

Permit Number: EPR/PP3993VS

Operator: Atlantic Recycling

Facility: Atlantic Recycling

Form Number: Groundwater1

Reporting of groundwater results for bi-annual monitoring in November 2017

Monitoring Point	Substance / Parameter	Trigger level	Reference Period	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Uncertainty ⁽⁴⁾
WS1	pH	6.1 ÷ 8.52	Bi-annually	7.62 pH Units	TM256	17/11/2017 at 08.30	Lab:precision 0%, Bias 0.1%, Expanded Uncertainty 0.1%. Sampling Immeasurable
WS1	Total Oxidised Nitrogen as N	>0.89 mg/l	Bi-annually	0.185 mg/l	TM184	17/11/2017 at 08.30	Lab:precision 1.9%, Bias 5.4%, Expanded Uncertainty 9.2%. Sampling Immeasurable
WS1	Nitrite as N	>0.084 mg/l	Bi-annually	<0.0152 mg/l	TM184	17/11/2017 at 08.30	Lab:precision 1.6%, Bias 1.6%, Expanded Uncertainty 4.7%. Sampling Immeasurable
WS1	Nitrate as N	>2.2 mg/l	Bi-annually	0.176 mg/l	TM184	17/11/2017 at 08.30	Lab:precision 1.6%, Bias 1.6%, Expanded Uncertainty 4.7%. Sampling Immeasurable

Monitoring Point	Substance / Parameter	Trigger level	Reference Period	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Uncertainty ⁽⁴⁾
WS1	Ammoniacal Nitrogen as N*	>0.012 mg/l	Bi-annually	0.0016 mg/l	TM099	17/11/2017 at 08.30	Lab:precision 2%, Bias - 1.1%, Expanded Uncertainty 5%. Sampling Immeasurable
WS1	Chloride	>4564.4 mg/l	Bi-annually	111 mg/l	TM184	17/11/2017 at 08.30	Lab:precision 1.8%, Bias 6.9%, Expanded Uncertainty 10.5%. Sampling Immeasurable
WS1	Conductivity	>2400 μ S/cm	Bi-annually	0.824 mS/cm	TM120	17/11/2017 at 08.30	Lab:precision 1%, Bias 2.9%, Expanded Uncertainty 4.9%. Sampling Immeasurable
WS1	BOD	>19 mg/l	Bi-annually	2.44 mg/l	TM045	17/11/2017 at 08.30	Lab:precision 11.3%, Bias -10.6%, Expanded Uncertainty 33.2%. Sampling Immeasurable
WS1	Dissolved Oxygen	>7.1 mg/l	Bi-annually	3.3 mg/l	TM187	17/11/2017 at 08.30	Lab: Unknown. Sampling: Immeasurable
WS1	Total Aliphatics & Aromatics >C5-35 (aq)	>100 μ g/l	Bi-annually	<10 μ g/l	TM174	17/11/2017 at 08.30	Lab: Unknown. Sampling: Immeasurable

Monitoring Point	Substance / Parameter	Trigger level	Reference Period	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Uncertainty ⁽⁴⁾
WS1	Total PAH(16)	>0.01 µg/l	Bi-annually	0.0879 µg/l	TM178	17/11/2017 at 08.30	Lab: Unknown. Sampling: Immeasurable
WS1	Orthophosphate	>10.57 mg/l	Bi-annually	0.26 mg/l	TM184	17/11/2017 at 08.30	Lab:precision 1.6%, Bias 3.4%, Expanded Uncertainty 6.5%. Sampling Immeasurable
WS1	Sulphate	>167.2 mg/l	Bi-annually	79.9 mg/l	TM184	17/11/2017 at 08.30	Lab:precision 1.9%, Bias 6%, Expanded Uncertainty 9.8%. Sampling Immeasurable
WS1	Total Cadmium	>0.0004 mg/l	Bi-annually	<0.5 µg/l	TM191	17/11/2017 at 08.30	Lab:precision 5.7%, Bias -12.1%, Expanded Uncertainty 23.5%. Sampling Immeasurable
WS1	Total Calcium	>187.3 mg/l	Bi-annually	99.2 mg/l	TM228	17/11/2017 at 08.30	Lab:precision 4.2%, Bias -4.9%, Expanded Uncertainty 13.3%. Sampling Immeasurable
WS1	Dissolved Nickel	>0.028 mg/l	Bi-annually	3.33 µg/l	TM152	17/11/2017 at 08.30	Lab:precision 3.4%, Bias 2.3%, Expanded Uncertainty 9%. Sampling Immeasurable

