

2017 WATER QUALITY REPORT FOR CARTER LAKE WATER DISTRICT

This report contains important information regarding the water quality in our water system. The source of our water is surface water. All of the water is purchased. Purchased water comes from Omaha Water Supply. Our water quality testing shows the following results:

950 - DISTRIBUTION SYSTEM						
CONTAMINANT	MCL - (MCLG)	Compliance		Date	Violation Yes/No	Source
		Type	Value & (Range)			
Total Trihalomethanes (ppb) [TTHM]	80 (N/A)	LRAA	54 (40 - 68)	03/13/2017	No	By-products of drinking water chlorination
Total Haloacetic Acids (ppb) [HAA5]	60 (N/A)	LRAA	38 (36 - 39)	03/13/2017	No	By-products of drinking water disinfection
Total Trihalomethanes (ppb) [TTHM]	80 (N/A)	LRAA	45 (44 - 45)	06/06/2017	No	By-products of drinking water chlorination
Total Haloacetic Acids (ppb) [HAA5]	60 (N/A)	LRAA	26 (22 - 30)	06/06/2017	No	By-products of drinking water disinfection
Total Trihalomethanes (ppb) [TTHM]	80 (N/A)	LRAA	44 (41 - 46)	09/06/2017	No	By-products of drinking water chlorination
Total Haloacetic Acids (ppb) [HAA5]	60 (N/A)	LRAA	24 (22 - 25)	09/06/2017	No	By-products of drinking water disinfection
Total Trihalomethanes (ppb) [TTHM]	80 (N/A)	LRAA	46 (41 - 51)	10/17/2017	No	By-products of drinking water chlorination
Total Haloacetic Acids (ppb) [HAA5]	60 (N/A)	LRAA	32 (31 - 32)	10/17/2017	No	By-products of drinking water disinfection
Lead (ppb)	AL=15 (0)	90th	2 (ND - 2)	2017	No	Corrosion of household plumbing systems; erosion of natural deposits
Copper (ppm)	AL=1.3 (1.3)	90th	0.07 (ND - 0.16)	2017	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Asbestos (MFL)	7_(N/A)		< 0.2	2017	No	Deterioration of asbestos-cement pipe
Chlorine (ppm)	MRDL=4.0 (MRDLG=4.0)	RAA	2.1 (1.8 - 2.5)	09/30/2017	No	Water additive used to control microbes

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

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.
- MFL – Millions of fiber per liter
- ppb -- parts per billion.
- ppm -- parts per million.
- pCi/L – picocuries per liter
- N/A – Not applicable
- ND -- Not detected
- RAA – Running Annual Average
- 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
- RTCR – Revised Total Coliform Rule
- NTU – Nephelometric Turbidity Units

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. CARTER LAKE WATER DISTRICT 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>.

OTHER VIOLATIONS

In December 2017 we failed to monitor for Haloacetic Acids (HAA5). Adverse health effects, if any, are not known. Monitoring procedures have been corrected to avoid future violations.

In December 2017 we failed to monitor for Total THM. Adverse health effects, if any, are not known. Monitoring procedures have been corrected to avoid future violations.

SOURCE WATER ASSESSMENT INFORMATION

This water supply 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.

Original Supply ID	Original Supply Name
NE3105507	Omaha Water Supply

OTHER INFORMATION

Turbidity is an indicator of treatment filter performance and is regulated as a treatment technique.

CONTACT INFORMATION

For questions regarding this information or how you can get involved in decisions regarding the water system, please contact CARTER LAKE WATER DISTRICT at 712-347-6320.

PURCHASED WATER INFORMATION

Our water system purchases water from the Omaha Metropolitan Utilities District (MUD). MUD’s water quality, taken directly from their 2017 Water Quality Report, is shown below on pages 3 through 7.

M.U.D. is required to test for the following contaminants:

Acetochlor, Acetochlor ESA, Acetochlor OA, Alachlor, Alachlor ESA, Alachlor OA, Aldrin, Antimony, Arsenic, Asbestos, Atrazine, Barium, Benzene, Benzo(a) pyrene, Beryllium, Bromoform, Butachlor, Cadmium, Carbaryl, Carbofuran, Carbon Tetrachloride, Chlordane, Chloroform, Chromium (Hexavalent), Chromium (Total), Cobalt, Coliform Bacteria, Copper.

Cyanide, Dalapon, Di(2-ethylhexyl)adipate, Dibromochloropropane, Dicamba, Dieldrin, Dimethoate, Dinoseb, Di(2-ethylhexyl)phthalate, Diquate, 2,4-D, Dioxin, Endothall, Endrin, Ethylene dibromide, Fluoride, Glyphosate, Heptachlor, Heptachlor epoxide, Hexachlorobenzene, Hexachlorocyclopentadiene.

o-Dichlorobenzene, 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-Trichlorobenzene, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, Trichloroethylene.



We conduct over 1,000 tests a day to bring you safe drinking water.

Gross Alpha, Radium 226, Radium 228, Bromodichloromethane, Chlorodibromomethane.

Bromochloromethane, Chlorate, Chlorodifluoromethane, 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, Equilin, Estriol, Estrone.

