

Comhairle Contae Thiobraid Árann Thuaidh
North Tipperary County Council



Water Services Section,
Civic Offices,
Limerick Road,
Nenagh,
Co. Tipperary

The Administrator,
Office of Environmental Enforcement,
Environmental Protection Agency,
PO Box 3000,
Johnston Castle Estate,
Co. Wexford.

28/2/13

**Re: AER for 2012 (Borrisokane Agglomeration).
Licence Register Number: D0326-01.**

Dear Sir/Madam,

Please find attached one original completed Annual Environmental Report for 2012 as per Condition 6.8 of the Waste Water Discharge Licence for Borrisokane Agglomeration. The content of the Full PDF AER uploaded to the EPA website is a true copy of the original Annual Environmental Report.

Yours Sincerely,

Jim McGuire,
Senior Engineer.

Annual Environmental Report 2012 Borrisokane Agglomeration

Borrisokane Agglomeration was issued with a Waste Water Discharge Licence on 19/10/11. Licence Register Number D0326-01.

This is the Annual Environmental Report (AER) for 2012 as required under Condition 6.8 of said Licence.

It contains the information required under Schedule D of the Licence.

1. Discharges from the agglomeration

Borrisokane Agglomeration uses the same primary discharge point and emergency overflow as identified in the Waste Water Discharge Authorisation Licence Application. There have been no changes to these discharge points since the application was lodged in 2008.

The primary discharge point was sampled 13 times in 2012. 12 No. Composite surveillance samples and 1 No. grab investigative sample were taken. Borrisokane WWTP generally satisfies the criteria set out under the Urban Waste Water Treatment Regulations.

Most of the samples taken of the primary discharge since the WWDL was issued were within the Emission Limit Values (ELVs) for Borrisokane as set out in Schedule A of the Licence.

Please find attached an Excel Spreadsheet called “**Appendix No.1 Borrisokane WWTP Final Effluent Test Results 2012**”. This spreadsheet shows all sample test results for Borrisokane WWTP Final effluent in 2012.

2. Summary report on (i) monthly influent monitoring and (ii) loading removal efficiencies

2.(i) In 2012, 12 No. composite influent surveillance samples were taken at Borrisokane WWTP at monthly intervals since the issue of the WWDL. Please find attached an Excel Spreadsheet called “**Appendix No.2(i) Borrisokane WWTP Influent Test Results 2012**” (This spreadsheet shows all sample test results for Borrisokane WWTP Influent in 2012.)

2(ii) Composite Final Effluent surveillance samples were also taken on the same days as the Plant Influent samples. By comparing the percentage reduction of the relevant parameters in the effluent samples, the loading removal efficiencies were estimated.

Please find attached an Excel Spreadsheet called “**Appendix No.2(ii) Summary Report on Loading Removal Efficiencies Borrisokane WWTP 2012**” (which gives a breakdown for all the parameters mentioned in **Schedule A:A.1**).

The average BOD removal rate was 97.41%. The range varied from 93.33% to 99.55%. The average Ammonia removal rate was 94.56%. The range varied from 49.58% to 99.95%.

The average COD removal rate was 94.15%. The range varied from 88.2% to 98.65%.
The average Suspended solids removal rate was 87.94%. The range varied from 94.82% to 99.32%.

The average Orthophosphate removal rate was 23.09%. The range varied from 0% to 82.97%.

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

Borrisokane Agglomeration's WWTP is included in North Tipperary County Council's 2012 Annual Waste Water Returns Report to the EPA. This report was lodged by North Tipperary County Council with the EPA by 26 February 2012.

4. Complaints summary

There have been no environmental complaints about Borrisokane Agglomeration in 2012.

5. Pollutant Release and Transfer Register- report for previous year

A Pollutant Release and Transfer Register (Condition 4.13) has been completed for Borrisokane Agglomeration for the year 2012.

6. Pollutant Release and Transfer Register- report for current year

There is no expected change from the 2012 PRTR for 2013.

7. Ambient monitoring summary

In 2012, ambient sampling consisted of 5 No. Surveillance and 1 No. Investigative grab samples taken (i) upstream and (ii) downstream of the primary discharge point. Please find attached 2 No. Excel Spreadsheets called "**Appendix No.7(i) Borrisokane WWTP Upstream Test Results 2012**" and "**Appendix No.7(ii) Borrisokane WWTP Downstream Test Results 2012**" attached. These spreadsheets show all test result values for samples taken upstream and downstream of Borrisokane WWTP's Primary Discharge Point in 2012.

