# 2024 LVMWD Water Quality Report

| Parameter | | Units | State MCL | PHG | State DLR/ CCRDL (RL) | Range Average | MWD Jensen Plant | LVMWD | Major Sources in Drinking Water | Water Quality Standard Me |
|---|---|---|---|---|---|---|---|---|---|---|
| Percent State Water Project | | % | NA | NA | NA | Range | 100 | 100 | NA | NA |
| **PRIMARY STANDARDS—Mandatory Health-Related Standards** | | | | | | | | | | |
| CLARITY | | | | | | | | | | |
| Combined Filter Effluent (CFE) Turbidity | (a) | NTU<br>% | TT | NA | NA | Highest<br>% ≤ 0.3 NTU | 0.04<br>100 | 0.26<br>100 | Soil runoff | NA |
| **MICROBIOLOGICAL** | | | | | | | | | | |
| Total Coliform Bacteria | (b) | % Positive Monthly Samples | TT | MCLG = 0 | NA | Range<br>Average | 0 - 0.3<br>0.1 | 0 - 0.87<br>0.07 | Naturally present in the environment | Yes |
| Heterotrophic Plate Count (HPC) Bacteria | | CFU/mL | TT | NA | (1) | Range<br>Median | ND | ND - 470<br>ND | Naturally present in the environment | Yes |
| **INORGANIC CHEMICALS** | | | | | | | | | | |
| Aluminum | (c) | ppb | 1,000 | 600 | 50 | Range<br>Average | 52 - 91<br>62 | ND-63<br>ND | Residue from water treatment process; erosion of natural deposits | Yes |
| Cyanide | | ppb | 150 | 150 | 100 | Range<br>Average | ND | ND-25<br>12 | Discharge from steel/metal, plastic and fertilizer factories | Yes |
| Fluoride | (d) | ppm | 2.0 | 1 | 0.1 | Range<br>Average | 0.6 - 0.8<br>0.7 | 0.65-0.73<br>0.68 | Runoff and leaching from natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories | Yes |
| Nitrate (as Nitrogen) | | ppm | 10 | 10 | 0.4 | Range<br>Average | 0.5 | ND-0.56<br>ND | Runoff and leaching from fertilizer use; septic tank and sewage; natural deposits erosion | Yes |
| **RADIOLOGICALS** | | | | | | | | | | |
| Combined Radium-226 + 228 | (e) | pCi/L | 5 | MCLG = 0 | NA | Range<br>Average | ND | <1.45 | Erosion of natural deposits | Yes |
| Uranium | (f) | pCi/L | 20 | 0.43 | 1 | Range<br>Average | 2 - 3<br>2 | 1.2 | Erosion of natural deposits | Yes |
| **DISINFECTION BYPRODUCTS, DISINFECTANT RESIDUALS, AND DISINFECTION BYPRODUCT PRECURSORS (g)** | | | | | | | | | | |
| Total Trihalomethanes (TTHM) (Plant Core Locations and Distribution System) | (h) | ppb | 80 | NA | 1.0 | Range<br>Highest LRAA | 13 - 27<br>21 | 10-56<br>50 | Byproduct of drinking water chlorination | Yes |
| Sum of Five Haloacetic Acids (HAA5) (Plant Core Locations and Distribution System) | (h) | ppb | 60 | NA | 1.0 | Range<br>Highest LRAA | 1.3 - 5<br>5.6 | 3.4-24<br>13.4 | Byproduct of drinking water chlorination | Yes |
| Chloramines (as total chlorine residual) | | ppm | MRDL = 4.0 | MRDLG = 4 | NA | Range<br>Highest RAA | 1.6 - 3.0<br>2.5 | ND-3.34<br>1.89 | Drinking water disinfectant added for treatment | Yes |
| Bromate | | ppb | 10 | 0.1 | 1.0 | Range<br>Highest RAA | ND - 5.4<br>3.1 | NA | Byproduct of drinking water ozonation | Yes |
| Total Organic Carbon (TOC) | | ppm | TT | NA | 0.30 | Range<br>Highest RAA | 2.0 - 2.5<br>2.4 | 3.3-4.4<br>3.8 | Various natural and man-made sources; TOC is a precursor for the formation of disinfection byproducts | Yes |
| **SECONDARY STANDARDS—Aesthetic Standards** | | | | | | | | | | |
