

2019 Water Quality Report to SDCWA member agencies -- San Diego County Water Authority

| Parameter | Units | State or Federal MCL [MRDL] | PHG (MCLG) [MRDLG] | State DLR | Range Average | Treatment Plant Effluent | | Major Sources in Drinking Water |
|--|-------|-----------------------------|--------------------|-----------|---------------|--|--|--|
| | | | | | | Twin Oaks Valley Water Treatment Plant | | |
| PRIMARY STANDARDS--Mandatory Health-Related Standards | | | | | | | | |
| CLARITY | | | | | | | | |
| Combined Filter | NTU | 0.1 | NA | NA | Range | 0.01 - 0.02 | | |
| Effluent Turbidity | NTU | 0.1 | NA | NA | Average | 0.015 | | Soil runoff |
| | % | 95 (a) | NA | NA | %≤ 0.1 | 100.0% | | |
| MICROBIOLOGICAL | | | | | | | | |
| Total Coliform | | | | | Range | ND | | |
| Bacteria in Distribution System | % | 5.0 (b) | 0 | NA | Average | ND | | Naturally present in the environment |
| Total Coliform | | | | | Range | ND | | |
| Bacteria in Treatment Plant effluent | % | 5.0 (b) | 0 | NA | Average | ND | | Naturally present in the environment |
| E. coli | | | | | Range | ND | | |
| Bacteria in Treatment Plant effluent | (c) | (c) | 0 | NA | Average | ND | | Human and animal fecal waste |
| ORGANIC CHEMICALS | | | | | | | | |
| Pesticides/PCBs | | | | | | | | |
| Alachlor | ppb | 2 | 4 | 1 | Range | ND | | |
| | | | | | Average | ND | | Runoff from herbicide used on row crops |
| Atrazine | ppb | 1 | 0.15 | 0.5 | Range | ND | | |
| | | | | | Average | ND | | Runoff from herbicide used on row crops and along highways |
| Bentazon | ppb | 18 | 200 | 2 | Range | ND | | |
| | | | | | Average | ND | | Runoff/leaching from herbicide used on rice, alfalfa, and grapes |
| Carbofuran | ppb | 18 | 0.7 | 5 | Range | ND | | |
| | | | | | Average | ND | | Leaching of soil fumigant used on rice, alfalfa, and grapes |
| Chlordane | ppt | 100 | 30 | 100 | Range | ND | | |
| | | | | | Average | ND | | Residue of banned insecticide |
| 2,4-D | ppb | 70 | 20 | 10 | Range | ND | | |
| | | | | | Average | ND | | Runoff from herbicide used on row crops, range land, lawns and aquatic weeds |
| Dalapon | ppb | 200 | 790 | 10 | Range | ND | | |
| | | | | | Average | ND | | Runoff from herbicide used on rights-of-way, crops, and landscapes |
| Dibromochloropropane (DBCP) | ppt | 200 | 1.7 | 10 | Range | ND | | |
| | | | | | Average | ND | | Banned nematocide that may still be present in soils |
| Dinoseb | ppb | 7 | 14 | 2 | Range | ND | | |
| | | | | | Average | ND | | Runoff from herbicide used on soybeans, vegetables, and fruits |
| Diquat | ppb | 20 | 6 | 4 | Range | ND | | |
| | | | | | Average | ND | | Runoff from herbicide used for terrestrial and aquatic weeds |
| Endothall | ppb | 100 | 94 | 45 | Range | ND | | |
| | | | | | Average | ND | | Runoff from herbicide used for terrestrial and aquatic weeds |
| Endrin | ppb | 2 | 0.3 | 0.1 | Range | ND | | |
| | | | | | Average | ND | | Residue of banned insecticide and rodenticide |
| Ethylene Dibromide (EDB) | ppt | 50 | 10 | 20 | Range | ND | | |
| | | | | | Average | ND | | Petroleum refinery discharges; underground gas tank leaks |
| Glyphosate | ppb | 700 | 900 | 25 | Range | ND | | |
| | | | | | Average | ND | | Runoff from herbicide use |
| Heptachlor | ppt | 10 | 8 | 10 | Range | ND | | |
| | | | | | Average | ND | | Residue of banned insecticide |
| Heptachlor Epoxide | ppt | 10 | 6 | 10 | Range | ND | | |
| | | | | | Average | ND | | Breakdown product of heptachlor |
| Lindane | ppt | 200 | 32 | 200 | Range | ND | | |
| | | | | | Average | ND | | Runoff/leaching from insecticide used on cattle, lumber, and gardens |
