

# CITY OF EVERETT

## 2014 Water Quality Summary

**Table 1: Primary Standards (Mandatory Health-Related Standards)**

Physical Parameters, Bacteria, Inorganics, Disinfection By-Products, Radionuclides  
Established by the USEPA and DOH

Unless otherwise noted, values listed are for samples collected after treatment and at the entry point to the water distribution system.

| Parameter                                                                  | Unit                                    | Maximum Contaminant Level | 2014 Range of Results | 2014 Average Result |
|----------------------------------------------------------------------------|-----------------------------------------|---------------------------|-----------------------|---------------------|
| <b>Physical</b>                                                            |                                         |                           |                       |                     |
| Turbidity (combined filter effluent)                                       | NTU                                     | TT                        | 0.02–0.11             | 0.03                |
| Asbestos <sup>1</sup>                                                      | MF/L > 10µm                             | 7                         | –                     | Less than 0.12      |
| <b>Microbiological</b>                                                     |                                         |                           |                       |                     |
| Total Coliform Bacteria <sup>2</sup>                                       | Positive (present) or negative (absent) | 5% positive per month     | 0.0–0.8               | 0.08%               |
| <b>Inorganic Chemicals</b>                                                 |                                         |                           |                       |                     |
| Antimony                                                                   | ppm                                     | 0.006                     | –                     | Less than 0.0005    |
| Arsenic                                                                    | ppm                                     | 0.010                     | <0.0001–0.0004        | 0.0002              |
| Barium                                                                     | ppm                                     | 2                         | 0.0034–0.0042         | 0.0038              |
| Beryllium                                                                  | ppm                                     | 0.004                     | –                     | Less than 0.0005    |
| Cadmium                                                                    | ppm                                     | 0.005                     | –                     | Less than 0.0002    |
| Chromium                                                                   | ppm                                     | 0.1                       | –                     | Less than 0.0005    |
| Copper <sup>3</sup>                                                        | ppm                                     | 1.3                       | 0.004–0.235           | 0.109               |
| Lead <sup>3</sup>                                                          | ppm                                     | 0.015                     | <0.001–0.010          | 0.002               |
| Mercury                                                                    | ppm                                     | 0.002                     | –                     | Less than 0.0001    |
| Nickel                                                                     | ppm                                     | 0.1                       | –                     | Less than 0.0005    |
| Selenium                                                                   | ppm                                     | 0.05                      | –                     | Less than 0.0005    |
| Thallium                                                                   | ppm                                     | 0.002                     | –                     | Less than 0.0005    |
| Cyanide                                                                    | ppm                                     | 0.2                       | –                     | Less than 0.01      |
| Fluoride <sup>4</sup>                                                      | ppm                                     | 4.0                       | 0.2–0.9               | 0.8                 |
| Nitrate (NO <sub>3</sub> )                                                 | ppm                                     | 10                        | 0.011–0.086           | 0.046               |
| Nitrite (NO <sub>2</sub> )                                                 | ppm                                     | 1                         | <0.001–0.001          | Less than 0.0008    |
| <b>Radionuclides</b>                                                       |                                         |                           |                       |                     |
| Gross Alpha                                                                | pCi/L                                   | 15                        | –                     | Less than 3.0       |
| Gross Beta                                                                 | pCi/L                                   | 50                        | –                     | Less than 3.0       |
| Radium-228                                                                 | pCi/L                                   | 5                         | –                     | Less than 1.0       |
| <b>Chlorine By-Products (also called Disinfection By-Products or DBPs)</b> |                                         |                           |                       |                     |
| Total Trihalomethanes (TTHM) <sup>5,6</sup>                                | ppm                                     | 0.080                     | 0.028–0.057           | 0.039               |
| Haloacetic Acids (5) <sup>5,6,7</sup>                                      | ppm                                     | 0.060                     | 0.024–0.044           | 0.032               |

<sup>1</sup>Sample collected in 2014 from a service supplied by an asbestos concrete (AC) water main.

<sup>2</sup>Everett collected monthly total coliform bacteria samples at 120 to 125 locations in the water distribution system. No more than 5 percent per month can be coliform positive. In 2014, total coliform bacteria was detected in one sample in November (0.76%). Resample results for this location were negative. No coliforms were detected the remainder of 2014.

