2013
Annual Consumer Confidence Report on the Quality of Naval Base Kitsap Bremerton Drinking Water System

This is an annual report on the quality of water delivered by the drinking water system at Naval Base Kitsap Bremerton. Under the "Consumer Confidence Reporting Rule" of the Federal Safe Drinking Water Act, community water systems are required to report this water quality information to their customers. Presented in this report is information on the source of our water, its constituents, and the health risks associated with any contaminants. Our water is safe to drink. Please read on for a full explanation of the quality of our water.

Source of our Water

Naval Base Kitsap Bremerton purchases drinking water from the City of Bremerton. Bremerton's water sources consist of surface water from the Union River Reservoir and groundwater from production wells located in Kitsap County. All sources are managed in accordance with Washington State Department of Health requirements, Environmental Protection Agency (EPA) regulations, and best management practices for water supply systems. Bremerton owns and protects the 3000 acre watershed surrounding the Union River supply. Access to the watershed is secured, patrolled, and limited to water supply and forestry management activities. Groundwater wells are also safeguarded through their wellhead protection efforts. Further information about the City of Bremerton's water system is included in the attached Drinking Water Quality report for 2014. Additional information can be found at their website at www.ci.bremerton.wa.us.

Both the Naval Base Kitsap Bremerton and City of Bremerton's water systems are operated and maintained by experienced personnel certified by the State. In 1992, the Washington State Department of Health determined the City of Bremerton's Union River water source was of such good quality the city was not required to install filtration as long as all water quality, operational, and watershed protection requirements are met. Bremerton consistently meets these quality standards. Additional treatment of the City's water by the Navy currently consists of:

- Chlorine for disinfection to control microbes that might be present in the water.
- Sodium hydroxide to reduce corrosion of lead and copper from customer plumbing.

Information from EPA

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land and through the ground, it dissolves naturally occurring minerals, and in some cases, radioactive material. It can also pick up substances resulting from the presence of animals or from human activity. These substances are referred to by the EPA as contaminants.

Contaminants that may be present in source water include:

a. Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife;
b. 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;
c. Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;
d. Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems;
e. 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, the EPA and the Washington State Department of Health prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration and Washington State Department of Agriculture regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. Insofar as the term "contaminant" refers to everything from naturally occurring minerals to synthetic organic chemicals, the mere presence of contaminants does not necessarily indicate that 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.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people such as people 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 and Centers for Disease Control and Prevention (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.

Please Note: The City of Bremerton has tested for cryptosporidium since 1994 and has never detected this organism in the source water.

Water Quality Summary

The water system uses only EPA approved laboratory methods to analyze your drinking water. Samples are drawn from designated sample sites in the distribution system by certified Water Shop personnel. Sample points are rotated on a monthly basis for Chlorine residual and biological contaminants and for other possible contaminants sample locations are determined by the specific regulatory agency. All samples are then transported to an accredited laboratory where a full spectrum of water quality analyses is performed for the parameters listed below. Sample collection is conducted both by the City of Bremerton and Navy personnel on the NBK water systems.

Naval Base Kitsap Bremerton Sampling Schedule	
Parameters	**Frequency**
Coliform Monitoring[1]	Monthly
Chlorine Residual	Monthly
Lead and Copper	Every 3 years
Total Trihalomethane (THM)	Quarterly
Halo-Acetic Acids (HAA5)	Quarterly

[1] Contaminants in this group include total coliform, fecal coliform, and heterotrophic bacteria.

Detected Contaminants

The City of Bremerton tests for over 50 inorganic and organic compounds in the source water. Compounds detected in the City of Bremerton's source water during 2013 met all the protective standards set by federal and state agencies. Please refer to the attached City of Bremerton Drinking Water Quality report for 2014 for complete test results.

The table below shows the latest test results from the Navy's water testing on the NBK Bremerton water system but only displays contaminates that resulted in detection. All other test results were below the lab's detection limits, therefore below the applicable regulatory levels.