| Methoxychlor | ppb | 30 | 0.09 | 10 | Range | ND | | |
| | | | | | Average | ND | | Runoff/leaching from insecticide uses |
| Molinate (Ordram) | ppb | 20 | 1 | 2 | Range | ND | | |
| | | | | | Average | ND | | Runoff/leaching from herbicide used on rice |
| Oxamyl (Vydate) | ppb | 50 | 26 | 20 | Range | ND | | |
| | | | | | Average | ND | | Runoff/leaching from insecticide uses |
| Pentachlorophenol | ppb | 1 | 0.3 | 0.2 | Range | ND | | |
| | | | | | Average | ND | | Discharge from wood preserving factories other insecticidal and herbicidal uses |
| Picloram | ppb | 500 | 166 | 1 | Range | ND | | |
| | | | | | Average | ND | | Herbicide runoff |
| Polychlorinated Biphenyls (PCBs) | ppt | 500 | 90 | 500 | Range | ND | | |
| | | | | | Average | ND | | Runoff from landfills; discharge of waste chemicals |
| Simazine | ppb | 4 | 4 | 1 | Range | ND | | |
| | | | | | Average | ND | | Herbicide runoff |
| Thiobencarb (d) | ppb | 70 | 42 | 1 | Range | ND | | |
| | | | | | Average | ND | | Runoff leaching from rice herbicide |
| 2,4,5-TP (Silvex) | ppb | 50 | 3 | 1 | Range | ND | | |
| | | | | | Average | ND | | Residue of banned herbicide |
| Toxaphene | ppb | 3 | 0.03 | 1 | Range | ND | | |
| | | | | | Average | ND | | Runoff/leaching from insecticide used on cotton and cattle |
| Semi-Volatile Organic Compounds | | | | | | | | |
| Acrylamide | NA | TT | (0) | NA | Range | ND | | |
| | | | | | Average | ND | | Water treatment chemical impurities |
| Benzo(a)pyrene | ppt | 200 | 7 | 100 | Range | ND | | |
| | | | | | Average | ND | | Leaching from water storage tank linings and distribution lines |
| Di(2-ethylhexyl)adipate | ppb | 400 | 200 | 5 | Range | ND | | |
| | | | | | Average | ND | | Discharge from chemical factories |
| Di(2-ethylhexyl)phthalate | ppb | 4 | 12 | 3 | Range | ND | | |
| | | | | | Average | ND | | Chemical factory discharge; inert ingredient in pesticides |
| Epichlorohydrin | NA | TT | (0) | NA | Range | ND | | |
| | | | | | Average | ND | | Water treatment chemical impurities |
| Hexachlorobenzene | ppb | 1 | 0.03 | 0.5 | Range | ND | | |
| | | | | | Average | ND | | Discharge from metal refineries & agrichemicals factories; wastewater chlorination reaction by-product |
| Hexachlorocyclopentadiene | ppb | 50 | 2 | 1 | Range | ND | | |
| | | | | | Average | ND | | Discharge from chemical factories |
| 2,3,7,8-TCDD (Dioxin) | ppq | 30 | 0.05 | 5 | Range | ND | | |
| | | | | | Average | ND | | Waste incineration emissions; chemical factory discharge |
| Volatile Organic Compounds | | | | | | | | |
| Benzene | ppb | 1 | 0.15 | 0.5 | Range | ND | | |
| | | | | | Average | ND | | Plastics factory discharge; gas tanks and landfill leaching |
| Carbon Tetrachloride | ppt | 500 | 100 | 500 | Range | ND | | |
| | | | | | Average | ND | | Discharge from chemical plants and other industrial waste |

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|---|-------|-----------------------------|--------------------|-----------|---|--|---|---------------------------------|
| | | | | | | Twin Oaks Valley Water Treatment Plant | | |
| 1,2-Dichlorobenzene | ppb | 600 | 600 | 0.5 | Range Average | ND ND | Discharge from industrial chemical factories | |
| 1,4-Dichlorobenzene | ppb | 5 | 6 | 0.5 | Range Average | ND ND | Discharge from industrial chemical factories | |
| 1,1-Dichloroethane | ppb | 5 | 3 | 0.5 | Range Average | ND ND | Extraction and degreasing solvent; fumigant | |
| 1,2-Dichloroethane | ppt | 500 | 400 | 500 | Range Average | ND ND | Discharge from industrial chemical factories | |
