Permit Number: EPR/PP3993VS Operator: Atlantic Recycling

Facility: Atlantic Recycling Form Number: Groundwater1

Reporting of groundwater monitoring for the period from November 2015 to May 2016

Monitoring Point	Substance / Parameter	Trigger level	Reference Period	Result(1)	Test Method(2)	Sample Date and Times(3)	Uncertainty (4)
WS1	pH	6.1 ï 8.52	Bi-annually	7.24 pH Units	TM256	17/05/2016 15:00	Lab: Precision 0.5%, Bias 0.9%, Expanded Uncertainty 1.8%. Sampling: Immeasurable
WS1	Total Oxidised Nitrogen as N	>0.89 mg/l	Bi-annually	<0.1 mg/l	TM184	17/05/2016 15:00	Lab: Precision 2.7%, Bias 2.2%, Expanded Uncertainty 7.6%. Sampling: Immeasurable
WS1	Nitrite as N	>0.084 mg/l	Bi-annually	0.0575 mg/l	TM184	17/05/2016 15:00	Lab: Precision 2.3%, Bias -0.3%, Expanded Uncertainty 4.9%. Sampling: Immeasurable
WS1	Nitrate as N	>2.2 mg/l	Bi-annually	<0.0677 mg/l	TM184	17/05/2016 15:00	Lab: As per TON and NO_2. Sampling: Immeasurable
WS1	Ammoniacal Nitrogen as N*	>0.012 mg/l	Bi-annually	0.00287 mg/l	TM099	17/05/2016 15:00	Lab: Precision 2.3%, Bias 3.4%, Expanded Uncertainty 8.0%. Sampling: Immeasurable

Monitoring Point	Substance / Parameter	Trigger level	Reference Period	Result[1]	Test Method[2]	Sample Date and Times[3]	Uncertainty [4]
WS1	Chloride	>4564.4 mg/l	Bi-annually	120 mg/l	TM184	17/05/2016 15:00	Lab: Precision 3.1%, Bias 1.2%, Expanded Uncertainty 7.4%. Sampling: Immeasurable
WS1	Conductivity	>2400 µS/cm	Bi-annually	1.27 mS/cm	TM120	17/05/2016 15:00	Lab: Precision 1.3%, Bias 2.6%, Expanded Uncertainty 5.1%. Sampling: Immeasurable
WS1	BOD	>19 mg/l	Bi-annually	<1 mg/l	TM045	17/05/2016 15:00	Lab: Precision 8.9%, Bias 1.0%, Expanded Uncertainty 18.8%. Sampling: Immeasurable
WS1	Dissolved Oxygen	>7.1 mg/l	Bi-annually	<0.3 mg/l	TM187	17/05/2016 15:00	Lab: Immeasurable Sampling: Immeasurable
WS1	TPH >C5-C35	>100 µg/l	Bi-annually	<10 ug/l	TM172 / TM245	17/05/2016 15:00	Lab: Variable Sampling: Immeasurable
WS1	Total PAH (16)	>0.01 µg/l	Bi-annually	<0.344 ug/l	TM178	17/05/2016 15:00	Lab: Variable Sampling: Immeasurable
WS1	Orthophosphate	>10.57 mg/l	Bi-annually	<0.02 mg/l	TM184	17/05/2016 15:00	Lab: Precision 1.1%, Bias 4.1%, Expanded Uncertainty 6.2%. Sampling: Immeasurable
WS1	Total Sulphate	>167.2 mg/l	Bi-annually	26.9 mg/l	TM184	17/05/2016 15:00	Lab: Precision 3.2%, Bias

