



**City of Fife**  
**2014 Water Quality Report**

June 2015

This is an annual report on the quality of water delivered by the City of Fife. This report covers the year 2014, however the most recent test results for many substances are included in an effort to provide the most up-to-date information. This report meets the requirements of the federal Safe Drinking Water Act (SDWA), reauthorized by Congress in 1996, for "Consumer Confidence Reports."

This report contains valuable information on the source of our water, its constituents, and the health risks associated with any contaminants. Safe, reliable water is vital to our community.

This report also contains information on topics that have an effect on our water and/or community. Please read this report carefully and, if you have questions, call the City of Fife's - Public Works Dept. at (253) 922-9315.

The City of Fife encourages public interest and participation in our community's decisions affecting drinking water. Regular City Council meetings occur on the 2nd and 4th Tuesdays of each month, at 7:00 p.m. in City Hall located at 5411-23rd St E. The Public is welcome.



### Water Source Information

The City of Fife purchased all of the water supplied in 2014 from Tacoma Public Utilities through our intertied connections. The water purchased from Tacoma is primarily surface water from the Green River, in south King County. Water in the Green River comes from a 231-square-mile forested area located in the Cascade Mountains between Chinook and Snoqualmie passes.

This uninhabited area serves as a collection point for melting snow and seasonal rainfall. Tacoma Water also supplements its Green River supply with well water from more than twenty wells to meet peak summer demands. Most of these wells are located within the Tacoma city limits. Tacoma also has six wells on the North Fork of the Green River. These wells are used when heavy rain or spring runoff causes the Green River to be too cloudy with sediment to use as drinking water.

Fife's Well #5, located near the base of Fife Heights, is a seasonal source used to supplement our supply during peak periods, was not used in 2014. This deep well draws water from more than 600 feet below ground.

For additional information on Tacoma Water's sources, Tacoma has requested that our customers contact the City of Fife, to request specific information. Please contact the City of Fife-Public Works Dept., at 3725-Pacific Hwy. E., Fife, WA. 98424 or call (253) 922-9315.

이 보고서에는 귀하가 거주하는 지역의 수질에 관한 중요한 정보가 들어 있습니다. 이것을 번역하거나 충분히 이해하시는 친구와 상호하십시오.

El informe contiene información importante sobre la calidad del agua en su comunidad. Tradúzcalo o hable con alguien que lo entienda bien.



American Water Works Association  
Dedicated to Safe Drinking Water

## Water Treatment Information

Tacoma Water recently began operating its brand new water filtration plant. As of January 15, 2015 all of the water supplied from the Green River source, and delivered to Fife is now being filtered. A major milestone finally achieved for Tacoma Water.

The whole purpose of the filtration plant is to remove particles like bacteria, dirt, river silt, and other things that cloud the water, referred to as “turbidity.” These particles, if not removed, eventually end up in the water mains and pipes reducing flow capacity and causes dirty water outbreaks. But worst of all, turbidity can protect bacteria and viruses from being destroyed effectively by the disinfectants, like chlorine, added to our water to make it safe to drink. Many of these turbidity particles are so small they could pass directly through the filters, so chemicals are added to get them to attach to one another, this process is called “coagulation.” The water is then mixed with paddles to aid in the particles coagulating making them large enough to be both visible and filterable, this process is called “flocculation.” After the water leaves the flocculation basins it begins the “sedimentation” process. Sedimentation is essentially slowing down the flow of water in large basins to allow the now larger heavier particles (sediment) time to settle and drop to the bottom. The sediment is later removed from the bottom of the basins. A great feature about the new treatment plant is the ability to bypass the sedimentation basins during periods when raw water quality entering the plant is very low in turbidity. This ability to bypass this process permits them to reduce the amount of pretreatment chemicals used and save all of us money. From here the water is now sent to “filtration.” The filters are composed of anthracite coal 50 inches deep and sand that is 20 inches in depth. By the time the water finishes flowing through the filters it is now anywhere from 50 to 200 times cleaner, depending upon raw water quality entering the plant, then it was before the new treatment plant was built. After the water exits the filters it is mixed with fluoride, for dental health benefits, and chlorine, for disinfection. Sodium hydroxide is also added to adjust the pH of the water, this reduces how corrosive the water is on plumbing and piping systems, including reducing the amount of lead leached from your home’s piping that may be consumed by you.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Fife is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

Tacoma Water began filtering its Green River water supply to improve the quality and protect against microorganisms like cryptosporidium. Cryptosporidium is a protozoan organism which is very resistant to more traditional disinfection techniques such as chlorine. The new treatment plant can produce 168 million gallons per day, approximately what it would take to fill the Tacoma Dome.