<sup>3</sup>Samples collected from 107 consumer taps across the greater Everett water service area which includes most of SW Snohomish County. The result listed in the average column is the 90<sup>th</sup> percentile result, which is the highest result in 90 percent of the samples when ranked from highest to lowest. The action limit, or AL, for lead is 0.015 mg/L. The action limit for copper is 1.3 mg/L. In 2012, 100 percent of copper and lead sample results were below their respective action limits. Tap samples must be collected every three years. The next round of regional monitoring is scheduled for collection in the summer of 2015.

<sup>4</sup>Fluoride is added in carefully controlled levels for dental health. In January 2011, the US Dept of Health and Human Services (HHS) released a proposed recommendation to reduce the drinking water fluoride concentration target to 0.7 ppm. The recommendation is based on recent research on changed fluoride and water consumption patterns in the U.S. The recommendation has not been made final, but in the spring of 2011 Everett, Tacoma, Seattle and many other water systems in Washington reduced the target fluoride residual in the drinking water from 1.0 ppm to 0.8 ppm—the lowest level allowed under current State regulations. When HHS finalizes the recommendation, the State Board of Health is expected adopt 0.7 ppm as the new standard. Following revision of the regulations, water systems will adjust fluoride levels to the new recommended level. The low (0.2 mg/L) value occurred on November 26 when the fluoride system was shut down for 24 hours for repairs.

<sup>5</sup>Samples collected from eight required locations in Everett's service area.

<sup>6</sup>TTHM and HAA5 results were calculated using the running annual average results from the fourth quarter of 2014.

<sup>7</sup>Haloacetic Acids (5) or HAA5 is the sum of the concentrations of trichloroacetic acid, dichloroacetic acid, monochloroacetic acid, tribromoacetic acid and dibromoacetic acid. There are five additional HAA compounds that are not regulated.

# CITY OF EVERETT

## 2014 Water Quality Summary

**Table 2A: Secondary Standards and Aesthetic Standards**

Established by the USEPA and DOH

Unless otherwise noted, values listed are for samples collected after treatment and at the entry point to the water distribution system.

| Parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Unit     | Maximum Contaminant Level | 2014 Range of Results | 2014 Average Result |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---------------------------|-----------------------|---------------------|
| <b>Physical</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                       |          |                           |                       |                     |
| Conductivity <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                             | µmhos/cm | 700                       | 47–69                 | 55                  |
| Total Dissolved Solids (TDS)                                                                                                                                                                                                                                                                                                                                                                                                                                          | ppm      | 500                       | 30–31                 | 31                  |
| Color                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | c.u.     | 15                        | <5.0–8.0              | Less than 5         |
| <b>Chemical</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                       |          |                           |                       |                     |
| Chloride                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ppm      | 250                       | 2.3–2.5               | 2.4                 |
| Sulfate                                                                                                                                                                                                                                                                                                                                                                                                                                                               | ppm      | 250                       | 2.8–3.0               | 2.9                 |
| Iron                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ppm      | 0.3                       | –                     | Less than 0.01      |
| Manganese                                                                                                                                                                                                                                                                                                                                                                                                                                                             | ppm      | 0.05                      | 0.0006–0.0068         | 0.0028              |
| Silver                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ppm      | 0.1                       | –                     | Less than 0.0005    |
| Zinc                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ppm      | 5.0                       | –                     | Less than 0.005     |
| Free Chlorine Residual <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                   | ppm      | 4                         | 0.10–1.01             | 0.60                |
| <sup>1</sup> Samples collected monthly in 2014 from 26 sample sites located across the Everett water distribution system.<br><sup>2</sup> Monitored monthly at 120 to 125 locations throughout the Everett water distribution system. A minimum of 120 samples must be collected each month at the same time and same locations as coliform bacteria sample collection. Chlorine residual varies within the distribution system. The residual level decays with time. |          |                           |                       |                     |

# CITY OF EVERETT

## 2014 Water Quality Summary

### Table 2B: Unregulated Parameters

Established by the USEPA and DOH

Unless otherwise noted, values listed are for samples collected after treatment and at the entry point to the water distribution system.

