

ASSOCIATED STEEL LTD

7140 Highway 132, Sainte-Catherine, Quebec

EMISSIONS AND DISCHARGES MONITORING RECORD

CMM R2008-47: Inorganic parameters

ANALYTICAL PARAMETERS	SANITARY SEWER NETWORK						STORM SEWER NETWORK					
	Unit	Reported detection limit	Criteria ¹	Analytical results			Unit	Reported detection limit	Criteria ³	Analytical results		
				2018	2019	2020				2018	2019	2020
			Biological treatment ²	August	October	November			Storm water	October	December	November
Metals (and metalloids)												
Aluminium (total extractible)	mg/L	0,010	50	2,4	6,4	7,8	mg/L	0,010	3	0,16	0,370	0,190
Silver (total extractible)	mg/L	0,0010	1	<	<	0,0031	mg/L	0,0010	0,12	<	<	<
Arsenic (total extractible)	mg/L	0,0010	1	0,007	0,0081	0,011	mg/L	0,0010	1	<	<	0,0013
Barium (total extractible)	mg/L	0,0020	-	-	0,34	0,45	mg/L	0,0020	1	<	0,053	0,074
Cadmium (total extractible)	mg/L	0,00020	2	0,03	0,020	0,024	mg/L	0,00020	0,1	<	0,00034	0,00088
Chromium VI	mg/L	0,0050	2,5	<	<	<	mg/L	0,0050	0,04	<	<	<
Chromium (total extractible)	mg/L	0,0050	5	0,04	0,091	0,45	mg/L	0,0050	1	<	<	<
Cobalt (total extractible)	mg/L	0,0010	5	0,01	0,024	-	-	-	-	-	-	-
Copper (total extractible)	mg/L	0,0010	3	0,2	0,28	0,69	mg/L	0,0010	1	<	0,013	0,023
Tin (total extractible)	mg/L	0,0020	5	<	0,027	0,056	mg/L	0,0020	1	<	<	<
Iron (total extractible)	mg/L	0,060	-	-	45	43	mg/L	0,060	15	<	1,10	0,92
Manganese (total extractible)	mg/L	0,0010	-	-	1,3	0,9	mg/L	0,0010	0,1	-	0,14	0,25
Mercury (total extractible)	mg/L	0,00010	0,010	-	0,0015	0,0049	mg/L	0,00010	0,001	<	<	<
Molybdenum (total extractible)	mg/L	0,0010	5	0,01	0,018	-	mg/L	0,0010	-	<	-	-
Nickel (total extractible)	mg/L	0,0020	5	0,07	0,13	0,25	mg/L	0,0020	1	<	0,008	0,0098
Lead (total extractible)	mg/L	0,00050	2	0,97	0,88	0,98	mg/L	0,00050	0,1	<	0,017	0,020
Selenium (total extractible)	mg/L	0,0030	1	0,003	<	<	mg/L	0,0030	0,02	0,002	<	<
Zinc (total extractible)	mg/L	0,0070	10	14,2	8,7	9,5	mg/L	0,0070	1	0,20	0,34	2,4
Σ conc. As+Cd+Cr+Cu+Ni+Pb+Zn	mg/L	-	15	15,5	10,1	11,9	-	-	-	-	-	-
Σ masses As+Cd+Cr+Cu+Ni+Pb+Zn	kg/day	-	10 kg/day	0,24	0,15	0,19	-	-	-	-	-	-
Other inorganic compounds												
Nitrogen (total)	mg/L	0,40	70	49,1	5,2	3,3	-	-	-	-	-	-
Ammoniacal nitrogen (NH ₄ ⁺)	mg/L	0,020	45	3,54	0,54	1,5	mg/L	0,020	12	0,18	0,35	0,16
Chlorides	mg/L	-	-	-	-	-	mg/L	0,50	1500	-	110	-
Chlorine (total)	mg/L	-	-	-	-	-	mg/L	0,10	1	<	<	-
Cyanides (CN ⁻ ; total)	mg/L	0,0030	2	0,041	0,0033	-	mg/L	0,0030	0,1	<	<	-
Fluorides	mg/L	0,10	10	5,71	0,41	-	mg/L	0,10	2	0,29	0,38	-
Phosphorous (P-PO ₄ ³⁻ ; total)	mg/L	0,0010	20	6,56	2,6	2,8	mg/L	0,0010	0,4	0,03	0,040	<
Sulfates	mg/L	-	-	-	-	-	mg/L	5,0	1500	-	270	-
Sulfides (H ₂ S)	mg/L	0,040	5	6,6	1,4	2	mg/L	0,040	1	0,03	<	<
Physico-chemical parameters												
Suspended solids (SS)	mg/L	6,7	500	514	540	650	mg/L	6,7	30	16	24	25
Colour after 4:1 dilution	-	-	-	-	-	-	UCV	2,0	15	<	12	3,2
pH	-	0,01	6,0 - 11,5	7,51	7,96	7,66	-	0,01	6,0 - 9,5	7,44	7,65	7,73
Temperature	°C	0,1	65	21,7	17,3	16,4	°C	0,1	45	17,8	7,4	7,1
Chemical oxygen demand	mg/L	10	1 000	810	240	240	mg/L	10	60	43	32	66