Contaminants Sampled on the NBK Bremerton Distribution System					
Parameter	**Highest Level allowed (EPA's MCL)**	**Ideal Goal (EPA's MCLG)**	**Highest Level Detected**	**Meets Standard**	**Potential Sources**
Copper	1.3 ppm Action Level	1.3 ppm	0.10 ppm (90th percentile) 2012	yes	Corrosion of building plumbing system
Lead	15 ppm Action Level	0	4.5 ppm (90th percentile) 2012	yes	Corrosion of building plumbing system
Total Trihalomethanes	80 ppb	N/A	50.24 ug/L average of 4 quarters results	Yes	Byproduct of the drinking water disinfection process

2013
Annual Consumer Confidence Report on the Quality of Naval Base Kitsap Bremerton Drinking Water System

Parameter	Highest Level allowed (EPA's MCL)	Ideal Goal (EPA's MCLG)	Highest Level Detected	Meets Standard	Potential Sources
Halo-Acetic Acids	60 ppb	N/A	24.32 ug/L average of 4 quarters results	Yes	Byproduct of the drinking water disinfection process

[1] Action level for lead/copper samples is based on a 90th percentile. This is a statistical ranking designation that represents 90 percent of the samples were less than the value shown.

Definitions and Abbreviations

To gain a better understanding of the content of this report, several key terms and abbreviations should be defined. These are as follows:

AL (Action Level) – The concentration of a contaminant, which, if exceeded, triggers treatment techniques or other requirements, which must be followed.

Level Detected – Laboratory analytical result for a contaminant; this value is evaluated against an MCL or AL to determine compliance.

MCL (Maximum Contaminant Level) – The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology. Under the Safe Drinking Water Act, the EPA establishes these MCLs for compliance purposes.

MCLG (Maximum Contaminant Level Goal) – 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.

N/A – Not Applicable

ND – Not Detected. The compound was not detected above the Lab's Method Detection Limit

NTU - Nephelometric Turbidity Unit is a measurement of water clarity.

ppb – 1 part per billion (equivalent to one penny in $10,000,000 and the same as a **ug/L** (microgram per liter)).

ppm – 1 part per million (equivalent to one penny in $10,000).

ppt – 1 part per trillion (equivalent to one penny in $10,000,000,000).

pCi/l – stands for picocuries per liter. A curie is a unit of radioactivity regarding the rate disintegration.

Range – Represents the end values recorded from the highest and lowest analytical results of a reported contaminant.

Treatment Technique – A required process intended to reduce the level of a contaminant in drinking water.

Public Involvement

Drinking water system information can be obtained by contacting the Naval Base Kitsap Public Affairs Office, at 360-627-4031.

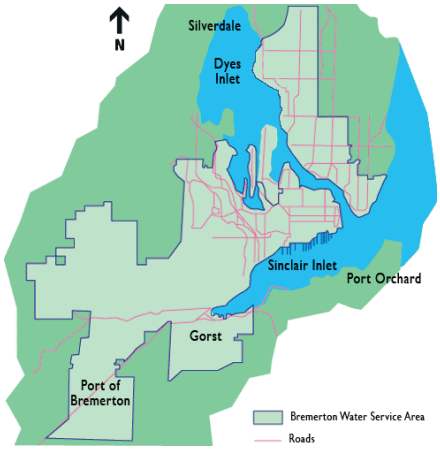
City of Bremerton
Drinking Water Quality Report 2014

Bremerton Drinking Water Quality is Excellent

The City of Bremerton Water Utility is pleased to provide you with its annual water quality and efficiency report. Bremerton is committed to safeguarding its surface and groundwater sources. This brochure is a summary of the test results for water provided to over 50,000 customers last year. It reflects the commitment of Water Utility employees to deliver you excellent quality water. Included are details about:

- where your water comes from,
- what it contains, and
- how it compares to standards set by regulatory agencies.

Safe drinking water is essential. Citizens need to be well-informed to wisely utilize water resources and to support the improvements necessary to maintain high quality drinking water.