| Parameter                                             | Unit             | Maximum Contaminant Level | 2014 Range of Results | 2014 Average Result |
|-------------------------------------------------------|------------------|---------------------------|-----------------------|---------------------|
| <b>Conventional</b>                                   |                  |                           |                       |                     |
| Temperature (plant intake)                            | °C               | No Standard               | 5.3–20.4              | 12.3                |
| Temperature (distribution system) <sup>1</sup>        | °C               | No Standard               | 5.4–23.5              | 13.4                |
| Alkalinity (as CaCO <sub>3</sub> ) <sup>1</sup>       | ppm              | No Standard               | 15.2–24.4             | 17.6                |
| Total Hardness (as CaCO <sub>3</sub> ) <sup>1</sup>   | ppm              | No Standard               | 10.4–16.1             | 12.1                |
| Turbidity <sup>1</sup>                                | NTU              | No Standard               | 0.08–0.21             | 0.12                |
| Calcium Hardness (as CaCO <sub>3</sub> ) <sup>1</sup> | ppm              | No Standard               | 7.7–13.6              | 9.2                 |
| pH <sup>2</sup>                                       | s.u.             | ≥7.4 (daily avg)          | 7.3–7.9               | 7.6                 |
| pH <sup>1</sup>                                       | s.u.             | No Standard               | 7.4–9.2               | 8.0                 |
| <b>Inorganic</b>                                      |                  |                           |                       |                     |
| Silica (total SiO <sub>2</sub> ) <sup>1,3</sup>       | ppm              | No Standard               | 3.6–4.8               | 4.1                 |
| Aluminum <sup>1</sup>                                 | ppm              | No Standard               | 0.01–0.10             | 0.02                |
| Boron                                                 | ppm              | No Standard               | –                     | 0.003               |
| Copper <sup>4</sup>                                   | ppm              | No Standard               | 0.0006–0.0011         | 0.0008              |
| Lead <sup>4</sup>                                     | ppm              | No Standard               | <0.0001–0.0002        | Less than 0.0001    |
| Molybdenum                                            | ppm              | No Standard               | –                     | Less than 0.0005    |
| Potassium                                             | ppm              | No Standard               | –                     | 0.21                |
| Sodium                                                | ppm              | No Standard               | 5.98–6.65             | 6.32                |
| <b>Organic Carbon and DBP Precursors</b>              |                  |                           |                       |                     |
| Total Organic Carbon (untreated) <sup>5</sup>         | ppm              | No Standard               | 0.81–0.90             | 0.85                |
| Total Organic Carbon                                  | ppm              | No Standard               | 0.52–0.66             | 0.59                |
| Total Organic Carbon <sup>1</sup>                     | ppm              | No Standard               | 0.40–0.85             | 0.57                |
| Dissolved Organic Carbon (untreated) <sup>5</sup>     | ppm              | No Standard               | 0.81–0.90             | 0.86                |
| Dissolved Organic Carbon                              | ppm              | No Standard               | 0.51–0.67             | 0.58                |
| UV-254 Absorbance <sup>5</sup>                        | cm <sup>-1</sup> | No Standard               | 0.023–0.031           | 0.028               |
| UV-254 Absorbance                                     | cm <sup>-1</sup> | No Standard               | 0.009–0.010           | 0.009               |
| <b>Microbiological</b>                                |                  |                           |                       |                     |
| <i>Giardia lamblia</i> cysts <sup>5,6</sup>           | cysts/L          | No Standard               | –                     | 0                   |
| <i>Cryptosporidium</i> oocysts <sup>5,6</sup>         | oocysts/L        | No Standard               | –                     | 0                   |

<sup>1</sup>Values are from Everett distribution system and were collected in 2014 as part of the monthly water quality parameters (WQP) monitoring and/or quarterly disinfection by-product monitoring programs.

<sup>2</sup>Samples collected from treatment plant effluent.

<sup>3</sup>Total silica results are based on a strong acid digestion analysis method. Insoluble particulate silicates are not detected by this method.

<sup>4</sup>These results are for treatment plant effluent and represent the treated water before contact with distribution system piping or home plumbing. Lead and copper are monitored every three years at consumer taps in the distribution system. See Table 1 for the most recent consumer tap results.

<sup>5</sup>Samples collected from untreated raw water influent to the treatment plant.

<sup>6</sup>In 2014, *Cryptosporidium* and *Giardia* were monitored on a monthly basis at the plant intake.

