



## PANORAMIC HEIGHTS WATER DISTRICT WATER QUALITY REPORT FOR 2008 (DOH #02890F)

Dear Water Customer:

We're pleased to provide you with this year's Annual Water Quality Report. We want to keep you informed about the excellent water and services you have been receiving over the past year. Our goal is and always has been, to provide to you a safe and dependable supply of drinking water. *Informed customers are our best allies in maintaining safe drinking water!*

We encourage public interest and participation in our community's decisions affecting drinking water. Regular meetings with the District's Board of Commissioners are held each Monday at our Port Angeles office (2431 Highway 101 East) at 1:30 p.m. The public is welcome. You may also learn more about PUD #1 of Clallam County by contacting our website at [www.clallampud.net](http://www.clallampud.net), or by calling 360-452-9771 or toll free at 1-800-542-7859.

### **WATER SYSTEM INFORMATION**

**Water Source and Treatment:** Panoramic Heights Water District is supplied groundwater pumped from a single well to an 18,000-gallon reservoir. The water is chlorinated prior to entering the reservoir, after which it is available upon demand.

Water quality testing and monitoring of this water system is completed daily by certified District personnel. *We are pleased to report that the water provided by the District meets or exceeds established water quality standards.*

**Water Quality Data:** Most of the contaminants that we sample for were not detected (ND). The Water Quality Data Table shows only those contaminants that were detected. None of these contaminants exceeded Water Quality Standards. Most of the data presented in the Water-Quality Data Table is from testing completed in 2008, per State law. We monitor for some contaminants less than once per year, and for those contaminants, the date of the last sample is shown in the table. All monitoring results of regulated and unregulated contaminants are available at our Port Angeles office.

#### **Water Quality Data Table Definitions:**

**Maximum Contaminant Level or MCL:** 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.

**Maximum Contaminant Level Goal or 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 or 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 or 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 contamination.

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

**Action Level or AL:** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

**Variances and Exemptions:** State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

**Key to the Water Quality Data Table:**

AL	= Action Level	NA / ND	= Not Applicable / Not Detectable
MCL	= Maximum Contaminant Level	pCi/L	= picocuries per liter (a measure of radioactivity)
MCLG	= Maximum Contaminant Level Goal	ppm	= parts per million, or milligrams per liter (mg/l)
MFL	= million fibers per liter	ppb	= parts per billion, or micrograms per liter (µg/l)
mrem/year	= millirems per year (a measure of radiation absorbed by the body)	ppt	= parts per trillion, or nanograms per liter
NTU	= Nephelometric Turbidity Units	ppq	= parts per quadrillion, or picograms per liter
		TT	= Treatment Technique

**Regulated Water Quality Data Table:**

Contaminant	Sample Date	Unit	MCL	MCLG	Detected Level	Range	Violation	Major Sources
<b>Inorganic Contaminants</b>								
Lead	7/31/08	ppb	AL=15	0	ND	NA	NO	Corrosion of household plumbing systems; erosion of natural deposits.
Copper	7/31/08	ppm	AL=1.3	1.3	0.0065	NA	NO	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
<b>Disinfection Byproducts (DBPs)</b>								
Total Trihalomethanes	8/2/07	ppb	80	N/A	13.6	0-80	NO	By product of drinking water chlorination.
Halo-Acetic Acids [HAA5]	8/2/07	ppb	60	N/A	3.1	0-60	NO	By product of drinking water chlorination.

**Water Quality Table Footnotes:** Lead and Copper monitoring requirements have been reduced to five water samples (from inside household taps) every three years due to consistently lower detection levels since testing began in 1998. Detected levels listed above are the 90<sup>th</sup> percentile value of samples taken which is an average of the two highest sample results. Samples are scheduled next for 2011.

If you have questions about the potential health effects of lead or copper in drinking water, please visit the Washington State Department of Health's Office of Drinking Water website at <http://www.doh.wa.gov/ehp/dw/> and select a contaminant for detailed information. Additional information on Lead and Copper in Drinking Water is also enclosed.

**Other Test Results:**

**Chlorine Residual:** Chlorine is used as a disinfectant in the water treatment process, and should be detectable in at least 95% of the samples taken each month. All of the samples taken for this water system showed a chlorine residual.

**Total Coliform Bacteria:** Zero Coliform Bacteria were detected in the monthly samples collected. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present.

