

SEATTLE PUBLIC UTILITIES

Surface Water Analysis, February 10th - 11th, 2004.

(1) Chester Morse Lake (Not Collected)

(2) Landsburg, Cedar River (CPR-1)

(3) Lake Youngs Outlet, Raw (CLR-1)

(4) Lk. Youngs Outlet, treated (CLT2)

(5) Cedar Distribution @ Stacy ST. S. & S. Utah (M1a)

(6) Tolt Pipeline before TTF, Raw (TPR-4)

(7) Tolt Combined Filter Effluent, Raw, Filtered (T-CFE)

(8) Tolt Regulating Basin Outlet, Treated (TPT3)

(9) Tolt Distribution @ NW 122nd St. & 1st Ave NW (B2)

CEDAR					Parameter	TOLT			
(1)	(2)	(3)	(4)	(5)		(6)	(7)	(8)	(9)
--	15.8	15.5	17.1	17.7	Alkalinity, Tot., CaCO ₃ , mg/L	5.3	--	18.7	20.7
--	83.9	--	18.1	15.6	Aluminum, ug/L	--	--	47.4	44.8
--	1.0 u	--	1.0 u	1.0 u	Antimony, ug/L	--	--	1.0 u	1.0 u
--	1.0 u	--	1.0 u	1.0 u	Arsenic, ug/l	--	--	1.0 u	1.0 u
--	1.5	--	1.6	1.6	Barium, ug/L	--	--	1.1	1.6
--	1.0 u	--	1.0 u	1.0 u	Beryllium, ug/L	--	--	1.0 u	1.0 u
--	0.13 u	--	0.13 u	0.13 u	Cadmium, ug/L	--	--	0.13 u	0.13 u
--	14.7	17.3	20.8	21.8	Calcium, mg/L (CaCO ₃), mg/L	6.22	--	27.5	29.7
--	2.1	1.4	0.45	0.15	Carbon Dioxide, Free (calc.), mg/L	1.4	--	1.3	0.2
--	0.6	2.2	3.2	3.3	Chloride, mg/L	0.34	--	3.0	3.0
--	0.22	0.16	--	--	0.2 hr Chlorine Demand ^A , mg/L	--	0.54	--	--
--	0.44	0.40	--	--	2 hr	--	0.76	--	--
--	0.86	0.61	--	--	24 hr	1.50	0.86	--	--
--	0.92	0.72	--	--	48 hr	1.86	1.01	--	--
--	1.0 u	--	1.0 u	1.0 u	Chromium, ug/L	--	--	1.0 u	1.0 u
--	--	--	1.30	0.95	Chlorine, Free Residual	--	--	--	--
--	6	5 u	5 u	5 u	Color, apparent, Std. Units	20	5 u	5 u	5 u
--	1.0 u	--	1.3	1.4	Copper, ug/L	--	--	7.3	1.0 u
--	0.02	1.01	1.01	0.99	Fluoride, mg/L	0.01 u	--	0.99	1.00
--	47.9	30.4	--	--	HAAF(5),ug/L [7dy;pH8;4C;4 Cl ₂]	79.4	25.3	--	--
--	18.0	21.2	24.7	25.7	Hardness (CaCO ₃), mg/L	7.9	--	29.3	31.3
--	1.04	1.23	1.43	1.49	Hardness, grains/gal. (CaCO ₃)	0.46	--	1.69	1.81
--	61.5	66.5	68.1	70.8	Iron, ug/L	193	--	16.9	19.7
--	1.0 u	--	1.0 u	1.0 u	Lead, ug/L	--	--	1.0 u	1.0 u
--	0.803	0.958	0.955	0.950	Magnesium, mg/L	0.414	--	0.430	0.381
--	3.6	2.9	3.6	4.6	Manganese, ug/L	10.6	--	1.4	1.0 u
--	1.0 u	--	1.0 u	1.0 u	Nickel, ug/L	--	--	1.0 u	1.0 u
--	0.010	0.016	--	--	Nitrogen, Ammonia ^{**} , mg/L	0.025	--	--	--
--	0.135	0.08	--	0.08	Nitrate + Nitrite Nitrogen, mg/L	0.14	--	--	0.15
--	0.145	0.140	--	--	Nitrogen, Total Persulfate, mg/L	0.190	--	--	--
--	7.33	--	8.09	8.58	pH	6.95	--	7.62	8.50
--	7.4	5.8	--	6.5	Phosphorus, Sol. O-PO ₄ , ug/L	1.4	--	--	4.1
--	5	7	--	--	Phosphorus, Total, ug/L	5	--	--	--
--	0.230	0.257	0.260	0.260	Potassium, mg/L	0.141	--	0.145	0.145
--	1.0 u	--	1.0 u	1.0 u	Selenium, ug/L	--	--	1.0 u	1.0 u
--	9.59	8.69	--	8.13	Silica, reactive, mg/L	5.02	--	5.65	5.40
--	1.0 u	--	1.0 u	1.0 u	Silver, ug/L	--	--	1.0 u	1.0 u
--	1.74	1.84	1.84	1.84	Sodium, mg/L	0.96	--	0.99	1.03
--	35.0	35.3	39.2	44.0	Solids, Tot. Diss.(@ 180 C), mg/L	20.8	--	43.3	42.5
--	44.1	53.9	60.0	61.3	Specific Conductance, umhos	21.7	--	65.5	70.8
--	1.47	--	1.26	--	Sulfate ^{**} , mg/L	--	--	1.40	--
--	4.0	6.0	4.0	5.8	Temperature, C	5.5	--	4.7	8.0
--	65.6	41.3	--	--	THMF,ug/L [7dy; pH8; 4C; 4 Cl ₂]	108.1	47.5	--	--
--	0.2 u	--	0.2 u	0.2 u	Thallium, ug/L	--	--	0.2 u	0.2 u
--	0.83	0.89	--	--	TOC, mg/L	1.58	1.15	--	--
--	0.57	0.47	0.49	0.49	Turbidity, NTU	1.8	--	0.09	0.12
--	0.162	0.114	--	--	UV Absorbance/5cm @ 254nm	0.383	0.075	--	--
--	1.0 u	--	1.0 u	1.0 u	Zinc , mg/L	--	--	1.0 u	1.0 u

** Analysis by AR Inc.

^A {2} 4C/pH7.7/Cl2 1.71; {3} 4C/pH8.2/Cl2 1.75; {6} 4C/pH8.3/Cl2 3.50; {7} 4C/pH8.4/Cl2 2.20;