Monitoring Point	Substance / Parameter	Trigger level	Reference Period	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Uncertainty ⁽⁴⁾
WS1	Dissolved Lead	>0.013 mg/l	Bi-annually	<0.2 µg/l	TM152	17/11/2017 at 08.30	Lab:precision 3.6%, Bias 3.6%, Expanded Uncertainty 10.8%. Sampling Immeasurable
WS1	Total Zinc	>2531 mg/l	Bi-annually	6.65 µg/l	TM191	17/11/2017 at 08.30	Lab:precision 5.9%, Bias -10%, Expanded Uncertainty 21.7%. Sampling Immeasurable
WS2	pH	6.1 ÷ 8.52	Bi-annually	7.6 pH Units	TM256	17/11/2017 at 08.45	Lab:precision 0%, Bias 0.1%, Expanded Uncertainty 0.1%. Sampling Immeasurable
WS2	Total Oxidised Nitrogen as N	>0.89 mg/l	Bi-annually	<0.1 mg/l	TM184	17/11/2017 at 08.45	Lab:precision 1.9%, Bias 5.4%, Expanded Uncertainty 9.2%. Sampling Immeasurable
WS2	Nitrite as N	>0.084 mg/l	Bi-annually	<0.0152 mg/l	TM184	17/11/2017 at 08.45	Lab:precision 1.6%, Bias 1.6%, Expanded Uncertainty 4.7%. Sampling Immeasurable

Monitoring Point	Substance / Parameter	Trigger level	Reference Period	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Uncertainty ⁽⁴⁾
WS2	Nitrate as N	>29.7 mg/l	Bi-annually	<0.0677 mg/l	TM184	17/11/2017 at 08.45	Lab:precision 1.6%, Bias 1.6%, Expanded Uncertainty 4.7%. Sampling Immeasurable
WS2	Ammoniacal Nitrogen as N*	>0.012 mg/l	Bi-annually	0.047 mg/l	TM099	17/11/2017 at 08.45	Lab:precision 2%, Bias -1.1%, Expanded Uncertainty 5%. Sampling Immeasurable
WS2	Chloride	>4564.4 mg/l	Bi-annually	146 mg/l	TM184	17/11/2017 at 08.45	Lab:precision 1.8%, Bias 6.9%, Expanded Uncertainty 10.5%. Sampling Immeasurable
WS2	Conductivity	>2400 μ S/cm	Bi-annually	1.4 mS/cm	TM120	17/11/2017 at 08.45	Lab:precision 1%, Bias 2.9%, Expanded Uncertainty 4.9%. Sampling Immeasurable
WS2	BOD	>19 mg/l	Bi-annually	8.49 mg/l	TM045	17/11/2017 at 08.45	Lab:precision 11.3%, Bias -10.6%, Expanded Uncertainty 33.2%. Sampling Immeasurable
WS2	Dissolved Oxygen	>7.1 mg/l	Bi-annually	<0.3 mg/l	TM187	17/11/2017 at 08.45	Lab: Unknown. Sampling: Immeasurable