**Hardness:** Calcium and Magnesium are naturally occurring minerals in groundwater. These minerals are measured to determine water hardness. Hardness interferes with the sudsing action of soap. According to the U.S. Geological Survey, the scale of hardness is: 0-55 mg/l = Soft; 55-100 mg/l = Slightly Hard; 100-200 mg/l = Moderately Hard; >200 mg/l = Very Hard. Hardness for this system (from sample taken in April 2008) showed

19.9 mg/l. Appliance manufacturers convert this number into Grains per Gallon by dividing it by 17.1 (e.g.,  $19.9 \text{ mg/l} / 17.1 = 1.16 \text{ Grains per Gallon}$ ).

**Fluoride:** The District does not add fluoride to this water system. Fluoride is a natural substance found in varying degrees in almost all water supplies. Fluoride was not detected in this water system during the last inorganic test.

**Additional Health Information:** As previously mentioned, the EPA regulates the amount of certain contaminants in the water that is provided by public water systems. However, FDA regulations were established to limit the 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. 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 (1.800.426.4791).

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 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.

Washington's Source Water Assessment Program is conducted by the Department of Health (DOH) Office of Drinking Water. According to DOH, this well source has been given a susceptibility rating of "moderate."

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 storm 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, storm water runoff, and residential uses.
- (D) *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 and septic systems.
- (E) *Radioactive contaminants*, which can be naturally occurring or be the result of oil and gas production and mining activities.

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 guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from EPA's Safe Drinking Water Hotline (1.800.426.4791).

**Variances and Exemptions:** Because this water system contains less than 10% asbestos cement pipe, in May 1999 the DOH granted a waiver from monitoring for asbestos through 2010.

**Partners in Conservation:** Water is essential to every dimension of life. Yet less than 1 percent of the Earth's water supply is fit and available for human consumption. As demand for water continues to increase, every drop of water is becoming more important than ever before.

The Washington State Department of Health recently adopted a rule that establishes water use efficiency (WUE) requirements for all municipal water suppliers. Water use efficiency will help us conserve water for the

environment and future generations. It will also enhance public health by improving water system efficiency and reliability.

A few primary elements of this rule include improving operational efficiency; evaluating and reporting water production and usage; and reducing water leaks both on the distribution side and the customer side of the water system. The table below lists production amounts vs. purchased/authorized usage and the percentage difference of the unaccounted-for or probable system leakage. The goal is to account for a minimum of 90% of water produced.

<b>Distribution System Leakage Summary</b> (in millions of gallons: 1 cubic foot = 7.48 gallons)	
Total Water Produced – Annual Volume	1.1
Total Water Purchased and Authorized Usage – Annual Volume	0.8
Distribution Unaccounted-for or System Leakage – Percent	31%

All new water meters were installed in this water district during February and March of 2008. The new water meters have a leak-detection dial on the meter face that detects very low flows that could help determine if there is a leak on the customer side of the meter. In a system of this size, even a small leak can increase the unaccounted-for percentage a significant amount. Together we can reduce this percentage to 10% or less, and save water in the process! Here are some tips to work towards this goal and to be more water efficient:

- If you see an odd wet spot in a normally dry area, call the PUD.
- Someone other than the Fire Dept. or PUD using a fire hydrant, call the PUD.
- Check for leaks on your side of the meter and monitor your water bill.
- Ask your local nursery about landscaping with native plants.
- For deep root and drought tolerance, water your plants deeply, but less often.
- Replace old water appliances with Energy Star appliances – get a PUD REBATE: [www.clallampud.net](http://www.clallampud.net).
- Water wasted is water lost. For more information, go to these web-sites: [www.wateruseitwisely.com](http://www.wateruseitwisely.com) and [www.h2ouse.org](http://www.h2ouse.org).

**Abbreviated Terms Used in This Report** (alphabetical order):

AIDS: Acquired Immune Deficiency Syndrome	FDA: Food and Drug Administration
CDC: Centers for Disease Control	HIV: Human Immuno-Deficiency Virus
DOH: (Washington State) Department of Health	MGD: Million Gallons per Day
EPA: Environmental Protection Agency	WUE: Water Use Efficiency

No matter how we grow, we continually strive to fulfill our mission:

***To provide reliable, efficient, safe, and low cost utility services in a financially and environmentally responsible manner.***

For more information or questions regarding this report, please call PUD #1 of Clallam County at 360.565.3254.



