

★ 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. All Community water systems are 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 (800-426-4791), at <http://www.epa.gov/safewater/lead> or at the DHHS/DPH/Office of Drinking Water (402-471-1008)

City of Crete

Annual Water Quality Report

for the period of

January 1 to December 31, 2019



This report is intended to provide you with important information about your drinking water and the efforts made by the City of Crete water system to provide safe drinking water.

If you would like to observe the decision-making processes that affect drinking water quality, please attend the regularly scheduled meeting of the Crete City Council. If you would like to participate in the process, please contact Judi Meyer, City Clerk, at (402) 826-4313 to arrange to be placed on the agenda of the next regularly scheduled meeting of the Crete City Council.

This report will not be mailed but copies of this report are available to the public upon request. This report is also available on the City of Crete website at <http://www.crete.ne.gov>

Para Clientes Que Hablan Español:

Este informe contiene información muy importante sobre el agua que usted bebe. Tradúzcalo ó hable con alguien que lo entienda bien.



For more information regarding this report, or to request a hard copy, contact:

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2019 Annual Water Quality Report - City of Crete



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

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Source Water Assessment Availability

The Nebraska Department of Environmental Quality (NDEQ) has completed the Source Water Assessment. Included in the assessment are a Wellhead Protection Area map, potential contaminant source inventory, and source water protection information. To view the Source Water Assessment or for more information please contact the person named on the back cover of this report or NDEQ at (402) 471-3376 or go to <http://deq.ne.gov>

Sources of Drinking Water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and groundwater 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. The source of drinking water used by the City of Crete is ground water.

Contaminants that 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 and wildlife.

* Inorganic contaminants, such as salts and metals, which can be naturally occurring or 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 agriculture, urban storm water runoff, and residential uses.

* 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.

* Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

Drinking Water Health Notes

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) or the Department of Health and Human Services, Division of Public Health, Office of Drinking Water at 402-471-2186

The City of Crete is required to test for the following contaminants:

Coliform Bacteria, Antimony, Arsenic, Asbestos, Barium, Beryllium, Cadmium, Chromium, Copper, Cyanide, Fluoride, Lead, Mercury, Nickel, Nitrate, Selenium, Sodium, Thallium, Alachlor, Atrazine, Benzo(a)pyrene, Carbofuran, Chlordane, Dalapon, Di(2-ethylhexyl)adipate, Dibromochloropropane, Dinoseb, Di(2-ethylhexyl)-phthalate, Diquat, 2,4-D, Endothal, Endrin, Ethylene dibromide, Glyphosate, Heptachlor, Heptachlor epoxide, Hexachlorobenzene, Hexachlorocyclopentadiene, Lindane, Methoxychlor, Oxamyl (Vydate), Pentachlorophenol, Picloram, Polychlorinated biphenyls, Simazine, Toxaphene, Dioxin, Silvex, Benzene, Carbon Tetrachloride, o-Dichloro-benzene, Para-Dichlorobenzene, 1, 2-Dichloroethane, 1,1-Dichloroethylene, Cis-1, 2-Dichloroethylene, Trans-1,2-Dichloroethylene, Dichloromethane, 1,2-Dichloropropane, Ethylbenzene, Monochlorobenzene, 1,2,4-Trichloro-benzene, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, Trichloroethylene, Vinyl Chloride, Styrene, Tetrachloroethylene, Toluene, Xylenes (total), Gross Alpha (minus Uranium & Radium 226), Radium 226 plus Radium 228, Sulfate, Chloroform, Bromodichloromethane, Chlorodibromomethane, Bromoform, Chlorobenzene, m-Dichlorobenzene, 1,1-Dichloropropene, 1,1-Dichloroethane, 1,1,2,2-Tetrachloroethane, 1,2-Dichloropropane, Chloromethane, Bromomethane, 1,2,3-Trichloropropane, 1,1,1,2-Tetrachloroethane, Chloroethane, 2,2-Dichloropropane, o-Chlorotoluene, p-Chlorotoluene, Bromobenzene, 1,3-Dichloropropene, Aldrin, Butachlor, Carbaryl, Dicamba, Dieldrin, 3-Hydroxycarbofuran, Methomyl, Metolachlor, Metribuzin, Propachlor

TEST RESULTS (COLLECTED IN 2019 UNLESS NOTED)

While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other potentially harmful bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.