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## 2014 Water Quality Summary

**Table 3: Volatile Organic Chemicals (VOC) – Regulated**

Established by the USEPA and DOH

| Contaminant                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Maximum Contaminant Level (mg/L) | 2014 Average Result |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|---------------------|
| Benzene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0.005                            | ND <sup>1</sup>     |
| Carbon tetrachloride                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.005                            | ND                  |
| 1,2-Dibromo-3-chloropropane (DBCP) <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.0002                           | ND                  |
| o-Dichlorobenzene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0.6                              | ND                  |
| p-Dichlorobenzene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0.075                            | ND                  |
| cis-1,2-Dichloroethylene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 0.07                             | ND                  |
| trans-1,2-Dichloroethylene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 0.1                              | ND                  |
| 1,2-Dichloroethane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0.005                            | ND                  |
| 1,1-Dichloroethylene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.007                            | ND                  |
| 1,1-Dichloropropane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 0.005                            | ND                  |
| Ethylbenzene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 0.7                              | ND                  |
| Dichloromethane (Methylene chloride)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.005                            | ND                  |
| Monochlorobenzene (Chlorobenzene)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0.1                              | ND                  |
| Styrene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0.1                              | ND                  |
| Tetrachloroethylene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 0.005                            | ND                  |
| Toluene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1.0                              | ND                  |
| 1,2,4-Trichlorobenzene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0.07                             | ND                  |
| 1,1,1-Trichloroethane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0.2                              | ND                  |
| 1,1,2-Trichloroethane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0.005                            | ND                  |
| Trichloroethylene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0.005                            | ND                  |
| Vinyl chloride                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0.002                            | ND                  |
| Xylenes (total)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 10.0                             | ND                  |
| <b>Trihalomethanes<sup>3</sup></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                  |                     |
| Total Trihalomethanes (TTHM) <sup>4</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 0.080                            | 0.039               |
| Bromodichloromethane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | –                                | 0.002               |
| Dibromochloromethane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | –                                | ND                  |
| Tribromomethane (bromoform)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | –                                | ND                  |
| Trichloromethane (chloroform)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | –                                | 0.037               |
| <b>Haloacetic Acids<sup>3</sup></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                  |                     |
| Haloacetic acids [5] (HAA5) <sup>5</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 0.060                            | 0.032               |
| Dichloroacetic acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | –                                | 0.011               |
| Dibromoacetic acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | –                                | ND                  |
| Monobromoacetic acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | –                                | ND                  |
| Monochloroacetic acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0.0021 and 0.0023                | N/A                 |
| Trichloroacetic acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | –                                | 0.021               |
| <p><sup>1</sup>ND = None detected.</p> <p><sup>2</sup>DBCP was last monitored in 2012. The State DOH has issued monitoring waivers through 2016. It is not used or produced in the Sultan Basin Watershed and has never been detected in Everett's water.</p> <p><sup>3</sup>Results are for samples collected on a quarterly basis from eight compliance locations in Everett's distribution system.</p> <p><sup>4</sup>Total Trihalomethanes (TTHM) is the sum of the concentrations of four different trihalomethane compounds in a sample. Only TTHM has an MCL assigned to it. The individual trihalomethanes listed above have no MCL, but must be monitored to determine TTHM.</p> <p><sup>5</sup>Haloacetic acids (5), or HAA5, is the sum of the concentrations of five individual haloacetic acid compounds. Only the sum HAA5 has an MCL assigned to it. The five haloacetic acid compounds that are measured to determine HAA5 are listed.</p> <p><sup>6</sup>Only detected once at two of the eight monitoring locations during May 2014.</p> |                                  |                     |

