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**Pay Your Water Bill Online!** Customers now have the ability to make payments online by accessing the City's website at <https://arcata.merchantransact.com/default.aspx>. The online payment system provides convenient paperless statements via email, ability to view and pay bills online, obtain account usage information, 24/7 account access, reduced time paying bills, and saving on stamps. For questions regarding the online process, please contact the Finance Department at (707) 822-5951.

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City of Arcata  
2015 Consumer Confidence Report

May 2016

The City of Arcata (City) is responsible for providing safe, reliable, high quality drinking water to its customers. The Consumer Confidence Report, or CCR, is an annual water quality report that the City is required to furnish customers with in accordance with requirements of the Safe Drinking Water Act. The purpose of the CCR is to raise customers' awareness of the quality of their drinking water, where their drinking water comes from, and the importance of protecting drinking water sources. Please take a moment to read through this report to learn about the quality of your drinking water. This report shows the results of drinking water monitoring for the period of January 1 - December 31, 2015.

**Este informe contiene información muy importante sobre su agua potable. Tradúzcalo ó hable con alguien que lo entienda bien.**

In 2015, results from our water quality monitoring and testing program indicate that our water quality is very high, as has consistently been the case in past years. Last year more than 2,600 tests for over 50 constituents were conducted on your drinking water. Sampling results for constituents that were detected in your drinking water are presented in the Sampling Results section of this report.

The City strives to provide excellent quality water and service to our customers. If you have any questions about your drinking water or this report call Rachel Hernandez, Environmental Compliance Officer at (707) 822-8184. You may also attend a regularly scheduled Arcata City Council meeting held the first and third Wednesday of each month at 6 p.m. in the Council Chamber, 736 F Street, Arcata, CA, to hear, discuss or deliberate upon any item or subject within the City's jurisdiction.

**Landlords**, tenants may not receive this report since they may not be direct customers of the City. You should make this report available to such people by posting it in a conspicuous place, distributing copies to all tenants or by directing tenants to <http://www.cityofarcata.org/327/Water-Quality-Reports>.

**Cross Connection Protection.** Backflow prevention assemblies are designed to allow water to flow into your home or business from the public water system but not allow water to flow in the reverse direction, creating effective cross connection protection. Reverse flow can carry untreatable pollutants and contaminants into the public water system, compromising water quality for all customers. Backflow prevention assemblies are required to be tested annually to ensure they are effectively protecting the public water system. If your residence has a well on the premises or your business has fire sprinklers and/or landscaping, you likely have a backflow prevention assembly. For questions regarding annual testing requirements, call Erik C. Lust, Deputy Director of Streets and Utilities at (707) 822-8184.

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## *Where Does My Water Come From?*

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The City has two sources of drinking water. The primary source of drinking water is groundwater purchased from Humboldt Bay Municipal Water District (HBMWD). The secondary source of drinking water is the City's Heindon Well.

Drinking water purchased from HBMWD is drawn from wells located in the bed of the Mad River northeast of Arcata. These wells, called Ranney Wells, draw water from the sands and gravel of the aquifer at depths of 60 to 90 feet, thereby providing a natural filtration process. During the summer, this naturally filtered water is disinfected with chlorine before being delivered to the City via transmission lines to the Alliance Road Transfer Station, the Wymore Road Intertie, and the Aldergrove Road Intertie. During the winter, prior to disinfection, the groundwater is treated at HBMWD's Turbidity Reduction Facility to reduce occasional turbidity (cloudiness) in the source water. While turbidity itself is not a health concern, the State Water Resources Control Board (State Board) Division of Drinking Water is concerned that at elevated levels, turbidity could potentially interfere with the disinfection process.

Drinking water produced at Heindon Well, located near the northeast city limit, is drawn from the deep aquifer of the Mad River Lowland Basin. The groundwater is disinfected with sodium hypochlorite prior to distribution. Due to the configuration of the water distribution system, drinking water produced at Heindon Well is primarily distributed to customers near the northern city limit, primarily near Heindon Road, the Valley West/Valley East neighborhood and the Aldergrove Industrial Park. Heindon Well was not in use after January 2015 to assist in complying with drought-related water use reduction standards.

