

LANDLORDS

You are legally responsible to provide this water quality information to your renters. Please provide them with a copy – additional copies are available upon request. Thank you.

RIVERWOOD WATER ASSOCIATION

Public Water System #73032 7 – Kettle Falls, Washington

2016 Consumer Confidence Report

This annual report is designed for consumers of drinking water within the Riverwood Water Association (RWA), and provides information about the quality, source, and potential health effects of contaminants in our local and source water systems. This report conforms to the Federal regulation, contained within the Safe Drinking Water Act, which requires that this information be provided annually. This report contains a summary of the water quality test results from the RWA source water and distribution system. The data contained in this report was collected during or prior to 2015.

DEFINITIONS

The following definitions may be used in this report:

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.)

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.)

AL – *Action Level* (The level of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.)

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

mg/L – *milligrams per liter* (This unit is equivalent to measurements in parts per million.)

ug/L – *micrograms per liter* (This unit is equivalent to measurements in parts per billion.)

pCi/L – *picoCuries per liter* (A measurement of radioactivity.)

SOURCE WATER

The source water for RWA is supplied by two wells drilled 40 and 45 feet into an underground source of water, or aquifer. The two wells together are referred to as the well field (SO3). SO3 is located on the right side of Columbia Drive, just beyond the pavement end, and are situated at the collection area that feeds a small stream. RWA restricts any activity that could potentially contaminate this source. The water pumped from SO3 is blended together before being delivered to your homes.

The water from the well field is slightly acidic, requiring the use of a limestone contactor system to reduce the pH of the source water. The blended waters from the two wells pass through this system before entering the distribution system. By percolating the water through a crushed limestone media, the pH of the water is raised to a neutral or slightly basic level. This prevents the leaching of lead and copper from household plumbing into the water, which has occurred historically in this system as a result of the acidic water.

Some users have noticed that the water leaves a white film on surfaces, such as

windows, dishes, and glassware. Since limestone is primarily composed of calcium carbonate, and the water gains calcium from the treatment media. When the water dries on a surface, the calcium is left behind, creating a film.

To prevent this, consider using a rinsing agent in the dishwasher, or towel-drying dishes immediately instead of letting them air dry. Use a cloth or a squeegee to dry windows or other surfaces. Users may also wish to install a water softener, which can remove the calcium, but should realize that the pH of the water could revert to its acidic state, and create a potential for damage to copper pipes.

Source water tests are mandated by the Washington State Department of Health (DOH) to monitor the quality of the RWA source water. This provides information on the quality of the water that is being pumped from the aquifer. Further information about the RWA source water can be found in the source water assessment, on file with the Department of Health and Alpine Environmental. The assessment

evaluates the potential risk of contamination that may be posed by activities or conditions in the area. For a copy of this information, contact Alpine Environmental at the numbers listed at the end of this report.

DELIVERED WATER

RWA is required to test for contaminants throughout the distribution system. Samples are collected from at least three residences throughout the system to satisfy the DOH sampling recommendations and to best represent the conditions existing in the system. At least one water sample per month is analyzed for the presence of coliform bacteria. In 2015, coliform bacteria were **not detected** in any of the samples collected from the system.

Lead and copper testing is required every three years, with samples collected from homes throughout the system after the water has stood in the pipes for at least six hours. The table below summarizes the most recent lead and copper sampling results.

Substance Analyzed	Dates Collected	Contaminant Level	AL	MCLG	Unit of Measure	Passed
Lead (8 Arrow Ct)	6/5/13	No Detect	15	0	ug/L	Yes
Lead (21 Columbia Dr)	6/5/13	No Detect	15	0	ug/L	Yes
Lead (51 Columbia Dr)	6/5/13	No Detect	15	0	ug/L	Yes
Lead (54 Columbia Dr)	6/5/13	No Detect	15	0	ug/L	Yes
Lead (5 Riverwood Cir)	6/5/13	No Detect	15	0	ug/L	Yes
Copper (8 Arrow Ct)	6/5/13	0.01	1.3	1.3	mg/L	Yes
Copper (21 Columbia Dr)	6/5/13	0.004	1.3	1.3	mg/L	Yes
Copper (51 Columbia Dr)	6/5/13	0.04	1.3	1.3	mg/L	Yes
Copper (54 Columbia Dr)	6/5/13	0.01	1.3	1.3	mg/L	Yes
Copper (5 Riverwood Cir)	6/5/13	0.002	1.3	1.3	mg/L	Yes

SOURCE WATER TESTING SUMMARY

The following tests were performed on the RWA source water in or prior to 2015. These samples were collected from a sampling tap at the pump house, and represent the water served from the source.