Protecting Our Water Supplies

Bremerton is fortunate to have well-protected water supplies. Surface water from the Union River headwaters and groundwater from production wells located in the Bremerton area provide the supply for Bremerton's water. All sources are managed in accordance with Washington State Department of Health requirements, Federal Environmental Protection Agency (EPA) regulations, and best management practices for water supply systems. Bremerton owns and protects the 3,000-acre watershed surrounding the Union River supply - this is a great value to our rate payers. Access to the watershed is secured, patrolled, and limited to water supply and forestry management activities. Each year the Washington State Department of Health inspects the surface supply. Groundwater wells are also safeguarded through efforts to protect critical areas around the wellheads. All water facilities are monitored and patrolled.

Bremerton Water Needs Minimal Treatment

Bremerton's water system is operated and maintained by experienced personnel certified by the State. The Washington State Department of Health determined Bremerton's Union River water source to be of such good quality that the City is not required to install a filtration facility as long as all water quality, operational, and watershed protection requirements are met. Bremerton consistently meets these quality standards. Treatment of Bremerton's water currently consists of disinfection (chlorine and ultraviolet light) and corrosion control. Corrosion treatment increases the pH of water and is required to prevent Bremerton's water from leaching lead from customer's household plumbing. Sampling results confirm this treatment is successful in achieving corrosion control.

The City of Bremerton performs systematic flushing of the water distribution system. Customers are notified about flushing through newspaper ads, neighborhood signs, the City's website, e-News, and the Water Hotline (360-473-5490). Flushing is a process of sending a rapid flow of water through the mains to clean them. This helps to maintain water quality by removing naturally-occurring sediment. Flushing may cause temporary discoloration of your water. While this discoloration may be unpleasant, it is not harmful. If this happens, call the Water Hotline or visit Bremerton's website for instructions on flushing your service. If your water does not clear up after the flushing process, please call the Customer Response Line at 360-473-5920.

Water Quality Summary

Your drinking water is regularly tested in accordance with all federal and state regulations for over 50 substances in both the water sources and the distribution system. Last year the City of Bremerton conducted over 1,000 tests for the parameters listed below. Only those detected are listed in the water quality summary.

SAMPLING SCHEDULE			
Parameter	**Frequency**	**Parameter**	**Frequency**
Chlorine residual	Continuous monitoring	Giardia/Cryptosporidium	Quarterly
Turbidity	Continuous monitoring	Nitrate	Annually
pH	Continuous monitoring	Inorganic chemicals	Every 3 years
Total coliform bacteria	Weekly	Volatile organic compounds	Every 3 years
Disinfection by-products	Quarterly	Radionuclides	Every 6 years

Listed below are the few substances detected in Bremerton's water last year. All results meet protective standards set by federal and state agencies. Not listed are the substances that were tested but NOT detected. The amounts allowed in drinking water are so small, they are measured in parts per million or parts per billion. We have tried to make this report easy to understand; however, drinking water quality issues can be complex and technical. For additional water quality information, please call 360-473-5920.

SUBSTANCES DETECTED						
Parameter	**Highest Level Allowed** EPA's MCL	**Ideal Goals** EPA's MCLG	**Potential Sources**	**Highest Level Detected in 2013** to Determine Compliance	**Ranges of Levels Detected in 2013**	**Meets Standards**
Regulated at the Surface Water Source						
Turbidity	Treatment Technique 5 NTU	N/A	Soil runoff	1.26 NTUs	0.37 - 1.26 NTUs	Yes
Sodium	No limit set	N/A	Naturally-occurring	5.73 ppm	ND - 5.73 ppm	Yes
Regulated at the Groundwater Sources						
Arsenic	10 ppb	0	Erosion of natural deposits	4 ppb	ND - 4 ppb	Yes
Radium 228 Most recently sampled in 2009	5 pCi/l	0	Erosion of natural deposits	1.6	ND - 1.6	Yes
Sodium	No limit set	N/A	Naturally-occurring	7.39 ppm	5.92 - 7.39 ppm	Yes
Regulated in the Distribution System						
Total Coliform	Presence of coliform in less than 5% of monthly samples	0	Naturally-occurring	863 samples were taken in 2013 and only two had coliform present.		Yes
Trihalomethanes	80 ppb	N/A	By-product of drinking water chlorination	62 ppb locational running annual average	36 - 70 ppb	Yes
Haloacetic acids	60 ppb	N/A	By-product of drinking water chlorination	40 ppb locational running annual average	ND - 59 ppb	Yes
Chlorine	4 ppm	4 ppm	Water additive used to control microbes	0.63 ppm annual average	ND - 1.43 ppm	Yes
Regulated at the Customer Tap						
Lead Most recently sampled in 2011	Action Level = 15 ppb	0	Household plumbing	3 ppb 90th percentile	One sample site exceeded Action Level	Yes
Copper Most recently sampled in 2011	Action Level = 1300 ppb	0	Household plumbing	40 ppb 90th percentile	No sample sites exceeded Action Level	Yes