Monitoring Point	Substance / Parameter	Trigger level	Reference Period	Result[1]	Test Method[2]	Sample Date and Times[3]	Uncertainty [4]
							-0.1%, Expanded Uncertainty 6.6%. Sampling: Immeasurable
WS1	Total Cadmium	>0.0004 mg/l	Bi-annually	<0.5 ug/l	TM191	17/05/2016 15:00	Lab: Precision 4.7%, Bias -2.2%, Expanded Uncertainty 11.5%. Sampling: Immeasurable
WS1	Total Calcium	>187.3 mg/l	Bi-annually	123 mg/l	TM228	17/05/2016 15:00	Lab: Precision 6.3%, Bias -2.7%, Expanded Uncertainty 15.4%. Sampling: Immeasurable
WS1	Dissolved Nickel	>0.028 mg/l	Bi-annually	2.61 ug/l	TM152	17/05/2016 15:00	Lab: Precision 4.7%, Bias 1.3%, Expanded Uncertainty 10.7%. Sampling: Immeasurable
WS1	Dissolved Lead	>0.013 mg/l	Bi-annually	0.124 ug/l	TM152	17/05/2016 15:00	Lab: Precision 4.5%, Bias -3.5%, Expanded Uncertainty 12.4%. Sampling: Immeasurable
WS1	Total Zinc	>2531 mg/l	Bi-annually	19.9 ug/l	TM191	17/05/2016 15:00	Lab: Precision 7.3%, Bias -1.1%, Expanded Uncertainty 15.6%. Sampling: Immeasurable
WS2	pH	6.1 ï 8.52	Bi-annually	7.84 pH Units	TM256	17/05/2016 15:30	Lab: Precision 0.5%, Bias 0.9%, Expanded Uncertainty 1.8%.

Monitoring Point	Substance / Parameter	Trigger level	Reference Period	Result[1]	Test Method[2]	Sample Date and Times[3]	Uncertainty [4]
							Sampling: Immeasurable
WS2	Total Oxidised Nitrogen as N	>0.89 mg/l	Bi-annually	0.265 mg/l	TM184	17/05/2016 15:30	Lab: Precision 2.7%, Bias 2.2%, Expanded Uncertainty 7.6%. Sampling: Immeasurable
WS2	Nitrite as N	>0.084 mg/l	Bi-annually	0.0183 mg/l	TM184	17/05/2016 15:30	Lab: Precision 2.3%, Bias -0.3%, Expanded Uncertainty 4.9%. Sampling: Immeasurable
WS2	Nitrate as N	>29.7 mg/l	Bi-annually	0.247 mg/l	TM184	17/05/2016 15:30	Lab: As per TON and NO2. Sampling: Immeasurable
WS2	Ammoniacal Nitrogen as N*	>0.012 mg/l	Bi-annually	0.00078 mg/l	TM099	17/05/2016 15:30	Lab: Precision 2.3%, Bias 3.4%, Expanded Uncertainty 8.0%. Sampling: Immeasurable
WS2	Chloride	>4564.4 mg/l	Bi-annually	23.8 mg/l	TM184	17/05/2016 15:30	Lab: Precision 3.1%, Bias 1.2%, Expanded Uncertainty 7.4%. Sampling: Immeasurable
WS2	Conductivity	>2400 µS/cm	Bi-annually	0.846 mS/cm	TM120	17/05/2016 15:30	Lab: Precision 1.3%, Bias 2.6%, Expanded Uncertainty 5.1%. Sampling: Immeasurable

Monitoring Point	Substance / Parameter	Trigger level	Reference Period	Result[1]	Test Method[2]	Sample Date and Times[3]	Uncertainty [4]
WS2	BOD	>19 mg/l	Bi-annually	3.05 mg/l	TM045	17/05/2016 15:30	Lab: Precision 8.9%, Bias 1.0%, Expanded Uncertainty 18.8%. Sampling: Immeasurable
WS2	Dissolved Oxygen	>7.1 mg/l	Bi-annually	3.34 mg/l	TM187	17/05/2016 15:30	Lab: Immeasurable Sampling: Immeasurable
WS2	TPH >C5-C35	>100 µg/l	Bi-annually	<10 ug/l	TM172 / TM245	17/05/2016 15:30	Lab: Variable Sampling: Immeasurable
WS2	Total PAH (16)	>0.01 µg/l	Bi-annually	<0.344 ug/l	TM178	17/05/2016 15:30	Lab: Variable Sampling: Immeasurable
WS2	Orthophosphate	>10.57 mg/l	Bi-annually	0.0538 mg/l	TM184	17/05/2016 15:30	Lab: Precision 1.1%, Bias 4.1%, Expanded Uncertainty 6.2%. Sampling: Immeasurable
WS2	Total Sulphate	>167.2 mg/l	Bi-annually	47.2 mg/l	TM184	17/05/2016 15:30	Lab: Precision 3.2%, Bias -0.1%, Expanded Uncertainty 6.6%. Sampling: Immeasurable
WS2	Total Cadmium	>0.0004 mg/l	Bi-annually	<0.5 ug/l	TM191	17/05/2016 15:30	Lab: Precision 4.7%, Bias -2.2%, Expanded Uncertainty 11.5%. Sampling: Immeasurable
WS2	Total Calcium	>187.3 mg/l	Bi-annually	74.6 mg/l	TM228	17/05/2016 15:30	Lab: Precision 6.3%, Bias -2.7%, Expanded