Substance Analyzed	Date Collected	Detected Level	MCL	MCLG	Unit of Measure	Passed
Inorganic Chemicals (IOC) – primary contaminants with health effects						
Nitrate	6/7/15	No Detect	10	10	mg/L	Yes
Nitrite	6/23/10	No Detect	1	1	mg/L	Yes
Arsenic	6/23/10	No Detect	10	0	ug/L	Yes
Barium	6/23/10	0.01	2	2	mg/L	Yes
Cadmium	6/23/10	No Detect	5	5	ug/L	Yes
Chromium	6/23/10	3.55	100	100	ug/L	Yes
Mercury	6/23/10	No Detect	2	2	ug/L	Yes
Selenium	6/23/10	No Detect	50	50	ug/L	Yes
Beryllium	6/23/10	No Detect	4	4	ug/L	Yes
Nickel	6/23/10	No Detect	100	100	ug/L	Yes
Antimony	6/23/10	No Detect	6	6	ug/L	Yes
Thallium	6/23/10	No Detect	2	0.5	ug/L	Yes
Cyanide	6/23/10	No Detect	200	200	ug/L	Yes
Fluoride	6/23/10	No Detect	4	4	mg/L	Yes
Inorganic Chemicals (IOC) – secondary contaminants with taste, odor, color effects						
Iron	6/23/10	324	300	N/A	ug/L	Yes
Manganese	6/23/10	2.92	50	N/A	ug/L	Yes
Silver	6/23/10	No Detect	100	N/A	ug/L	Yes
Chloride	6/23/10	0.46	250	N/A	mg/L	Yes
Sulfate	6/23/10	5.16	250	N/A	mg/L	Yes
Zinc	6/23/10	0.01	5	N/A	mg/L	Yes
Hardness	6/23/10	70.5	N/A	N/A	mg/L	Yes
Volatile Organic Chemicals (VOC) – includes petroleum products and other chemicals						
All VOCs (62 contaminants tested)	5/1/06	No Detect	Varies	Varies	--	Yes
Synthetic Organic Chemicals (SOC) – includes pesticides and herbicides						
All SOC's (17 contaminants tested)	6/11/12	No Detect	Varies	Varies	--	Yes

Radioactivity						
Radium	5/11/15	0.44	5	0	pCi/L	Yes
Gross alpha particles	5/11/15	No Detect	5	0	pCi/L	Yes

WATER QUALITY PARAMETERS

As a measure of the limestone contactor system's effectiveness, RWA is also required to test for pH, calcium, and alkalinity in the waters after treatment has occurred. These samples are used to confirm monthly readings that are taken at the pump house. The following table summarizes the results these tests for 2015.

Water Quality Parameters – monitors effectiveness of pH treatment						
Substance Analyzed	Date Collected	Detected Level		Upper Limit	Unit of Measure	Passed
Alkalinity (2 samples)	5/13/15	126	126	150	mg/L	Yes
Calcium (2 samples)	5/13/15	33.6	33.9	37	mg/L	Yes
pH (2 samples)	5/13/15	7.96	7.89	7.7	pH units	No
Alkalinity (2 samples)	10/11/15	136	134	150	mg/L	Yes
Calcium (2 samples)	10/11/15	39.6	34.3	37	mg/L	No
pH (2 samples)	10/11/15	7.75	7.59	7.7	pH units	No

WHAT DOES “NO DETECT” MEAN?

Many of the contaminants listed in the results tables show an analytical result of “No Detect.” This does not mean that the contaminant was not present in the water, but that the concentration, if any, was undetectable with the analytical methods used.

Some contaminants can have serious health implications if they are ingested in high quantities or over long periods of time. The table below provides information on those contaminants with potential health effects that were detected in your drinking water during or prior to 2014. While these contaminants were detected, they were at levels below the allowable limits set by the state, and therefore should not pose a health risk to most individuals. Your doctor can provide more information about any special concerns you may have regarding your drinking water and its effects on your health.

Contaminant	Known or likely source	Potential health effects
Barium	Erosion of natural deposits; discharge from metal refineries; discharge of drilling wastes	Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.
Chromium	Discharge from steel and pulp mills; erosion of natural deposits	Some people who drink water containing chromium well in excess of the MCL over many years could experience allergic dermatitis.
Radium	Erosion of natural deposits	Some people who drink water containing radium 226 or 228

		in excess of the MCL over many years may have an increased risk of getting cancer.
Nitrate/Nitrite	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits	Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.
Copper	Erosion of natural deposits	Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

CROSS-CONNECTION CONTROL

A cross-connection is any connection between your potable water system and a non-potable water source, chemical, or other contamination source. In our use of drinking water we create cross-connections every day, often without even realizing it.