# CITY OF EVERETT

## 2014 Water Quality Summary

**Table 4: Volatile Organic Chemicals (VOC) – Unregulated**

No MCL, but monitoring is required by the USEPA or DOH

| Contaminant                                                                                               | 2014<br>Average<br>Result |
|-----------------------------------------------------------------------------------------------------------|---------------------------|
| Tert-Amyl methyl ether                                                                                    | ND <sup>1</sup>           |
| Bromobenzene                                                                                              | ND                        |
| Bromochloromethane                                                                                        | ND                        |
| Bromomethane                                                                                              | ND                        |
| 2-Butanone (MEK)                                                                                          | ND                        |
| n-Butylbenzene                                                                                            | ND                        |
| sec-Butylbenzene                                                                                          | ND                        |
| tert-Butylbenzene                                                                                         | ND                        |
| Carbon Disulfide                                                                                          | ND                        |
| Chloroethane                                                                                              | ND                        |
| Chloromethane                                                                                             | ND                        |
| o-Chlorotoluene                                                                                           | ND                        |
| p-Chlorotoluene                                                                                           | ND                        |
| m-Dichlorobenzene                                                                                         | ND                        |
| 1,1-Dichloroethane                                                                                        | ND                        |
| Dibromomethane                                                                                            | ND                        |
| Dichlorodifluoromethane                                                                                   | ND                        |
| 1,3-Dichloropropane                                                                                       | ND                        |
| 2,2-Dichloropropane                                                                                       | ND                        |
| 1,1-Dichloropropene                                                                                       | ND                        |
| cis-1,3-Dichloropropene                                                                                   | ND                        |
| trans-1,3-Dichloropropene                                                                                 | ND                        |
| Di-isopropyl ether                                                                                        | ND                        |
| Hexachlorobutadiene                                                                                       | ND                        |
| Isopropylbenzene                                                                                          | ND                        |
| p-Isopropyltoluene                                                                                        | ND                        |
| 4-Methyl-2-pentanone (MIBK)                                                                               | ND                        |
| Methyl tertiary butyl ether (MTBE)                                                                        | ND                        |
| Naphthalene                                                                                               | ND                        |
| n-Propylbenzene                                                                                           | ND                        |
| 1,1,1,2-Tetrachloroethane                                                                                 | ND                        |
| 1,1,2,2-Tetrachloroethane                                                                                 | ND                        |
| Trichlorotrifluoroethane (Freon 113)                                                                      | ND                        |
| Trichlorofluoromethane                                                                                    | ND                        |
| 1,2,3-Trichlorobenzene                                                                                    | ND                        |
| 1,2,3-Trichloropropane                                                                                    | ND                        |
| 1,2,4-Trimethylbenzene                                                                                    | ND                        |
| 1,3,5-Trimethylbenzene                                                                                    | ND                        |
| m/p-Xylene                                                                                                | ND                        |
| o-Xylene                                                                                                  | ND                        |
| <sup>1</sup> ND = None detected<br>*VOC samples were collected after treatment and prior to distribution. |                           |

# CITY OF EVERETT

## 2014 Water Quality Summary

**Table 5: Synthetic Organic Chemicals (SOC) – Regulated**

Established by the USEPA and DOH

| Contaminant                                             | Maximum Contaminant Level (mg/L) | 2014 Average Result |
|---------------------------------------------------------|----------------------------------|---------------------|
| Alachlor (Lasso)                                        | 0.002                            | ND <sup>1</sup>     |
| Aldicarb (Temik) <sup>2</sup>                           | 0.003                            | ND                  |
| Aldicarb sulfone <sup>2</sup>                           | 0.002                            | ND                  |
| Aldicarb sulfoxide <sup>2</sup>                         | 0.004                            | ND                  |
| Atrazine                                                | 0.003                            | ND                  |
| Benzo(a)pyrene                                          | 0.0002                           | ND                  |
| Carbofuran                                              | 0.04                             | ND                  |
| Chlordane                                               | 0.002                            | ND                  |
| 2,4,D                                                   | 0.07                             | ND                  |
| Dalapon                                                 | 0.2                              | ND                  |
| Di(ethylhexyl)adipate                                   | 0.4                              | ND                  |
| Di(2-ethylhexyl) phthalate                              | 0.006                            | ND                  |
| Dinoseb                                                 | 0.007                            | ND                  |
| Diquat <sup>3</sup>                                     | 0.02                             | ND                  |
| Endrin                                                  | 0.002                            | ND                  |
| Endothall <sup>3</sup>                                  | 0.1                              | ND                  |
| Ethylene dibromide (EDB) <sup>4</sup>                   | 0.00005                          | ND                  |
| Glyphosate (Rodeo, Roundup) <sup>3</sup>                | 0.7                              | ND                  |
| Heptachlor                                              | 0.0004                           | ND                  |
| Heptachlor epoxide ("B")                                | 0.0002                           | ND                  |
| Hexachlorobenzene                                       | 0.001                            | ND                  |
| Hexachlorocyclopentadiene (HEX)                         | 0.05                             | 0.000058            |
| Lindane (BHC-gamma)                                     | 0.0002                           | ND                  |
| Methoxychlor                                            | 0.04                             | ND                  |
| Oxamyl (Vydate)                                         | 0.2                              | ND                  |
| Pentachlorophenol                                       | 0.001                            | ND                  |
| Picloram (Tordon)                                       | 0.5                              | ND                  |
| Polychlorinated biphenyls (PCBs, Aroclors) <sup>5</sup> | 0.0005                           | ND                  |
| Simazine                                                | 0.004                            | ND                  |
| Toxaphene                                               | 0.003                            | ND                  |
| 2,4,5-TP (Silvex)                                       | 0.05                             | ND                  |
| 2,3,7,8-TCDD (Dioxin) <sup>6</sup>                      | 3 X 10 <sup>-8</sup>             | ND                  |

<sup>1</sup>ND = None detected.