How to Read the Water Quality Data Table:

The EPA and State Drinking Water Program establish the safe drinking water regulations that limit the amount of contaminants allowed in drinking water. The table shows the concentrations of detected substances in comparison to the regulatory limits. Substances not detected are not included in the table. The state requires monitoring of certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Therefore, some of this data may be older than one year.

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.

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.

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

MRDL (Maximum Residual Disinfectant Level) The highest level of a disinfectant allowed in drinking water.

RAA (Running Annual Average) An ongoing annual average calculation of data from the most recent four quarters.

LRAA (Locational Running Annual Average) An ongoing annual average calculation of data from the most recent four quarters at each sampling location

90th Percentile - Represents the highest value found out of 90% of the samples taken in a representative group. If the 90th percentile is greater than the action level, it will trigger a treatment or other requirements that a water system must follow.

N/A - Not applicable. ND - Not detectable

Microbiological	Highest No. of Positive Samples	MCL	MCLG	Likely Source of Contamination	Violations Present
COLIFORM (TCR)	In the month of March, 2 samples were positive	Treatment Technique Trigger	0	Naturally present in the environment	Yes

During the past year we were required to conduct one Level 1 assessment. One Level 1 assessment was completed. In addition, we were required to take one corrective action and we completed one of these actions. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct an assessment to identify problems and to correct any problems that were found during these assessments.

Contaminant (Lead and Copper)	Range	Action Level (AL)	90th Percentile	# Sites Over AL	Likely Source of Contaminant
Copper, Free 2017 - 2019	0.0275 - 0.405	1.3 ppm	0.396 ppm	0	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing.
Lead 2017 - 2019	0.533 - 4.69	15 ppb	2.49 ppb	0	

Regulated Contaminants							
Contaminant	Highest Level Detected	Range of Levels Detected	Units	MCLG	MCL	Violation	Likely Source of Contamination
*Arsenic (6/11/2019)	5.88	2.34 - 5.88	ppb	0	10	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (7/27/15)	0.117	0.098 - 0.117	ppm	2	2	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chromium (7/27/15)	8.06	2.49 - 8.06	ppb	100	100	No	Discharge from steel and pulp mills; Erosion of natural deposits
Fluoride (7/27/15)	0.288	0.271 - 0.288	ppm	4	4	No	Erosion of natural deposits; Water additive which promotes strong teeth; Fertilizer discharge
Nitrate-Nitrite (12/9/2019)	1.59	0.0569 - 1.59	ppm	10	10	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits

Radiological Contaminants							
Contaminant	Collection Date	Highest Value	Range	Unit	MCL	MCLG	Likely Source of Contamination
COMBINED RADIUM (-226 & -228)	06/10/2019	4	4	pCi/L	5	0	Erosion of natural deposits
GROSS ALPHA, INCL. RADON & U	07/10/2019	13.4	9.17 - 13.4	pCi/L	15	0	Erosion of natural deposits
RADIUM-226	06/10/2019	2.17	2.17	pCi/L		0	Erosion of natural deposits
RADIUM-228	06/10/2019	1.83	1.83	pCi/L		0	Erosion of natural deposits

Unregulated Water Quality Data	Collection Date	Highest Value	Range	Unit	Secondary MCL
Sulfate	07/16/2019	69.9	69.9	mg/L	250

pCi/L: (picocuries per liter - Radioactivity concentration unit.

ppb: (parts per billion) - One ppb corresponds to 1 gallon of concentrate in 1 billion gallons of water.

ppm: (parts per million) - One ppm corresponds to 1 gallon of concentrate in 1 million gallons of water.

ug/L: (micrograms per liter) - Equivalent to ppb

mg/L: (milligrams per liter) - Equivalent to ppm

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

