

HAYDEN LAKE IRRIGATION DISTRICT

2160 W. Dakota Ave. Hayden, Idaho 83835-5122

24 hr (208) 772-2612 ♦ FAX (208) 772-5348

district@haydenirrigation.com

Dear Customer,

Enclosed you will find Hayden Lake Irrigation District's annual water quality report for the calendar year 2014. This report is distributed to provide information regarding your water and the contaminants we monitor for. We hope you will take a few moments to review this information about the water you drink and would like to bring the following to your attention:

- All contaminants detected in the water within the past five years are included in the enclosed report. If multiple samples are taken during a five year period, only the most recent results will be shown. Earlier monitoring results are available on our website; www.haydenirrigation.com, click on *Drinking Water Quality Report* under *Your Water* and select the desired year for information.
- The District is initiating a required odd/even water use schedule this spring/summer. Set your sprinkler timer to run every other day beginning on an odd date if your street address ends in an odd number and an even date if your street address begins with an even number. Additional information is provided on the last page of this report.

Water Softeners, Treatment Systems and Maintenance

Some customers have inquired about the use of water softeners or other treatment units. The choice to install any type of treatment at your home is yours. We want your decision to be informed and knowledgeable. To that end we provide the following:

- The District does not add any chemicals or treatment to the water, including disinfection (chlorination).
- The water we provide is “moderately hard” to “hard” as the following report indicates on the last table. If you prefer softer water, a water softener may be an option.

Over the past year we have responded to several water quality concerns by our customers. Our investigations have resulted in the following suggestions:

- Several subdivisions built in the last 10 years had carbon, or cartridge, type filters installed after the home was constructed. In some cases the filter system has not been maintained or changed as needed. This has resulted in black particles or discolored water (carbon type) or bad odor (cartridge type) coming from the tap. If you have a filtration system in your home please maintain it regularly; it does affect your water quality.
- Newer homes have an expansion tank incorporated into the plumbing system and in some cases we have seen these fail. They are an important safety component of the plumbing system and the tank manufacturer should have information regarding maintenance and testing. These tanks are generally located near the water heater and their purpose is to absorb, or attenuate, increased pressures naturally caused by heating water.

Please contact us if you have questions about your water, or water service. Thank you for placing your trust in us to provide your drinking water.

Sincerely,

Alan Miller
Administrator

2014 Annual Drinking Water Quality Report

Hayden Lake Irrigation District

Hayden Lake Irrigation District presents the 2014 Water Quality Report. This report is designed to inform you about the quality of water and service we deliver to you every day. Our goal is to provide you, our customers, with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve and protect our water resources. This report covers the period from January to December 2014. The District did not experience any violations of drinking water rules last year.

We value our customers; if you have any questions concerning your water or the District, please contact Alan Miller, District Administrator at (208) 772-2612. If you wish to learn more, you may attend any of our regularly scheduled Board meetings held on the first Tuesday of each month at 6:00 p.m. Meetings are held at the District office located at 2160 West Dakota Avenue in Hayden.

Your water comes from the Rathdrum-Prairie Aquifer. This Aquifer serves nearly 600,000 people in the surrounding region and is a reliable source of drinking water. Please help to maintain its quality through wise use of fertilizers and pesticides; by recycling used oil and other chemicals, and maintaining septic systems. These steps benefit all of the residents who depend on this source.

The District relies on our customers to help us prevent harmful contamination of the drinking water system. You can help us accomplish this by completing the annual testing of all backflow prevention assemblies on your property. Annual testing of all backflow assemblies by a certified tester is required by the District and the state of Idaho. Our website has a list of testers meeting District requirements.

The District continually takes steps to ensure the water quality is protected. Because we do not chlorinate (disinfect) our water we have some of the most stringent requirements of ourselves and contractors working on our water system to prevent contamination. We continue to refine those requirements to maintain water quality. The District prefers to provide high quality water to its users without disinfection or other treatment.