<sup>2</sup>MCLs for Aldicarb, Aldicarb Sulfone and Aldicarb Sulfoxide were established in 1991, however EPA has postponed the regulation of these compounds indefinitely pending the results of further research, a possible ban on their use, and an update of the MCL values. These substances have never been used in the Sultan Basin Watershed.

<sup>3</sup>Diquat, Endothall and Glyphosate were last monitored in 2005. The State DOH has issued monitoring waivers . They are not used or produced in the Sultan Basin watershed and have never been detected in Everett's water.

<sup>4</sup>EDB was last monitored in 2012. The State DOH has issued monitoring waivers through 2016. It is not used or produced in the Sultan Basin Watershed and has never been detected in Everett's water.

<sup>5</sup>Total PCBs measured as decachlorobiphenyl. There are seven regulated individual compounds that make up total PCBs. These compounds are known as aroclors. Samples are not measured for individual aroclors unless a measureable or detectable amount of total PCB is found.

<sup>6</sup>Dioxin was last monitored in 2002. The State DOH has issued a general monitoring waiver for it. It is not used or produced in the Sultan Basin Watershed and has never been detected in Everett's water.

\*SOC samples were collected after treatment and prior to distribution.

# CITY OF EVERETT

## 2014 Water Quality Summary

**Table 6: Synthetic Organic Chemicals (SOC) – Unregulated**

No MCL, but monitoring is required by the USEPA or DOH

| Contaminant                                                                                                | 2014<br>Average<br>Result | Contaminant              | 2014<br>Average<br>Result |
|------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------|---------------------------|
| 2,4,5-T                                                                                                    | ND <sup>1</sup>           | Dicamba                  | ND                        |
| 2,4-DB                                                                                                     | ND                        | Dichlorprop              | ND                        |
| 2,4-Dinitrotolulene                                                                                        | ND                        | Dieldrin                 | ND                        |
| 3-Hydroxycarbofuran                                                                                        | ND                        | Diethylphthalate         | ND                        |
| 3,5-Dichlorobenzoic acid                                                                                   | ND                        | Dimethoate               | ND                        |
| Acenaphthylene                                                                                             | ND                        | Dimethylphthalate        | ND                        |
| Acifluorfen                                                                                                | ND                        | Di-n-butylphthalate      | ND                        |
| Aldrin                                                                                                     | ND                        | Fluoranthene             | ND                        |
| Alpha-Chlordane                                                                                            | ND                        | Fluorene                 | ND                        |
| Anthracene                                                                                                 | ND                        | Gamma-Chloradane         | ND                        |
| Bentazone                                                                                                  | ND                        | Indenol(1,2,3,c,d)Pyrene | ND                        |
| Benz(a)Anthracene                                                                                          | ND                        | Isophorone               | ND                        |
| Benzo(b)Fluoranthene                                                                                       | ND                        | Methiocarb               | ND                        |
| Benzo(g,h,i)Perylene                                                                                       | ND                        | Methomyl                 | ND                        |
| Benzo(k)Fluoranthene                                                                                       | ND                        | Metolachlor              | ND                        |
| Bromacil                                                                                                   | ND                        | Metribuzin               | ND                        |
| Butachlor                                                                                                  | ND                        | Molinate                 | ND                        |
| Butylbenzylphthalate                                                                                       | ND                        | Phenanthrene             | ND                        |
| Caffeine                                                                                                   | ND                        | Propachlor               | ND                        |
| Carbaryl                                                                                                   | ND                        | Propoxur (Baygon)        | ND                        |
| Chrysene                                                                                                   | ND                        | Pyrene                   | ND                        |
| DCPA (Dacthal)                                                                                             | ND                        | Thiobencarb (ELAP)       | ND                        |
| Diazinon                                                                                                   | ND                        | Trans-Nonachlor          | ND                        |
| Dibenz(a,h)anthracene                                                                                      | ND                        | Trifluralin              | ND                        |
| <sup>1</sup> ND = None detected.<br>*SOC samples were collected after treatment and prior to distribution. |                           |                          |                           |

