SAINT PAUL REGIONAL WATER SERVICES

PHYSICAL AND CHEMICAL ANALYSIS OF WATER

Sept. '14

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	99
Non-Volatile Salts (ppm)	84	95
Temperature (^{0}C)	0.02	18
Total Dissolved Solids (ppm)	75	194
Turbidity (NTU)	0.010	0.016

CHEMICAL WATER QUALITY

	Reporting Limit	EFFLUENT
Alkalinity-Total (ppm as $CaCO_3$)	0.40	51
Carbonate Hardness (ppm as $CaCO_3$)	0.40	51
Dissolved Oxygen (ppm)	1.2	8.3
Hydrogen Ion-pH	0.04	9.06
Non-Carbonate Hardness (ppm)	0.40	37
Total Hardness (ppm as $CaCO_3$)-EDTA method	0.40	89
Total Organic Carbon (ppm as C)	0.40	4.91

Total Hardness (grains/Gal as $CaCO_3$)-EDTA method is 5.20 grains/Gal

CHEMICAL WATER QUALITY - INORGANIC NONMETALS

	Reporting Limit	EFFLUENT
Ammonia Nitrogen (ppm as N)	0.030	0.862
Chloride-Cl (ppm as Cl^{-1})	8	43
Chlorine Residual (ppm Cl as Cl_2)	0.090	3.51
Fluoride-F (ppm as F^{-1})	0.08	0.71
Nitrate, Nitrite Nitrogen (ppm as N)	0.202	0.261
Sulfur-S (ppm as S)	2.7	9.7
Sulfide-S^{2-} (ppm as S^{2-})	0.020	<0.020
Total Phosphorus-P (ppm as P)	0.025	<0.025
Total Nitrogen-N (ppm as N)	0.008	0.94

CHEMICAL WATER QUALITY - METALS

	Reporting Limit	EFFLUENT
Aluminum-Al (ppm as Al)	0.006	0.011
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	23
Copper-Cu (ppm as Cu)	0.050	<0.050
Hexavalent Chromium (ppm as Cr^{6+})	0.040	<0.040
Iron-Fe (ppm as Fe)	0.050	<0.050
Lead-Pb (ppm as Pb)	0.006	<0.006
Magnesium-Mg (ppm as Mg)	0.40	8
Manganese-Mn (ppm as Mn)	0.090	<0.090
Silicon-Si (ppm as Si)	0.84	3.82
Sodium-Na (ppm as Na)	0.079	23.00
Zinc-Zn (ppm as Zn)	0.050	<0.050