Cross-connections are the single-most frequent sources of contamination for a water system, and it can be very costly to restore a system's integrity when contamination has occurred. Even more of a concern is the possibility that illness or death could result from consumption of water that has been contaminated through a cross-connection.

We are required to periodically survey the system for potential cross-connections. At the end of this report is a survey form for you to complete and return. Please indicate any uses or fixtures that may be present at your home so that we can determine if further

precautions are necessary to protect against cross-connections.

WATER USE EFFICIENCY

RWA has set a goal of reducing seasonal water use by 2% in five years. In order to measure progress toward this goal, water meters will be installed on all service connections by 2017.

Quick identification and repair of leaks will go a long ways toward reaching this goal. Other actions that you can take include shutting off water if it isn't needed, installing low-flow fixtures, and ensuring that outdoor watering is done from the irrigation system.

COMMUNITY INVOLVEMENT

Your involvement in the management of the RWA water system is important to its long-term function. To participate or provide input, contact Dick Jennings at (509) 738-6349.

This Consumer Confidence Report has been prepared by Alpine Environmental of Tonasket, Washington, serving north central Washington water systems since 2003. As your contract water operator, Alpine Environmental is proud to be providing you with the highest quality of service and oversight available. If you have any questions or comments regarding the information presented in this report, please call Alpine Environmental at (509) 826-1653 or (509) 322-0581.

A MESSAGE FROM THE EPA

Throughout Washington State, 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, in some cases, radioactive material. At the same time, this water can also pick up substances resulting from the presence of animals or from human activity.

All sources of 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 Environmental Protection Agency (EPA) Safe Drinking Water Hotline at 1-800-426-4791. Contaminants that may be present in source water, and that are routinely tested for, 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 may result from urban storm water 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 agricultural and residential uses.

RADIOACTIVE CONTAMINANTS, which are naturally-occurring.

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 storm water runoff, and septic systems.

In order to ensure that our water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in the water provided by your water system. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Washington State allows some contaminants to be monitored less than once per year because the concentration of these contaminants is not expected to vary significantly from year to year.

Additional Information

Some people may be more vulnerable to contaminants in drinking water than 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. The EPA and the Center for Disease Control (CDC) provides guidelines on appropriate methods to lessen the risk of infection by Cryptosporidium and other microbial contaminants, and this information is available from the EPA Safe Drinking Water Hotline at 1-800-426-4791.

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. Riverwood Water Association 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 thirty seconds to two minutes before using drinking 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>.

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue-baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider.

Water Use Questionnaire
RIVERWOOD WATER ASSOCIATION
RESIDENTIAL CUSTOMERS

What is a cross-connection?

A cross-connection exists when there is a direct route for non-potable water to come into contact with potable water within the water system. If such a route exists, there is the possibility that during a low-pressure event, such as a power outage or line break, non-potable water could be siphoned back into the system, and then pushed throughout the system when pressure is restored. If the pressure in a residential or commercial connection exceeds the pressure of the water system, non-potable water could be pushed back into the main lines, even if the water system is operating normally.

What is the risk?

Cross-connections have the potential to cause illness or even death when consumers drink contaminated water. The non-potable water may be contaminated by sewage, by chemicals, or by soil and bacteria from the environment. We often tend to overlook the cross-connections that we create every day in our homes, but the fact is that they exist, and can be potentially fatal. Examples include underground sprinkler systems, landscape water features, hot tubs, water softeners, even a garden hose used to fill a waterbed or a goldfish tank. We wouldn't think of drinking from any of these, but often we think nothing of connecting these things directly to our water system.

The purpose of this questionnaire is to help determine if you have any special plumbing or activities that may pose an increased risk of contamination to the water distribution system. If any of these items or conditions exist or are used in your home, please mark the appropriate box.

Yes	No	Component or Activity Present on Premises
		Underground sprinkler system (connected to the domestic water system)
		Water softener or other treatment (list type of component):
		Solar water heating system
		Fire sprinkler system
		Water supplied by another source (such as a well)
		Animal watering troughs
		Automatic pet waterers
		Swimming pool, hot tub, or spa
		Landscaping pond
		Indoor fish tanks
		Hose-end lawn & garden and carwash sprayers
		Photo lab or dark room
		Home-based business that uses water
		Recreational vehicle hook-up
		Bathtub with fill faucet below the rim
		Frost-free yard hydrants
		Gray water reuse system
		Orchard spray tank fill station

Name: _____

Date: _____

Address: _____

Please return this form to a Riverwood Water Association board member or to Doug Hale at Alpine Environmental, 4 Norway Pines Dr., Tonasket, WA 98855, (509) 322-0581. Thank you for your assistance in completing this questionnaire. If you have checked yes to any item, we will contact you to discuss your water system in further detail before any action is taken.