| 1,1-Dichloroethylene | ppb | 6 | 10 | 0.5 | Range Average | ND ND | Discharge from industrial chemical factories | |
| cis-1,2-Dichloroethylene | ppb | 6 | 13 | 0.5 | Range Average | ND ND | Industrial chemical factory discharge; by-product of TCE and PCE biodegradation | |
| trans-1,2-Dichloroethylene | ppb | 10 | 50 | 0.5 | Range Average | ND ND | Industrial chemical factory discharge; by-product of TCE and PCE biodegradation | |
| Dichloromethane (Methylene Chloride) | ppb | 5 | 4 | 0.5 | Range Average | ND ND | Discharge from pharmaceutical and chemical factories | |
| 1,2-Dichloropropane | ppb | 5 | 0.5 | 0.5 | Range Average | ND ND | Industrial chemical factory discharge; primary component of some fumigants | |
| 1,3-Dichloropropane | ppt | 500 | 200 | 500 | Range Average | ND ND | Runoff/leaching from nematocide used on croplands | |
| Ethylbenzene | ppb | 300 | 300 | 0.5 | Range Average | ND ND | Petroleum refinery discharge; industrial chemical factories | |
| Methyl tert-butyl ether (MTBE) (d,e) | ppb | 13 | 13 | 3 | Range Average | ND ND | Gasoline discharge from watercraft engines | |
| Monochlorobenzene | ppb | 70 | 70 | 0.5 | Range Average | ND ND | Discharge from industrial, agricultural, and chemical factories, and dry cleaners | |
| Styrene | ppb | 100 | 0.5 | 0.5 | Range Average | ND ND | Rubber and plastics factories discharge; landfill leaching | |
| 1,1,2,2-Tetrachloroethane | ppb | 1 | 0.1 | 0.5 | Range Average | ND ND | Discharge from industrial, agricultural, and chemical factories; solvent uses | |
| Tetrachloroethylene (PCE) | ppb | 5 | 0.06 | 0.5 | Range Average | ND ND | Discharge from factories, dry cleaners, and auto shops | |
| Toluene | ppb | 150 | 150 | 0.5 | Range Average | ND ND | Discharge from petroleum and chemical refineries | |
| 1,2,4-Trichlorobenzene | ppb | 5 | 5 | 0.5 | Range Average | ND ND | Discharge from textile-finishing factories | |
| 1,1,1-Trichloroethane | ppb | 200 | 1000 | 0.5 | Range Average | ND ND | Metal degreasing site discharge; manufacture of food wrappings | |
| 1,1,2-Trichloroethane | ppb | 5 | 0.3 | 0.5 | Range Average | ND ND | Discharge from industrial chemical factories | |
| 1,2,3-Trichloropropane | ppt | 5 | 0.7 | 5 | Range Average | ND ND | Cleaning and degreasing solvent, also associated with pesticide products | |
| Trichloroethylene (TCE) | ppb | 5 | 1.7 | 0.5 | Range Average | ND ND | Discharge from metal degreasing sites and other factories | |
| Trichlorofluoromethane (Freon-11) | ppb | 150 | 1300 | 5 | Range Average | ND ND | Industrial factory discharge; degreasing solvent; propellant | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113) | ppm | 1.2 | 4 | 0.01 | Range Average | ND ND | Discharge from metal degreasing sites and other factories; dry cleaning solvent; refrigerant | |
| Vinyl Chloride | ppt | 500 | 50 | 500 | Range Average | ND ND | Leaching from PVC piping; plastic factory discharge; by-product of TCE and PCE biodegradation | |
| Xylenes | ppm | 1.750 | 1.8 | 0.0005 | Average | ND | Discharge from petroleum and chemical refineries; fuel solvent | |
| INORGANIC CHEMICALS | | | | | | | | |
| Aluminum (d) | ppm | 1 | 0.6 | 0.05 | Range Average Single | ND ND | Natural deposits erosion; Residue from water treatment process. | |
| Antimony | ppb | 6 | 1 | 6 | Sample | ND | Petroleum refinery discharges; fire retardants; solder; electronics | |
| Arsenic | ppb | 10 | 0.004 | 2 | Sample | 3 | Natural deposits erosion, glass and electronics production wastes | |
| Asbestos | MFL | 7 | 7 | 0.2 | Sample | ND | Asbestos cement pipes internal corrosion; natural deposits erosion | |
