

A18.2

Baseline Surface Water – Laboratory Summary December 2018

Sample ID	Details - SURFACE WATER						SW01	SW02	SW03	SW04	SW05	SW06	SW07	SW08	SW09	SW10	SW11	SW14	SW15	SW16	SW17		
							Exova	Exova	Exova	Exova	Exova	Exova	Exova	Exova	Exova	Exova	Exova	Exova	Exova	Exova	Exova	Exova	Exova
Report Ref.							18-20357 b1	18-20357 b1	18-20357 b1	18-20357 b1	18-20378 b1	18-20378 b1	18-20378 b1	18-20378 b1	18-20378 b1	18-20576 b1	18-20280 b1	18-20280 b1	18-20280 b1	18-20280 b1	18-20280 b1		
Sample Type							Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	
Overall sampling period							10/12/2018 - 14/12/2018																
Parameters	Units	Inland Waters			Other Surface Waters																		
		MDL	SWTV (AA-EQS)	SWTV (MAC-EQS)	SWTV (AA-EQS)	SWTV (MAC-EQS)	SWTV (AA-EQS)																
Aluminium	mg/l	0.02	nv	nv	nv	nv	0.196	0.055	0.085	0.023	-	-	-	-	-	-	-	-	-	-	-	0.054	
Antimony	mg/l	0.002	nv	nv	nv	nv	-	-	-	-	-	0.007	0.007	-	0.005	-	-	-	0.003	-	-	-	
Arsenic	mg/l	0.0025	0.025	nv	0.020	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Barium	mg/l	0.003	nv	nv	nv	nv	0.013	0.016	0.034	0.031	0.039	0.038	0.036	0.039	0.04	0.083	0.068	0.052	0.053	0.062	0.045		
Beryllium	mg/l	0.0005	nv	nv	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Boron	mg/l	0.012	nv	nv	nv	nv	0.018	0.112	0.018	0.047	0.025	0.025	0.026	0.032	0.026	0.025	0.03	0.028	0.028	0.024	0.02		
Cadmium	mg/l	0.0005	0.00008	0.00045	0.0002	0.00045	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Calcium	mg/l	0.2	nv	nv	nv	nv	46.8	57.2	75.5	71.9	131	131.5	143.2	132.5	124.7	145.4	131.9	118.1	123.6	117.8	64.2		
Chromium	mg/l	0.0015	0.0034 ¹ /0.0047 ²	nv ¹ /0.0032 ²	0.0006 ¹ /nv ²	0.0032 ¹ /nv ²	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Cobalt	mg/l	0.002	nv	nv	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Copper	mg/l	0.007	0.005/0.03 ³	nv	0.005	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Iron	mg/l	0.02	nv	nv	nv	nv	0.119	0.092	0.06	0.055	0.024	0.022	-	0.023	0.029	0.02	-	0.025	-	-	0.04		
Lead	mg/l	0.005	0.0012	0.014	0.0013	0.014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Magnesium	mg/l	0.1	nv	nv	nv	nv	3.8	28.4	5.6	12.5	8	8	18.6	15.6	7.7	7.1	8.1	8.1	9	6.8	3.7		
Manganese	mg/l	0.002	nv	nv	nv	nv	0.022	0.018	0.016	0.013	0.024	0.021	0.024	0.035	0.035	0.017	0.023	0.039	0.041	0.01	0.099		
Mercury	mg/l	0.001	0.00005	0.00007	0.00005	0.00007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Molybdenum	mg/l	0.002	nv	nv	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.005		
Nickel	mg/l	0.002	0.004	0.034	0.0086	0.034	-	-	-	-	0.002	0.002	0.006	0.005	0.002	-	-	-	-	-	-	-	
Phosphorus	mg/l	0.005	nv	nv	nv	nv	0.028	0.033	0.041	0.041	0.071	0.069	0.025	0.03	0.066	1.102	0.037	0.021	0.047	0.022	0.037		
Potassium	mg/l	0.1	nv	nv	nv	nv	1.7	9.3	2	4.2	3	3.2	3.6	2.9	2.9	3.8	3.7	2.9	4.5	8.1	10		
Selenium	mg/l	0.003	nv	nv	nv	nv	-	-	-	-	0.008	0.009	-	-	-	0.004	0.01	0.004	0.004	0.004	0.005		
Sodium	mg/l	0.1	nv	nv	nv	nv	12.1	320.3	14.1	74.5	21.5	21.4	24.1	24.2	21.8	20	27	31.2	29.4	22.3	13.7		
Thallium	mg/l	0.003	nv	nv	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vanadium	mg/l	0.0015	nv	nv	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0016	0.0016		
Zinc	mg/l	0.003	0.008/0.05/0.1 ⁴	nv	0.04	nv	0.007	0.004	0.004	-	0.014	0.007	0.01	0.015	0.014	0.007	0.015	0.011	0.026	0.016	0.016		
TPH CWQ																							
Aliphatics																							
>C10-C12	mg/l	0.005	nv	nv	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
>C12-C16	mg/l	0.01	nv	nv	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