The ambient monitoring samples were compared to the criteria for calculating surface water ecological status and ecological potential as set out under Schedule 5 of the European Communities Environmental Objectives (Surface Waters) Regulations 2009. The grab samples taken upstream of Borrisokane WWTP were classified as having a "high" water status, by comparing the Total Ammonia, BOD and Orthophosphate parameters to the parameters set out in Schedule 5. Similarly, the grab samples taken downstream were classified as having a "good" water status, by comparing the Total Ammonia, BOD and Orthophosphate parameters to the parameters set out in Schedule 5. The discharge does appear to have any minor adverse effect on the Ballyfinboy River.

8. Storm water overflow inspection and assessment report

No Storm water overflow inspection and assessment report has been completed in 2012, as Borrisokane WWTW is not equipped with stormwater overflows.

9. Reported incidents summary

There were 2 no. orthophosphate ELV exceedences for Borrisokane WWTP in 2012. North Tipperary Co. Council has remedied this situation by installing chemical phosphorus removal facilities (Ferric Sulphate dosing facilities) at Borrisokane. These facilities were installed in late May 2012. There has been no issues with orthophosphate since.

There was one Ammonia ELV exceedence in 2012, this related to the breakdown of a surface aerator, which was quickly rectified. There has been no Ammonia issues since.

10. Report on progress made and proposals being developed to meet the improvement programme requirements

North Tipperary Co. Council will install primary screening and storm water holding tank at Borrisokane by 31 December 2019.

11. Development/Infrastructural works summary (completed in previous year or prepared for current year)

North Tipperary Co. Council now adds ferric sulphate to the aeration tank in Borrisokane WWTP, in order to remove phosphorus compounds from the final effluent. The addition of ferric sulphate commenced in late May 2012.

12. Risk based assessment to identify possible presence of priority substances

North Tipperary Co. Council sampled for the possible presence of priority substances in 2012, in accordance with “Guidance on the Screening for Priority Substances for Waste Water Discharge Licences” issued by the Agency.

Appendix No.1-Borrisokane WWTP Final Effluent Test Results 2012

SampleLabCode		1247WW0046	1247WW0144	1247WW0184	1247WW0190	1247WW0255	1247WW0293	1247WW0340	1247WW0427	1247WW0495	1247WW0563	1247WW063	1247WW0716	1247WW0760
SampleDate		19/01/2012	28/02/2012	21/03/2012	23/03/2012	26/04/2012	15/05/2012	12/06/2012	12/07/2012	16/08/2012	11/09/2012	09/10/2012	13/11/2012	04/12/2012
Ammonia	(mg/l as N)	0.035	0.018	16.31	20.79	0.08	0.18	0.013	0.017	0.025	2.4	0.109	0.14	0.076
Ammonia	ELV	5	5	5	5	5	5	5	5	5	5	5	5	5
Ammonium	(mg/l NH4)	0.045	0.023	20.96	26.72	0.103	0.231	0.017	0.022	0.033	3.08	0.14	0.18	0.097
Arsenic	(ug/l As)													0.3
Atrazine	(ug/l)													<0.05
Barium	(ug/l Ba)													16.8
BOD	(mg/l O2)	4	5	4		3	3.2	3	3	3	4	3	3	2.9
BOD	ELV	12	12	12		12	12	12	12	12	12	12	12	12
Boron	(ug/l B)													70
Cadmium	(ug/l Cd)													0.4
Chemical Oxygen Demand	(mg/l O2)	23	25	30		18	19	19	15	17	25	16	20	19
COD	ELV	125	125	125		125	125	125	125	125	125	125	125	125
Chloride	(mg/l Cl)	90.56	108.2	110.36		108.1	101.56	52.74	80.95	54.97	116.2	99.06	114.1	98.8
Chromium	(ug/l Cr)													1.4
Copper	(ug/l Cu)													14
Cyanide	(ug/l Cn)													<25
Dichloromethane	(ug/l)													<5
Fluoride	(ug/l)													230
Hardness	(mg/l CaCo3)													306
Lead	(ug/l Pb)													0.4
Mercury	(ug/l Hg)													<0.02
Nickel	(ug/l)													2.3
Nitrates	(mg/l NO3 as N)	8.46	8.85	0.16		8.59	6.97	6.47	8.37	7.01	1.91	8.06	9.38	10.13
Nitrites	(mg/l NO2 as N)	0.05	0.173	<0.01		0.138	0.178	0.185	0.153	0.057	0.175	0.138	0.199	0.177
O-Phos	(mg/l PO4 as P)	1.79	3.15	2		1.9	4	0.954	1.99	1.32	2.1	1.3	1.84	1.58
O-Phos	ELV	2	2	2		2	2	2	2	2	2	2	2	2
O-Phos	(mg/l PO4)	5.51	9.67	6.14		5.83	12.29	2.93	6.1	4.04	6.5	3.99	5.64	4.85
pH	(pH units)	7.91	7.74	8.06		7.7	8.06	7.83	8.03	7.82	8.11	7.73	7.77	8.12
pH	ELV	pH6-9	pH6-9	pH6-9		pH6-9	pH6-9	pH6-9	pH6-9	pH6-9	pH6-9	pH6-9	pH6-9	pH6-9