| Barium | ppb | 1000 | 2000 | 100 | Sample | 50 | Natural deposits erosion; Oil and metal refineries discharge. | |
| Beryllium | ppb | 4 | 1 | 1 | Sample | ND | Discharge from metal refineries, aerospace, and defense industries | |
| Cadmium | ppb | 5 | 0.04 | 1 | Sample | ND | Internal corrosion of galvanized pipes; natural deposits erosion | |
| Chromium | ppb | 50 | (100) | 10 | Sample | ND | Discharge from steel and pulp mills; natural deposits erosion | |
| Chromium VI (g) | ppb | NA | 0.02 | NA | Range Average | 0.06-0.49 0.27 | Runoff/leaching from natural deposits; discharge from industrial waste factories | |
| Copper (d,f) | ppm | 1.0 | 0.3 | 0.05 | Sample | 0.0024 | Internal corrosion of household pipes; natural deposits erosion | |
| Cyanide | ppb | 150 | 150 | 100 | Sample | ND | Discharge from steel/metal, plastic, and fertilizer factories | |
| Fluoride (g) | | | | | Control Range Optimal Fluoride Level | 0.6 - 1.2 0.7 | Erosion of natural deposits; water additive that promotes strong teeth | |
| Treatment-related | ppm | 2.0 | 1 | 0.1 | Range Average | 0.5-0.7 0.7 | | |
| Lead (g) | ppb | AL=15 | 0.2 | 5 | Sample | ND | House pipes internal corrosion; erosion of natural deposits; | |
| Mercury | ppb | 2 | 1.2 | 1 | Sample | ND | Erosion of natural deposits; factory discharge; landfill runoff | |
| Nickel | ppb | 100 | 12 | 10 | Sample | ND | Erosion of natural deposits; discharge from metal factories | |
| Nitrate (as N) (h) | ppm | 10 | 10 | 0.4 | Range Average | 0.2- 0.4 0.3 | Runoff and leaching from fertilizer use; septic tank and sewage; natural deposits erosion | |
| Nitrite (as N) | ppm | 1 | 1 | 0.4 | Range Average | ND ND | Runoff and leaching from fertilizer use; septic tank and sewage; natural deposits erosion | |
| Perchlorate (i) | ppb | 6 | 1 | 4 | Sample | ND | Industrial waste discharge Refineries, mines, and chemical | |

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| | | | | | | Twin Oaks Valley Water Treatment Plant | |
| Selenium | ppb | 50 | 30 | 5 | Sample | ND | waste discharge; runoff from livestock lots |
| Thallium | ppb | 2 | 0.1 | 1 | Sample | ND | Leaching from ore processing; electronics factory discharge |
| RADIOLOGICALS (j) | | | | | | | |
| Gross Alpha Particle Activity | pCi/L | 15 | (0) | 3 | Range Average | ND ND | Erosion of natural deposits |
| Gross Beta Particle Activity (k) | pCi/L | 50 | (0) | 4 | Range Average | ND - 3.5 2.3 | Decay of natural and man-made deposits |
| Radium-226 | pCi/L | NA | 0.05 | 1 | Range Average | ND ND | Erosion of natural deposits |
| Radium-228 Combined | pCi/L | NA | 0.019 | 1 | Range Average | ND ND | Erosion of natural deposits |
| Radium-226 + 228 (l) | pCi/L | 5 | (0) | NA | Range Average | ND ND | Erosion of natural deposits |
| Strontium-90 | pCi/L | 8 | 0.35 | 2 | Range Average | ND ND | Decay of natural and man-made deposits |
| Tritium | pCi/L | 20000 | 400 | 1000 | Range Average | ND ND | Decay of natural and man-made deposits |
| Uranium | pCi/L | 20 | 0.43 | 1 | Single Sample | 1.0 -1.1 1.1 | Erosion of natural deposits |
| DISINFECTION BY-PRODUCTS, DISINFECTANT RESIDUALS, AND DISINFECTION BY-PRODUCTS PRECURSORS (m) | | | | | | | |
| Total Trihalomethanes (TTHM) (n) | ppb | 80 | NA | 1 | Range Highest TTHM | 24-74 74 | By-product of drinking water chlorination |
| Haloacetic Acids (five) (HAA5) (o) | ppb | 60 | NA | 1 | Range Highest HAA5 | 2.2-24 24 | By-product of drinking water chlorination |
| Bromate (p) | ppb | 10 | 0.1 | 1 | Range Average | 2 - 4.8 3.1 | By-product of drinking water ozonation |
