CITY OF ARCADIA
2017 WATER QUALITY REPORT
2017 Report for 2016 Testing Results

This report contains important information regarding the water quality in our water system. The source of our water is groundwater. All of the water is purchased from West Central Iowa Rural Water Association, Boyer Subsystem or Denison Subsystem. Our water quality testing shows the following results:

ARCADIA TEST RESULTS

CONTAMINANT	MCL - (MCLG)	Compliance		Date	Violation	Source
		Type	Value & (Range)		Yes/No	
Total Trihalomethanes (ppb) [TTHM]	80 (N/A)	LRAA	48.00 (48 - 48)	09/30/2016	No	By-products of drinking water chlorination
Total Haloacetic Acids (ppb) [HAA5]	60 (N/A)	LRAA	26.00 (26 - 26)	09/30/2016	No	By-products of drinking water disinfection
Lead (ppb)	AL=15 (0)	90th	4.00 (ND - 5)	2014	No	Corrosion of household plumbing systems; erosion of natural deposits
Copper (ppm)	AL=1.3 (1.3)	90th	0.4 (ND - 0.51)	2014	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
950 - DISTRIBUTION SYSTEM						
Chlorine (ppm)	MRDL=4.0 (MRDLG=4.0)	RAA	1.1 (0.9 - 1.6)	03/31/2016	No	Water additive used to control microbes

Note: Contaminants with dates indicate results from the most recent testing done in accordance with regulations.

WCIRWA - BOYER SUBSYSTEM TEST RESULTS

CONTAMINANT	MCL - (MCLG)	Compliance		Date	Violation	Source
		Type	Value & (Range)		Yes/No	
Total Trihalomethanes (ppb) [TTHM]	80 (N/A)	LRAA	56.00 (56 - 56)	09/30/2016	No	By-products of drinking water chlorination
Total Haloacetic Acids (ppb) [HAA5]	60 (N/A)	LRAA	29.00 (29 - 29)	09/30/2016	No	By-products of drinking water disinfection
Lead (ppb)	AL=15 (0)	90th	2.00 (ND - 3)	2014	No	Corrosion of household plumbing systems; erosion of natural deposits
Copper (ppm)	AL=1.3 (1.3)	90th	1.2 (ND - 1.8) 1 sample(s) exceeded AL	2014	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
950 - DISTRIBUTION SYSTEM						
Chlorine (ppm)	MRDL=4.0 (MRDLG=4.0)	RAA	1.2 (1.2 - 1.2)	4th qtr 2016	No	Water additive used to control microbes
01 - WELLS 2 & 3 @ TREATMENT PLANT LAB TAP						
Fluoride (ppm)	4 (4)	SGL	1.20 (0.55 - 1.20)	Dec 2016	No	Water additive which promotes strong teeth; Erosion of natural deposits; Discharge from fertilizer and aluminum factories
Barium (ppm)	2 (2)	SGL	0.15	08/08/2012	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Cadmium (ppb)	5 (5)	SGL	2	08/08/2012	No	Water additive used to control microbes
Chromium (ppb)	100 (100)	SGL	10	08/08/2012	No	Discharge from steel and pulp mills; Erosion of natural deposits
Arsenic (ppb)	10 (N/A)	SGL	1	08/08/2012	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronic production wastes
Sodium (ppm)	N/A (N/A)	SGL	9.2	11/25/2015	No	Erosion of natural deposits; Added to water during treatment process

Note: Contaminants with dates indicate results from the most recent testing done in accordance with regulations.

ARCADIA WATER SUPPLY PWSID: 1403062

WCIRWA - DENISON SUBSYSTEM TEST RESULTS

CONTAMINANT	MCL - (MCLG)	Compliance		Date	Violation	Source
		Type	Value & (Range)		Yes/No	
Total Trihalomethanes (ppb) [TTHM]	80 (N/A)	LRAA	38.00 (35 - 41)	09/30/2016	No	By-products of drinking water chlorination
Total Haloacetic Acids (ppb) [HAA5]	60 (N/A)	LRAA	4.00 (ND - 8)	09/30/2016	No	By-products of drinking water disinfection
Copper (ppm)	AL=1.3 (1.3)	90th	ND	2016	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	AL=15 (0)	90th	ND	2016	No	Corrosion of household plumbing systems; erosion of natural deposits
950 - NORTH DISTRIBUTION SYSTEM						
Chlorine (ppm)	MRDL=4.0 (MRDLG=4.0)	RAA	1.27 (1.2 - 1.3)	2nd Qtr 2016	No	Water additive used to control microbes
951 - SOUTH DISTRIBUTION SYSTEM						
Chlorine (ppm)	MRDL=4.0 (MRDLG=4.0)	RAA	0.8 (0.7 - 0.8)	1st Qtr 2016	No	Water additive used to control microbes

PURCHASED WATER - 2424027 - **DENISON WATER SUPPLY**						
02 - WELLS 1-3, 5, 7, 9-13 & 2A @ WATER PLANT						
Barium (ppm)	2 (2)	SGL	0.0272	May 2013	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride (ppm)	4 (4)	SGL	1.01 (0.60 - 1.01)	Mar 2016	No	Water additive which promotes strong teeth; Erosion of natural deposits; Discharge from fertilizer and aluminum factories
Sodium (ppm)	N/A (N/A)	SGL	23.6	Mar 2014	No	Erosion of natural deposits; Added to water during treatment process
Nitrate (as N) (ppm)	10 (10)	SGL	0.5	2016	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits

Note: Contaminants with dates indicate results from the most recent testing done in accordance with regulations.

