

## 2019 MLA Desalination Plant Water Quality Data and Percentage Change

Location				Desalination	Desalination	
Station				Desal. Influent	Desal. Effluent	
Season				Open-Water	Open-Water	
Station Depth Zone				Influent	Effluent	
Client Sample ID				BRP-40	BRP-41	
Date Sampled				9-May-2019	9-May-2019	% Change
Time Sampled				13:15	13:00	
ALS Sample ID				L2270964-1	L2270964-2	
Parameter	Lowest Detection Limit	Units	CCME Guideline for the Protection of Aquatic Life (Marine) <sup>a</sup>	Water	Water	
Physical Tests (Seawater)						
Conductivity	2.0	uS/cm	<10% fluctuation	34300	34500	1
Hardness (as CaCO3)	4.8	mg/L		4220	4510	7
pH	0.10	pH	7.0-8.7 and <0.2 change	7.80	7.83	0
Salinity	1.0	psu	<10% fluctuation <sup>b</sup>	21.2	21.4	1
Total Suspended Solids	2.0	mg/L	dependent of background levels	7.1	<2.0	-
Total Dissolved Solids	80	mg/L		25000	25000	0
TDS (Calculated)	1.0	mg/L		21600	20300	-6
Turbidity	0.10	NTU	dependent of background levels	1.50	0.27	-
Anions and Nutrients (Seawater)						
Alkalinity, Bicarbonate (as CaCO3)	1.0	mg/L		93.4	94.1	1
Alkalinity, Carbonate (as CaCO3)	1.0	mg/L		<1.0	<1.0	-
Alkalinity, Hydroxide (as CaCO3)	1.0	mg/L		<1.0	<1.0	-
Alkalinity, Total (as CaCO3)	1.0	mg/L		93.4	94.1	1
Ammonia, Total (as N)	0.0050	mg/L		0.0108	0.0065	-
Chloride (Cl)	50	mg/L		12100	10600	-12
Fluoride (F)	1.0	mg/L		<1.0	<1.0	-
Nitrate and Nitrite (as N)	0.051	mg/L		<0.051	<0.051	-
Nitrate (as N)	0.050	mg/L	short-term: 1500; long-term: 200	<0.050	<0.050	-
Nitrite (as N)	0.010	mg/L		0.011	0.017	-
Phosphorus (P)-Total	0.0040	mg/L		0.0252	0.0203	-19
Sulfate (SO4)	30	mg/L		1660	1430	-14
Anion Sum		meq/L		376	330	-12
Cation Sum		meq/L		372	393	6
Organic / Inorganic Carbon (Seawater)						
Dissolved Organic Carbon	0.50	mg/L		2.64	2.48	-
Total Metals (Seawater)						
Arsenic (As)-Total	0.00040	mg/L	0.0125	0.00105	0.00100	-
Cadmium (Cd)-Total	0.000010	mg/L	long-term: 0.00012	0.000057	0.000051	-11
Chromium (Cr)-Total	0.00050	mg/L		0.00053	<0.00050	-
Cobalt (Co)-Total	0.000050	mg/L		0.000104	0.000071	-
Copper (Cu)-Total	0.00050	mg/L		0.00920	0.00125	-

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Iron (Fe)-Total	0.010	mg/L		0.068	0.012	-
Lead (Pb)-Total	0.000050	mg/L		0.000104	<0.000050	-
Manganese (Mn)-Total	0.00020	mg/L		0.00534	0.00392	-27
Mercury (Hg)-Total	0.0000050	mg/L	Inorganic Hg: 0.016	<0.0000050	<0.0000050	-
Molybdenum (Mo)-Total	0.00010	mg/L		0.00710	0.00739	4
Nickel (Ni)-Total	0.00050	mg/L		0.00134	0.00112	-
Selenium (Se)-Total	0.00050	mg/L		<0.00050	<0.00050	-
Uranium (U)-Total	0.000050	mg/L		0.00204	0.00197	-3
Zinc (Zn)-Total	0.0030	mg/L		0.0236	<0.0030	
Dissolved Metals (Seawater)						
Arsenic (As)-Dissolved	0.00040	mg/L		0.00097	0.00106	-
Cadmium (Cd)-Dissolved	0.000010	mg/L		0.000049	0.000055	-
Chromium (Cr)-Dissolved	0.00050	mg/L		0.00107	0.00069	-
Cobalt (Co)-Dissolved	0.000050	mg/L		0.000075	0.000072	-
Copper (Cu)-Dissolved	0.00020	mg/L		0.00477	0.00114	-76
Iron (Fe)-Dissolved	0.010	mg/L		<0.010	<0.010	-
Lead (Pb)-Dissolved	0.000050	mg/L		<0.000050	<0.000050	-
Manganese (Mn)-Dissolved	0.00010	mg/L		0.00393	0.00362	-8
Mercury (Hg)-Dissolved	0.0000050	mg/L		<0.0000050	<0.0000050	-
Molybdenum (Mo)-Dissolved	0.00010	mg/L		0.00731	0.00718	-2
Nickel (Ni)-Dissolved	0.00050	mg/L		0.00118	0.00111	-
Selenium (Se)-Dissolved	0.00050	mg/L		<0.00050	<0.00050	-
Silicon (Si)-Dissolved	1.0	mg/L		<1.0	<1.0	-
Sodium (Na)-Dissolved	2.5	mg/L		6450	6790	5
Uranium (U)-Dissolved	0.000050	mg/L		0.00202	0.00197	-2
Zinc (Zn)-Dissolved	0.0010	mg/L		0.0168	0.0015	-
Cyanides (Water)						
Cyanide, Weak Acid Diss	0.0050	mg/L		<0.0050	<0.0050	-
Cyanides (Seawater)						
Cyanide, Total	0.0030	mg/L		0.0035	<0.0030	-
Cyanide, Free	0.0030	mg/L		<0.0030	<0.0030	-
Aggregate Organics (Water)						

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			Water	Water	
Oil and Grease	5.0	mg/L	<5.0	<5.0	-

Negative % change indicate a decrease in concentration, positive values indicate an increase in concentration.

Percentages were not calculated for concentrations within 5 times the detection limit as those values should be interpreted with caution.

<sup>a</sup> Canadian water quality guidelines for the protection of marine aquatic life, Canadian Council of Ministers of the Environment, Accessed April 2019.

<sup>b</sup> Interim Guideline