Pesticides	n/a	n/a				n/a	n/a
30	Linuron	Pesticides	0.7	0.7					
31	Dichlobenil	Pesticides	n/a	n/a				n/a	n/a
32	2,6-Dichlorobenzamide	Pesticides	n/a	n/a				n/a	n/a
33	PCBs	PCBs	0.1	0.1					
34	Phenols (as Total C)	Phenols	8	8					
35	Lead	Metals	7.2	7.2					
36	Arsenic	Metals	25	20					
37	Copper	Metals	5 or 100 ²	5					
38	Zinc	Metals	8 or 50 or 100 ³	40					
39	Cadmium	Metals	0.08	0.2					
40	Mercury	Metals	0.05	0.05					
41	Chromium	Metals	3.4	0.6					

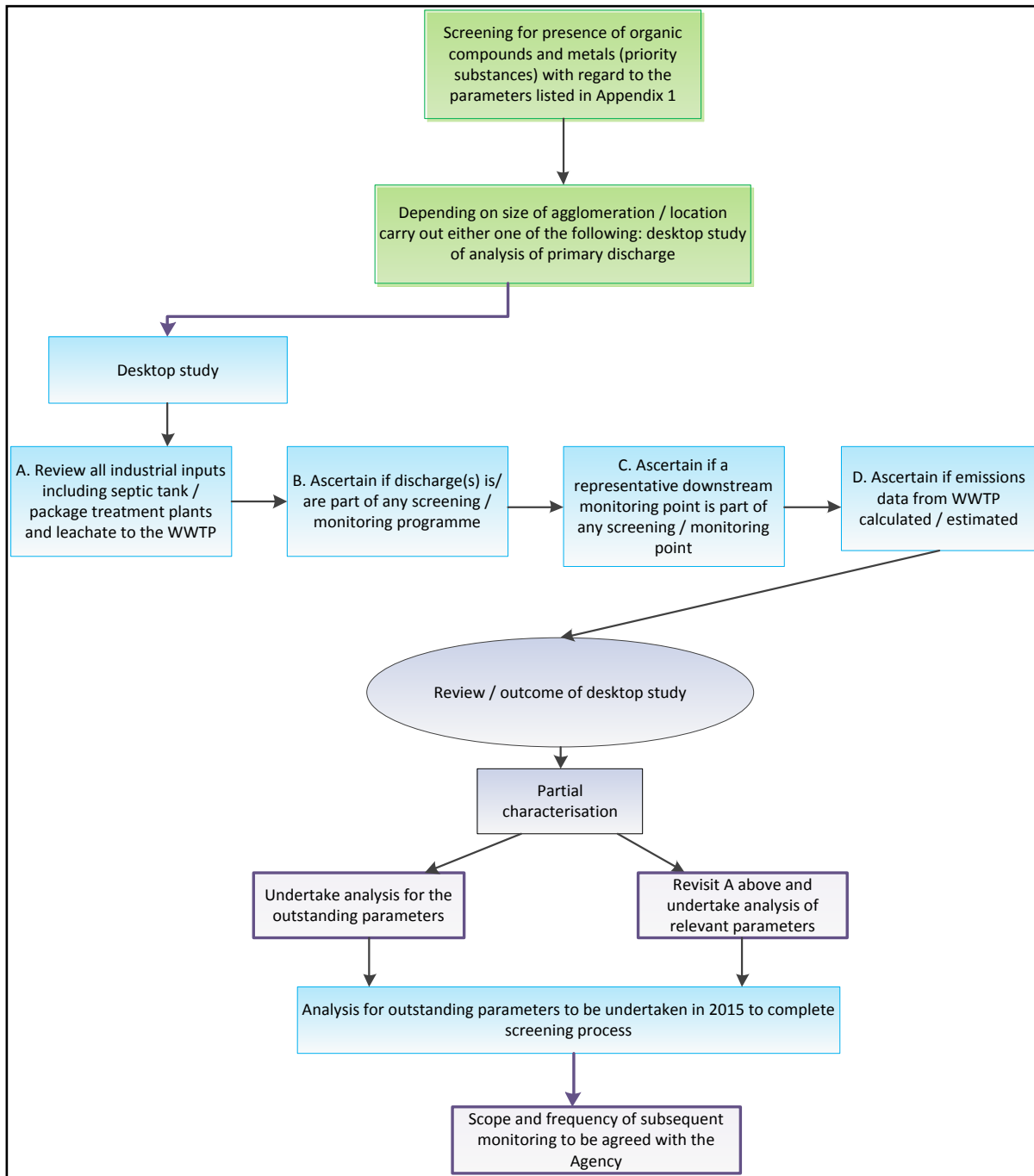
No.	Compound	Group of compounds	AA-EQS Inland SW (µg/l)	AA-EQS Other SW (µg/l)	Measured /Estimated Conc. (µg/l) ¹	Data Source [Sample / PRTR / Other (state)]	Sample Date (if applicable)	Effluent Concentration above AA concentration (Yes/No)	Effluent Concentration above AA concentration after dilution (Yes/No)
42	Selenium	Metals	5.3	5.3					
43	Antimony	Metals	0.4	0.4					
44	Molybdenum	Metals	4.3	4.3					
45	Tin	Metals	0.2	0.2					
46	Barium	Metals	1	1					
47	Boron	Metals	6.5	6.5					
48	Cobalt	Metals	0.2	0.2					
49	Vanadium	Metals	0.9	0.9					
50	Nickel	Metals	20	20					
51	Fluoride	General	500	500					
52	Chloride	General	250000	250000					
53	TOC	General	n/a	n/a				n/a	n/a
54	Cyanide	General	10	10					
	Conductivity	General	n/a	n/a				n/a	n/a
	Hardness (mg/l CaCO ₃)	General	n/a	n/a				n/a	n/a
	pH	General	n/a	n/a				n/a	n/a