| Total Chlorine Residual | ppm | [4.0] | [4.0] | NA | Range Average | 1.6-3.6 3.1 | Drinking water disinfectant added for treatment |
| as Total Organic Carbon (TOC) | ppm | TT | NA | 0.30 | Range Average | 1.9-2.5 2.2 | Various natural and man-made sources; TOC is a precursor for the formation of disinfection byproducts |
| SECONDARY STANDARDS--Aesthetic Standards | | | | | | | |
| Aluminum (d) | ppb | 200 | NA | 50 | Range Average | ND ND | Residue from water treatment process; natural deposits erosion |
| Chloride | ppm | 500 | NA | NA | Sample | 75 | Runoff/leaching from natural deposits; seawater influence |
| Color | Units | 15 | NA | NA | Range Average | ND ND | Naturally occurring organic materials |
| Copper (d,f) | ppm | 1.0 | NA | 0.05 | Sample | 0.0024 | Internal corrosion of household pipes; natural deposits erosion; wood preservatives leaching |
| Foaming Agents (MBAS) | ppb | 500 | NA | NA | Sample | ND | Municipal and industrial waste discharges |
| Iron | ppb | 300 | NA | 100 | Range Average | ND ND | Leaching from natural deposits; industrial wastes |
| Manganese | ppb | 50 | NL = 500 | 20 | Range Average | ND ND | Leaching from natural deposits |
| MTBE (d,e) | ppb | 5 | NA | 3 | Range Average | ND ND | Gasoline discharge from watercraft engines |
| Odor Threshold | TON | 3 | NA | 1 | Sample | 1.0 | Naturally-occurring organic materials |
| Silver | ppb | 100 | NA | 10 | Sample | ND | Industrial discharges |
| Specific Conductance | µS/cm | 1600 | NA | NA | Sample | 600 | Substances that form ions in water; seawater influence |
| Sulfate | ppm | 500 | NA | 0.5 | Sample | 89 | Runoff/leaching from natural deposits; industrial wastes |
| Thiobencarb (d) | ppb | 1 | NA | 1 | Range Average | ND ND | Runoff/leaching from rice herbicide |
| Total Dissolved Solids (TDS) | ppm | 1000 | NA | NA | Sample | 340 | Runoff/leaching from natural deposits; seawater influence |
| Turbidity (a) | NTU | 5 | NA | 0.1 | Range Average | ND ND | Soil runoff |
| Zinc | ppm | 5.0 | NA | 0.05 | Sample | ND | Runoff/leaching from natural deposits; industrial wastes |
| OTHER PARAMETERS | | | | | | | |
| CHEMICAL | | | | | | | |
| Acetochlor | ppb | NA | NA | 2 | Range Average | ND ND | Herbicide runoff |
| Alachlor | ppb | NA | NA | 2 | Range Average | ND ND | Herbicide runoff |
| Alkalinity (t) | ppm | NA | NA | NA | Sample | 86 | |
| Boron | ppb | NL = 1000 | NA | 100 | Sample | 120 | Runoff/leaching from natural deposits; industrial wastes |
| Calcium | ppm | NA | NA | NA | Sample | 34 | |
| Chlorate | ppb | NL = 800 | NA | 20 | Range Average | 190-450 251 | By-product of drinking water chlorination; industrial processes |
| Corrosivity (r) (as Aggressiveness Index) | AI | NA | NA | NA | Sample | 12 | Elemental balance in water; affected by temperature, other factors |
| Corrosivity (s) (as Saturation Index) | SI | NA | NA | NA | Sample | .11 | Elemental balance in water; affected by temperature, other factors |
| Dimethoate | ppb | NA | NA | 0.7 | Range Average | ND ND | Runoff from insecticide used on crops and residential uses |
| Hardness (t) | ppm | NA | NA | NA | Sample | 140 | |
| Magnesium | ppm | NA | NA | NA | Sample | 14 | |
| Metolachlor | ppb | NA | NA | 1 | Range Average | ND ND | Herbicide runoff |

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| | | | | | | Twin Oaks Valley | Water Treatment Plant | |
| pH | pH | | | | Range | 7.6-8.5 | | |
| | Units | NA | NA | NA | Average | 8.2 | | |
| | | | | | Single | | | |
| Potassium | ppm | NA | NA | NA | Sample | 3.2 | | |
| | | | | | Single | | | |