## **LEAD and COPPER in DRINKING WATER**

### **Important Information on How to Protect Your Health**

#### **LEAD HEALTH EFFECTS**

Lead is a common metal that has been in many consumer products but is now known to be harmful to human health if ingested or inhaled, primarily for pregnant women and young children. It can be found in lead-based paint, air, soil, household dust, food, some types of pottery, and drinking water. Lead is rarely found in natural sources of water such as rivers and lakes or underground aquifers.

When people come in contact with lead, it may enter their bodies and accumulate over time, resulting in damage to the brain, nervous system, red blood cells, and kidneys. Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities.

Lead in water can be a special problem for pregnant women and infants. An infant's diet may be mostly liquids, such as baby formulas or concentrated juices mixed with water. Smaller bodies can absorb more rapidly than bigger ones, so amounts of lead that won't hurt an adult can be very harmful to a child. Adults who drink this water over many years could develop kidney problems or high blood pressure.

#### **COPPER HEALTH EFFECTS**

Copper is a reddish metal that occurs naturally in rock, soil, water, sediment, and air. It has many practical uses in our society and is commonly found in coins, electrical wiring, and pipes. It is an essential element for living organisms, including humans, and – in small amounts – necessary in our diet to ensure good health. However, some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience adverse health effects, including vomiting, diarrhea, stomach cramps, and nausea. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage.

The human body has a natural mechanism for maintaining the proper level of copper in it. However, children under one year old have not yet developed this mechanism and, as a result, are more vulnerable to the toxic effects of copper. People with Wilson's disease also have a problem with maintaining the proper balance and should also exercise particular care in limiting exposure to copper. People with Wilson's disease should consult their physician.

#### **HOW TO REDUCE YOUR EXPOSURE**

Lead may work its way into drinking water after the water has left the treatment plant and is on its way to people's faucets. This usually happens through the corrosion of materials containing lead in household plumbing. These materials include brass faucets, lead solder on copper

pipes, lead pipes, or lead service lines connecting the water main to the inside plumbing. Lead pipes installed for service lines or in household plumbing, and lead solder have been outlawed since 1986.

The amount of lead allowed in brass faucets has also been limited, but can still contribute some lead to drinking water (note that many faucets are made of brass even if they do not have a “brass” color). Even with these restrictions in place, some homes – especially older homes – may still have significant amounts of lead in their plumbing systems.

Copper works its way into the water by dissolving from copper pipes in the household plumbing. The longer the water has stood idle in the pipes, the more copper it is likely to have absorbed. Newer homes with copper pipes may be more likely to have a problem. Over time, a coating forms on the inside of the pipes and can insulate the water from the copper in the pipes. In newer homes, this coating has not yet had a chance to develop. Thus, anytime the water has not been used for more than 6 hours – overnight, for example, or during the day when people are gone to work or school – it should be cleared from the pipes before being used for drinking or cooking.

Let the cold water faucet run until you can feel the water getting colder, usually 30 to 60 seconds. The amount of time it takes will depend on your home and how its plumbing is arranged. If your home has a lead service line (which is unlikely in this area), you should flush water for an additional 2 minutes to make sure you are getting fresh water from the water main. This must be done before taking drinking water from any faucet in the house.

Other household water uses will also help clear standing water from your home’s plumbing. For example, you may want to establish a routine of doing household tasks that use water – such as showering, flushing the toilet, or running the dishwasher – first thing in the morning before using water for drinking or cooking. Keep in mind that you’ll still need to flush individual faucets for a short time before using them for drinking water.

Hot water dissolves lead/copper more quickly than cold water so don’t use water from your hot water faucet for cooking or drinking. If you need hot water for cooking or drinking, take water from the cold tap and heat it. It is especially important not to use the hot water for making baby formula.

Some treatment devices can reduce the amount of lead in your drinking water. Reverse-osmosis and distillation units can be used for that purpose. A few types of water filters also remove lead. Check the product literature to be sure it has been certified for lead removal by National Sanitation Foundation (NSF) International (<http://nsf.org>). Also, you must follow the manufacturer’s recommendations for operation and maintenance to ensure that the treatment equipment works correctly.

The water you run from drinking water taps does not have to be wasted. You can use this water for cleaning purposes or for watering plants. You may want to keep a container of drinking water in your refrigerator, so you don’t have to run water every time you need it.

For additional information on lead in your drinking water go to the Environmental Protection Agency (EPA) website (<http://www.epa.gov/oppt/lead/pubs/leadrev.pdf>), or contact the PUD Water Department at 360.565.3254 or 1-800-542-7859.