Notes:

1. Where measured values are available these should be used instead of estimated values from PRTR tool.
2. In the case of Copper the value 5 applies where the water hardness measured in mg/l CaCO₃ is less than or equal to 100; the value 30 applies where the water hardness exceeds 100 mg/l CaCO₃. Estimated CaCO₃ value > 100 where no sampling data available (based on PRTR tool)
3. In the case of Zinc, the standard shall be 8 µg/l for water hardness with annual average values less than or equal to 10 mg/l CaCO₃, 50 µg/l for water hardness greater than 10 mg/l CaCO₃ and less than or equal to 100 mg/l CaCO₃ and 100 µg/l elsewhere. Estimated CaCO₃ value > 100 where no sampling data available

Appendix 2 – Priority Substance Screening Flowchart

A flow chart for the screening of the presence of organic compounds and metals (Priority Substances) from WWTP is included below. This flowchart shows that appropriate screening has been demonstrated in line with the assessment undertaken in this report.



Appendix 3 – Receiving Waters Priority Substance Data
D 959433 Meath County Council:

Laboratory Number			13724695
Customer Sample Ref.			D0254
Sample Matrix			Waste waters
Analyte	Method	Units	
Barium, Total as Ba	WAS049	mg/l	0.0425
Boron, Total as B	WAS049	mg/l	<0.23
Cadmium , Total as Cd	WAS049	mg/l	<0.0006
Chromium , Total as Cr	WAS049	mg/l	<0.0020
Cobalt , Total as Co	WAS049	mg/l	<0.0020
Copper, Total as Cu	WAS049	mg/l	0.019
Lead , Total as Pb	WAS049	mg/l	<0.006
Mercury, Total as Hg	WAS013	ug/l	<0.10
Molybdenum , Total as Mo	WAS049	mg/l	<0.003
Nickel , Total as Ni	WAS049	mg/l	0.02
Tin , Total as Sn	WAS049	mg/l	<0.007
Vanadium , Total as V	WAS049	mg/l	<0.004
Zinc, Total as Zn	WAS049	mg/l	0.222
pH	WAS039	units	7.5
Conductivity- Electrical 20C	WAS039	uS/cm	918
Total Hardness as CaCO3	WAS049	mg/l	319
Chloride as Cl	WAS036	mg/l	145
TOC as C	WAS005	mg/l	4.7
Cyanide, Total as CN	WAS018	mg/l	<0.009
Fluoride as F	WAS029	mg/l	0.4
Diuron	GEO37	ug/l	0.14