Monitoring Point	Substance / Parameter	Trigger level	Reference Period	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Uncertainty ⁽⁴⁾
WS2	Total Aliphatics & Aromatics >C5-35 (aq)	>100 µg/l	Bi-annually	300 µg/l	TM174	17/11/2017 at 08.45	Lab: Unknown. Sampling: Immeasurable
WS2	Total PAH(16)	>0.01 µg/l	Bi-annually	8.16 µg/l	TM178	17/11/2017 at 08.45	Lab: Unknown. Sampling: Immeasurable
WS2	Orthophosphate	>10.57 mg/l	Bi-annually	0.948 mg/l	TM184	17/11/2017 at 08.45	Lab:precision 1.6%, Bias 3.4%, Expanded Uncertainty 6.5%. Sampling Immeasurable
WS2	Sulphate	>167.2 mg/l	Bi-annually	90.4 mg/l	TM184	17/11/2017 at 08.45	Lab:precision 1.9%, Bias 6%, Expanded Uncertainty 9.8%. Sampling Immeasurable
WS2	Total Cadmium	>0.0004 mg/l	Bi-annually	<0.5 µg/l	TM191	17/11/2017 at 08.45	Lab:precision 5.7%, Bias -12.1%, Expanded Uncertainty 23.5%. Sampling Immeasurable
WS2	Total Calcium	>187.3 mg/l	Bi-annually	128 mg/l	TM228	17/11/2017 at 08.30	Lab:precision 4.2%, Bias -4.9%, Expanded Uncertainty 13.3%. Sampling Immeasurable

Monitoring Point	Substance / Parameter	Trigger level	Reference Period	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Uncertainty ⁽⁴⁾
WS2	Dissolved Nickel	>0.028 mg/l	Bi-annually	0.805 µg/l	TM152	17/11/2017 at 08.45	Lab:precision 3.4%, Bias 2.3%, Expanded Uncertainty 9%. Sampling Immeasurable
WS2	Dissolved Lead	>0.013 mg/l	Bi-annually	<0.2 µg/l	TM152	17/11/2017 at 08.45	Lab:precision 3.6%, Bias 3.6%, Expanded Uncertainty 10.8%. Sampling Immeasurable
WS2	Total Zinc	>2531 mg/l	Bi-annually	227 µg/l	TM191	17/11/2017 at 08.45	Lab:precision 5.9%, Bias -10%, Expanded Uncertainty 21.7%. Sampling Immeasurable
WS3	pH	6.1 ÷ 8.52	Bi-annually	7.56 pH Units	TM256	17/11/2017 at 09.30	Lab:precision 0%, Bias 0.1%, Expanded Uncertainty 0.1%. Sampling Immeasurable
WS3	Total Oxidised Nitrogen as N	>0.89 mg/l	Bi-annually	0.268 mg/l	TM184	17/11/2017 at 09.30	Lab:precision 1.9%, Bias 5.4%, Expanded Uncertainty 9.2%. Sampling Immeasurable
WS3	Nitrite as N	>0.084 mg/l	Bi-annually	<0.0152 mg/l	TM184	17/11/2017 at 09.30	Lab:precision 1.6%, Bias 1.6%, Expanded Uncertainty 4.7%.

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	0.262 mg/l	TM184	17/11/2017 at 09.30	Lab:precision 1.6%, Bias 1.6%, Expanded Uncertainty 4.7%. Sampling Immeasurable
WS3	Ammoniacal Nitrogen as N*	>0.012 mg/l	Bi-annually	0.0033 mg/l	TM099	17/11/2017 at 09.30	Lab:precision 2%, Bias -1.1%, Expanded Uncertainty 5%. Sampling Immeasurable
WS3	Chloride	>4564.4 mg/l	Bi-annually	39.3 mg/l	TM184	17/11/2017 at 09.30	Lab:precision 1.8%, Bias 6.9%, Expanded Uncertainty 10.5%. Sampling Immeasurable
WS3	Conductivity	>2400 μ S/cm	Bi-annually	1.63 mS/cm	TM120	17/11/2017 at 09.30	Lab:precision 1%, Bias 2.9%, Expanded Uncertainty 4.9%. Sampling Immeasurable
WS3	BOD	>19 mg/l	Bi-annually	3.69 mg/l	TM045	17/11/2017 at 09.30	Lab:precision 11.3%, Bias -10.6%, Expanded Uncertainty 33.2%. Sampling Immeasurable