Fife treats its well water by adding chlorine for disinfection.

## Health Information

To insure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes limits on the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants.

The presence of contaminants do not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

The sources of drinking water throughout the country, (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- *Microbial contaminants*, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- *Inorganic contaminants* such as salts and metals, which can be naturally-occurring or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- *Pesticides and herbicides* which may come from a variety of sources such as agriculture, storm water runoff, and residential uses.

- *Organic chemical contaminants* including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, septic systems, and wastewater treatment plants.
- *Radioactive contaminants*, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amounts of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Some people may be more vulnerable to contaminants in drinking water than is the general population.



Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.

EPA/CDC (Centers for Disease Control) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from the Safe Drinking Water Hotline (800-426-4791).

#### [Arsenic in Drinking Water](#)

Your drinking water currently meets EPA's revised drinking water standard for arsenic. However, it does contain low levels of arsenic. There is a small chance that some people who drink water containing low levels of arsenic for many years could develop circulatory disease, cancer, or other health problems. Most types of cancer and circulatory diseases are due to factors other than exposure to arsenic. EPA's standard balances the current understanding of arsenic's health effects against the costs of removing arsenic from drinking water.

#### [Minor Monitoring Violation—Coliform Bacteria](#)

Due to human error the City of Fife failed to monitor for the required number of routine Total Coliform bacteriologic samples during the month of February in 2014. During February only 24 of the required 30 routine samples were taken. All samples taken during February and since then have shown no detection of Coliform bacteria in the water. The City returned to monitoring compliance in March 2014, and remains so. It is believed that at no time was public health at risk as all treatment of the water remained fully functional during that period. **The following mandatory health effects language is included for informational purposes only...NO Coliform Bacteria was detected:** *“Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.”*

#### [Water Use Summary for 2014](#)

Total Water Supplied:  
527,885,374 gallons (100%)

Total Water Metered to Customers:  
482,765,184 gallons (91.45%)

Other Accounted for Water Used:  
2,644,965 gallons (0.5%)

Total Unaccounted Water Used:  
42,475,225 gallons (8.05%)

The City as part of its water conservation efforts is actively trying to account for all water used within the water system and encourage water conservation on the part of its customers. These efforts include a leak detection program, public education efforts, a meter testing and replacement program, and a reduction in unaccounted water uses like unmetered construction use, and excessive flushing. The City believes most unaccounted water is caused by a combination of unmetered use, theft, flushing of new and existing mains, leaks and meter under registration. The water system is currently 100% metered, but many of those meters are near the end of their useful life. The physical design and construction of a water meter is such that as it wears over an extended period, it will under-register the volume of water passing through it. Over time this under-registration can add up to a significant amount of water.



*(The Green River - just upstream from the Tacoma treatment plant intake.)*

### Projects:

The City is working on continuing service expansion in the Bentene Loop area. As part of the next project, plans are to extend mains from where the 4th St E project stopped, and continue north up both 55th Ave E and 57th Ave E and tie the legs together to create a loop. Of course additional fire hydrants and water services will be provided for future customer connections along both roads. Also planned is additional water main looping between 54th Ave E and 55th Ave E, and along 56th Ave E to 8th St E. These planned improvements should not only provide for water service to all of the residents in the neighborhood, but provide for a very robust fire fighting capability.

Another project in the process of planning, new sidewalks and a series of water related improvements along the north side of Pacific Hwy E, between 54th Ave E and 65th Ave E. New sidewalk will be installed to fill in locations currently without any, improved handicap access ramps are also going in along this stretch of Pacific Hwy. Among the water line improvements are the addition and/or relocation of some fire hydrants, replacement and relocation of some water services, installation of new services for customers not currently being served, and completion of an 8" water main loop east of 62nd Ave E.

Many of you may have noticed the closure of 20th St Drive, west of the Praxair chemical plant. The road has been closed as part of the State Dept. of Transportation's Interstate 5 bridge realignment project. Interstate 5 along with 20th St Drive is being shifted to the south in this area to accommodate the addition of HOV lanes crossing the Puyallup River. As part of this project both water and sewer mains running in 20th St Drive are also being replaced as part of this project. The road closure is expected to last until October 2016.

