



2015 Drinking Water Report

Sea Cliff Estates Water System
State ID #76880P, Pierce County



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About Your Water Quality

Washington Water Service Company (WWSC) is committed to being a leader in providing communities and customers with traditional and innovative utility services. WWSC is proud of its service record and is staffed with courteous and knowledgeable water professionals who are dedicated to meeting your needs. While we are proud of our past record, we continually strive to improve upon the quality of services we provide to you, our valued customer.

This 2015 Drinking Water Report is your annual update on the quality and safety of your drinking water. It includes the most recent water quality results through the monitoring period ending December 31, 2015, in accordance with state and federal regulations (not all testing is required every year). This report also provides access through references and telephone numbers to source water assessments, health effects information, and other water system topics. This allows you to make personal health-based decisions regarding your drinking water consumption and become more involved in decisions which may affect your health.

We hope you find this information helpful.

Your Water System

SOURCE WATER PROTECTION INFORMATION.

Drinking water comes from groundwater (wells and springs) and surface water (rivers, lakes, streams). Protecting these drinking water sources is key to sustaining safe drinking water supplies for this and future generations.

What you can do to protect source water:

- Ensure that your septic system is properly maintained.
- Use chemical fertilizers and pesticides sparingly, if at all.
- Don't dump any hazardous waste on the ground. This includes: motor oil, pesticides, paint or paint cans, mothballs, flea collars, household cleaners, medicines, etc.

Check the SWAP information for your water system:

The Washington State Department of Health Office of Drinking Water has compiled Source Water Assessment Program (SWAP) data for all community water systems in Washington.

A source water assessment includes:

- A delineation (definition) of the source water protection area,
- An inventory of potential sources of contamination, and
- A susceptibility determination (how susceptible the source is to contamination).

An interactive map with data for your water system is available at:

fortress.wa.gov/doh/eh/dw/swap/maps

WHERE DOES MY WATER COME FROM?

Your water comes from 12 wells (groundwater). The water is pumped into the system from these wells, which range in depth from 75 to 496 feet.

Chlorine is normally added at the Hoover well only, located on 17th Ave Court NW, near 160th Street NW. This is to oxidize and eliminate the naturally occurring hydrogen sulfide ("rotten eggs") odor in this source water.

Temporary continuous chlorination of pressure zone 1, which is all services located south of Point Richmond Drive NW / 128th St NW and Hallstrom Drive NW and down to 90th Street, was initiated in June 2015 and will remain in service until construction, inspections and Dept of Health approvals are complete at the top of Drummond Drive NW (new storage tank and booster pump station).

Besides chlorination in these locations, there is no other treatment on the system.



Possible Contaminants

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk.

More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at (800) 426-4791.

Common sources of drinking water — both tap and bottled water — include rivers, lakes, streams, ponds, and reservoirs (surface water), and wells and springs (groundwater). As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material. Water can also 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, parasites, 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 stormwater 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, urban stormwater runoff, and residential uses.
- **Radioactive contaminants**, which can be naturally-occurring or be the result of oil and gas production and mining activities.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.

In order to ensure that tap water is safe to drink, the Washington State Department of Health (DOH) and EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) and Washington State Department of Agriculture regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

VULNERABLE POPULATIONS

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people such as those with cancer undergoing chemotherapy, those 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 guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.

Key Definitions

Action Level (AL): The concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.

Lead and Copper 90th Percentile Value: Out of every 10 homes sampled, 9 were at or below this level. This must be less than or equal to the AL or additional steps must be taken.

Maximum Contaminant Level (MCL): The highest level of a contaminant allowed in drinking water. MCLs are set as close to the MCLGs 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. MCLGs allow for a margin of safety.

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

N/A: Not applicable

ppb: Parts per billion ($\mu\text{g/L}$, micrograms per liter)

ppm: Parts per million (mg/L , milligrams per liter)

Secondary Maximum Contaminant Level (SMCL): These standards are developed as guidelines to protect the aesthetic qualities of drinking water and are not health based.

$\mu\text{mhos/cm}$: Measure of specific conductance.

2015 Water Quality Table

Your water is tested for more than 100 contaminants for which state and federal standards have been set.

Tables 1 & 2 list all primary contaminants that were detected above the state reporting level (SRL), along with their respective MCLs. The SRL is the minimum reporting level required by DOH (each analytical parameter has an SRL). Primary standards protect public health by limiting the levels of these contaminants in drinking water.

Table 3 lists secondary contaminants of interest to many consumers, as well as any unregulated contaminant detections. Secondary contaminants have no known health effects but can affect the aesthetic properties of water (taste, odor, and appearance). Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to help EPA determine their occurrence in drinking water and potential need for future regulation.

