

A18.3

Baseline Surface Water – Laboratory Summary April to May 2019

Sample ID	Details - SURFACE WATER						SW01	SW02	SW03	SW04	SW05	SW06	SW07	SW08	SW09	SW10	SW11	SW14	SW14A	SW15	SW15A	SW15B	SW16	SW17	
Laboratory							Exova	Exova	Exova	Exova	Exova	Exova	Exova	Exova	Exova	Exova	Exova	Exova	ExovaA	Exova	Exova	Exova	Exova	Exova	Exova
Report Ref.							19/6555 v2	19/6555 v2	19/6555 v2	19/6555 v2	19/6555 v2	19/6555 v2	19/7015 b1	19/7015 b1	19/6555 v2	19/6798	19/7015 b1	19/6798	19/7015 b1	19/6798	19/6798	19/6798	19/6798	19/6798	19/6798
Sample Type							Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary
Overall sampling period							18/04/2019 - 14/05/2019																		
Parameters	Units	MDL	SWTV (AA-EQS)	SWTV (MAC-EQS)	SWTV (AA-EQS)	SWTV (MAC-EQS)																			
Aluminium	mg/l	0.02	nv	nv	nv	nv	-	-	-	-	-	-	-	-	-	-	-	0.023	-	0.022	-	-	-	-	
Antimony	mg/l	0.002	nv	nv	nv	nv	-	-	-	-	-	-	0.003	-	-	-	-	-	-	-	-	-	-	-	
Arsenic	mg/l	0.0025	0.025	nv	0.020	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Barium	mg/l	0.003	nv	nv	nv	nv	0.019	0.016	0.03	0.023	0.036	0.037	0.039	0.041	0.042	0.072	0.076	0.014	0.078	0.042	0.092	0.061	0.06	0.092	
Beryllium	mg/l	0.0005	nv	nv	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Boron	mg/l	0.012	nv	nv	nv	nv	0.017	0.616	0.126	0.897	0.025	0.024	0.024	0.029	0.033	0.035	0.027	0.02	0.021	0.025	0.044	0.045	0.031	0.03	
Cadmium	mg/l	0.0005	0.0008	0.00045	0.0002	0.00045	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Calcium	mg/l	0.2	nv	nv	nv	nv	75.7	128.7	113.4	167.4	133.2	139.0	133.4	126.9	111.7	118.7	136.1	31.6	134.3	96	161.3	152.1	141.3	140.5	
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	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0016	-	-	-	-	
Cobalt	mg/l	0.002	nv	nv	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Copper	mg/l	0.007	0.005 / 0.03 ³	nv	0.005	nv	-	-	-	-	-	-	-	-	-	-	-	0.009	-	-	-	-	-	-	
Iron	mg/l	0.02	nv	nv	nv	nv	0.035	-	-	-	-	-	-	0.023	0.051	0.035	0.021	0.023	-	0.027	0.057	0.041	0.036	0.123	
Lead	mg/l	0.005	0.0012	0.014	0.0013	0.014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Magnesium	mg/l	0.1	nv	nv	nv	nv	6.1	226.5	37.8	304.7	7.4	7.8	16.5	14.5	8	7.6	9.5	1.8	8.8	6.8	11.8	9.9	11.0	10.1	
Manganese	mg/l	0.002	nv	nv	nv	nv	0.014	0.012	0.012	0.014	0.016	0.016	0.012	0.014	0.055	0.03	0.03	0.023	0.022	0.028	0.241	0.092	0.098	0.151	
Mercury	mg/l	0.001	0.00005	0.00007	0.00005	0.00007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Molybdenum	mg/l	0.002	nv	nv	nv	nv	-	-	0.002	0.003	-	-	-	-	-	-	-	-	-	-	0.002	0.002	-	0.003	
Nickel	mg/l	0.002	0.004	0.034	0.0086	0.034	-	-	-	-	-	0.003	-	-	-	-	-	-	-	-	-	-	-	0.002	
Phosphorus	mg/l	0.005	nv	nv	nv	nv	0.014	0.023	0.024	0.031	0.042	0.038	0.023	0.027	0.055	0.016	0.023	0.042	0.022	0.024	0.048	0.037	0.107	0.033	
Potassium	mg/l	0.1	nv	nv	nv	nv	1.2	67.5	13.7	94	2.3	2.2	2.5	2.7	2.2	3.5	2.9	1.5	2.6	10.3	3.7	2.8	4.8	16.7	
