

SAINT PAUL REGIONAL WATER SERVICES

PHYSICAL AND CHEMICAL ANALYSIS OF WATER

Feb-22



All results are in parts per million & Samples Measured are Dissolved Ions.
Analytes with Nelac Lab Cert No. are Nelac Accredited analytes

PHYSICAL WATER QUALITY

	Reporting Limit	EFFLUENT	Method Reference	Nelac Lab Cert. No.
Color (Color Units)	4	5	Hach Method 8025	
Loss Ignition (ppm)	84	<84	SM 2540 E	
Non-Volatile Salts (ppm)	84	90	SM 2540 E	
Temperature (°C)	NA	6	SM 2550 B-93	
Total Dissolved Solids (ppm)	140	160	SM 2540 C-2011	2213585
Turbidity (NTU)	0.020	0.020	EPA 180.1	2213585

CHEMICAL WATER QUALITY

	Reporting Limit	EFFLUENT	Method Reference	Nelac Lab Cert. No.
Alkalinity-Total (ppm as CaCO ₃)	0.40	55	SM 2320B	
Carbonate Hardness (ppm as CaCO ₃)	0.40	55	SM 2340 C	
Dissolved Oxygen (ppm)	1.2	9.7	SM 4500-O G (20th)	
Hydrogen Ion-pH	0.04	8.91	SM 4500-H+ B - 2011	2213585
Non-Carbonate Hardness (ppm)	0.40	35	SM 2340 C	
Total Hardness (ppm as CaCO ₃)-EDTA method	0.40	90	SM 2340 C	
Total Organic Carbon (ppm as C)	2.50	4.37	SM 5310 B - 2011	2213585

Total Hardness (grains/Gal as CaCO₃)-EDTA method is 5.26

CHEMICAL WATER QUALITY - INORGANIC NONMETALS

	Reporting Limit	EFFLUENT	Method Reference	Nelac Lab Cert. No.
Ammonia Nitrogen (ppm as N)	0.100	0.578	EPA 350.1	
Bromide (ppm as Br-1)	0.0003	<0.0003	EPA 300.0	2194839 Subcontracted to Pace Analytical
Chloride-Cl (ppm as Cl ⁻¹)	8	36	SM 4500-CL-B (20th)	
Chlorine Residual (ppm Cl as Cl ₂)	0.085	3.32	Hach 10101	
Fluoride-F (ppm as F ⁻¹)	0.08	0.66	EPA 9214	
Nitrate, Nitrite Nitrogen (ppm as N)	0.050	0.674	EPA 353.2	2213585
Sulfate (ppm as SO ₄)	2.7	20.1	Hach 8051	
Sulfur-S (ppm as S)	2.7	6.7	Hach 8051	
Sulfide-S ²⁻ (ppm as S ²⁻)	0.020	<0.020	Hach 8131	
Total Phosphorus-P (ppm as P)	0.050	<0.025	EPA 365.1	2213585
Total Nitrogen-N (ppm as N)	0.200	N/A	SM 5310 B - Modified	

CHEMICAL WATER QUALITY - METALS

	Reporting Limit	EFFLUENT	Method Reference	Nelac Lab Cert. No.
Aluminum-Al (ppm as Al)	0.0010	0.0448	EPA 200.8	2213585
Arsenic-As (ppm as As)	0.0010	<0.001	EPA 200.8	2213585
Cadmium-Cd (ppm as Cd)	0.0010	<0.001	EPA 200.8	2213585
Calcium-Ca (ppm as Ca)	0.4000	19	SM 2340 C	
Copper-Cu (ppm as Cu)	0.0010	0.0020	EPA 200.8	2213585
Hexavalent Chromium (ppm as Cr ⁶⁺)	0.0400	<0.04	Hach 8023	
Iron-Fe (ppm as Fe)	0.0127	0.4020	EPA 200.8	
Lead-Pb (ppm as Pb)	0.0010	<0.001	EPA 200.8	2213585
Magnesium-Mg (ppm as Mg)	0.4000	17	SM 2340 C	
Manganese-Mn (ppm as Mn)	0.0010	0.0020	EPA 200.8	2213585
Silicon-Si (ppm as Si)	NA	N/A	EPA 200.8	
Sodium-Na (ppm as Na)	0.0050	15.26	EPA 200.8	
Strontium-Sr (ppm as Sr)	0.0010	0.0503	EPA 200.8	
Zinc-Zn (ppm as Zn)	0.0010	0.0040	EPA 200.8	2213585

MICROBIOLOGY WATER QUALITY

	Number of Samples	EFFLUENT	Method Reference	Nelac Lab Cert. No.
Total Coliform Count 35°C/100 ml	224	Absent	SM 9223 B-2016 (IDEXX Colilert)	2213585
E. Coli Count 35°C/100 ml	224	Absent	SM 9223 B-2016 (IDEXX Colilert)	2213585