Appendix No.1-Borrisokane WWTP Final Effluent Test Results 2012

SampleDate		19/01/2012	28/02/2012	21/03/2012	23/03/2012	26/04/2012	15/05/2012	12/06/2012	12/07/2012	16/08/2012	11/09/2012	09/10/2012	13/11/2012	04/12/2012
Phenols	(ug/l)													<150
Selenium	(ug/l Se)													<0.2
Simazine	(ug/l)													<0.05
Sulphate	(mg/l SO4)	44.35	40.08	35.95		39.68	44.89	37.02	36.64	28.13	41.29	47.58	43.18	35.01
Suspended Solids	(mg/l)	12	20.4	12.8		7.6	3.6	4.8	11.6	7.6	9.2	8.8	5.6	8.8
SS	ELV	35	35	35		35	35	35	35	35	35	35	35	35
Temperature	(oC)	8.1	11.9	10.4		11.1	12.1	15.4	15.6	18.2	13.5	11.8	11.7	3.6
Toluene	(ug/l)													<0.5
Total Nitrogen	(mg/l as N)	21.1	27.1	13.6		20.7	2.3	10.1	15.2	9.4	5.1	14.3	20.3	17.2
Total Oxidised Nitrogen	(mg/l TON as N)	8.51	9.02	0.16		8.73	7.15	6.65	8.52	7.07	2.09	8.19	9.58	10.3
Total Phosphorus	(mg/l as P)	2	3.48	2.28		2.14	4.16	1	2.28	1.4	2.48	1.3	1.97	1.71
Xylenes (ug/l)	(ug/l)													<1
Zinc (ug/l Zn)	(ug/l)													27.6

Appendix No.1-Borrisokane WWTP Final Effluent Test Results 2012

Appendix No.2(i)-Borrisokane WWTP Influent Test Results 2012

SampleDate		19/01/2012	28/02/2012	21/03/2012	26/04/2012	15/05/2012	12/06/2012	12/07/2012	16/08/2012	11/09/2012	09/10/2012	#####	04/12/2012
Ammonia	(mg/l as N)	30.11	33.7	32.35	23.01	29.66	12.49	15.53	6.19	20.1	33.58	25.89	20.35
Ammonium	(mg/l NH4)	38.7	43.32	41.58	29.58	38.12	16.05	19.96	7.95	25.8	43.16	33.27	26.15
BOD	(mg/l O2)	880	261	129	159	191	64	100	45	142	234	174	151
Chemical Oxygen Demand	(mg/l O2)	1705	480	651	335	481	161	239	149	367	603	392	337
Chloride	(mg/l Cl)	129.78	116.3	132.54	87.13	105.92	60.53	92.25	48.35	86.25	121.2	142.8	78.28
Nitrates	(mg/l N03 as N)	0.06	0.01	0.14	0.26	0.01	0.01	0.02	2.03	5.55	0.17	0.09	BLD
Nitrites	(mg/l NO2 as N)	0.089	0.031	0.576	0.25	0.065	0.004	0.002	0.684	BLD	BLD	BLD	0.292
O-Phos	(mg/l PO4 as P)	10.51	3.18	2.89	2.41	4.3	1.09	1.54	0.682	2.3	3.57	2.52	2.04
O-Phos	(mg/l PO4)	32.24	9.74	8.86	7.38	13.19	3.35	4.72	2.09	7.08	10.95	7.73	6.25
pH	(pH units)	6.86	8.11	8.07	8.27	8.09	7.74	7.98	7.71	7.83	7.99	7.98	8.2
Sulphate	(mg/l SO4)	33.33	47.37	51.31	30.33	40.14	35.71	34.41	24.97	27.87	48.67	41.41	33.5
Suspended Solids	(mg/l)	1768	250	281.1	167	229	76	129	63	197	304	173	198
Temperature	(oC)	8.4	11.1	10.1	8.6	10.5	14.1	14.9	18.9	15	11.5	12.8	8
Total Nitrogen	(mg/l as N)	57.2	38	35	28	7.1	17	19.7	10.2	26.8	42	33.5	28.8
Total Oxidised Nitrogen	(mg/l TON as N)	0.15	0.04	0.71	0.51	0.07	0.01	0.02	2.72	5.55	0.17	0.09	0.29
Total Phosphorus	(mg/l as P)	16.6	5.6	5.6	3.68	5.65	2.44	2.96	1.32	4.32	6.3	4.45	3.92