Hayden Lake Irrigation District routinely monitors for contaminants in your drinking water in accordance with State and Federal rules. All 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 the water poses a health risk. More information about contaminants and their potential health effects can be obtained by calling the **Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791 or researching online at: www.epa.gov/safewater**

The following tables describe any contaminants detected in our water within the past 5 years. If multiple samples are taken during a five year period, only the most recent results will be shown. The District samples for many additional contaminants; however they were not detected in laboratory analysis of the water samples. **Unfamiliar terms used are explained following the tables.**

Contaminant	Sample Date(s)	Well #1	Wells #2 & 3	Well #4	MCL	MCLG	Violation ?	Typical source of Contaminant
Nitrate	8-13-2014	0.5	0.5	1.88	10	10	No	Runoff from Fertilizer; Leaching from Septic Tanks; Sewage; Erosion of Natural Deposits
Arsenic	8-13-2014	0.0025	0.0028	0.0042	0.10	0	No	Erosion of natural deposits; runoff from orchards, glass and electronics production wastes
Sodium	8-13-2014	2.95	2.55	5.15	N/A	N/A	No	Erosion of Natural Deposits; Discharge from Fertilizer and Aluminum Factories
Barium	8-13-2014	0.016	0.011	0.036	2	2	No	Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.
Radiological Gross Alpha	<i>Note: 1</i>	ND	ND	ND to 2.07	15	0	No	Erosion of Natural Deposits
Radiological Uranium	<i>Note: 1</i>	ND	ND	4.7 (ug/l)	30 (ug/l)	0	No	Erosion of Natural Deposits

Note 1: Radiological monitoring completed at Well # 1: 6-14-2013: R-226 ND+/-0.32; R-228 ND +/-0.69; 8-19-14: Alpha ND +/-1.68

Wells 2&3: 6-12-2013: R-226 0.13+/-0.21; R-228 ND +/-0.42; 8-19-14: Alpha ND +/-1.56

Well # 4: 6-12-13: Results depicted on table above

Lead and copper sampling is conducted every three years; these are the results of our most recent sampling:

Contaminant	# of Samples	Date(s)	Our water 90 th percentile results	Range of detection	Action Level	MCLG
Lead	20	8-6 to 9-25, 2013	2.1 (ppb)	ND to 3.8 (ppb)	15 (ppb)	0 (ppb)
Copper	20	8-6 to 9-25, 2013	0.0632 (ppm)	ND to 0.0756 (ppm)	1.3 (ppm)	1.3 (ppm)

The sample results summarized in the following table were analyzed for water quality parameters on August 19, 2013. These contaminants are listed as secondary by EPA, and are not assigned a health hazard. They do have an affect on water taste, and are useful if individual home softeners are used. Additionally, manganese was sampled and analyzed for but was not detected in any of the wells. All units are mg/L, except; pH which has no units; hardness which is expressed as mg/L calcium carbonate equivalent; and the Langlier Index which has no units, but is an indication of corrosivity. Zero Langier is neutral, negative numbers are tending corrosive, positive numbers are tending towards depositing minerals. Hardness ranges from Moderately Hard (75 to 150) to Hard (150 to 300). Total Organic Carbon represents a potential bacterial food source and Heterotrophic Plate Count is an alternative bacterial test; both of these are non-regulated. The District uses these and other methods to better evaluate the water quality. Results do not indicate a concern at this time. We will repeat this sampling in 2015.

Well	Calcium	Magnesium	Hardness	pH	Alkalinity	Iron	Dissolved Solids	Langier Index	Total Organic Carbon	Heterotrophic Plate Count
1	22	6.5	81.7	8.08	83.3	ND	106	-0.412	0.448	ND
2 & 3	19.9	6.49	76.4	7.76	76	ND	101	-0.814	0.362	ND
4	34.2	26.9	196	7.6	187	ND	224	-0.378	0.327	13

The following list explains some of the technical terms and assists in understanding the tables provided above:

- **MCL:** Maximum Contaminant Level is in milligrams per liter (mg/l) unless otherwise specified. One milligram per liter is equivalent to one part per million (ppm). Put another way, one ppm is equal to one part contaminant per one million parts drinking water.
- **MCLG:** Maximum Contaminant Level Goal is 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.
- **mg/L:** represents milligrams per liter, one mg/L is equivalent to one part per million (ppm). Or one penny in \$10,000.
- **ug/L:** represents micrograms per liter, one ug/L is equivalent to one part per billion (ppb). Or one penny in \$10,000,000.
- **Radiological** contaminants are expressed in pico Curies per liter (pCi/L) unless otherwise specified.
- **Total Coliform** is monitored monthly by taking seven samples from various locations in the District’s water distribution system. At least two samples must show presence of coliform bacteria in order for a violation to have occurred.
- **Lead and Copper:**
 - Testing is completed at specified homes within the District
 - The 90th percentile of results is the reportable level
 - This means that 90% of all results are at or below (less than) the reported level
 - In our district the results from 20 samples consisted of lead levels ranging from non-detect to 3.8 ppb
 - In our district the results from 20 samples consisted of copper levels ranging from non-detect to .0756 ppm
 - **Action Level:** is the point at which the District must take action to reduce lead or copper levels in the water
- **ND:** means non-detect; this means that the contaminant was below the laboratories ability to reliably measure that contaminant.

Maximum Contaminant Level (MCL) is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to MCLGs as feasible using the best available treatment technology. MCLs are set at very stringent levels, to understand the possible health effects described for many regulated contaminants; a person would have to drink 2 liters of water every day at the MCL level or greater for a lifetime to have a one-in-a-million chance of having the described health effect. 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. EPA/CDC guidelines on appropriate methods to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791) or online at: <http://www.epa.gov/safewater>.

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, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants which 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, wildlife and nature.
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharge, oil and gas production, mining, farming or road de-icing.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- 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.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health. The District water quality met the EPA's requirements in 2014.

Water Use Schedule

The District's primary responsibility is to provide safe drinking water. Each time a customer turns on a tap (faucet, hose, etc.) they create a demand for water which the District must do its best to meet. When a large majority of customers create this demand at the same time it can impact the District's ability to meet the demand. The District's current ability is approximately 9000 gallons of water per minute. On several occasions in 2014 the District was unable to meet the demand in spite of running at full capacity, staff immediately began turning off water to irrigation users. When demand exceeds capacity the water system loses pressure and eventually depressurizes. Depressurization can happen very quickly, and presents a significant health concern. The demand which caused these situations was from lawn irrigation systems. District staff was able to respond to the situation quickly enough and reduce the demand without experiencing a depressurization. We do track usage and trends closely, in 2013 we were able to meet demand without using one well; the change from adequate to inadequate capacity came quickly and without warning. In the spring of 2014 (prior to high demand) we hired a leak detection company to perform a survey (as a preventative maintenance action) they found one leak, which has been repaired, after testing 406 locations. This leads us to believe leakage was not the cause of increased demand.

There are two solutions to this problem; one is to increase supply, the other is to reduce demand. The District's approach will be to use both. We drilled a new well in the fall of 2014, and we are working on a location to construct a new water storage tank. Both of these will represent significant capital investments. The District will be completing one of them in the coming year. To reduce demand we are implementing an odd/even water schedule for customers to follow regarding lawn and landscape irrigation. To attempt to 'supply' our way out of this problem is not a feasible long term solution; to ask our customers to absorb the entire problem through reduced water demand is equally unrealistic. We are asking you to do your part, while we will be doing our part. This seems the most reasonable and logical solution.

Our customers part is to set their sprinkler timers to run, at the most, every other day and to begin the setting on an odd date if your street address ends in an odd number; or begin on an even date if your street address ends with an even number.

Thank you for trusting us to provide your family with drinking water this year.

Hayden Lake Irrigation District works diligently to provide the best water quality at every tap. We ask all our customers to help us conserve our water resource through wise use of water. We also ask that you help assist us in protecting the aquifer through wise use of fertilizers, herbicides, pesticides, maintaining septic systems and by recycling used oil and other chemicals. You can help us prevent contamination of the water system by having all backflow assemblies tested each year. This will benefit all of the residents who depend on this resource. If you wouldn't want to drink it, then please don't pour it on the ground.

Additional copies of this report are available from our office at 2160 West Dakota, by contacting us via e-mail at: district@haydenirrigation.com or from our website at: www.haydenirrigation.com

Sincerely,

The Board and Staff at Hayden Lake Irrigation District