| Aluminum | (c) | ppb | 200 | 600 | 50 | Range<br>Highest RAA | 52 - 91<br>62 | ND-63<br>ND | Residue from water treatment process; runoff and leaching from natural deposits | Yes |
| Chloride | | ppm | 500 | NA | (2) | Range<br>Average | 39 - 41<br>40 | 41-92<br>55 | Runoff/leaching from natural deposits; seawater influence | Yes |
| Color | | Color Units | 15 | NA | (1) | Range<br>Average | 1 | ND-10<br>ND | Naturally-occurring organic materials | Yes |
| Manganese | | ppb | 50 | NL = 500 | (5) | Range<br>Average | ND | ND-37<br>9.3 | Leaching from natural deposits | Yes |
| Odor Threshold | | TON | 3 | NA | 1 | Range<br>Average | 1 | ND-1<br>ND | Naturally-occurring organic materials | Yes |
| Specific Conductance | | µS/cm | 1,600 | NA | NA | Range<br>Average | 498 - 522<br>510 | 480-680<br>540 | Substances that form ions in water; seawater influence | **Yes** |
| Sulfate | | ppm | 500 | NA | 0.5 | Range<br>Average | 89-92<br>90 | 77-94<br>87 | Runoff/leaching from natural deposits; industrial wastes | **Yes** |
| Total Dissolved Solids, Filterable (TDS) | | ppm | 1,000 | NA | (2) | Range<br>Average | 291 - 322<br>306 | 280-370<br>325 | Runoff/leaching from natural deposits | Yes |
| Turbidity | | NTU | 5 | NA | 0.1 | Range<br>Average | ND | ND-4.5<br>ND | Soil runoff | Yes |
| **OTHER PARAMETERS** | | | | | | | | | | |
| **General Minerals** | | | | | | | | | | |
| Alkalinity, Total (as $CaCO_3$) | | ppm | NA | NA | (1) | Range<br>Average | 94 - 101<br>98 | ND | Runoff/leaching of natural deposits; carbonate, bicarbonate, hydroxide, and occasionally borate, silicate, and phosphate | NA |
| Calcium | | ppm | NA | NA | (0.1) | Range<br>Average | 38 - 39<br>38 | 35 - 37<br>36 | Runoff/leaching from natural deposits | NA |
| Hardness, Total (as $CaCO_3$) | | ppm | NA | NA | (1) | Range<br>Average | 143 - 153<br>148 | 137 - 157<br>146 | Runoff/leaching from natural deposits; sum of polyvalent cations, generally magnesium and calcium present in the water | NA |
| Magnesium | | ppm | NA | NA | (0.01) | Range<br>Average | 13 - 14<br>14 | 12 - 17<br>14 | Runoff/leaching from natural deposits | NA |
| Potassium | | ppm | NA | NA | (0.2) | Range<br>Average | 2.6 | NA | Salt present in the water; naturally-occurring | NA |
| Sodium | | ppm | NA | NA | (1) | Range<br>Average | 46 | 41 - 72<br>50 | Salt present in the water; naturally-occurring | NA |
| **Unregulated Contaminants** | | | | | | | | | | |
| Boron | | ppb | NL = 1,000 | NA | 100 | Range<br>Average | 170 | NA | Runoff/leaching from natural deposits; industrial wastes | YES |
| Chlorate | | ppb | NL = 800 | NA | (10) | Range<br>Average | 71 | NA | Byproduct of drinking water chlorination; industrial processes | YES |
| **Nitrosamine Compounds** | | | | | | | | | | |
| N-Nitrosodimethylamine (NDMA) | (i) | ppt | NL = 10 | 3 | (2) | Range<br>Average | ND | ND | Byproducts of drinking water chloramination; inustrial processes | YES |
| **Miscellaneous** | | | | | | | | | | |
| Corrosivity (as Saturation Index) | (j) | SI | NA | NA | NA | Range<br>Average | 0.36 - 0.39<br>0.38 | -0.19 - 0.34<br>0.14 | A measure of the balance between pH and calcium carbonate saturation in the water | NA |
| pH | | pH Units | NA | NA | NA | Range<br>Average | 8.2 - 8.3<br>8.3 | 7.0 - 8.6<br>8.0 | NA | NA |