Appendix 2(ii) Summary Report on Loading Removal Efficiencies at Borrisokane WWTP in 2012

2012 % Reductions

Date	BOD	COD	Suspended Solids	Ammonia	Orthophosphate
19/01/2012	99.55	98.65	99.32	99.88	82.97
28/02/2012	98.08	94.79	91.84	99.95	0.94
21/03/2012	96.90	95.39	95.45	49.58	30.80
26/04/2012	98.11	94.63	95.45	99.65	21.16
15/05/2012	98.32	96.05	98.43	99.39	6.98
12/06/2012	95.31	88.20	93.68	99.90	12.48
12/07/2012	97.00	93.72	91.01	99.89	0.00
16/08/2012	93.33	88.59	87.94	99.60	0.00
11/09/2012	97.18	93.19	95.33	88.06	8.70
09/10/2012	98.72	97.35	97.11	99.68	63.59
13/11/2012	98.28	94.90	96.76	99.46	26.98
04/12/2012	98.08	94.36	95.56	99.63	22.55

2012 % Reductions

	Average Value	Max Value	Min Value
BOD	97.41	99.55	93.33
COD	94.15	98.65	88.2
S.Solids	94.82	99.32	87.94
Ammonia	94.56	99.95	49.58
Orthophosphate	23.09	82.97	0

Appendix 2(ii) Summary Report on Loading Removal Efficiencies at Borrisokane WWTP in 2012

Appendix No.7(i) Borrissokane WWTP Upstream Test Results 2012

SampleLabCode		1247WW0187	1247WW0191	1247WW0341	1247WW0564	1247WW0717	1247WW0761
SampleDate		21/03/2012	23/03/2012	12/06/2012	11/09/2012	13/11/2012	04/12/2012
Ammonia	(mg/l as N)	0.038	0.01	0.018	0.01	0.008	0.026
Ammonium	(mg/l NH4)	0.049	0.013	0.023	0.011	0.011	0.033
Arsenic	(ug/l As)						0.9
Atrazine	(ug/l)						<0.01
Barium	(ug/l Ba)						33.3
BOD	(mg/l O2)	1.1		1.2	1.2	1.3	1.2
Boron	(ug/l B)						30
Cadmium	(ug/l Cd)						0.3
Chemical Oxygen Demand	(mg/l O2)	18		26	12	27	21
Chloride	(mg/l Cl)	20.47		18.79	18.56	17.31	16.45
Chromium	(ug/l Cr)						<1
Coliform bacteria	(no./100mls)						1080
Conductivity @ 20°C	(uS/cm)	668		629	679	671	644
Copper	(ug/l Cu)						<3
Cyanide	(ug/l Cn)						<5
Dichloromethane	(ug/l)						0.9
Dissolved Oxygen	(ppm O2)	11.24		9.24	10.92	9.84	10.94
E-Coli	(no./100mls)						420
Fluoride	(ug/l)						<100
Hardness	(mg/l CaCo3)						377
Lead	(ug/l Pb)						<0.3
Mercury	(ug/l Hg)						<0.02
Nickel	(ug/l)						3.4
Nitrates	(mg/l NO3 as N)	2.73		2.21	2.35	1.85	1.5
Nitrites	(mg/l NO2 as N)	<0.01		0.002	BLD	BLD	BLD
O-Phos	(mg/l PO4 as P)	0.021		0.034	0.02	0.016	0.015
O-Phos	(mg/l PO4)	0.066		0.106	0.063	0.05	0.046
pH	(pH units)	8.13		7.93	8.07	7.96	8.07
Phenols	(ug/l)						<150

Appendix No.7(i) Borrisokane WWTP Upstream Test Results 2012

SampleDate		21/03/2012	23/03/2012	12/06/2012	11/09/2012	13/11/2012	04/12/2012
Selenium	(ug/l Se)						0.6
Simazine	(ug/l)						<0.01
SampleLabCode		1247WW0187	1247WW0191	1247WW0341	1247WW0564	1247WW0717	1247WW0761
Sulphate	(mg/l SO4)	22.78		18.13	13.98	16.81	15.27
Suspended Solids	(mg/l)	4.4		1.6	3.2	3.6	6
Temperature	(oC)	9.8		13.7	12.8	11.2	6.1
Toluene	(ug/l)						<0.5
Total Nitrogen	(mg/l as N)	2.7		2.8	4.3	2.8	3.5
Total Oxidised Nitrogen	(mg/l TON as N)	2.73		2.22	2.35	1.85	1.5
Total Phosphorus	(mg/l as P)	0.03		0.03	0.04	0.03	0.02
Xylenes	(ug/l)						<1
Zinc	(ug/l)						3.2