TABLE 1: PRIMARY CONTAMINANTS

Inorganic Chemicals	Year Tested	Units	MCL	MCLG	Your Water		Violation?	Major Sources in Drinking Water
Arsenic ¹	2013–2015	ppb	10	0	< 1–4		No	Erosion of natural deposits (e.g., volcanic rock in Washington state); runoff from orchards; runoff from glass and electronics production wastes
Nitrate	2015	ppm	10	10	< 0.2–1.2		No	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Disinfectant (an additive)	Year Tested	Units	MRDL	MRDLG	Running Average	Range	Violation?	Major Sources in Drinking Water
Free Chlorine Residual ²	2015	ppm	4	4	0.02	< 0.02–0.04	No	Water additive used to eliminate hydrogen sulfide (rotten egg) odor; also to control microbes

¹ Most recent testing done, in accordance with the regulations (every 3 years).

² As measured in the distribution mains served by the chlorinated Hoover well only, located at 17th Ave Ct NW, to eliminate hydrogen sulfide (rotten egg) odor. The Hoover well is normally the only chlorinated well of the 12 wells. However, temporary continuous chlorination was placed in service in June 2015 in pressure zone 1, which is all services south of Pt Richmond Dr NW / 128th St NW and Hallstrom Dr NW and down to 90th Street. This will remain in place until construction activity is completed at the top of Drummond Dr NW (new storage tank and booster pump station). Chlorine residuals in this zone averaged 0.30 ppm from July–December 2015.

2015 Water Quality Table

(Continued)

Microbiological	Year Tested	MCL	MCLG	Highest Monthly Positives	Violation?	Major Sources in Drinking Water
Total coliform bacteria	2015	1	0	3	Yes	Naturally present in the environment
	Year Tested	MCL	MCLG	Total Positive Samples		Major Sources in Drinking Water
E. coli bacteria	2015	see footnote ³	0	3		Human and animal fecal waste

³ An Acute Coliform MCL violation (E. coli violation) occurs when a routine monthly sample and a repeat sample are total coliform positive and one of those samples is also fecal or E. coli positive.

IMPORTANT NOTE: This confirmed E. coli presence in June 2015 was isolated to the pressure zone south of Point Richmond Dr NW / 128th St NW and Hallstrom Dr NW and down to 90th Street (approx 600 homes affected). Details of the Acute Coliform MCL Violation (E. coli violation) and what was done to correct the problem were provided in notices hand-delivered to affected customers only, on 6/6/15 (boil water advisory) and 6/10/15 (boil water rescission notice). The “3” total coliform and “3” E. coli positive samples reported in Table 2 are the same three samples (all three were total coliform positive and E. coli positive), collected during routine/repeat sampling in June. All other routine monthly bacteriological samples collected elsewhere throughout the water distribution system on the original routine sample date in June, during the follow up sampling, and in all other months in 2015, were absent of any coliform bacteria.

Total coliform bacteria are naturally present in the environment, harmless to the general population, and used as an indicator that other potentially harmful bacteria *may* be present. Their presence is a warning of potential problems because disease-causing organisms may also enter the system via the same route as the coliforms. The presence of coliforms usually means that soil or vegetation has entered the system. For systems that collect <40 coliform samples per month, the MCL is one positive (unsatisfactory) monthly sample. **E. coli bacteria**, a subset of the total coliform group, are bacteria whose presence indicates that the water may be contaminated with human or animal waste. Microbes in these wastes can cause short-term effects such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, and people with severely compromised immune systems.

TABLE 2: LEAD AND COPPER

Samples are collected at customer faucets. The number of homes sampled is based on population served by the system. Specific EPA mandated criteria are used to select the homes. This testing is done every three years.

Primary Contaminants	Year Tested	Units	AL	90 th Percentile	Samples > AL	Violation?	Major Sources in Drinking Water
Copper	2015	ppm	1.3	0.49	0 of 11	No	Corrosion of household plumbing systems; erosion of natural deposits
Lead	2015	ppb	15	1	0 of 11	No	Corrosion of household plumbing systems; erosion of natural deposits

2015 Water Quality Table

(Continued)

TABLE 3: SECONDARY AND UNREGULATED CONTAMINANTS

Secondary Contaminants	Year Tested ¹	Units	SMCL	Your Water	Violation?	Major Sources in Drinking Water
Iron ²	2013–2015	ppm	0.30	< 0.10–0.32	No	Leaching from natural deposits; industrial wastes
Manganese ²	2013–2015	ppm	0.05	< 0.01–0.15	No	Leaching from natural deposits
Chloride	2013–2015	ppm	250	2–3	No	Runoff/leaching from natural deposits; seawater influence
Sodium ³	2013–2015	ppm	n/a	< 5–5	No	Erosion of natural deposits; seawater influence
Hardness ⁴	2013–2015	ppm	n/a	44–60	No	Erosion of natural deposits
Conductivity	2013–2015	µmhos/cm	700	95–132	No	Substances that form natural deposits; seawater influence
Color	2013–2015	color units	15	< 5–10	No	Naturally occurring organic materials
Unregulated Contaminants	Year Tested	Units	SMCL	Your Water	Violation?	Major Sources in Drinking Water
Lead ⁵	2013–2015	ppb	n/a	< 1	No	Corrosion of household plumbing systems; erosion of natural deposits
Copper ⁵	2013–2015	ppm	n/a	< 0.02	No	Corrosion of household plumbing systems; erosion of natural deposits

¹ Most recent testing done, in accordance with the regulations (every 3 years).