Also, new water and limited sewer utility extensions are planned in Freeman Rd from 20th St E south to Valley Ave. These extensions are being installed as part of three new warehouse's currently under construction near the southern half of the project. The utility extensions include new 12" water main, fire hydrants, and meter services, as well as future water main stubs toward the east in the area between 34th St and Valley Ave. Also, sanitary sewer force main will be installed in Freeman Rd south of the 3500 Block to Valley Ave.

## [Treatment Violation](#)

Your water is safe to drink, and now that the Green River Filtration Facility is complete, it is even better and more reliable. But because the filtration facility was not complete by April 1, 2014 – an unmovable deadline set by the federal government – Tacoma Water had incurred a “treatment technique violation.”

This is how they reached this point:

In 2006, when the federal government finalized a regulation requiring Tacoma Water to treat their water for cryptosporidium, they started a thorough process to determine the best course of action. That included detailed water testing for cryptosporidium, testing different treatment options, legal review and extensive public outreach to develop a plan. In the end, they decided filtering water from the Green River was the best way to serve their customers; the Public Utility Board and Tacoma City Council agreed.

That careful evaluation and decision process

took 4 years, but they believe it was important to get such a large decision right. Today, the project is complete and significantly under budget. Still, Tacoma Water missed the April 1, 2014 deadline. Although this statement is no longer relevant today due to the new treatment plant being fully operational, we must tell you that:

*Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.*

*While our monitoring for cryptosporidium found only three organisms between 2001 and 2012, if you are pregnant, have a severely compromised immune system, have an infant, or are elderly, and believe that you may be at some risk, please consult your doctor.*

Again, Tacoma Water is in full compliance today, this statement is reflective of a past compliance violation. If you have questions or concerns regarding this issue please contact (253) 922-9315.



## [Understanding the Water Quality Data Tables](#)

The following tables show the results of our water quality analysis. Every regulated substance that we detected in the water, even in the minutest traces, is listed here. The table contains the name of each substance, the highest level allowed by regulation (MCL); the ideal goals for public health, the amount detected, the usual sources of such contamination, footnotes explaining our findings, and a key to units of measurement. The definitions for MCL and MCLG are important, please read them. The City of Fife as part of complying with the federal Safe Drinking Water Act and state health codes routinely monitors for over 170 different substances in the water we provide.

**Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.

**Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

**Action Level (AL):** The concentration of a contaminant, which, if exceeded, triggers treatment, or other requirements that a water system must follow. Action Levels are reported at the 90<sup>th</sup> percentile for homes at greatest risk.

**Nephelometric Turbidity Unit (NTU):** Is a standard unit to measure water clarity.

**Treatment Techniques (TT):** Is a required process intended to reduce the level of a contaminant in drinking water.

**Picocuries Per Liter (pCi/l):** Is a measure of radioactivity.

The data presented in this report is from the most recent testing done in accordance with regulations.

[Key to Data Table](#)

AL	Action Level	ppm	Parts Per Million, or milligrams per liter (mg/l)
MCL	Maximum Contaminant Level	ppb	Parts per billion, or micrograms per liter (µg/l)
MCLG	Maximum Contaminant Level Goal	n/a	Not applicable, or not regulated
NTU	Nephelometric Turbidity Units	TT	Treatment Techniques
		pCi/l	Picocuries per liter

**Water Quality Data Tables**

**Fife Distribution System**

Substance	Unit	MCL	MCLG	Detected Level	Range or # Exceeded AL	Potential Sources of Substance	Sub-	Violation
<b>Inorganic Substances</b>								
Lead (1) - Test Done in 2013	ppb	AL = 15	0	9	0 Sites Exceeded AL	Household Plumbing		No
Copper (1) - Test Done in 2013	ppm	AL = 1.3	1.3	0.30	0 Sites Exceeded AL	Household Plumbing		No
Chlorine (2)	ppm	4	4	0.5	0.1—0.5	Treatment Additive		No
<b>Microbiologic Substances</b>								
Total Coliform	n/a	<5% Positive	0	0%	0 of 354 samples	Sampling Technique		No
<b>Volatile Organic Substances</b>								
Total Trihalomethanes (4)	ppb	80 Avg.	0	29.2 Avg	11.5— 29.2	By-product of Chlorination		No
<b>Synthetic Organic Substances</b>								
Total Haloacetic Acids (4)	ppb	60 Avg.	0	34.3 Avg	9.3— 34.3	By-product of Chlorination		No

Footnotes:

- (1) Detected level description results for lead and copper are for tests performed by qualifying residential customers in 2013.
- (2) Testing for this substance is performed daily.
- (3) This is an aesthetic substance, which may effect taste, color, or odor, but has no known or expected health effects
- (4) Detected level is a running annual average which is used to determine compliance.