Appendix No.7(ii)-Borrisokane WWTP Downstream Test Results 2012

SampleLabCode	1247WW0188	1247WW0192	1247WW0342	1247WW0565	1247WW0718	1247WW0762
SampleDate	21/03/2012	23/03/2012	12/06/2012	11/09/2012	13/11/2012	04/12/2012
Ammonia (mg/l as N)	0.014	0.252	0.016	0.01	0.008	0.028
Ammonium (mg/l NH4)	0.018	0.324	0.02	0.01	0.01	0.036
Arsenic (ug/l As)						0.9
Atrazine (ug/l)						<0.01
Barium (ug/l Ba)						31.4
BOD (mg/l O2)	1		1.3	1.1	1.5	1.2
Boron (ug/l B)						30
Cadmium (ug/l Cd)						0.2
Chemical Oxygen Demand (mg/l O2)	15		26	11	24	22
Chloride (mg/l Cl)	20.33		18.67	18.58	17.62	16.67
Chromium (ug/l Cr)						<1
Coliform bacteria (no./100mls)						1460
Conductivity @ 20°C (uS/cm)	670		633	683	674	645
Copper (ug/l Cu)						<3
Cyanide (ug/l Cn)						<5
Dichloromethane (ug/l)						0.8
Dissolved Oxygen (ppm O2)	11.06		9.39	10.76	9.89	10.25
E-Coli (no./100mls)						650
Fluoride (ug/l)						<100
Hardness (mg/l CaCo3)						377
Lead (ug/l Pb)						<0.3
Mercury (ug/l Hg)						<0.02
Nickel (ug/l)						3.3
Nitrates (mg/l NO3 as N)	2.8		2.22	2.42	1.87	1.53
Nitrites (mg/l NO2 as N)	<0.01		0.002	BLD	BLD	BLD
O-Phos (mg/l PO4 as P)	0.018		0.016	RNV	0.075	0.019
O-Phos (mg/l PO4)	0.054		0.049	RNV	0.23	0.058
pH (pH units)	8.16		7.93	8.07	7.98	8.09
Phenols (ug/l)						180
Selenium (ug/l Se)						0.8
Simazine (ug/l)						<0.01
Sulphate (mg/l SO4)	19.63		18.05	14.17	16.06	15.95
Suspended Solids (mg/l)	3.6		4.8	4	4.4	6.4
Temperature (oC)	9.8		13.5	12.9	11.3	6
Toluene (ug/l)						<0.5
Total Nitrogen (mg/l as N)	3.1		2.9	4.1	3.1	3.1
Total Oxidised Nitrogen (mg/l TON as N)	2.8		2.23	2.43	1.87	1.53
Total Phosphorus (mg/l as P)	0.03		0.08	0.04	0.08	0.02
Xylenes (ug/l)						<1
Zinc (ug/l Zn)						4.1

Appendix No.7(ii)-Borrisokane WWTP Downstream Test Results 2012



Environmental Protection Agency

| PRTR# : D0326 | Facility Name : Borrisokane Waste Water Treatment Plant |
Filename : D0326_2012.xls | Return Year : 2012 |[Guidance to completing the PRTR workbook](#)

AER Returns Workbook

Version 1.1.15

REFERENCE YEAR	2012
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1. FACILITY IDENTIFICATION

Parent Company Name	North Tipperary County Council
Facility Name	Borrisokane Waste Water Treatment Plant
PRTR Identification Number	D0326
Licence Number	D0326-01

Waste or IPPC Classes of Activity

No.	class_name
30.4	General

Address 1	Civic Offices
Address 2	Limerick Road
Address 3	Nenagh
Address 4	Co Tipperary
Country	Ireland
Coordinates of Location	-8.134912282 52.998
River Basin District	IEGBNISH
NACE Code	3700
Main Economic Activity	Sewerage
AER Returns Contact Name	Kevin McDonnell
AER Returns Contact Email Address	kmcdonnell@northtippcoco.ie
AER Returns Contact Position	Environmental Technician
AER Returns Contact Telephone Number	06744833
AER Returns Contact Mobile Phone Number	0879276625
AER Returns Contact Fax Number	06731773
Production Volume	0.0
Production Volume Units	
Number of Installations	0
Number of Operating Hours in Year	0
Number of Employees	1
User Feedback/Comments	
Web Address	

2. PRTR CLASS ACTIVITIES

Activity Number	Activity Name
5(f)	Urban waste-water treatment plants

3. SOLVENTS REGULATIONS (S.I. No. 543 of 2002)

Is it applicable?	No
Have you been granted an exemption ?	No

If applicable which activity class applies (as per Schedule 2 of the regulations) ?	
Is the reduction scheme compliance route being used ?	

