

# RAW WATER COMPOSITION

## FOR CONTAMINANT FACT SHEETS



See related Fact Sheets: Acronyms & Abbreviations; Glossary of Terms; Cost Assumptions; Total Plant Costs; and WaTER Program.

The following raw water composition was used in determining cost curves for various treatment processes:

	<u>Component</u>	<u>Valence</u>	<u>MW</u>	<u>MCL/SMCL (mg/L)</u>	<u>Units</u>	<u>Concentration</u>
<b>METALS</b>	Aluminum	3	26.97	0.05-0.2	mg/L	0.005
	Antimony	3	121.75	0.006	mg/L	--
	Arsenic	3	74.92	0.05	mg/L	0.002
	Barium	2	137.33	2	mg/L	0.11
	Beryllium	2	9.01	0.004	mg/L	--
	Cadmium	2	112.41	0.005	mg/L	0.001
	Calcium	2	40.08	--	mg/L	99
	Chromium	2	52	0.1	mg/L	0.002
	Copper	2	63.55	1	mg/L	0.001
	Iron	2	55.85	0.3	mg/L	0.005
	Lead	2	207.2	0.015	mg/L	--
	Magnesium	2	24.3	--	mg/L	19
	Manganese	2	54.94	0.05	mg/L	0.003
	Mercury	2	200.59	0.002	mg/L	--
	Nickel	2	58.71	0.1	mg/L	0.002
	Potassium	1	39.1	--	mg/L	12
	Selenium	4	78.96	0.05	mg/L	--
	Silver	1	197.87	0.1	mg/L	0.001
	Sodium	1	22.99	--	mg/L	31
	Strontium	2	87.6	--	mg/L	0.61
	Thallium	1	204.37	0.002	mg/L	--
	Zinc	2	65.38	5	mg/L	0.02
<b>OTHER INORGANICS</b>	Alkalinity-HCO <sub>3</sub> <sup>-</sup>	-1	61	--	--	100
	Alkalinity-CO <sub>3</sub> <sup>-2</sup>	-2	60	--	--	--
	Carbon Dioxide (aq)	0	44	--	--	--
	Asbestos	--	--	7	MF/L	--
	Chloride	-1	35.45	250	mg/L	--
	Residual disinfectant	--	71	detectable	mg/L	--
	Color	--	--	15	cu	--
	Conductivity	--	--	--	--	920
	Corrosivity	--	--	non-corrosive	mg/L	--
	Cyanide	--	--	0.2	mg/L	--
	Fluoride	-1	19	4	mg/L	0.2
	Foaming agents	--	--	0.5	mg/L	--
	Nitrate (as N)	-1	14	10	mg/L	12
	Nitrite (as N)	-1	14	1	mg/L	--
	Ammonium	1	--	10	mg/L	--
	Odor	--	--	3	ton	--
	pH	--	--	6.5-8.5	pH	7.2
	o-Phosphate	-3	95	--	--	--
	Silica	--	--	--	--	--
	Silicon	--	--	--	--	28
	Solids (TDS)	--	--	500	mg/L	2500
	Sulfate	-2	96	250	mg/L	130
	Temperature	--	--	--	--	13
	Solids (TSS)	--	--	--	mg/L	--

Following are the only raw water variables applied to the above:

**A. TDS:** For RO and EDR, three TDS ranges were estimated at 1,000, 2,500, and 5,000 mg/L.

**B. TSS:** For dual media gravity and greensand filtration, a TSS of 13.0 mg/L was estimated.

**C. Metals for Cl<sub>2</sub>:** The following concentrations were adjusted for use with Cryptosporidium/Giardia and Total Coliform/E-Coli:

Iron	550 mg/L
Manganese	550 mg/L
Chromium	200 mg/L
Nickel	200 mg/L
Nitrite	200 mg/L