Action Level is the concentration of contaminant that, if exceeded, triggers treatment or other requirements a water system must follow. Ninety percent (90%) of all samples must be below this amount.
MCL (Maximum Contaminant Level) is the highest level of a contaminant that is allowed in drinking water.MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
MCLG (Maximum Contaminant Level Goal) is the level of a contaminant in drinking water below which no known or expected risk to health exists. MCLGs allow for a margin of safety.
MRDL (Maximum Residual Disinfectant Level) is the highest level of a disinfectant allowed in water.
MRDLG (Maximum Residual Disinfectant Level Goal) is the level of a drinking water disinfectant below which no known or expected risk to health exists.
pCi/l stands for picocuries per liter. This is in parts per trillion.
ppb is parts per billion and is the same as a microgram per liter (ug/L) (equivalent to one penny in $10,000,000).
ppm is parts per million and is the same as a milligram per liter (mg/L) (equivalent to one penny in $10,000).
N/A means not applicable.
ND means the laboratory did not detect this substance.
NTU (Nephelometric Turbidity Unit) is the measurement of water clarity. Monitoring turbidity is a good indicator of water quality.
Treatment Technique is a required process intended to reduce the level of a contaminant. Bremerton's surface supply is shut off when turbidity increases above set points.

Information From EPA

Sources of both tap and bottled drinking water include rivers, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring substances such as minerals and radioactive materials. It also dissolves substances resulting from animal or human activity. Contaminants that may be present in source water are microbes; pesticides; herbicides; and radioactive, organic and inorganic chemicals. To ensure tap water is safe to drink, the Environmental Protection Agency (EPA) and the Washington State Board of Health regulate the amount of certain contaminants in public drinking water.

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 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 1-800-426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons, such as those 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 guidelines on appropriate means to lessen risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791. Please note that *Cryptosporidium* was not detected in Bremerton's source water last year and Bremerton's ultraviolet treatment inactivates *Cryptosporidium*.

EPA-Required Unregulated Contaminant Monitoring Rule

The City of Bremerton and other large water systems throughout the United States are required by the EPA to periodically test for substances that are currently not regulated. This requirement is called the Unregulated Contaminant Monitoring Rule and we are currently participating in Round 3 (UCMR 3). These parameters do not yet have drinking water standards and the results of this nationwide monitoring will help EPA decide which parameters should have a set health standard. In 2013, Bremerton sampled 28 substances. None of the organic parameters were detected, however, a few inorganic substances were detected at very low levels (parts per billion) as described below.

UCMR RESULTS			
Parameter	**Average Level Detected** ppb	**Range of Levels Detected** ppb	**Potential Sources**
Chlorate	139	ND - 224	By-product of the drinking water disinfection process
Hexavalent Chromium	0.267	ND - 0.724	Naturally-occurring
Strontium	35	14 - 75	Naturally-occurring
Vanadium	0.9	0.2 - 2.3	Naturally-occurring

Professional Water Organizations

The City of Bremerton is proud to be members of the following professional water organizations:

American Water Works Association

Alliance for Water Efficiency MEMBER

look for WaterSense Meets EPA Criteria

PARTNERSHIP for water

WaterPAK Resource • Conservation • Education

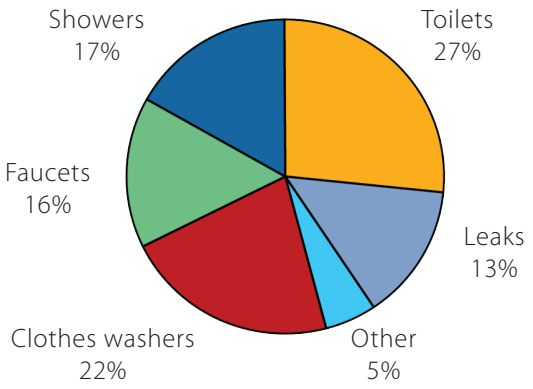
Water Use Efficiency Performance Report for 2013

Efficient water use benefits the environment, public health, and economy by helping to improve water quality, maintain aquatic ecosystems, and protect water resources. The City of Bremerton has emphasized water use efficiency since the 1990's. The City has a customer conservation program and is active in water use efficiency programs such as the Water Purveyors Association of Kitsap County, the Partnership for Water Conservation, the Alliance for Water Efficiency and EPA's WaterSense.

2013 Total Annual Water Production—6.0 Million Gallons per Day

Bremerton's Main System Water Use Efficiency	
Goal	**How Goal Was Met Last Year**
Maintain water use per single family residence to below 180 gallons per day on a three year average.	Three year average water use per single family residence was 145 gallons per day. Goal was met. Great job by our customers!
State Regulation	**How Regulation Was Met Last Year**
Keep distribution system leakage less than 10% on a three year average.	Bremerton Water System leakage was 5.2% on a three year average.

Average Residential Indoor Water Use



Source: American Water Works Association Research Foundation, "Residential End Uses of Water"

How to Use Water Wisely

Bremerton's water supplies are dependent on rainfall to fill the reservoir and feed underground aquifers. Wise water use is always recommended and your conservation efforts are important. Improve your home's water efficiency — use water wisely to save money and this remarkable resource.

Tackle the biggest water guzzlers first!

- *Install high efficiency low flow toilets.*
- *Consider purchasing a water/energy efficient clothes washer/dishwasher.*
- *Repair leaky toilets and faucets.*
- *Use water-saving habits such as washing full loads only. Turn off the faucet when you shave or brush your teeth, and take shorter showers.*
- *Install low flow showerheads.*
- *Look for the WaterSense label on new plumbing fixtures.*

Nearly ⅓ of the water demand in the summer is used outdoors.

- *Water late in the evening or early in the morning.*
- *Consider drought tolerant plants and native plants in your landscape.*
- *Use soaker hoses or install drip irrigation.*
- *Repair broken irrigation system sprinkler heads.*
- *Water lawns no more than 1 inch per week using a shallow can to measure.*
- *Install a rainwater collection barrel.*
- *Wash your car in a commercial car wash that recycles.*

Bremerton Water is a Great Value

Your water rates pay for delivering high-quality water to your tap and keeping the water system in top condition. City customers pay water rates among the lowest in Washington State and nationwide. We are able to keep rates low through ownership of the watershed, conscientious system operation and maintenance, and award of ARRA funding for our Advanced Disinfection facility completed in 2011.

Customer's Views Welcome

Public Works & Utilities Department
100 Oyster Bay Avenue N • Bremerton, WA 98312

Please call Customer Response at 360-473-5920 or e-mail **Bremerton1@ci.bremerton.wa.us** with any questions.

The Bremerton City Council meets Wednesdays at 5:30 p.m. at the Norm Dicks Govt Center, 345 6th Street, Bremerton.

For billing information call 360-473-5316.
For flushing instructions call our Water Hotline at 360-473-5490.

Visit the City's website at **www.ci.bremerton.wa.us** and sign up for e-News to receive updates about the City of Bremerton.

Tap into Goodness

Celebrate National Drinking Water Week
First Full Week of May

Call 360-473-5920 for more information.