## LEAD AND COPPER

| Parameter | Year Sample | Units | AL | PHG (MCLG) [MRDLG] | State DLR | 90th Percentile | # Sites Sampled | # Sites Over AL | Major Sources in Drinking Water | |
|---|---|---|---|---|---|---|---|---|---|---|
| **INORGANIC CHEMICALS** | | | | | | | | | | |
| Lead (k) | 2024 | ppb | 15 | 0.2 | 5 | 0.0041 | 32 | 0 | House pipes internal corrosion; erosion of natural deposits | YES |
| Copper (k) | 2024 | ppm | 1.3 | 0.3 | 0.05 | 0.23 | 32 | | House pipes internal corrosion; | YES |

## DEFINITION OF TERMS AND FOOTNOTES

| **Definition of Terms** | |
|---|---|
| Average | Result based on arithmetic mean |
| $CaCO_3$ | Calcium Carbonate |
| CFE | Combined Filter Effluent |
| CFU | Colony-Forming Units |
| DLR | Detection Limits for Purposes of Reporting |
| EPA | Environmental Protection Agency |
| HAA5 | Sum of five haloacetic acids |
| HPC | Heterotrophic Plate Count |
| LRAA | Locational Running Annual Average; highest LRAA is the highest of all Locational Running Annual Averages calculated as an average of all samples collected within a 12-month |
| MCL | Maximum Contaminant Level |
| MCLG | Maximum Contaminant Level Goal |
| MRDL | Maximum Residual Disinfectant Level |
| MRDLG | Maximum Residual Disinfectant Level Goal |
| NA | Not Applicable |
| ND | Not Detected at or above DLR or RL |
| NL | Notification Level to SWRCB |
| NTU | Nephelometric Turbidity Units |
| pCi/L | picoCuries per Liter |
| PHG | Public Health Goal |
| ppb | parts per billion or micrograms per liter (µg/L) |
| ppm | parts per million or milligrams per liter (mg/L) |
| ppt | parts per trillion or nanograms per liter (ng/L) |
| RAA | Running Annual Average; highest RAA is the highest of all Running Annual Averages calculated as an average of all the samples collected within a 12-month period |
| Range | Results based on minimum and maximum values; range and average values are the same if a single value is reported for samples collected once or twice annually |
| RL | Reporting Limit |
| SI | Saturation Index (Langelier) |
| SWRCB | State Water Resources Control Board |
| TDS | Total Dissolved Solids |
| TON | Threshold Odor Number |
| TT | Treatment Technique is a required process intended to reduce the level of a contaminant in drinking water |
| TTHMs | Total Trihalomethanes |
| µS/cm | microSiemen per centimeter; or micromho per centimeter (µmho/cm) |
| **Footnotes** | |
| (a) | Turbidity, a measure of cloudiness of the water, is an indicator of treatment performance. Turbidity was in compliance with the TT primary drinking water standard and the secondary drinking water standard of less than 5 NTU. |
| (b) | Compliance is based on monthly samples from treatment plant effluent (MWD) and the distribution system. |
| (c) | Metropolitan's compliance with the State MCL for aluminum is based on RAA. No secondary standard MCL exceedance occurred. |
| (d) | Metropolitan was in compliance with all provisions of the State's fluoridation system requirements. Fluoride feed systems were temporarily out of service during treatment plant shutdowns and/or maintenance work in 2023, resulting in occassional fluoride levels below 0.7 mg/L. |
| (e) | LVMWD is on a reduced monitoring schedule for Combined Radium-226+228. Sample results from 6/8/2020. |
| (f) | LVMWD is on a reduced monitoring schedule for Uranium. Sample results from 2/19/2020. |
| (g) | Compliance with the State and Federal MCLs is based on RAA or LRAA, as appropriate. Metropolitan plant core locations for TTHM and HAA5 are service connections specific to each of the treatment plant effluents. |
| (h) | PHG assigned for each THM analyte (bromodichloromethane, bromoform chloroform, and dibromochloromehane) as 0.06 ppb, 0.5 ppb, 0.4 ppb, and 0.1 ppb, accordingly; and for each HAA5 analyte (monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid) as 53 ppb, 0.2 ppb, 0.1 ppb, 25 ppb, and 0.03 ppb, respectively. Health risk varies with different combinations and ratios of the other THMs and HAA5 in a particualr sample. |
| (i) | Results in chart are for Metropolitan's Jensen Plant. Metropolitan's distribution system had a range of ND-3.0 and an average of ND for NDMA. LVMWD data last sampled on 5/17/2022. |
| (j) | Positive SI = non-corrosive; tendency to precipitate and/or deposit scale on pipes. Negative SI = corrosive; tendency to dissolve calcium carbonate. |