| Radon (j) | pCi/L | NA | NA | 100 | Sample | ND | | |
| | | | | | Single | | | |
| Sodium | ppm | NA | NA | NA | Sample | 64 | | |
| | | | | | Range | 1.9-2.5 | | |
| | | | | | Average | 2.2 | | Various natural and man-made sources |
| TOC | ppm | TT | NA | 0.30 | Single | | | |
| | | | | | Sample | ND | | |
| Vanadium | ppb | NL = 50 | NA | 3 | Sample | ND | | Naturally-occurring; industrial waste discharge |
| | | | | | Single | | | By-product of drinking water chloramination; industrial processes |
| N-Nitrosodiethylamine (NDEA) | ppb | NA | NA | 0.005 | Sample | ND | | By-product of drinking water chloramination; industrial processes |
| | | | | | Single | | | By-product of drinking water chloramination; industrial processes |
| N-Nitrosodimethylamine (NDMA) | ppt | NL = 10 | 3 | 2 | Sample | 2.3 | | By-product of drinking water chloramination; industrial processes |
| | | | | | Single | | | By-product of drinking water chloramination; industrial processes |
| N-Nitroso-di-n-butylamine (NDBA) | ppb | NA | NA | 0.004 | Sample | ND | | By-product of drinking water chloramination; industrial processes |
| | | | | | Single | | | By-product of drinking water chloramination; industrial processes |
| N-Nitroso-di-n-propylamine (NDPA) | ppb | NA | NA | 0.007 | Sample | ND | | By-product of drinking water chloramination; industrial processes |
| | | | | | Single | | | By-product of drinking water chloramination; industrial processes |
| N-Nitrosomethylethylamine (NMEA) | ppb | NA | NA | 0.003 | Sample | ND | | By-product of drinking water chloramination; industrial processes |
| | | | | | Single | | | By-product of drinking water chloramination; industrial processes |
| N-Nitrosopyrrolidine (NPYR) | ppb | NA | NA | 0.002 | Sample | ND | | By-product of drinking water chloramination; industrial processes |
| | | | | | Single | | | By-product of drinking water chloramination; industrial processes |
| Dichlorodifluoromethane (Freon 12) | ppb | NL = 1000 | NA | 0.5 | Range | ND | | Industrial waste discharge |
| | | | | | Average | ND | | |
| Ethyl-tert-butylether (ETBE) | ppb | NA | NA | 3 | Range | ND | | Used as gasoline additive |
| | | | | | Average | ND | | |
| tert-Amyl-methylether (TAME) | ppb | NA | NA | 3 | Range | ND | | Used as gasoline additive |
| | | | | | Average | ND | | |
| tert-Butyl alcohol (TBA) | ppb | NL = 12 | NA | 2 | Single | ND | | MTBE breakdown product; used as gasoline additive |
| | | | | | Sample | ND | | |

ABBREVIATIONS AND FOOTNOTES

Abbreviations

| | | | |
|-------|--|-------|--|
| AI | Aggressiveness Index | N | Nitrogen |
| AL | Action Level | NA | Not Applicable |
| CFE | Combined Filter Effluent | NL | Notification Level |
| CFU | Colony-Forming Units | ND | None Detect |
| LRAA | Locational Running Annual Average; highest LRAA is the highest of all Locational Running Annual Averages calculated as average of all samples collected within a 12-month period | NTU | Nephelometric Turbidity Units |
| | | pCi/L | picoCuries per Liter |
| | | PHG | Public Health Goal |
| DBP | Disinfection By-Products | ppb | parts per billion or micrograms per liter (µg/L) |
| DLR | Detection Limits for purposes of Reporting | ppm | parts per million or milligrams per liter (mg/L) |
| HPC | Heterotrophic Plate Count | ppq | parts per quadrillion or picograms per liter (pg/L) |
| MBAS | Methylene Blue Active Substances | ppt | parts per trillion or nanograms per liter (ng/L) |
| MCL | Maximum Contaminant Level | SI | Saturation Index (Langelier) |
| MCLG | Maximum Contaminant Level Goal | RAA | Running Annual Average |