>C16-C21	mg/l	0.01	nv	nv	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
>C21-C35	mg/l	0.01	nv	nv	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Total aliphatics >C10-35	mg/l	0.01	nv	nv	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Aromatics																							
>EC10-EC12	mg/l	0.005	nv	nv	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
>EC12-EC16	mg/l	0.01	nv	nv	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
>EC16-EC21	mg/l	0.01	nv	nv	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
>EC21-EC35	mg/l	0.01	nv	nv	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Total aromatics >C10-35	mg/l	0.01	nv	nv	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Total aliphatics and aromatics >C10-35	mg/l	0.01	nv	nv	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
MTBE	mg/l	0.005	nv	nv	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Benzene	mg/l	0.005	0.01	0.05	0.008	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Toluene	mg/l	0.005	0.01	nv	0.01	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Ethylbenzene	mg/l	0.005	nv	nv	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
m/p-Xylene	mg/l	0.005	0.01	nv	0.01	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
o-Xylene	mg/l	0.005	0.01	0.01	0.01	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Fluoride	mg/l	0.3	0.5	nv	1.5	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Sulphate as SO4	mg/l	0.5	nv	nv	nv	nv	20.1	78.6	37.2	50.6	98.6	92.8	221.7	167.5	84.6	75.3	94.2	97.2	98.8	68	42.1		
Chloride	mg/l	0.3	nv	nv	nv	nv	21.8	418.6	21.9	139.1	43.9	44.6	41.7	41.7	42.7	56.3	57.7	47.3	54.8	46.7	20.2		
Ortho Phosphate as P	mg/l	0.03	0.075 ⁵	0.075 ⁵	nv	nv	-	-	-	-	9.08	0.07	-	-	-	-	-	-	-	-	-		
Total Ammonia as N	mg/l	0.03	nv	nv	nv	nv	0.05	0.06	0.09	0.07	0.05	0.05	0.05	0.14	0.07	0.03	0.05	0.04	0.09	-	0.15		
Total Alkalinity as CaCO3	mg/l	1	nv	nv	nv	nv	132	136	180	170	254	258	208	214	246	260	216	228	214	220	142		
BOD (Settled)	mg/l	1	nv	nv	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14		
COD (Settled)	mg/l	7	nv	nv	nv	nv	26	33	23	23	30	23	19	25	37	7	10	13	16	11	31		
Kjeldahl Nitrogen	mg/l	0.5	nv	nv	nv	nv	1.3	1.3	1.3	1.3	2.2	2.7	1.6	1.8	1.1	1.2	1.8	1.5	1.7	1.3	1.4		
Total Suspended Solids	mg/l	10	nv	nv	nv	nv	-	-	-	-	-	-	-	-	-	105	-	-	13	-	-		

Key

Inland waters Value exceeds the MAC-EQS Surface Water Threshold Value (SWTV used - Surface Water Regs SI No. 272 of 2009; Surface Water Amendment Regs SI No. 386 of 2015) for Inland Waters; Underlined exceeds the AA-EQS for same SWTVs, where available

Other surface waters Value exceeds the MAC-EQS Surface Water Threshold Value (SWTV used - Surface Water Regs SI No. 272 of 2009; Surface Water Amendment Regs SI No. 386 of 2015) for Other Surface Waters; Underlined exceeds the AA-EQS for same SWTVs, where available

SWTV (AA-EQS) means that for each representative monitoring point within the waterbody, the arithmetic mean of the concentrations measured over a twelve month monitoring period does not exceed the standard.

SWTV (MAC-EQS) means that for each representative monitoring point within the waterbody no measured concentration exceeds the standard.

Notes

Note 1 Chromium VI

Note 2 Chromium III

Note 3 - 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.

Note 4 - 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.

Note 5 95th percentile

- Less than the MDL

nv No value

nt Not Tested

MDL Laboratory Method Detection Limit (shown in mg/l)



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