

**SAINT PAUL REGIONAL WATER SERVICES**  
**PHYSICAL AND CHEMICAL ANALYSIS OF WATER**  
**July '15**

All results are in parts per million & Samples Measured are Dissolved Ions

**PHYSICAL WATER QUALITY**

	Reporting Limit	EFFLUENT
Color (Color Units)	4	<4
Loss Ignition (ppm)	N/A	N/A
Non-Volatile Salts (ppm)	N/A	N/A
Temperature (°C)	0.02	24
Total Dissolved Solids (ppm)	75	138
Turbidity (NTU)	0.030	0.031

**CHEMICAL WATER QUALITY**

	Reporting Limit	EFFLUENT
Alkalinity-Total (ppm as CaCO <sub>3</sub> )	0.40	49
Carbonate Hardness (ppm as CaCO <sub>3</sub> )	0.40	49
Dissolved Oxygen (ppm)	1.2	5.9
Hydrogen Ion-pH	0.04	9.06
Non-Carbonate Hardness (ppm)	0.40	28
Total Hardness (ppm as CaCO <sub>3</sub> )-EDTA method	0.40	76
Total Organic Carbon (ppm as C)	0.40	4.46

*Total Hardness (grains/Gal as CaCO<sub>3</sub>)-EDTA method is 4.46*

**CHEMICAL WATER QUALITY - INORGANIC NONMETALS**

	Reporting Limit	EFFLUENT
Ammonia Nitrogen (ppm as N)	N/A	1.016
Chloride-Cl (ppm as Cl <sup>-1</sup> )	8	37
Chlorine Residual (ppm Cl as Cl <sub>2</sub> )	0.085	3.32
Fluoride-F (ppm as F <sup>-1</sup> )	0.08	0.79
Nitrate, Nitrite Nitrogen (ppm as N)	0.202	<0.202
Sulfur-S (ppm as S)	2.7	<2.7
Sulfide-S <sup>2-</sup> (ppm as S <sup>2-</sup> )	0.020	<0.02
Total Phosphorus-P (ppm as P)	0.025	<0.025
Total Nitrogen-N (ppm as N)	0.008	0.54

**CHEMICAL WATER QUALITY - METALS**

	Reporting Limit	EFFLUENT
Aluminum-Al (ppm as Al)	0.006	0.015
Arsenic-As (ppm as As)	0.006	<0.006
Cadmium-Cd (ppm as Cd)	0.003	<0.003
Calcium-Ca (ppm as Ca)	0.40	20
Copper-Cu (ppm as Cu)	0.050	<0.05
Hexavalent Chromium (ppm as Cr <sup>6+</sup> )	0.040	<0.04
Iron-Fe (ppm as Fe)	0.050	<0.05
Lead-Pb (ppm as Pb)	0.006	<0.006
Magnesium-Mg (ppm as Mg)	0.40	6
Manganese-Mn (ppm as Mn)	0.090	<0.09
Silicon-Si (ppm as Si)	0.84	4.71
Sodium-Na (ppm as Na)	0.079	22.00
Zinc-Zn (ppm as Zn)	0.050	<0.05