Monitoring Point	Substance / Parameter	Trigger level	Reference Period	Result[1]	Test Method[2]	Sample Date and Times[3]	Uncertainty [4]
							Uncertainty 15.4%. Sampling: Immeasurable
WS2	Dissolved Nickel	>0.028 mg/l	Bi-annually	1.97 ug/l	TM152	17/05/2016 15:30	Lab: Precision 4.7%, Bias 1.3%, Expanded Uncertainty 10.7%. Sampling: Immeasurable
WS2	Dissolved Lead	>0.013 mg/l	Bi-annually	0.606 ug/l	TM152	17/05/2016 15:30	Lab: Precision 4.5%, Bias -3.5%, Expanded Uncertainty 12.4%. Sampling: Immeasurable
WS2	Total Zinc	>2531 mg/l	Bi-annually	80.3 ug/l	TM191	17/05/2016 15:30	Lab: Precision 7.3%, Bias -1.1%, Expanded Uncertainty 15.6%. Sampling: Immeasurable
WS3	pH	6.1 ï 8.52	Bi-annually	7.45 pH Units	TM256	17/05/2016 15:50	Lab: Precision 0.5%, Bias 0.9%, Expanded Uncertainty 1.8%. Sampling: Immeasurable
WS3	Total Oxidised Nitrogen as N	>0.89 mg/l	Bi-annually	<0.1 mg/l	TM184	17/05/2016 15:50	Lab: Precision 2.7%, Bias 2.2%, Expanded Uncertainty 7.6%. Sampling: Immeasurable
WS3	Nitrite as N	>0.084 mg/l	Bi-annually	<0.0152 mg/l	TM184	17/05/2016 15:50	Lab: Precision 2.3%, Bias -0.3%, Expanded Uncertainty 4.9%.

Monitoring Point	Substance / Parameter	Trigger level	Reference Period	Result[1]	Test Method[2]	Sample Date and Times[3]	Uncertainty [4]
							Sampling: Immeasurable
WS3	Nitrate as N	>29.7 mg/l	Bi-annually	<0.0677 mg/l	TM184	17/05/2016 15:50	Lab: As per TON and NO2. Sampling: Immeasurable
WS3	Ammoniacal Nitrogen as N*	>0.012 mg/l	Bi-annually	0.00064 mg/l	TM099	17/05/2016 15:50	Lab: Precision 2.3%, Bias 3.4%, Expanded Uncertainty 8.0%. Sampling: Immeasurable
WS3	Chloride	>4564.4 mg/l	Bi-annually	28.2 mg/l	TM184	17/05/2016 15:50	Lab: Precision 3.1%, Bias 1.2%, Expanded Uncertainty 7.4%. Sampling: Immeasurable
WS3	Conductivity	>2400 µS/cm	Bi-annually	1.14 mS/cm	TM120	17/05/2016 15:50	Lab: Precision 1.3%, Bias 2.6%, Expanded Uncertainty 5.1%. Sampling: Immeasurable
WS3	BOD	>19 mg/l	Bi-annually	2.3 mg/l	TM045	17/05/2016 15:50	Lab: Precision 8.9%, Bias 1.0%, Expanded Uncertainty 18.8%. Sampling: Immeasurable
WS3	Dissolved Oxygen	>7.1 mg/l	Bi-annually	1.12 mg/l	TM187	17/05/2016 15:50	Lab: Immeasurable Sampling: Immeasurable
WS3	TPH >C5-C35	>100 µg/l	Bi-annually	<10 ug/l	TM172 / TM245	17/05/2016 15:50	Lab: Variable Sampling: Immeasurable

