Pay Your Water Bill Online! *Customers now have the ability to make payments online by accessing the City's website at https://arcata.merchanttransact.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.*

City of Arcata
2013 Consumer Confidence Report

May 2014

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 provide you with, in accordance with requirements of the Safe Drinking Water Act (SDWA). 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, 2013.

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

In 2013, as in past years, results from our water quality monitoring and testing program indicate that our water quality is very high. Last year more than 2,100 tests for over 60 constituents were conducted on your drinking water. None of these constituents were detected at a level higher than the State allows. Sampling results for constituents that were detected in your drinking water are presented in the Sampling Results section of this report.

The City of Arcata 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/node/593/15746.

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 probably have a backflow prevention assembly. For questions regarding annual testing requirements, call Erik C. Lust, Water/Wastewater Superintendent at (707) 822-8184.

Where Does My Water Come From?

The City of Arcata 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 of Arcata'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 riverbed 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. 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 California Department of Public Health (CDPH) 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 chlorine 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.

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.cdph.ca.gov/certlic/drinkingwater/Pages/Fluoridation.aspx.

Source Assessment & Vulnerability Assessment

A Drinking Water Source Assessment conducted by the CDPH and 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 conducted by the CDPH and 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 California Department of Public Health at http://www.cdph.ca.gov/certlic/drinkingwater/Pages/DWSAP.aspx. You may also request a copy of the report by contacting Craig Bunas, P.E., Associate Sanitary Engineer, (530) 224-4800, California Department of Public Health, 364 Knollcrest Drive, Suite 101, Redding, CA 96002.

Additional Information about Drinking Water

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 US Environmental Protection Agency (USEPA) and CDPH prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. CDPH regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

Drinking Water and Your 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 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).

Sampling Results

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. CDPH 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.

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 of Arcata 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 www.epa.gov/safewater/lead. Lead and copper monitoring results are presented in Table 1.

TABLE 1 – SAMPLING RESULTS SHOWING THE DETECTION OF LEAD AND COPPER *(testing conducted in 2013)*

Constituent (reporting units)	**No. of samples collected**	**90th 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

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 is presented in Table 2.

TABLE 2– SAMPLING RESULTS FOR SODIUM AND HARDNESS

Constituent (reporting units)	**Sample Source/Location**	**Year Sampled**	**Average**	**Range**
Sodium (ppm)	Distribution System	2013	117	74-160
Hardness (ppm)	Distribution System	2010	134	97-170

Primary Drinking Water Standards are established for contaminants that affect health. Monitoring results for contaminants with Primary Drinking Water Standards are presented in Table 3.

TABLE 3– DETECTION OF CONTAMINANTS WITH A PRIMARY DRINKING WATER STANDARD

Constituent (reporting units)	**Sample Source/Location**	**Year Sampled**	**Average**	**Range**	**MCL**	**PHG**	**Typical Source of Contaminant**
Inorganic Constituents							
Aluminum (ppm)	Heindon Well	2009	0.061	N/A	1	0.6	Erosion of natural deposits; discharges from industrial manufacturers
	HBMWD	2006	0.16	N/A			
Barium (ppm)	Heindon Well	2009	0.13	N/A	1	2	Discharge of oil drilling wastes and metal refineries; erosion of natural deposits
Fluoride (ppm)	Distribution System	2013	0.4	ND – 1.1	2.0	1	Water additive which promotes strong teeth
Disinfection Byproducts and Disinfectant Residuals							
Chlorine (ppm)	Distribution System	2013	0.4	0.1 – 1.0	MRDL = 4.0	MRDLG = 4.0	Drinking water disinfectant added for treatment
TTHMs -Total Trihalomethanes (ppb)	Distribution System	2013	10.6	8.2 -13	80	N/A	By-product of drinking water chlorination
HAA5 –Haloacetic Acids (ppb)	Distribution System	2013	4.4	2.9 - 5.8	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 are no Public Health Goals (PHG) or Maximum Contaminant Level Goals (MCLGs) 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 Secondary Drinking Water Standards are presented in Table 4.

TABLE 4– DETECTION OF CONTAMINANTS WITH A SECONDARY DRINKING WATER STANDARD

Constituent (reporting units)	**Sample Source/Location**	**Year Sampled**	**Average**	**Range**	**MCL**	**Typical Source of Contaminant**
Chloride (ppm)	Distribution System	2010	6.4	3.6 - 9.2	500	Runoff/leaching from natural deposits; seawater influence
Iron (ppb)	Distribution System	2013	16	ND - 31	300	Leaching from natural deposits; industrial wastes
Manganese (ppb)	Distribution System	2013	9	ND – 9.5	50	Leaching from natural deposits
Odor Threshold @ 60°C (TON)	Distribution System	2010	1.5	1.0 – 2.0	3	Naturally-occurring organic materials

TABLE 4 - CONTINUED						
Specific Conductance (µS/cm)	HBMWD	2013	140	N/A	1600	Substances that form ions when in water; seawater influence
Sulfate (ppm)	Distribution System	2010	255	170 - 340	500	Runoff/leaching from natural deposits; industrial wastes
	Distribution System	2010	8.4	8.0 – 8.9		
Total Dissolved Solids (ppm)	Distribution System	2010	150	120-180	1000	Runoff/leaching from natural deposits
Turbidity (NTU)	Distribution System [1]	2013	0.09	0.03 – 0.9	5	Soil runoff
	Turbidity has no health effects. However, high levels of turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.					

1Turbidity data collected from the Distribution System Entry Points

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 5.

TABLE 5 - SAMPLE RESULTS OF NON-REGULATED TESTING					
Constituent (reporting units)	**Sample Source/Location**	**Year Sampled**	**Average**	**Range**	**Additional Information**
Alkalinity (ppm as $CaCO_3$)	Distribution System	2013	120	79 - 160	Alkalinity is a measure of the buffering capacity of water or its ability to resist change in pH
Corrosivity (Langlier Units)	Distribution System	2013	- 0.34	-0.13 to -0.54	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 of Arcata participated in UCMR 1 and UCMR 2 in which 37 constituents were tested; all results were non-detected at or above the minimum reporting level (MRL). HBMWD participated in the current UCMR 3 testing in 2013. HBMWD tested 28 constituents on USEPA's List 1 (Assessment Monitoring) and List 2 (Screening Survey). Of the 28 constituents tested, 24 were non-detected at or above the minimum reporting level and four had results. Table 6 shows the four constituents with results above their minimum reporting levels. Although unregulated by USEPA, two of the four constituents have MCLs established or proposed by CDPH.

The City of Arcata is scheduled to commence sampling for UCMR 3 in 2014.

TABLE 6 - SAMPLE RESULTS OF UCMR 3 – DETECTED CHEMICALS

Constituent (reporting units)	**Year Sampled**	**Level Detected**	**Levels & Goals**			**Likely Source**
			Notification Level	**MCL**	**PHG**	
Chromium VI (Hexavalent Chromium) (ppb)	2013	Range = 0.18 - 0.23	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)	2013	Range = 0.20 - 0.39	N/A	50	N/A	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits.
Strontium, Total (ppb)	2013	Range = 240 - 310	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)	2013	Range = 0.38 - 0.65	50	N/A	N/A	Naturally-occurring; the primary possible contaminating activity is steel manufacturing and in association with hazardous waste sites.

*Proposed MCL

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