SAINT PAUL REGIONAL WATER SERVICES

PHYSICAL AND CHEMICAL ANALYSIS OF WATER

Sep-16

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)	84	<84
Non-Volatile Salts (ppm)	84	110
Temperature (^{0}C)	0.02	24
Total Dissolved Solids (ppm)	140	160
Turbidity (NTU)	0.020	0.048

CHEMICAL WATER QUALITY

	Reporting Limit	EFFLUENT
Alkalinity-Total (ppm as $CaCO_3$)	0.40	63
Carbonate Hardness (ppm as $CaCO_3$)	0.40	63
Dissolved Oxygen (ppm)	1.2	4.8
Hydrogen Ion-pH	0.04	8.78
Non-Carbonate Hardness (ppm)	0.40	32
Total Hardness (ppm as $CaCO_3$)-EDTA method	0.40	95
Total Organic Carbon (ppm as C)	1.00	4.00

Total Hardness (grains/Gal as $CaCO_3$)-EDTA method is 5.53

CHEMICAL WATER QUALITY - INORGANIC NONMETALS

	Reporting Limit	EFFLUENT
Ammonia Nitrogen (ppm as N)	0.015	1.088
Bromide (ppm as Br-1)	0.050	0.070
Chloride-Cl (ppm as Cl^{-1})	8	36
Chlorine Residual (ppm Cl as Cl_2)	0.085	3.65
Fluoride-F (ppm as F^{-1})	0.08	0.89
Nitrate, Nitrite Nitrogen (ppm as N)	0.012	0.142
Sulfur-S (ppm as S)	2.7	3.0
Sulfide-S^{2-} (ppm as S^{2-})	0.020	<0.02
Total Phosphorus-P (ppm as P)	0.025	<0.025
Total Nitrogen-N (ppm as N)	0.200	1.03

CHEMICAL WATER QUALITY - METALS

	Reporting Limit	EFFLUENT
Aluminum-Al (ppm as Al)	0.006	0.026
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	27
Copper-Cu (ppm as Cu)	0.050	<0.05
Hexavalent Chromium (ppm as Cr^{6+})	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	7
Manganese-Mn (ppm as Mn)	0.090	<0.09
Silicon-Si (ppm as Si)	0.84	4.17
Sodium-Na (ppm as Na)	0.079	19.50
Strontium-Sr (ppm as Sr)	0.001	0.070
Zinc-Zn (ppm as Zn)	0.050	<0.05