Unregulated contaminant monitoring results are available upon request. Please contact the City of Fife - Public Works Dept. for further information.

## Tacoma Sources and Distribution System

Substance	Unit	MCL	MCLG	Detected Level	Range or # Exceeding AL	Potential Sources of Substance	Violation
<b>Inorganic Substances</b>							
Barium	ppm	2	0	0.070	0— 0.070	Natural Erosion	No
Chromium	ppb	100	100	2	0—2	Natural Erosion	No
Arsenic	ppb	10	0	7	0— 7	Natural Deposits	No
Nitrate	ppm	10	10	4.73	0 — 4.73	Agricultural Uses, Septic	No
Fluoride	ppm	4	4	2.03	0 — 2.03	Treatment Additive	No
Nickel	ppb	100	100	3	0—3	Natural Erosion	No
Lead (2) Tests Done in 2013	ppb	AL = 15	0	10	3 of 50 Sites Exceeded AL	Household Plumbing	No
Copper (2) Tests Done in 2013	ppm	AL = 1.3	1.3	0.223	0 of 50 Sites Exceeded AL	Household Plumbing	No
<b>Microbiologic Substances</b>							
Total Coliform	n/a	<5% Positive	0	0.001%	2 of 2165 samples	Sampling Technique	No
Turbidity	NTU	5	n/a	6.76	0.02 — 6.76	Soil Erosion	Yes*
<b>Volatile Organic Substances</b>							
Bromate	ppb	10	0	0	0	Disinfection Interaction	No
Chloroform	ppb	n/a	n/a	1.16	0— 1.16	Industrial Contamination	No
Ethylbenzene	ppb	700	700	0.82	0—0.82	Industrial Contamination	No
Total Xylenes	ppm	10	10	0.0055	0—0.0055	Industrial Contamination	No
Trichloroethylene	ppb	5	0	1.7	0—1.7	Industrial Contamination	No
Total Trihalomethanes (3)	ppb	80 Avg.	n/a	19.1 Avg.	0.67 — 46	Disinfection Interaction	No
<b>Synthetic Organic Substances</b>							
Haloacetic Acids (3)	ppb	60 Avg.	n/a	20.9 Avg.	0 — 43	Disinfection Interaction	No
<b>Radioactive Substances</b>							
Radium-228	pCi/L	5	0	1.3 ± 0.3	0—1.3 ± 0.3	Decay of Natural Deposits	No
<b>Unregulated Contaminants</b>							
Chlorate	ppb	n/a	n/a	24	24 (1 sample)	Agricultural Uses, Disinfection By-product	n/a
Chromium (total)	ppb	100	100	0.3	0.3 (1 sample)	Erosion of Natural Deposits	n/a
Hexavalent Chromium (CR-6)	ppb	n/a	n/a	0.26	0.26 (1 sample)	Erosion of Natural Deposits	n/a
Strontium	ppb	n/a	n/a	120	120 (1 sample)	Erosion of Natural Deposits	n/a
Vanadium	ppb	n/a	n/a	2.9	2.9 (sample)	Erosion of Natural Deposits	n/a

\* Finished water turbidity briefly exceeded the 5 NTU limit on 11/19/2014. The high turbidity water was collected and disposed of at the McMillin Reservoir complex. Only 7 customers closest to the Tacoma Water treatment facility were affected and were issued a Tier 1 boil water notice. No other water customers were affected by this event.

### Footnotes:

- (1) This is an aesthetic substance, which may effect taste, color, or odor, but has no known or expected health effects.
- (2) Samples required every three years. Last sampled in 2013.
- (3) Detected Level is the Running Annual Average which is used to determine compliance.

## City of Fife-2014 Water Quality Report

### Whom can I contact for more information

City of Fife - Public Works  
3725 Pacific Hwy. E.  
Fife, WA 98424  
(253) 922-9315  
(253) 922-9688 fax  
[www.cityoffife.org](http://www.cityoffife.org)

Environmental Protection Agency  
Safe Drinking Water Hotline  
(800) 426-4791  
[www.epa.gov/safewater](http://www.epa.gov/safewater)

State Department of Health  
20435 72nd Ave. South  
Suite 200, K17-12  
Kent, WA 98032-2358  
(253) 395-6750  
[www.doh.wa.gov/ehp/dw](http://www.doh.wa.gov/ehp/dw)



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# POSTAL CUSTOMER ECRWSS