4. WASTE IMPORTED/ACCEPTED ONTO SITE

[Guidance on waste imported/accepted onto site](#)

Do you import/accept waste onto your site for on-site treatment (either recovery or disposal activities) ?	
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4.1 RELEASES TO AIR

[Link to previous years emissions data](#)

| PRTR# : D0326 | Facility Name : Borriskane Waste Water Treatment Plant | Filename : D0326_2012.xls | Return Year : 2012 |

28/02/2013 17:00

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

POLLUTANT		METHOD			Please enter all quantities in this section in KGs				
No. Annex II	Name	M/C/E	Method Used		Emission Point 1	QUANTITY			
			Method Code	Designation or Description		T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year	
01	Methane (CH4)	E	ESTIMATE	5.0	EPA UWWTP Tool Version	0.0	0.0	0.0	0.0
02	Carbon monoxide (CO)	E	ESTIMATE	5.0	EPA UWWTP Tool Version	0.0	0.0	0.0	0.0
03	Carbon dioxide (CO2)	E	ESTIMATE	5.0	EPA UWWTP Tool Version	0.0	7668.0	0.0	7668.0
05	Nitrous oxide (N2O)	E	ESTIMATE	5.0	EPA UWWTP Tool Version	0.0	0.0	0.0	0.0
07	Non-methane volatile organic compounds (NMVOC)	E	ESTIMATE	5.0	EPA UWWTP Tool Version	0.0	0.0	0.0	0.0
08	Nitrogen oxides (NOx/NO2)	E	ESTIMATE	5.0	EPA UWWTP Tool Version	0.0	0.0	0.0	0.0
11	Sulphur oxides (SOx/SO2)	E	ESTIMATE	5.0	EPA UWWTP Tool Version	0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING PRTR POLLUTANTS

POLLUTANT		METHOD			Please enter all quantities in this section in KGs				
No. Annex II	Name	M/C/E	Method Used		Emission Point 1	QUANTITY			
			Method Code	Designation or Description		T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year	
						0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION C : REMAINING POLLUTANT EMISSIONS (As required in your Licence)

POLLUTANT		METHOD			Please enter all quantities in this section in KGs				
Pollutant No.	Name	M/C/E	Method Used		Emission Point 1	QUANTITY			
			Method Code	Designation or Description		T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year	
						0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

Additional Data Requested from Landfill operators

For the purposes of the National Inventory on Greenhouse Gases, landfill operators are requested to provide summary data on landfill gas (Methane) flared or utilised on their facilities to accompany the figures for total methane generated. Operators should only report their Net methane (CH4) emission to the environment under T(total) KG/yr for Section A: Sector specific PRTR pollutants above. Please complete the table below:

Landfill:	Borriskane Waste Water Treatment Plant				
	T (Total) kg/Year	M/C/E	Method Code	Designation or Description	Facility Total Capacity m3 per hour
Total estimated methane generation (as per site model)	0.0				N/A
Methane flared	0.0				0.0 (Total Flaring Capacity)
Methane utilised in engine/s	0.0				0.0 (Total Utilising Capacity)
Net methane emission (as reported in Section A above)	0.0				N/A

4.2 RELEASES TO WATERS

[Link to previous years emissions data](#)

| PRTR# : D0326 | Facility Name : Borrisokane Waste Water Treatment Plant | Filename : D0326_2012.xls | Return Year : 2012 |

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SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

Data on ambient monitoring of storm/surface water or groundwater, conducted as part of your licence requirements, should NOT be submitted under AER / PRTR Reporting as