UNREGULATED CONTAMINANTS

The U.S. Environmental Protection Agency developed an Unregulated Contaminant Monitoring program to better understand the existence of contaminants in the environment that are not regulated by the national Primary Drinking Water regulations, which are known or anticipated to occur at public water systems and may warrant regulation under the safe Drinking Water act. Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. Denison Municipal Utilities was selected to test for numerous contaminants at two different sites in 2013. Those results indicate the following:

UNREGULATED CONTAMINANTS RESULTS: DENISON MUNICIPAL UTILITIES

DMU TP Entry Point #1

Analyte	Unit	Average Value	Date
Chromium	µg/L (ppb)	= 2.1	10/01/2013
Molybdenum	µg/L (ppb)	= 2.7	10/01/2013
Strontium	µg/L (ppb)	= 82.15	10/01/2013
Vanadium	µg/L (ppb)	= 2	10/01/2013
Chromium-6	µg/L (ppb)	= 1.895	12/03/2013
Chlorate	µg/L (ppb)	= 90.247	10/01/2013

DMU Distribution Point

Analyte	Unit	Average Value	Date
Chromium	µg/L (ppb)	= 2.034	10/01/2013
Molybdenum	µg/L (ppb)	= 2.639	10/01/2013
Strontium	µg/L (ppb)	= 92.587	10/01/2013
Vanadium	µg/L (ppb)	= 1.694	10/01/2013

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Chromium-6	µg/L (ppb)	= 1.889	12/03/2013
Chlorate	µg/L (ppb)	= 95.079	10/01/2013

DEFINITIONS

- Maximum Contaminant Level (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 (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.
- ppb -- parts per billion.
- ppm -- parts per million.
- pCi/L – picocuries per liter
- N/A – Not applicable
- ND -- Not detected
- RAA – Running Annual Average
- LRAA – Locational Running Annual Average
- IDSE – Initial Distribution System Evaluation
- Treatment Technique (TT) – A required process intended to reduce the level of a contaminant in drinking water.
- Action Level (AL) – The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- 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.
- 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.
- SGL – Single Sample Result
- TCR – Total Coliform Rule
- µg/L - Micrograms per liter or parts per billion (ppb). Parts of contaminant per billion parts of water. One part per billion is equivalent to a single penny in ten million dollars.

GENERAL INFORMATION

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 posed a health risk. More information about contaminants or potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (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. EPA/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 (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. ARCADIA WATER SUPPLY 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 exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

SOURCE WATER ASSESSMENT INFORMATION

City of Arcadia obtains some or all of its water from another public water supply. It is a consecutive water supply, where an originating parent supply provides drinking water to one or more downstream supplies.
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The WCIRWA's Boyer System obtains its water from the North Raccoon River sand and gravel of the alluvial aquifer. The alluvial aquifer was determined to be highly susceptible to contamination because the characteristics of the aquifer and overlying materials provide little protection from contamination at the land surface. WCIRWA's Boyer System Alluvial wells will be highly susceptible to surface contaminants such as leaking underground storage tanks, contaminant spills, and excess fertilizer application. A detailed evaluation of your source water was completed by the Iowa Department of Natural Resources, and is available from West Central Iowa Rural Water Assn. at 712-655-2534. The water supply is filtered, disinfected and fluoridated. Incorporated towns that can be served from the Boyer Subsystem include Lidderdale, Westside, and Vail. Also, the Town of Arcadia can be served either from the Boyer Subsystem or the Denison Subsystem.

The WCIRWA's Denison System is served water from the Denison Municipal Utilities (DMU), Supply ID IA2424027 in Denison as a consecutive water supply. This water supply obtains water from one or more groundwater aquifers. Every aquifer has a degree of susceptibility to contamination because of the characteristics of the aquifer, overlying materials, and human activity. Susceptibility to contamination generally increases with shallower aquifers, increasing permeability of the aquifer and overlying development or agricultural activity, and abandoned or poorly maintained wells. A detailed evaluation of the source water was completed by the Iowa Department of Natural Resources, and is available from DMU at 1-712-263-4154. The water supply is filtered, disinfected and fluoridated and softened through a cold lime softening process. Incorporated towns that can be served from the Denison Subsystem include Aspinwall, Arthur, Charter Oak, Dow City, Kiron and Schleswig. The incorporated towns of Arion, Buck Grove and Ricketts are franchised by WCIRWA and are served with DMU water. Also, the Town of Arcadia can be served either from the Boyer Subsystem or the Denison Subsystem.

CONTACT INFORMATION

For questions regarding this information or how you can get involved in decisions regarding the water system, please contact Paul Hinners at 712-689-2559.

Decisions regarding the water system are made at the council meetings held on the first Monday each month at 7:00 p.m. at the City Hall office at 205 West Front Street. If the first Monday falls on a holiday, the meeting is held on Tuesday. Please contact City Hall to be placed on the agenda.