| MFL | Million Fibers per Liter | TOC | Total Organic Carbon |
| MRDL | Maximum Residual Disinfectant Level | TON | Threshold Odor Number |
| MRDLG | Maximum Residual Disinfectant Level Goal | TT | Treatment Technique |
| | | µS/cm | microSiemen per centimeter; or micromho per centimeter (µmho/cm) |

Footnotes

| | | | |
|-----|---|-----|--|
| (a) | The turbidity level from the CFE of the membranes shall be less than or equal to 0.1 NTU in 95% of the measurements taken each month and shall not exceed 1.0 NTU at any time. Turbidity is a measure of the cloudiness of the water and is an indicator of treatment performance. | (m) | TOVWTP met all provisions of the Stage 2 Disinfectants/Disinfection By-Products (D/DBP) Rule. Compliance was based on the LRAA. Average and range for the treatment plant effluent were taken from daily and monthly samples for TTHM and HAA5. |
| (b) | Total coliform MCLs: No more than 5.0% of the monthly samples may be total coliform-positive. In 2019, 287 samples were analyzed and all samples were negative for total coliforms. The MCL was not violated. | (n) | DLR = 0.5 ppb for each TTHM (bromoform, chloroform, dibromochloromethane, bromodichloromethane). |
| (c) | <i>E.coli</i> MCLs: The occurrence of two (2) consecutive total coliform-positive samples, one of which contains <i>E. coli</i> , constitutes an acute MCL violation. The MCL was not violated. | (o) | DLR = 1.0 ppb for each HAA5 analyte (dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid) except for monochloroacetic acid which has a DLR = 2.0 ppb. |
| (d) | Aluminum, copper, MTBE, and thiobencarb have both primary and secondary standards. | (p) | Running annual average was calculated from quarterly results of monthly and daily samples. Bromate reporting level is 3 ppb. |
| (e) | MTBE reporting level is 0.5 ppb. | (q) | Chromium VI reporting level is 0.03 ppb. |
| (f) | Lead and copper are regulated as a Treatment Technique under the Lead and Copper Rule. It requires systems to take water samples at the consumers' tap. The action levels, which trigger water systems into taking treatment steps if exceeded in more than 10% of the tap water samples, are 1.3 ppm for copper and 15 ppb for lead. | (r) | AI is a calculated value that measures the aggressiveness of water transported through pipes. Water with AI <10.0 is highly aggressive and would be very corrosive to almost all materials found in a typical water system. AI > 12.0 indicates non-aggressive water. AI between 10.0 and 11.9 indicates moderately aggressive water. |
| (g) | TOVWTP was in compliance with all provisions of the State's Fluoridation System Requirements. | (s) | SI measures the tendency for a water to precipitate or dissolve calcium carbonate (a natural mineral in water). Positive indices indicate the tendency to precipitate and/or deposit scale on pipes and are assumed to be non-corrosive. Negative indices indicate the tendency to dissolve calcium carbonate and are assumed to be corrosive. |
| (h) | State MCL is 45 mg/L as nitrate, which equals 10 mg/L as N. | (t) | Alkalinity and hardness was based on CaCO ₃ |
| (i) | TOVWTP's perchlorate reporting level is 2 ppb, which is below the state DLR of 4 ppb. | | |
| (j) | Data collected (annually) from four consecutive quarters of monitoring in 2013. | | |
| (k) | TOVWTP's required triennial monitoring (2016-2019) was performed in 2016. | | |
| (l) | The gross beta particle activity MCL is 4 millirem/year annual dose equivalent to the total body or any internal organ. The screening level is 50 pCi/L. State MCL is 5 pCi/L for combined Radium-226 and -228. | | |