Monitoring Point	Substance / Parameter	Trigger level	Reference Period	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Uncertainty ⁽⁴⁾
WS3	Dissolved Oxygen	>7.1 mg/l	Bi-annually	5.73 mg/l	TM046	17/11/2017 at 09.30	Lab: Unknown. Sampling: Immeasurable
WS3	EPH C10-C40	>100 µg/l	Bi-annually	<100 µg/l	TM172	17/11/2017 at 09.30	Lab: Unknown. Sampling: Immeasurable
WS3	Total PAH(16)	>0.01 µg/l	Bi-annually	0.834 µg/l	TM178	17/11/2017 at 09.30	Lab: Unknown. Sampling: Immeasurable
WS3	Orthophosphate	>10.57 mg/l	Bi-annually	<0.02 mg/l	TM184	17/11/2017 at 09.30	Lab:precision 1.6%, Bias 3.4%, Expanded Uncertainty 6.5%. Sampling Immeasurable
WS3	Sulphate	>167.2 mg/l	Bi-annually	477 mg/l	TM184	17/11/2017 at 09.30	Lab:precision 1.9%, Bias 6%, Expanded Uncertainty 9.8%. Sampling Immeasurable
WS3	Total Cadmium	>0.0004 mg/l	Bi-annually	<0.5 µg/l	TM191	17/11/2017 at 09.30	Lab:precision 5.7%, Bias -12.1%, Expanded Uncertainty 23.5%. Sampling Immeasurable
WS3	Total Calcium	>187.3 mg/l	Bi-annually	291 mg/l	TM228	17/11/2017 at 09.30	Lab:precision 4.2%, Bias -4.9%, Expanded Uncertainty 13.3%. Sampling Immeasurable

Monitoring Point	Substance / Parameter	Trigger level	Reference Period	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Uncertainty ⁽⁴⁾
WS3	Dissolved Nickel	>0.028 mg/l	Bi-annually	4.09 µg/l	TM152	17/11/2017 at 09.30	Lab:precision 3.4%, Bias 2.3%, Expanded Uncertainty 9%. Sampling Immeasurable
WS3	Dissolved Lead	>0.013 mg/l	Bi-annually	<0.2 µg/l	TM152	17/11/2017 at 09.30	Lab:precision 3.6%, Bias 3.6%, Expanded Uncertainty 10.8%. Sampling Immeasurable
WS3	Total Zinc	>2531 mg/l	Bi-annually	57 µg/l	TM191	17/11/2017 at 09.30	Lab:precision 5.9%, Bias -10%, Expanded Uncertainty 21.7%. Sampling Immeasurable
WS4	pH	6.1 ÷ 8.52	Bi-annually	7.54 pH Units	TM256	17/11/2017 at 09.50	Lab:precision 0%, Bias 0.1%, Expanded Uncertainty 0.1%. Sampling Immeasurable
WS4	Total Oxidised Nitrogen as N	>0.89 mg/l	Bi-annually	<0.1 mg/l	TM184	17/11/2017 at 09.50	Lab:precision 1.9%, Bias 5.4%, Expanded Uncertainty 9.2%. Sampling Immeasurable