Monitoring Point	Substance / Parameter	Trigger level	Reference Period	Result[1]	Test Method[2]	Sample Date and Times[3]	Uncertainty [4]
WS3	Total PAH (16)	>0.01 µg/l	Bi-annually	1.04 ug/l	TM178	17/05/2016 15:50	Lab: Variable Sampling: Immeasurable
WS3	Orthophosphate	>10.57 mg/l	Bi-annually	<0.02 mg/l	TM184	17/05/2016 15:50	Lab: Precision 1.1%, Bias 4.1%, Expanded Uncertainty 6.2%. Sampling: Immeasurable
WS3	Total Sulphate	>167.2 mg/l	Bi-annually	155 mg/l	TM184	17/05/2016 15:50	Lab: Precision 3.2%, Bias -0.1%, Expanded Uncertainty 6.6%. Sampling: Immeasurable
WS3	Total Cadmium	>0.0004 mg/l	Bi-annually	<0.5 ug/l	TM191	17/05/2016 15:50	Lab: Precision 4.7%, Bias -2.2%, Expanded Uncertainty 11.5%. Sampling: Immeasurable
WS3	Total Calcium	>187.3 mg/l	Bi-annually	209 mg/l	TM228	17/05/2016 15:50	Lab: Precision 6.3%, Bias -2.7%, Expanded Uncertainty 15.4%. Sampling: Immeasurable
WS3	Dissolved Nickel	>0.028 mg/l	Bi-annually	4.73 ug/l	TM152	17/05/2016 15:50	Lab: Precision 4.7%, Bias 1.3%, Expanded Uncertainty 10.7%. Sampling: Immeasurable
WS3	Dissolved Lead	>0.013 mg/l	Bi-annually	0.073 ug/l	TM152	17/05/2016 15:50	Lab: Precision 4.5%, Bias -3.5%, Expanded Uncertainty 12.4%.

Monitoring Point	Substance / Parameter	Trigger level	Reference Period	Result[1]	Test Method[2]	Sample Date and Times[3]	Uncertainty [4]
							Sampling: Immeasurable
WS3	Total Zinc	>2531 mg/l	Bi-annually	76.9 ug/l	TM191	17/05/2016 15:50	Lab: Precision 7.3%, Bias -1.1%, Expanded Uncertainty 15.6%. Sampling: Immeasurable
WS4	pH	6.1 ï 8.52	Bi-annually	7.44 pH Units	TM256	17/05/2016 16:30	Lab: Precision 0.5%, Bias 0.9%, Expanded Uncertainty 1.8%. Sampling: Immeasurable
WS4	Total Oxidised Nitrogen as N	>0.89 mg/l	Bi-annually	<0.1 mg/l	TM184	17/05/2016 16:30	Lab: Precision 2.7%, Bias 2.2%, Expanded Uncertainty 7.6%. Sampling: Immeasurable
WS4	Nitrite as N	>0.084 mg/l	Bi-annually	<0.0152 mg/l	TM184	17/05/2016 16:30	Lab: Precision 2.3%, Bias -0.3%, Expanded Uncertainty 4.9%. Sampling: Immeasurable
WS4	Nitrate as N	>2.2 mg/l	Bi-annually	<0.0677mg/l	TM184	17/05/2016 16:30	Lab: As per TON and NO2. Sampling: Immeasurable
WS4	Ammoniacal Nitrogen as N*	>0.012 mg/l	Bi-annually	0.0069 mg/l	TM099	17/05/2016 16:30	Lab: Precision 2.3%, Bias 3.4%, Expanded Uncertainty 8.0%. Sampling: Immeasurable