Prior to delivery to the drinking water distribution system, fluoride is added to the drinking water produced at Heindon Well and purchased from HBMWD to adjust the naturally occurring level of fluoride to an optimal level to prevent tooth decay. You may obtain more information about fluoridation, oral health, and current issues at [http://www.waterboards.ca.gov/drinking\\_water/certlic/drinkingwater/Fluoridation.shtml](http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.shtml).

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## *Source Assessment & Vulnerability Assessment*

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A Drinking Water Source Assessment conducted by the California Drinking Water Source Assessment and Protection Program, completed in August 2002, classified HBMWD's Ranney Wells as a groundwater source which is most vulnerable to the following activities not associated with any detected contaminants: lumber processing and manufacturing, low density septic systems, wood preserving/treating and wood/pulp/paper processing and mills. Due to the detection of aluminum, Ranney Wells are considered vulnerable to activities that may have contributed to, or caused the release of aluminum. In particular, aluminum is believed to be associated with the residue from some surface water treatment processes and erosion of natural deposits. Due to the detection of barium, Ranney Wells are considered vulnerable to activities that may have contributed to, or caused the release of barium. In particular, barium is believed to be associated with discharges of oil drilling wastes and metal refineries, and erosion of natural deposits.

A Drinking Water Source Assessment, completed in February 2002, classified Heindon Well as a groundwater source which is considered most vulnerable to the following activities not associated with any detected contaminants: high density septic systems. Due to the detection of barium, Heindon Well is considered vulnerable to activities that may have contributed to or caused the release of barium. In particular, barium is believed to be associated with discharges of oil drilling wastes and metal refineries, and erosion of natural deposits.

The Drinking Water Source Assessment report is available through the State Board by contacting the State Water Resources Control Board, Division of Drinking Water, District 01 at (530) 224-4800 or 364 Knollcrest Drive, Suite 101, Redding, CA 96002.

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## Additional Information about Drinking Water

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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 that may be present in source water include:

- *Microbial contaminants*, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- *Inorganic contaminants*, such as salts and metals, that 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*, that 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, that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.
- *Radioactive contaminants*, that 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 U.S. Environmental Protection Agency (USEPA) and the State Water Resources Control Board prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. State Board regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

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## Drinking Water and Your Health

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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 USEPA's Safe Drinking Water Hotline (1-800-426-4791).

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. USEPA/Centers for Disease Control (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 (1-800-426-4791).

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## Sampling Results

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The tables on the following pages list all of the drinking water contaminants that were detected during the most recent sampling for the constituent. The presence of these contaminants in the water does not necessarily indicate that the water

poses a health risk. The State Board allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Consequently, some of the data, though representative of the water quality, are more than one year old.

**Definitions for the terms used in the following tables are given at the end of this report.**

**Sample Source/Location Information**

“Heindon Well” - data is representative of untreated source water from Heindon Well.

“HBMWD” - data provided by Humboldt Bay Municipal Water District is representative of untreated source water or treated water purchased from HBMWD.

“Distribution System” - samples collected from locations throughout the distribution system and representative of treated water delivered to customers.

Coliform bacteria monitoring is conducted weekly throughout the distribution system. Total coliform and *E. coli* monitoring results are presented in Table 1.

<b>TABLE 1 – SAMPLING RESULTS SHOWING THE DETECTION OF COLIFORM BACTERIA FOR 2015</b>					
<b>Microbiological Contaminants</b>	<b>Highest No. of Detections</b>	<b>No. of months in violation</b>	<b>MCL</b>	<b>MCLG</b>	<b>Typical Source of Bacteria</b>
Total Coliform Bacteria	0	0	More than 1 sample in a month with a detection	0	Naturally present in the environment.
<i>E. coli</i>	0	0	A routine sample and a repeat sample detect total coliform and either sample also detects fecal coliform or <i>E. coli</i>	0	Human and animal fecal waste.

Although sodium and hardness do not have Maximum Contaminant Levels (MCLs) or Public Health Goals (PHGs), they are of interest to many consumers. Sodium refers to the salt present in the water and is generally naturally occurring. Hardness is the sum of polyvalent cations present in the water, generally magnesium and calcium, which are usually naturally occurring. Sodium and hardness data are presented in Table 2.