² SMCLs are guidelines only, set to control the adverse aesthetic effects that nuisance minerals like iron and manganese can cause (staining of sinks and fixtures, and dirty colored water). Ten of the 12 wells have non-detectable levels of iron (< 0.10 ppm) and 9 of the 12 wells have manganese concentrations below the SMCL of 0.05 ppm.

³ The EPA recommends 20 ppm sodium as a level of concern for consumers who must restrict their dietary intake.

⁴ When reading the hardness value, 0–75 ppm is considered “soft” water, 75–150 ppm is “moderately hard,” 150–300 ppm is “hard,” and > 300 ppm is “very hard”. To convert to grains per gallon of hardness, divide total hardness by 17.1.

⁵ Lead and copper are regulated at customer taps (see Table 2 for those results), not at the source, which is what these results represent. This is because lead and copper in drinking water do not typically come from the water source. They come from the plumbing that serves, or is inside, the customer’s home, from corrosion of lead and copper-containing plumbing or fixtures, or the lead solder that connects copper pipes.

About Lead

You may have questions about lead in drinking water as a result of the water quality crisis in Flint, Michigan. Although public officials continue to investigate what went wrong in Flint, several factors contributed to the problem:

- The City of Flint has a high number of lead service lines in its water system.
- The City switched from a treated supply of water to an untreated and corrosive supply. The lack of required corrosion treatment caused lead from service lines to get into the water.
- The City was not completely following the Environmental Protection Agency's Lead and Copper Rule.
- The City did not respond quickly to water quality concerns.

Washington Water is compliant with health and safety codes mandating use of lead-free materials in water system replacements, repairs, and new installations. We have no known lead service lines in our systems. We test and treat (if necessary) water sources to ensure that the water delivered to customer meters meets water quality standards and is not corrosive toward plumbing materials.

The water we deliver to your home meets lead standards, but what about your home's plumbing? In Washington state, lead in drinking water comes primarily from materials and components used for in-home plumbing (for example, lead solder used to join copper plumbing, and brass and other lead-containing fixtures). Therefore, the Lead and Copper Rule is a critical part of our water quality monitoring program, and we follow it completely. This rule

requires us to test water *inside* a representative number of homes that have plumbing most likely to contain lead and/or lead solder. This test, along with other water quality testing, tells us if the water is corrosive enough to cause lead from home plumbing to leach into the water. If the Action Level (the concentration of a contaminant which, when exceeded, triggers action which a water system must follow before it becomes a health concern) is exceeded, either at a customer's home or systemwide, we work with the customer to investigate the issue. If the problem is systemwide, we will implement corrosion control treatment at the source before the lead levels create a health issue.

As the crisis in Flint has made clear, if present, elevated levels of lead can cause serious health problems, especially for pregnant women and children. If your home's plumbing contains lead piping or pipe fittings, lead solder, or brass fixtures that may contain lead, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to two 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 by a lab. 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 www.epa.gov/safewater/lead.

Results of our lead monitoring program, conducted in accordance with the Lead and Copper Rule, can be found in Water Quality Tables 2 and 3.

About Monitoring Waivers

(Reduced Monitoring)

ORGANIC CHEMICALS

Drinking water sources are sampled and tested a minimum of every six to nine years for an array of organic chemicals including volatile organic chemicals (VOCs) and synthetic organic chemicals (SOCs), such as herbicides and pesticides. VOCs are byproducts of industrial processes and petroleum production and can also come from gas stations, urban stormwater runoff, and septic systems.

Sampling frequencies for these groups of organic chemicals can vary depending on the county in which your water system is located, whether the source has been granted a monitoring waiver, and whether there have been past detections of any of these organic contaminants.

Monitoring waivers are granted by the DOH and are based on a source's susceptibility rating (risk of contamination), water quality history, and information gathered from across the state.

If there were detections of organic contaminants obtained during the most recent round of compliance monitoring (2009–2015 for VOCs; 2006–2015 for SOCs), they are shown in the water quality data tables. If there are none reported in the tables, there were none detected.

RADIOACTIVE CONTAMINANTS

Drinking water sources are sampled and tested a minimum of every six years for radioactive contaminants (radium 228 and gross alpha). These contaminants can be naturally occurring or the result of oil and gas production and mining activities.

If there were any detections obtained during the most recent round of compliance monitoring (2009–2015), they are shown in the water quality data tables. If there are none reported in the tables, there were none detected.

Important Contact Information

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Thank you.

Thanks for taking the time to learn more about your water quality!

OUR WATER QUALITY COMMITMENT:

You Can Count on Washington Water Employees to...

- Provide you with the highest quality water possible
- Sample, test, and treat your water on a regular basis
- Work diligently to meet every water quality standard on every system, every day
- Maintain the water distribution system reliability
- Provide you with the highest level of customer service possible