Monitoring Point	Substance / Parameter	Trigger level	Reference Period	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Uncertainty ⁽⁴⁾
WS4	Nitrite as N	>0.084 mg/l	Bi-annually	<0.0152 mg/l	TM184	17/11/2017 at 09.50	Lab:precision 1.6%, Bias 1.6%, Expanded Uncertainty 4.7%. Sampling Immeasurable
WS4	Nitrate as N	>2.2 mg/l	Bi-annually	<0.0677 mg/l	TM184	17/11/2017 at 09.50	Lab:precision 1.6%, Bias 1.6%, Expanded Uncertainty 4.7%. Sampling Immeasurable
WS4	Ammoniacal Nitrogen as N*	>0.012 mg/l	Bi-annually	0.054 mg/l	TM099	17/11/2017 at 09.50	Lab:precision 2%, Bias - 1.1%, Expanded Uncertainty 5%. Sampling Immeasurable
WS4	Chloride	>4564.4 mg/l	Bi-annually	191 mg/l	TM184	17/11/2017 at 09.50	Lab:precision 1.8%, Bias 6.9%, Expanded Uncertainty 10.5%. Sampling Immeasurable
WS4	Conductivity	>2400 μ S/cm	Bi-annually	2.35 mS/cm	TM120	17/11/2017 at 09.50	Lab:precision 1%, Bias 2.9%, Expanded Uncertainty 4.9%. Sampling Immeasurable

Monitoring Point	Substance / Parameter	Trigger level	Reference Period	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Uncertainty ⁽⁴⁾
WS4	BOD	>19 mg/l	Bi-annually	<1 mg/l	TM045	17/11/2017 at 09.50	Lab:precision 11.3%, Bias -10.6%, Expanded Uncertainty 33.2%. Sampling Immeasurable
WS4	Dissolved Oxygen	>7.1 mg/l	Bi-annually	<0.3 mg/l	TM187	17/11/2017 at 09.50	Lab: Unknown. Sampling: Immeasurable
WS4	EPH C10-C40	>100 µg/l	Bi-annually	<100 µg/l	TM172	17/11/2017 at 09.50	Lab: Unknown. Sampling: Immeasurable
WS4	Total PAH(16)	>0.01 µg/l	Bi-annually	<0.082 µg/l	TM178	17/11/2017 at 09.50	Lab: Unknown. Sampling: Immeasurable
WS4	Orthophosphate	>10.57 mg/l	Bi-annually	1.72 mg/l	TM184	17/11/2017 at 09.50	Lab:precision 1.6%, Bias 3.4%, Expanded Uncertainty 6.5%. Sampling Immeasurable
WS4	Sulphate	>167.2 mg/l	Bi-annually	383 mg/l	TM184	17/11/2017 at 09.50	Lab:precision 1.9%, Bias 6%, Expanded Uncertainty 9.8%. Sampling Immeasurable

Monitoring Point	Substance / Parameter	Trigger level	Reference Period	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Uncertainty ⁽⁴⁾
WS4	Total Cadmium	>0.0004 mg/l	Bi-annually	<0.5 µg/l	TM191	17/11/2017 at 09.50	Lab:precision 5.7%, Bias -12.1%, Expanded Uncertainty 23.5%. Sampling Immeasurable
WS4	Total Calcium	>187.3 mg/l	Bi-annually	135 mg/l	TM228	17/11/2017 at 09.50	Lab:precision 4.2%, Bias -4.9%, Expanded Uncertainty 13.3%. Sampling Immeasurable
WS4	Dissolved Nickel	>0.028 mg/l	Bi-annually	10.5 µg/l	TM152	17/11/2017 at 09.50	Lab:precision 3.4%, Bias 2.3%, Expanded Uncertainty 9%. Sampling Immeasurable
WS4	Dissolved Lead	>0.013 mg/l	Bi-annually	<0.2 µg/l	TM152	17/11/2017 at 09.50	Lab:precision 3.6%, Bias 3.6%, Expanded Uncertainty 10.8%. Sampling Immeasurable
WS4	Total Zinc	>2531 mg/l	Bi-annually	7.04 µg/l	TM191	17/11/2017 at 09.50	Lab:precision 5.9%, Bias -10%, Expanded Uncertainty 21.7%. Sampling Immeasurable