Monitoring Point	Substance / Parameter	Trigger level	Reference Period	Result[1]	Test Method[2]	Sample Date and Times[3]	Uncertainty [4]
WS4	Chloride	>4564.4 mg/l	Bi-annually	141 mg/l	TM184	17/05/2016 16:30	Lab: Precision 3.1%, Bias 1.2%, Expanded Uncertainty 7.4%. Sampling: Immeasurable
WS4	Conductivity	>2400 µS/cm	Bi-annually	1.85 mS/cm	TM120	17/05/2016 16:30	Lab: Precision 1.3%, Bias 2.6%, Expanded Uncertainty 5.1%. Sampling: Immeasurable
WS4	BOD	>19 mg/l	Bi-annually	<1.5 mg/l	TM045	17/05/2016 16:30	Lab: Precision 8.9%, Bias 1.0%, Expanded Uncertainty 18.8%. Sampling: Immeasurable
WS4	Dissolved Oxygen	>7.1 mg/l	Bi-annually	2.9 mg/l	TM187	17/05/2016 16:30	Lab: Immeasurable Sampling: Immeasurable
WS4	TPH >C5-C35	>100 µg/l	Bi-annually	<10 ug/l	TM172 / TM245	17/05/2016 16:30	Lab: Variable Sampling: Immeasurable
WS4	Total PAH (16)	>0.01 µg/l	Bi-annually	<0.344 ug/l	TM178	17/05/2016 16:30	Lab: Variable Sampling: Immeasurable
WS4	Orthophosphate	>10.57 mg/l	Bi-annually	1.32 mg/l	TM184	17/05/2016 16:30	Lab: Precision 1.1%, Bias 4.1%, Expanded Uncertainty 6.2%. Sampling: Immeasurable
WS4	Total Sulphate	>167.2 mg/l	Bi-annually	316 mg/l	TM184	17/05/2016 16:30	Lab: Precision 3.2%, Bias -0.1%, Expanded

Monitoring Point	Substance / Parameter	Trigger level	Reference Period	Result[1]	Test Method[2]	Sample Date and Times[3]	Uncertainty [4]
							Uncertainty 6.6%. Sampling: Immeasurable
WS4	Total Cadmium	>0.0004 mg/l	Bi-annually	<0.5 ug/l	TM191	17/05/2016 16:30	Lab: Precision 4.7%, Bias -2.2%, Expanded Uncertainty 11.5%. Sampling: Immeasurable
WS4	Total Calcium	>187.3 mg/l	Bi-annually	154 mg/l	TM228	17/05/2016 16:30	Lab: Precision 6.3%, Bias -2.7%, Expanded Uncertainty 15.4%. Sampling: Immeasurable
WS4	Dissolved Nickel	>0.028 mg/l	Bi-annually	16.2 ug/l	TM152	17/05/2016 16:30	Lab: Precision 4.7%, Bias 1.3%, Expanded Uncertainty 10.7%. Sampling: Immeasurable
WS4	Dissolved Lead	>0.013 mg/l	Bi-annually	1.4 ug/l	TM152	17/05/2016 16:30	Lab: Precision 4.5%, Bias -3.5%, Expanded Uncertainty 12.4%. Sampling: Immeasurable
WS4	Total Zinc	>2531 mg/l	Bi-annually	4.95 ug/l	TM191	17/05/2016 16:30	Lab: Precision 7.3%, Bias -1.1%, Expanded Uncertainty 15.6%. Sampling: Immeasurable
WS5	pH	6.1 ï 8.52	Bi-annually	7.97 pH Units	TM256	27/05/2016 09:30	Lab: Precision 0.5%, Bias 0.9%, Expanded Uncertainty 1.8%.

Monitoring Point	Substance / Parameter	Trigger level	Reference Period	Result[1]	Test Method[2]	Sample Date and Times[3]	Uncertainty [4]
							Sampling: Immeasurable
WS5	Total Oxidised Nitrogen as N	>0.89 mg/l	Bi-annually	<0.1 mg/l	TM184	27/05/2016 09:30	Lab: Precision 2.7%, Bias 2.2%, Expanded Uncertainty 7.6%. Sampling: Immeasurable
WS5	Nitrite as N	>0.084 mg/l	Bi-annually	<0.152 mg/l	TM184	27/05/2016 09:30	Lab: Precision 2.3%, Bias -0.3%, Expanded Uncertainty 4.9%. Sampling: Immeasurable
WS5	Nitrate as N	>29.7 mg/l	Bi-annually	<0.0677 mg/l	TM184	27/05/2016 09:30	Lab: As per TON and NO2. Sampling: Immeasurable
WS5	Ammoniacal Nitrogen as N*	>0.012 mg/l	Bi-annually	0.032 mg/l	TM099	27/05/2016 09:30	Lab: Precision 2.3%, Bias 3.4%, Expanded Uncertainty 8.0%. Sampling: Immeasurable
WS5	Chloride	>4564.4 mg/l	Bi-annually	528 mg/l	TM184	27/05/2016 09:30	Lab: Precision 3.1%, Bias 1.2%, Expanded Uncertainty 7.4%. Sampling: Immeasurable
WS5	Conductivity	>2400 µS/cm	Bi-annually	2.7 mS/cm	TM120	27/05/2016 09:30	Lab: Precision 1.3%, Bias 2.6%, Expanded Uncertainty 5.1%. Sampling: Immeasurable