Isoproturon	GEO37	ug/l	<0.05
Dichlobenil	GEO47	ng/l	<2
Dieldrin	GEO47	ng/l	<4
Isodrin	GEO47	ng/l	<4
PCB 28	GEO47	ng/l	<2
Linuron	GEO37	ug/l	<0.05
PCB 52	GEO47	ng/l	<2
PCB 101	GEO47	ng/l	<2
PCB 118	GEO47	ng/l	<3
PCB 138	GEO47	ng/l	<2
PCB 153	GEO47	ng/l	<2
PCB 180	GEO47	ng/l	<3
Atrazine	GEO47	ug/l	<0.020
Simazine	GEO47	ug/l	0.066
2,4 - D	GEO20	ug/l	<0.05
MCPA	GEO20	ug/l	<0.05
Mecoprop	GEO20	ug/l	0.11
2 - Chlorophenol	GEO18	ug/l	<1.00
2 - Methylphenol	GEO18	ug/l	<1.00

2,4 - Dichlorophenol	GEO18	ug/l	<1.00
2,4 - Dimethylphenol	GEO18	ug/l	<1.00
2,4,6 - Trichlorophenol	GEO18	ug/l	<1.00
3,5-Dimethylphenol	GEO18	ug/l	<1.00
4-Chlorophenol	GEO18	ug/l	<1.00
3+4-Methylphenol	GEO18	ug/l	<1.00
Phenol	GEO18	ug/l	<5.00
Acenaphthene	GEO19	ug/l	<0.01
Acenaphthylene	GEO19	ug/l	<0.01
Anthracene	GEO19	ug/l	<0.01
Benzo (a) anthracene	GEO19	ug/l	<0.01
Benzo (g,h,i) perylene	GEO19	ug/l	<0.01
Benzo (a) pyrene	GEO19	ug/l	<0.01
Benzo (b) fluoranthene	GEO19	ug/l	<0.01
Benzo (k) fluoranthene	GEO19	ug/l	<0.01
Chrysene	GEO19	ug/l	<0.01
Dibenz (a,h) anthracene	GEO19	ug/l	<0.01
Fluoranthene	GEO19	ug/l	<0.01
Fluorene	GEO19	ug/l	<0.01
Indeno (1,2,3) cd pyrene	GEO19	ug/l	<0.01
Naphthalene	GEO19	ug/l	<0.01
Phenanthrene	GEO19	ug/l	<0.01
Pyrene	GEO19	ug/l	<0.01
PAH, Total	GEO19	ug/l	<0.01
Antimony, Total as Sb	WAS051	mg/l	0.00233
Arsenic, Total as As	WAS051	mg/l	<0.0014
Selenium, Total as Se	WAS051	mg/l	<0.0016
2,6-dichlorobenzamide (BAM)	SUBCON	ug/l	<0.10
Di(2-ethylhexyl)phthalate	SUBCON	ug/l	<10
Glyphosate	SUBCON	ug/l	<0.50

D 959433 Meath County Council:

Laboratory Number			13724695
Customer Sample Ref.			D0254
Sample Matrix			Waste waters
Analyte	Method	Units	
VOC	GEO32	ug/l	Y
Dichlorodifluoromethane	GEO32	ug/l	<1.0
Chloromethane	GEO32	ug/l	<1.0
Chloroethane	GEO32	ug/l	<1.0
Bromomethane	GEO32	ug/l	<1.0
Trichlorofluoromethane	GEO32	ug/l	<1.0
1,1-Dichloroethene	GEO32	ug/l	<1.0
Dichloromethane	GEO32	ug/l	<1.0
1,1-Dichloroethane	GEO32	ug/l	<1.0
cis-1,2-Dichloroethene	GEO32	ug/l	<1.0