POLLUTANT		RELEASURES TO WATERS			Please enter all quantities in this section in KGs			
No. Annex II	Name	M/C/E	Method Code	Method Used Designation or Description	QUANTITY			
					Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
34	1,2-dichloroethane (EDC)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
25	Alachlor	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
26	Aldrin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
61	Anthracene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
17	Arsenic and compounds (as As)	M	OTH	Standard methods for Water and Wastewater 21st edition.	0.034	0.035	0.0	0.001
27	Atrazine	M	OTH	Standard methods for Water and Wastewater 21st edition.	0.006	0.006	0.0	0.0
62	Benzene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.002	0.002	0.0	0.0
91	Benzo(g,h,i)perylene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
63	Brominated diphenylethers (PBDE)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
18	Cadmium and compounds (as Cd)	M	OTH	Standard methods for Water and Wastewater 21st edition.	0.045	0.045	0.0	0.0
28	Chlordane	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
29	Chlordecone	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
30	Chlorfenvinphos	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
79	Chlorides (as Cl)	M	OTH	Standard methods for Water and Wastewater 21st edition.	10723.566	10796.984	0.0	73.418
31	Chloro-alkanes, C10-C13	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.024	0.024	0.0	0.0
32	Chlorpyrifos	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
19	Chromium and compounds (as Cr)	M	OTH	Standard methods for Water and Wastewater 21st edition.	0.159	0.159	0.0	0.0
20	Copper and compounds (as Cu)	M	OTH	Standard methods for Water and Wastewater 21st edition.	1.586	1.592	0.0	0.006
82	Cyanides (as total CN)	M	OTH	Standard methods for Water and Wastewater 21st edition.	2.833	2.836	0.0	0.003
33	DDT	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
70	Di-(2-ethyl hexyl) phthalate (DEHP)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.104	0.107	0.0	0.003
35	Dichloromethane (DCM)	M	OTH	Standard methods for Water and Wastewater 21st edition.	0.567	0.567	0.0	0.0
36	Dieldrin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
37	Diuron	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.003	0.003	0.0	0.0
38	Endosulphan	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
39	Endrin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
65	Ethyl benzene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.002	0.002	0.0	0.0

88	Fluoranthene	E	ESTIMATE	EPA UWWTP Tool Version 5.0 Standard methods for Water and Wastewater 21st edition.	0.0	0.0	0.0	0.0
83	Fluorides (as total F)	M	OTH	EPA UWWTP Tool Version 5.0	26.064	26.315	0.0	0.251
40	Halogenated organic compounds (as AOX)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.27	0.273	0.0	0.003
41	Heptachlor	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
90	Hexabromobiphenyl	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
42	Hexachlorobenzene (HCB)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
43	Hexachlorobutadiene (HCBDD)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
89	Isodrin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
67	Isoproturon	E	ESTIMATE	EPA UWWTP Tool Version 5.0 Standard methods for Water and Wastewater 21st edition.	0.001	0.001	0.0	0.0
23	Lead and compounds (as Pb)	M	OTH	EPA UWWTP Tool Version 5.0	0.045	0.057	0.0	0.012
45	Lindane	E	ESTIMATE	EPA UWWTP Tool Version 5.0 Standard methods for Water and Wastewater 21st edition.	0.0	0.0	0.0	0.0
21	Mercury and compounds (as Hg)	M	OTH	EPA UWWTP Tool Version 5.0	0.002	0.002	0.0	0.0
46	Mirex	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
68	Naphthalene	E	ESTIMATE	EPA UWWTP Tool Version 5.0 Standard methods for Water and Wastewater 21st edition.	0.0	0.0	0.0	0.0
22	Nickel and compounds (as Ni)	M	OTH	EPA UWWTP Tool Version 5.0	0.261	0.265	0.0	0.004
64	Nonylphenol and Nonylphenol ethoxylates (NP/NPEs)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.009	0.01	0.0	0.001
87	Octylphenols and Octylphenol ethoxylates	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
69	Organotin compounds (as total Sn)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
48	Pentachlorobenzene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
49	Pentachlorophenol (PCP)	E	ESTIMATE	EPA UWWTP Tool Version 5.0 Standard methods for Water and Wastewater 21st edition.	0.0	0.0	0.0	0.0
71	Phenols (as total C)	M	OTH	EPA UWWTP Tool Version 5.0	16.998	17.09	0.0	0.092
50	Polychlorinated biphenyls (PCBs)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
72	Polycyclic aromatic hydrocarbons (PAHs)	E	ESTIMATE	EPA UWWTP Tool Version 5.0 Standard methods for Water and Wastewater 21st edition.	0.001	0.001	0.0	0.0
51	Simazine	M	OTH	EPA UWWTP Tool Version 5.0	0.006	0.006	0.0	0.0
52	Tetrachloroethylene (PER)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.007	0.007	0.0	0.0
53	Tetrachloromethane (TCM)	E	ESTIMATE	EPA UWWTP Tool Version 5.0 Standard methods for Water and Wastewater 21st edition.	0.0	0.0	0.0	0.0
73	Toluene	M	OTH	EPA UWWTP Tool Version 5.0 Standard methods for Water and Wastewater 21st edition.	0.057	0.073	0.0	0.016
12	Total nitrogen	M	OTH	EPA UWWTP Tool Version 5.0	1665.819	1692.422	0.0	26.603
76	Total organic carbon (TOC) (as total C or COD/3)	E	ESTIMATE	EPA UWWTP Tool Version 5.0 Standard methods for Water and Wastewater 21st edition.	1044.794	1059.639	0.0	14.845
13	Total phosphorus	M	OTH	EPA UWWTP Tool Version 5.0	247.38	252.246	0.0	4.866