Notes:

¹ Column B of Schedule 1 of By-law 2008-47 of the Communauté métropolitaine de Montréal (CMM)

² Wastewater treatment plant of the Régie d'assainissement des eaux du bassin de Laprairie (RAEBL)

³ Column C of Schedule 1 of By-law 2008-47 of the Communauté métropolitaine de Montréal (CMM)

All samples were analyzed by a laboratory duly accredited by the Centre d'expertise en analyse environnementale du Québec. Quality controls are carried out during each sampling campaign. Overall, all the results attest of the reliability and reproducibility of the analyses.

Legend:

<u>5</u>	: Value > applicable criterion of column B of Schedule I to R2008-47 of the CMM
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-	: Not analyzed or no criteria/standard for this parameter
<	: Value < reported detection limit

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ANALYTICAL PARAMETERS	SANITARY SEWER NETWORK						STORM SEWER NETWORK					
	Unit	Reported detection limit	Criteria ¹	Analytical results			Unit	Reported detection limit	Criteria ³	Analytical results		
				Biological treatment ²	2018	2019				2020	Storm water	2018
			August	October	November	October			December	November		
Oils and fats												
Oils and fats (total)	µg/L	5 000	150 000	429 000	11 000	<	µg/L	5 000	15 000	<	3500	<
Oils and fats (mineral)	µg/L	5 000	30 000	77 600	11 000	5 500	µg/L	5 000	15 000	<	<	<
Monocyclic aromatic hydrocarbons (MAH)												
Benzene	µg/L	1,0	1 300	<	<	-	µg/L	1,0	120	<	<	-
Toluene	µg/L	1,0	1 000	4,4	<	-	µg/L	1,0	200	<	<	-
Ethylbenzene	µg/L	1,0	1 000	0,4	<	-	µg/L	1,0	190	<	<	-
Xylenes (o,m,p)	µg/L	1,0	1 800	2,4	<	-	µg/L	1,0	360	<	<	-
1,4-dichlorobenzene	µg/L	1,0	1 300	1,7	1	-	µg/L	1,0	110	<	<	-
1,2-dichlorobenzene	µg/L	1,0	200	<	<	-	µg/L	1,0	200	<	<	-
Chlorinated aliphatic hydrocarbons (CAH)												
Chloroform	µg/L	1,0	400	<	<	-	µg/L	1,0	80	<	<	-
1,2-dichloroethylene	µg/L	1,0	2 500	<	<	-	µg/L	1,0	-	-	<	-
1,3-dichloropropylene	µg/L	1,0	150	<	<	-	µg/L	1,0	30	<	<	-
1,1,2,2-tetrachloroethane	µg/L	1,0	1 000	<	<	-	µg/L	1,0	17	<	<	-
Tetrachloroethene	µg/L	1,0	5 000	<	<	-	µg/L	1,0	200	<	<	-
Trichloroethylene	µg/L	1,0	1 000	<	<	-	µg/L	1,0	200	<	<	-
Methylene chloride	µg/L	15	5 000	<	<	-	µg/L	15	470	<	<	-
Polychlorinated biphenyls (PCB; total)	µg/L	0,020	1	7,75	17	71	µg/L	0,020	1	0,02	<	-
Phenolic compounds												
Phenolic compounds (total)	µg/L	2,0	1 000	130	20	-	µg/L	2,0	20	-	3,5	5,2
Pentachlorophenol	µg/L	1,0	500	<	<	-	µg/L	1,0	60	<	<	-
Nonylphenols	µg/L	20	300	64	74	240	µg/L	20	29	<	<	-
Nonylphenol ethoxylates	µg/L	0,40	200	145	12	-	µg/L	0,40	120	<	<	-
Polycyclic aromatic hydrocarbons (PAH)												
PAHs (total excluding the following)	µg/L	0,12	1	5,1	0,32	0,60	µg/L	0,12	1	<	<	-
Naphthalene	µg/L	0,10	750	1,0	0,59	<	µg/L	0,10	150	<	<	-
Phenanthrene	µg/L	0,10	300	2,3	0,47	0,57	µg/L	0,10	63	0,1	<	-
Fluoranthene	µg/L	0,10	5	3,4	0,48	0,56	µg/L	0,10	1	0,1	<	-
Phthalates and miscellaneous compounds												
3,3'-dichlorobenzidine	µg/L	2,0	30	<	<	-	µg/L	2,0	2	<	<	-
Bis (2-ethylhexyl) phthalate	µg/L	10	800	60,9	63	-	µg/L	10	160	<	<	-
Di-butyl phthalate	µg/L	2,0	1 000	1,8	<	-	µg/L	2,0	190	<	<	-
Fecal Coliforms	-	-	-	-	-	-	CFU / 100 mL	10	200	<	<	27

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