2,2-Dichloropropane	GEO32	ug/l	<1.0
Chloroform	GEO32	ug/l	<1.0
Bromochloromethane	GEO32	ug/l	<1.0
1,1,1-Trichloroethane	GEO32	ug/l	<1.0
1,1-Dichloropropene	GEO32	ug/l	<1.0
1,2-Dichloroethane	GEO32	ug/l	<1.0
Benzene	GEO32	ug/l	<1.0
1,2-Dichloropropane	GEO32	ug/l	<1.0
Trichloroethene	GEO32	ug/l	<1.0
Bromodichloromethane	GEO32	ug/l	<1.0
Dibromomethane	GEO32	ug/l	<1.0
cis-1,3-Dichloropropene	GEO32	ug/l	<1.0
Toluene	GEO32	ug/l	<1.0
trans-1,3-Dichloropropene	GEO32	ug/l	<1.0
1,1,2-Trichloroethane	GEO32	ug/l	<1.0
Carbon Tetrachloride	GEO32	ug/l	<1.0
Vinyl Chloride	GEO32	ug/l	<0.5
1,3-Dichloropropane	GEO32	ug/l	<1.0
Tetrachloroethene	GEO32	ug/l	<1.0
Dibromochloromethane	GEO32	ug/l	<1.0
1,2-Dibromoethane	GEO32	ug/l	<1.0
Chlorobenzene	GEO32	ug/l	<1.0
1,1,1,2-Tetrachloroethane	GEO32	ug/l	<1.0
Ethyl Benzene	GEO32	ug/l	<1.0
m&p-Xylene	GEO32	ug/l	<1.0
o-Xylene	GEO32	ug/l	<1.0
Styrene	GEO32	ug/l	<1.0
Bromoform	GEO32	ug/l	<1.0
Isopropylbenzene	GEO32	ug/l	<1.0
trans-1,2-Dichloroethene	GEO32	ug/l	<1.0
1,1,2,2-Tetrachloroethane	GEO32	ug/l	<1.0
1,2,3-Trichloropropane	GEO32	ug/l	<1.0
n-Propylbenzene	GEO32	ug/l	<1.0
Bromobenzene	GEO32	ug/l	<1.0
2-Chlorotoluene	GEO32	ug/l	<1.0
1,3,5-Trimethylbenzene	GEO32	ug/l	<1.0
4-Chlorotoluene	GEO32	ug/l	<1.0
tert-Butylbenzene	GEO32	ug/l	<1.0
1,2,4-Trimethylbenzene	GEO32	ug/l	<1.0
sec-Butylbenzene	GEO32	ug/l	<1.0
p-Isopropyltoluene	GEO32	ug/l	<1.0
1,3-Dichlorobenzene	GEO32	ug/l	<1.0
1,4-Dichlorobenzene	GEO32	ug/l	<1.0
n-Butylbenzene	GEO32	ug/l	<1.0
1,2-Dichlorobenzene	GEO32	ug/l	<1.0
1,2-Dibromo-3-chloropropane	GEO32	ug/l	<2.0
1,2,4-Trichlorobenzene	GEO32	ug/l	<1.0

Hexachlorobutadiene	GEO32	ug/l	<1.0
Naphthalene	GEO32	ug/l	<1.0
1,2,3-Trichlorobenzene	GEO32	ug/l	<1.0
MTBE	GEO32	ug/l	8.4
Dibromofluoromethane	GEO32	%Recovery	102
Toluene-d8	GEO32	%Recovery	100.9
4-Bromofluorobenzene	GEO32	%Recovery	88.2