# CITY OF EVERETT

## 2014 Water Quality Summary

**Table 7: Unregulated Contaminant Monitoring Rule**

Established by the USEPA and DOH

Unless otherwise noted, values listed are for samples collected after treatment and at the entry point to the water distribution system.

| Parameter                         | Unit | Maximum Contaminant Level | 2014 Range of Results | 2014 Average Result |
|-----------------------------------|------|---------------------------|-----------------------|---------------------|
| <b>Volatile Organic Compounds</b> |      |                           |                       |                     |
| 1,2,3-Trichloropropane            | ppb  | No Standard               | –                     | <0.03               |
| 1,3-Butadiene                     | ppb  | No Standard               | –                     | <0.10               |
| Chloromethane (Methyl Chloride)   | ppb  | No Standard               | –                     | <0.20               |
| 1,1-Dichloroethane                | ppb  | No Standard               | –                     | <0.03               |
| Bromomethane (Methyl Bromide)     | ppb  | No Standard               | –                     | <0.20               |
| Chlorodifluoromethane             | ppb  | No Standard               | –                     | <0.08               |
| Bromochloromethane                | ppb  | No Standard               | –                     | <0.06               |
| <b>Synthetic Organic Compound</b> |      |                           |                       |                     |
| 1,4-Dioxane                       | ppb  | No Standard               | –                     | <0.07               |
| <b>Metals</b>                     |      |                           |                       |                     |
| Vanadium                          | ppb  | No Standard               | <0.2–0.20             | <0.2                |
| Vanadium <sup>1</sup>             | ppb  | No Standard               | <0.2–0.28             | <0.2                |
| Molybdenum                        | ppb  | No Standard               | –                     | <1                  |
| Molybdenum <sup>1</sup>           | ppb  | No Standard               | –                     | <1                  |
| Cobalt                            | ppb  | No Standard               | –                     | <1                  |
| Colbat <sup>1</sup>               | ppb  | No Standard               | –                     | <1                  |
| Strontium                         | ppb  | No Standard               | 14–16                 | 15                  |
| Strontium <sup>1</sup>            | ppb  | No Standard               | –                     | 16                  |
| Chromium                          | ppb  | No Standard               | 0.22–0.32             | 0.29                |
| Chromium <sup>1</sup>             | ppb  | No Standard               | 0.23–0.36             | 0.28                |
| <b>Chromium-6</b>                 |      |                           |                       |                     |
| Chromium-6                        | ppb  | No Standard               | 0.20–0.29             | 0.25                |
| Chromium-6 <sup>1</sup>           | ppb  | No Standard               | 0.21–0.31             | 0.26                |
| <b>Oxyhalide Anion</b>            |      |                           |                       |                     |
| Chlorate                          | ppb  | No Standard               | 26–80                 | 53                  |
| Chlorate <sup>1</sup>             | ppb  | No Standard               | 36–73                 | 55                  |
| <b>Perfluorinated Compounds</b>   |      |                           |                       |                     |
| Perfluoro octanesulfonic acid     | ppb  | No Standard               | –                     | <0.04               |
| Perfluorooctanoic acid            | ppb  | No Standard               | –                     | <0.02               |
| Perfluoro-n-nonanoic acid         | ppb  | No Standard               | –                     | <0.02               |
| Perfluoro-1-hexanesulfonic acid   | ppb  | No Standard               | –                     | <0.03               |
| Perfluoroheptanoic acid           | ppb  | No Standard               | –                     | <0.01               |
| Perfluoro-1-butanesulfonic acid   | ppb  | No Standard               | –                     | <0.09               |
| <b>Hormones</b>                   |      |                           |                       |                     |
| 17-beta-Estradiol                 | ppb  | No Standard               | –                     | <0.0004             |
| 17 alpha-ethynylestradiol         | ppb  | No Standard               | –                     | <0.0009             |
| Estriol                           | ppb  | No Standard               | –                     | <0.0008             |
| Equilin                           | ppb  | No Standard               | –                     | <0.004              |
| Estrone                           | ppb  | No Standard               | –                     | <0.002              |
| Testosterone                      | ppb  | No Standard               | –                     | <0.0001             |
| 4-androstene-3,17-dione           | ppb  | No Standard               | <0.0003–0.00038       | <0.0003             |

<sup>1</sup>Values are from a maximum residence time site in the Everett distribution system.