<b>TABLE 2– SAMPLING RESULTS FOR SODIUM AND HARDNESS</b>				
<b>Constituent</b> (reporting units)	<b>Sample Source/Location</b>	<b>Year Sampled</b>	<b>Average</b>	<b>Range</b>
Sodium (ppm)	Heindon Well	2014	7.1	N/A
	Distribution System	2015	4.1	N/A
Hardness (ppm as CaCO <sub>3</sub> )	Heindon Well	2014	180	N/A
	Distribution System	2015	110	N/A

Lead and Copper Monitoring is conducted throughout the distribution system to determine whether there is any evidence of lead or copper in the tap water of our community. 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. The City 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 30 seconds to 2 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. Information on lead in drinking water, testing methods, and steps you can take to minimize your exposure is available from the Safe Drinking Water Hotline or at <http://water.epa.gov/drink/info/lead/index.cfm> and at <https://www.epa.gov/dwreginfo/lead-and-copper-rule>. Lead and copper monitoring results are presented in Table 3.

Constituent (reporting units)	No. of samples collected	90 <sup>th</sup> percentile level detected	No. of Sites Exceeding the AL	AL	PHG	Typical Source of Contaminant
Lead (ppb)	31	2.7	0	15	0.2	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits.
Copper (ppm)	31	1.2	2	1.3	0.3	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.

Primary Drinking Water Standards are established for contaminants that affect health. Monitoring results for contaminants with Primary Drinking Water Standards are presented in Table 4.

Constituent (reporting units)	Sample Source/Location	Year Sampled	Average	Range	MCL	PHG	Typical Source of Contaminant
<b>Inorganic Constituents</b>							
Aluminum (ppm)	HBMWD	2015	0.011	N/A	1	0.6	Erosion of natural deposits; discharges from industrial manufacturers.
Barium (ppm)	Heindon Well	2014	0.13	N/A	1	2	Discharge of oil drilling wastes and metal refineries; erosion of natural deposits.
Fluoride (ppm)	Distribution System	2015	0.45	ND – 0.94	2	1	Water additive which promotes strong teeth.
<b>Disinfection Byproducts and Disinfectant Residuals</b>							
Chlorine (ppm)	Distribution System	2015	0.5	0.1– 0.9	MRDL = 4.0	MRDLG = 4.0	Drinking water disinfectant added for treatment.
TTHMs -Total Trihalomethanes (ppb)	Distribution System	2015	13	12 – 13	80	N/A	By-product of drinking water chlorination.
HAA5 – Haloacetic Acids (ppb)	Distribution System	2015	9.3	ND – 9.3	60	N/A	By-product of drinking water chlorination.

Secondary Drinking Water Standards (SDWS) are established for contaminants that affect aesthetics such as taste, odor, or the appearance of drinking water. There is no Public Health Goal (PHG) or Maximum Contaminant Level Goal (MCLG) for contaminants with SDWS because secondary Maximum Contaminant Levels (MCLs) are set on the basis of aesthetics. Contaminants with SDWS do not affect health at the MCL. Monitoring results for contaminants with SDWS are presented in Table 5.

<b>TABLE 5 – DETECTION OF CONTAMINANTS WITH A SECONDARY DRINKING WATER STANDARD</b>						
<b>Constituent</b> (reporting units)	<b>Sample Source/Location</b>	<b>Year Sampled</b>	<b>Average</b>	<b>Range</b>	<b>MCL</b>	<b>Typical Source of Contaminant</b>
Chloride (ppm)	Heindon Well	2014	8.1	N/A	500	Runoff/leaching from natural deposits; seawater influence.
	Distribution System	2015	3.6	3.5 – 3.6		
Iron (ppb)	Distribution System	2014	60	ND – 120	300	Leaching from natural deposits; industrial wastes.
Odor Threshold (TON)	Distribution System	2015	1.0	ND – 2.0	3	Naturally-occurring organic materials.
Specific Conductance (µS/cm)	Heindon Well	2014	320	N/A	1600	Substances that form ions when in water; seawater influence.
	HBMWD	2015	160	N/A		
	Distribution System	2015	200	200 – 200		
Sulfate (ppm)	Heindon Well	2014	6.9	N/A	500	Runoff/leaching from natural deposits; industrial wastes.
	Distribution System	2015	11	11 – 11		
Total Dissolved Solids (ppm)	Heindon Well	2014	220	N/A	1000	Runoff/leaching from natural deposits.
	Distribution System	2015	125	120 – 130		
Turbidity (NTU)	Distribution System(entry points)	2015	0.08	0.03 – 0.62	5	Soil runoff. Turbidity has no health effects. However, high levels can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms, including bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