Monitoring Point	Substance / Parameter	Trigger level	Reference Period	Result[1]	Test Method[2]	Sample Date and Times[3]	Uncertainty [4]
WS5	BOD	>19 mg/l	Bi-annually	10.3 mg/l	TM045	27/05/2016 09:30	Lab: Precision 8.9%, Bias 1.0%, Expanded Uncertainty 18.8%. Sampling: Immeasurable
WS5	Dissolved Oxygen	>7.1 mg/l	Bi-annually	<0.3 mg/l	TM187	27/05/2016 09:30	Lab: Immeasurable Sampling: Immeasurable
WS5	TPH >C5-C40	>100 µg/l	Bi-annually	<56 ug/l	TM172 / TM245	27/05/2016 09:30	Lab: Variable Sampling: Immeasurable
WS5	Total PAH (16)	>0.01 µg/l	Bi-annually	0.52 ug/l	TM178	27/05/2016 09:30	Lab: Variable Sampling: Immeasurable
WS5	Orthophosphate	>10.57 mg/l	Bi-annually	0.109 mg/l	TM184	27/05/2016 09:30	Lab: Precision 1.1%, Bias 4.1%, Expanded Uncertainty 6.2%. Sampling: Immeasurable
WS5	Total Sulphate	>260 mg/l	Bi-annually	181 mg/l	TM184	27/05/2016 09:30	Lab: Precision 3.2%, Bias -0.1%, Expanded Uncertainty 6.6%. Sampling: Immeasurable
WS5	Total Cadmium	>0.0004 mg/l	Bi-annually	<0.5 ug/l	TM191	27/05/2016 09:30	Lab: Precision 4.7%, Bias -2.2%, Expanded Uncertainty 11.5%. Sampling: Immeasurable
WS5	Total Calcium	>187.3 mg/l	Bi-annually	241 mg/l	TM228	27/05/2016 09:30	Lab: Precision 6.3%, Bias -2.7%, Expanded

Monitoring Point	Substance / Parameter	Trigger level	Reference Period	Result[1]	Test Method[2]	Sample Date and Times[3]	Uncertainty [4]
							Uncertainty 15.4%. Sampling: Immeasurable
WS5	Dissolved Nickel	>0.028 mg/l	Bi-annually	6.8 ug/l	TM152	27/05/2016 09:30	Lab: Precision 4.7%, Bias 1.3%, Expanded Uncertainty 10.7%. Sampling: Immeasurable
WS5	Dissolved Lead	>0.013 mg/l	Bi-annually	0.968 ug/l	TM152	27/05/2016 09:30	Lab: Precision 4.5%, Bias -3.5%, Expanded Uncertainty 12.4%. Sampling: Immeasurable
WS5	Total Zinc	>2531 mg/l	Bi-annually	210 ug/l	TM191	27/05/2016 09:30	Lab: Precision 7.3%, Bias -1.1%, Expanded Uncertainty 15.6%. Sampling: Immeasurable

*Total ammoniacal nitrogen converted to unionised ammonia using water temperature of 12°C and measured pH.

[1] The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum - maximum' measured values.

[2] Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Environment Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, for example gas chromatography.

[3] For non-continuous measurements the date and time of the sample that produced the result is given. For continuous measurements the percentage of the process operating time covered by the result is given.

[4] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signedé é
(Authorised to sign as representative of Operator)

Date é é é é June 2016é é ..

Permit Number EPR/PP3993VS