# CITY OF EVERETT

## 2014 Water Quality Summary

### Units & Acronyms

| Unit             | Definition                                                                                                               |
|------------------|--------------------------------------------------------------------------------------------------------------------------|
| °C               | Degrees Centigrade                                                                                                       |
| CFU/100mL        | Colony forming units per 100 mL of sample                                                                                |
| CFU/mL           | Colony forming units per 1 mL of sample                                                                                  |
| cm <sup>-1</sup> | UV light absorbance across a centimeter cell path                                                                        |
| c.u.             | cobalt-platinate standard color units                                                                                    |
| cysts/L          | <i>Giardia lamblia</i> cysts per liter of sample                                                                         |
| MF/L>10 µm       | Millions of asbestos fibers per liter that are greater than 10 microns in length                                         |
| mg/L             | milligrams per liter (equivalent to ppm)                                                                                 |
| ND               | None detected                                                                                                            |
| NTU              | Nephelometric Turbidity Units                                                                                            |
| oocysts/L        | <i>Cryptosporidium spp.</i> oocysts per liter of sample                                                                  |
| ppb              | parts per billion (equivalent to µg/L).                                                                                  |
| pCi/L            | picocuries per liter                                                                                                     |
| ppm              | parts per million (equivalent to mg/L)                                                                                   |
| s.u.             | standard pH units                                                                                                        |
| µmhos/cm         | micro mhos per cm (conductivity unit)                                                                                    |
| <                | Less than. Result was less than or below the detection limit for the analytical method. This result is equivalent to ND. |

| Acronym | Definition                                                                                                                                                                                                                                                                            |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AC      | Asbestos concrete (material used in one type of water main pipe)                                                                                                                                                                                                                      |
| AL      | Action Limit                                                                                                                                                                                                                                                                          |
| DOH     | Washington State Department of Health, Office of Drinking Water                                                                                                                                                                                                                       |
| HAA     | Haloacetic acids                                                                                                                                                                                                                                                                      |
| HAA5    | Haloacetic acids five (sum of the concentrations of five haloacetic compounds)                                                                                                                                                                                                        |
| HPC     | Heterotrophic plate count (a standard analytical method for heterotrophic bacteria)                                                                                                                                                                                                   |
| HPC R2A | Heterotrophic plate count analysis using a specialized method that attempts to mimic water main conditions and detect and evaluate bioslimes. The method uses low nutrient R2A growth media, longer incubation times and cooler incubation temperatures than the standard HPC method. |
| MCL     | Maximum Contaminant Level                                                                                                                                                                                                                                                             |
| THM     | Trihalomethane                                                                                                                                                                                                                                                                        |
| TT      | Treatment technique                                                                                                                                                                                                                                                                   |
| TTHM    | Total trihalomethanes (sum of concentrations of four compounds)                                                                                                                                                                                                                       |
| UV-254  | Ultraviolet light absorbance at 254 nanometer wavelength                                                                                                                                                                                                                              |
| USEPA   | United States Environmental Protection Agency                                                                                                                                                                                                                                         |

# CITY OF EVERETT 2014 Water Quality Summary

## Parameters for Home Brewing

| Parameter                                       | Unit | 2014 Range of Results | 2014 Average Result |
|-------------------------------------------------|------|-----------------------|---------------------|
| Calcium (Ca) <sup>1</sup>                       | ppm  | 3.1–5.4               | 3.7                 |
| Magnesium (Mg) <sup>1</sup>                     | ppm  | 0.4–0.8               | 0.7                 |
| Alkalinity (as CaCO <sub>3</sub> ) <sup>1</sup> | ppm  | 15.2–24.4             | 17.6                |
| Sulfate (SO <sub>4</sub> )                      | ppm  | 2.8–3.0               | 2.9                 |
| Chloride (Cl)                                   | ppm  | 2.3–2.5               | 2.4                 |
| Potassium (K)                                   | ppm  | –                     | 0.2                 |
| Bicarbonate (HCO <sub>3</sub> )                 | ppm  | 18.5–29.8             | 21.5                |
| pH <sup>1,2</sup>                               | s.u. | 7.4–9.2               | 8.0                 |

<sup>1</sup>Values are from the Everett distribution system and were collected in 2014 as part of the monthly water quality parameters (WQP) monitoring program conducted at 26 locations in Everett.

<sup>2</sup>pH can vary significantly by location and should be measured at the tap you are using.