59	Toxaphene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
74	Tributyltin and compounds	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
54	Trichlorobenzenes (TCBs)(all isomers)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
57	Trichloroethylene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
77	Trifluralin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
75	Triphenyltin and compounds	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
60	Vinyl chloride	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
78	Xylenes	M	OTH	Standard methods for Water and Wastewater 21st edition.	0.113	0.115	0.0	0.002
24	Zinc and compounds (as Zn)	M	OTH	Standard methods for Water and Wastewater 21st edition.	3.128	3.266	0.0	0.138

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING PRTR POLLUTANTS

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT		Method Used			QUANTITY			
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION C : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT		Method Used			QUANTITY			
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
398	Total Hardness (mg/l CaCO3)	M	OTH	Standard methods for Water and Wastewater 21st edition.	34676.226	35005.929	0.0	329.703
370	Selenium	M	OTH	Standard methods for Water and Wastewater 21st edition.	0.023	0.023	0.0	0.0
205	Antimony (as Sb)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.018	0.019	0.0	0.001
368	Molybdenum	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.002	0.0	0.002
358	Tin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.016	0.016	0.0	0.0
373	Barium	M	OTH	Standard methods for Water and Wastewater 21st edition.	1.904	1.945	0.0	0.041
374	Boron	M	OTH	Standard methods for Water and Wastewater 21st edition.	7.932	8.033	0.0	0.101
356	Cobalt	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.02	0.02	0.0	0.0
386	Vanadium	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.309	0.315	0.0	0.006
388	Dichlobenil	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
383	Linuron	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
385	Mecoprop Total	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.012	0.012	0.0	0.0
380	2,4 Dichlorophenol (2,4 D)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.006	0.006	0.0	0.0
384	MCPA	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.01	0.01	0.0	0.0
382	Glyphosate	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.174	0.174	0.0	0.0

389	Benzo[a]pyrene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
390	Benzo[b]fluoranthene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
391	Benzo[k]fluoranthene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
392	Indeno[1,2,3-c,d]pyrene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
393	Carbon tetrachloride	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
394	2,6-Dichlorobenzamide	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.009	0.009	0.0	0.0
395	Dicofof	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
396	Hexabromocyclodecane (HBCD)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
397	PFOS	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
238	Ammonia (as N)	M	OTH	Standard methods for Water and Wastewater 21st edition.	183.58	183.58	0.0	0.0
303	BOD	M	OTH	Standard methods for Water and Wastewater 21st edition.	388.124	388.124	0.0	0.0
306	COD	M	OTH	Standard methods for Water and Wastewater 21st edition.	2323.081	2323.081	0.0	0.0
362	Kjeldahl Nitrogen	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
327	Nitrate (as N)	M	OTH	Standard methods for Water and Wastewater 21st edition.	796.647	796.647	0.0	0.0
372	Nitrite (as N)	M	OTH	Standard methods for Water and Wastewater 21st edition.	15.412	15.412	0.0	0.0
332	Ortho-phosphate (as PO4)	M	OTH	Standard methods for Water and Wastewater 21st edition.	693.525	693.525	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE

[PRTR# : D0326 | Facility Name : Borrisokane Waste Water Treatment Plant | Filename : D0326_2012.xls | Return Year : 2012]

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Please enter all quantities on this sheet in Tonnes

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Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility	Haz Waste : Address of Next Destination Facility	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used		Non Haz Waste: Name and Licence/Permit No of Recoverer/Disposer	Non Haz Waste: Address of Recoverer/Disposer		
Within the Country	19 08 05	No	1436.54	sludges from treatment of urban waste water	R10	E	Volume Calculation	Offsite in Ireland	Nenagh Waste Water Treatment Plant, Waste Water Discharge Licence D0027-01	Nenagh Waste Water Treatment Plant, Old Birr Road, Nenagh, Co. Tipperary, Ireland		
Within the Country	19 08 01	No	3.0	screenings	D5	E	Volume Calculation	Offsite in Ireland	AES Ltd, WCP/OY/08/601/101	Springfort Cross, Nenagh, Co. Tipperary, Ireland		

* Select a row by double-clicking the Description of Waste then click the delete button