### *Additional Sampling*

In addition to monitoring required by the Safe Drinking Water Act, the City monitors for unregulated constituents that some consumers may find of interest. The results of this monitoring are presented in Table 6.



**TABLE 6 - SAMPLE RESULTS OF NON-REGULATED TESTING**

Constituent (reporting units)	Sample Source/Location	Year Sampled	Average	Range	Additional Information
Alkalinity (ppm as CaCO <sub>3</sub> )	Distribution System	2015	86	85 – 86	Alkalinity is a measure of the buffering capacity of water or its ability to resist change in pH.
Corrosivity (Langlier Units)	Distribution System	2015	-0.53	-0.47 to -0.59	Corrosivity values in this range indicate that the water is slightly corrosive on the Langlier Index.

As part of the federal drinking water program, USEPA issues a list of currently unregulated contaminants to be tested by public water systems throughout the nation. This process occurs every five years pursuant to the Unregulated Contaminant Monitoring Rule (UCMR). The purpose of the UCMR program is to determine the prevalence of unregulated contaminants in drinking water. Results of this testing help USEPA determine whether or not to regulate new contaminants for protection of public health.

There have been three cycles of monitoring: UCMR 1 (2001-2003), UCMR 2 (2008-2010), and UCMR 3 (2013-2015). Humboldt Bay Municipal Water District and the City participated in each cycle of testing. Table 7 shows The City's UCMR3 sampling results for all constituents that were detected.

**TABLE 7 - SAMPLE RESULTS OF UCMR 3 – DETECTED CHEMICALS (testing conducted in 2015)**

Constituent (reporting units)	Level Detected		Levels & Goals			Likely Source
	Average	Range	Notification Level	MCL	PHG	
Chromium VI (ppb) / Hexavalent Chromium	0.19	0.053 – 0.29	N/A	10	0.02	Naturally occurring from geological formations, also from manufacturing of textile dyes, wood preservation, leather tanning, and anti-corrosion coatings.
Chromium, Total (ppb)	Median = 0.26	ND – 0.31	N/A	50	N/A	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits.
Strontium, Total (ppb)	316	260 – 500	N/A	N/A	N/A	Strontium is a silvery metal that rapidly turns yellowish in air. Strontium is found naturally as a non-radioactive element. Strontium has 16 known isotopes. Naturally occurring strontium is found as four stable isotopes Sr-84, -86, -87, and -88. Twelve other isotopes are radioactive.
Vanadium, Total (ppb)	0.63	0.47 – 1.2	50	N/A	N/A	Naturally-occurring; the primary possible contaminating activity is steel manufacturing and in association with hazardous waste sites.
Chlorate (ppb)	Median = 25	ND – 120	800	N/A	N/A	Agricultural defoliant or desiccant; used in production of chlorine dioxide.

**TERMS USED IN THIS REPORT**

**Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

**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 are set by the U.S. Environmental Protection Agency (USEPA).

**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

**ND:** not detectable at testing limit

**NTU:** Nephelometric Turbidity Units

**ppb:** parts per billion or micrograms per liter (µg/L). One ppb is equivalent to one second in nearly 32 years.

**ppm:** parts per million or milligrams per liter (mg/L). One ppm is equivalent to one second in 11.5 days.

**Primary Drinking Water Standards (PDWS):** MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

**Public Health Goal (PHG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

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

**Secondary Drinking Water Standards (SDWS):** MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWSs do not affect health at the MCL.

**TON:** Threshold Odor Number

**µS/cm:** microSeimens per centimeter