Selenium	mg/l	0.003	nv	nv	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Sodium	mg/l	0.1	nv	nv	nv	nv	15	1966	298.1	2872	19.7	19.9	20.6	22.3	23.8	22.6	34.6	25.3	31.2	24.3	86.1	78.6	34.7	36.1	
Thallium	mg/l	0.003	nv	nv	nv	nv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vanadium	mg/l	0.0015	nv	nv	nv	nv	-	-	-	-	-	-	-	-	-	-	0.0035	-	-	-	-	-	-	-	
Zinc	mg/l	0.003	0.008 / 0.05 / 0.1 ⁴	nv	0.04	nv	-	-	-	-	0.003	0.003	0.004	0.004	0.026	0.025	0.006	0.011	0.006	0.006	-	0.005	0.006	0.009	
TPH CWG																									
Aliphatics																									
>C10-C12	mg/l	0.005	nv	nv	nv	nv	-	-	-	-	-	-	-	-	nt	-	-	-	-	-	-	-	-	-	
>C12-C16	mg/l	0.01	nv	nv	nv	nv	-	-	-	-	-	-	-	-	nt	-	-	-	-	-	-	-	-	-	
>C16-C21	mg/l	0.01	nv	nv	nv	nv	-	-	-	-	-	-	-	-	nt	-	-	-	-	-	-	-	-	-	
>C21-C35	mg/l	0.01	nv	nv	nv	nv	-	-	-	-	-	-	-	-	nt	-	-	-	-	-	0.07	-	-	-	
Total aliphatics >C10-35	mg/l	0.01	nv	nv	nv	nv	-	-	-	-	-	-	-	-	nt	-	-	-	-	-	0.07	-	-	-	
Aromatics																									
>EC10-EC12	mg/l	0.005	nv	nv	nv	nv	-	-	-	-	-	-	-	-	nt	-	-	-	-	-	-	-	-	-	
>EC12-EC16	mg/l	0.01	nv	nv	nv	nv	-	-	-	-	-	-	-	-	nt	-	-	-	-	-	-	-	-	-	
>EC16-EC21	mg/l	0.01	nv	nv	nv	nv	-	-	-	-	-	-	-	-	nt	-	-	-	-	-	-	-	-	-	
>EC21-EC35	mg/l	0.01	nv	nv	nv	nv	-	-	-	-	-	-	-	-	nt	-	-	-	-	-	0.02	-	-	-	
Total aromatics >C10-35	mg/l	0.01	nv	nv	nv	nv	-	-	-	-	-	-	-	-	nt	-	-	-	-	-	0.02	-	-	-	
Total aliphatics and aromatics >C10-35	mg/l	0.01	nv	nv	nv	nv	-	-	-	-	-	-	-	-	nt	-	-	-	-	-	0.09	-	-	-	
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	-	-	-	0.4	-	-	-	-	0.3	-	-	-	-	-	-	-	-	-	
Sulphate as SO4	mg/l	0.5	nv	nv	nv	nv	26.1	412.7	118.2	619.3	64.1	66.6	146.8	125.4	56.6	56.7	91.1	23.7	93.5	51.8	92.1	96.5	92.5	82.8	
Chloride	mg/l	0.3	nv	nv	nv	nv	25.3	3029.6	561.2	4658.4	39.7	39.6	38.9	41.4	39.1	44.8	67	33.6	62.3	41	116.4	134.4	61.7	68.1	
Ortho Phosphate as P	mg/l	0.03	0.075 ⁵	0.075 ⁵	nv	nv	-	-	-	0.03	-	0.08	-	0.11	-	-	-	-	-	-	-	-	-	-	
Total Ammonia as N	mg/l	0.03	nv	nv	nv	nv	-	0.07	0.04	0.12	0.05	0.03	0.23	0.22	0.06	0.04	0.06	0.27	0.06	0.11	0.29	0.05	0.05	0.4	
Total Alkalinity as CaCO3	mg/l	1	nv	nv	nv	nv	180	184	254	222	278	274	242	234	244	236	282	84	264	208	374	310	298	316	
BOD (Settled)	mg/l	1	nv	nv	nv	nv	-	-	-	-	-	-	-	-	-	1	-	4	-	-	3	1	-	2	
COD (Settled)	mg/l	7	nv	nv	nv	nv	11	62	21	112	8	11	10	11	-	14	14	41	12	14	27	18	13	14	
Kjeldahl Nitrogen	mg/l	0.5	nv	nv	nv	nv	1.1	0.8	1.1	1.5	1.1	1.8	0.8	1	1.1	1.9	1.6	2.3	1.2	1.3	15.4	1.5	1.2	1.9	
Total Suspended Solids	mg/l	10	nv	nv	nv	nv	-	14	-	26	-	-	-	-	-	-	-	49	-	74	2679	-	221	-	

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; <u>Underlined</u> 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; <u>Underlined</u> 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 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 2 Chromium III	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)



The Tecpro Building,
Clonsilla Business & Technology Park,
Dublin 17, Ireland.
T: + 353 1 847 4