Monitoring Point	Substance / Parameter	Trigger level	Reference Period	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Uncertainty ⁽⁴⁾
WS5	pH	6.1 ÷ 8.52	Bi-annually	7.42 pH Units	TM256	17/11/2017 at 10.25	Lab:precision 0%, Bias 0.1%, Expanded Uncertainty 0.1%. Sampling Immeasurable
WS5	Total Oxidised Nitrogen as N	>0.89 mg/l	Bi-annually	<0.1 mg/l	TM184	17/11/2017 at 10.25	Lab:precision 1.9%, Bias 5.4%, Expanded Uncertainty 9.2%. Sampling Immeasurable
WS5	Nitrite as N	>0.084 mg/l	Bi-annually	0.0578 mg/l	TM184	17/11/2017 at 10.25	Lab:precision 1.6%, Bias 1.6%, Expanded Uncertainty 4.7%. Sampling Immeasurable
WS5	Nitrate as N	>29.7 mg/l	Bi-annually	<0.0677 mg/l	TM184	17/11/2017 at 10.25	Lab:precision 1.6%, Bias 1.6%, Expanded Uncertainty 4.7%. Sampling Immeasurable
WS5	Ammoniacal Nitrogen as N*	>0.012 mg/l	Bi-annually	0.128 mg/l	TM099	17/11/2017 at 10.25	Lab:precision 2%, Bias - 1.1%, Expanded Uncertainty 5%. Sampling Immeasurable

Monitoring Point	Substance / Parameter	Trigger level	Reference Period	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Uncertainty ⁽⁴⁾
WS5	Chloride	>4564.4 mg/l	Bi-annually	399 mg/l	TM184	17/11/2017 at 10.25	Lab:precision 1.8%, Bias 6.9%, Expanded Uncertainty 10.5%. Sampling Immeasurable
WS5	Conductivity	>2400 µS/cm	Bi-annually	3.13 mS/cm	TM120	17/11/2017 at 10.25	Lab:precision 1%, Bias 2.9%, Expanded Uncertainty 4.9%. Sampling Immeasurable
WS5	BOD	>19 mg/l	Bi-annually	18.2 mg/l	TM045	17/11/2017 at 10.25	Lab:precision 11.3%, Bias -10.6%, Expanded Uncertainty 33.2%. Sampling Immeasurable
WS5	Dissolved Oxygen	>7.1 mg/l	Bi-annually	<0.3 mg/l	TM187	17/11/2017 at 10.25	Lab: Unknown. Sampling: Immeasurable
WS5	Total Aliphatics & Aromatics >C5-35 (aq)	>100 µg/l	Bi-annually	43 µg/l	TM174	17/11/2017 at 10.25	Lab: Unknown. Sampling: Immeasurable
WS5	Total PAH(16)	>0.01 µg/l	Bi-annually	0.618 µg/l	TM178	17/11/2017 at 10.25	Lab: Unknown. Sampling: Immeasurable

Monitoring Point	Substance / Parameter	Trigger level	Reference Period	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Uncertainty ⁽⁴⁾
WS5	Orthophosphate	>10.57 mg/l	Bi-annually	1.99 mg/l	TM184	17/11/2017 at 10.25	Lab:precision 1.6%, Bias 3.4%, Expanded Uncertainty 6.5%. Sampling Immeasurable
WS5	Sulphate	>260 mg/l	Bi-annually	<2 mg/l	TM184	17/11/2017 at 10.25	Lab:precision 1.9%, Bias 6%, Expanded Uncertainty 9.8%. Sampling Immeasurable
WS5	Total Cadmium	>0.0004 mg/l	Bi-annually	<0.08 µg/l	TM191	17/11/2017 at 10.25	Lab:precision 5.7%, Bias -12.1%, Expanded Uncertainty 23.5%. Sampling Immeasurable
WS5	Total Calcium	>187.3 mg/l	Bi-annually	221 mg/l	TM228	17/11/2017 at 10.25	Lab:precision 4.2%, Bias -4.9%, Expanded Uncertainty 13.3%. Sampling Immeasurable
WS5	Dissolved Nickel	>0.028 mg/l	Bi-annually	2.22 µg/l	TM152	17/11/2017 at 10.25	Lab:precision 3.4%, Bias 2.3%, Expanded Uncertainty 9%. Sampling Immeasurable