3-Hydroxycarbofuran, Lead, Lindane, Mercury, Methomyl, Methoxychlor, Metolachlor, Metolachlor ESA, Metolachlor OA, Metribuzine, Bromochloroacetic acid, Dibromoacetic acid, Dichloroacetic acid, Molybdenum, Monobromoacetic acid, Monochloroacetic acid, Trichloroacetic acid.

N-Nitrosodiethylamine (NDEA),

N-Nitrosodimethylamine (NDMA), N-Nitrosodi-N-butylamine (NDBA), N-Nitrosodi-N-propylamine (NDPA), N-Nitrosomethylethylamine (NMEA), N-Nitrosopyrrolidine (NPNR), Nickel, Nitrate, Nitrite.

Oxamyl (Vydate), Pentachlorophenol, Perfluoro octanesulfonic acid-PFOS, Perfluoro-1-butanesulfonic acid-PFBS, Perfluoro-1-hexanesulfonic acid-PFHxS, Perfluoroheptanoic acid-PFHpA, Perfluoro-n-nonanoic acid-PFNA, Perfluorooctanoic acid-PFOA, Picloram, Polychlorinated biphenyls, Propachlor, Selenium, Silvex, Simazine, Sodium, Strontium, Styrene, Sulfate, Testosterone, Tetrachloroethylene, Thallium, Toluene, Toxaphene, Vanadium, Vinyl Chloride, Xylenes (total).

1,3-Butadiene, 1,4-Dioxane, 17 alpha-ethynylestradiol, 17-beta-Estradiol, 2,2',4,4',5,5'-Hexabromobiphenyl (HBB), 2,2',4,4',5,5'-Hexabromodiphenyl ether (BDE-153), 2,2',4,4',5-Pentabromodiphenyl ether (BDE-99), 2,2',4,4',6-Pentabromodiphenyl ether (BDE-100), 4-androstene-3, 17-dione.

Terbufos-sulfone, 2,2',4,4'-Tetrabromodiphenyl ether (BDE-47), 1,3-Dinitrobenzene, RDX (Hexahydro-1,3,5-trinitro-1,3,5-triazine), TNT (2,4,6-Trinitrotoluene).

Test results (collected in 2017, unless noted)

The Nebraska Department of Health and Human Services 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 more than a year old.

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

MCL (Maximum Contaminant Level): The highest level of a contaminant 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.

n/a: Not applicable

NTU: Nephelometric turbidity unit is a measure of the clarity of water.

ppm (parts per million): 1 part per million (or milligram per liter) and corresponds to 1 minute in 2 years or 1 penny in 10 thousand dollars.

ppb (parts per billion): 1 part per billion (or microgram per liter) and corresponds to 1 minute in 2,000 years or 1 penny in 10 million dollars.

ppt (parts per trillion): 1 part per trillion (or picogram per liter) and corresponds to 1 minute in 2 million years or 1 penny in 10 billion dollars.

pCi/l (picoCuries per liter):

Measurement of radioactivity.

< means less than; > means more than.

All results are from samples collected between 1/1/2017 through 12/31/2017 unless otherwise noted.

Coliform Bacteria				
Total Coliform MCLG	Total Coliform MCL	Highest Percentage of Positive Total Coliform Samples in any Month	Violation?	Likely Source of Contamination
0	5% of monthly samples are positive	0.64	No	Naturally present in the environment; used as an indicator that other potentially harmful bacteria may be present.
Fecal Coliform or E. Coli MCL	Total Number of Positive E. Coli or Fecal Coliform Samples in 2017		Violation?	Likely Source of Contamination
0	0	0	No	Human and animal fecal waste.

Lead (Monitoring period: 2014-2016; Sampled August 2-19, 2016)

MCLG	Action Level (AL)	90th Percentile	Number of Sites Over AL	Range of Levels	Likely Source of Contamination
0	15 ppb	6.4 ppb	0	<0.5-14.9	Erosion of natural deposits; leaching from wood preservatives; corrosion of household plumbing systems.

Copper (Monitoring period: 2014-2016; Sampled August 2-19, 2016)

MCLG	Action Level (AL)	90th Percentile	Number of Sites Over AL	Range of Levels	Likely Source of Contamination
1.3 ppm	1.3 ppm	0.0407 ppm	0	<0.0025-0.085	Erosion of natural deposits; leaching from wood preservatives; corrosion of household plumbing systems.

Contaminants that may be present in source water:

- 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 run-off, 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 run-off and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and also can come from gas stations, urban storm water run-off and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

Regulated Contaminants

	Highest Level Detected	Monthly percentage <3 NTU	Unit of Measurement	MCLG	MCL	Violation?	Likely Source of Contamination
Turbidity	0.27	100%	NTU	n/a	1	No	Soil run-off.

Disinfectants & Disinfectant By-Products **MCL is based on a system-wide running annual average of several samples.*

	Highest Average Detected	Range of Levels Detected	Unit of Measurement	MCLG	MCL	Violation?	Likely Source of Contamination
Total Haloacetic Acids (HAA5) (Monitoring period: 4/1/2016-12/31/2017)	19.3	9.82-40.4	ppb	n/a	60*	No	By-product of drinking water chlorination.

Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

Total Trihalomethanes (TTHMs) (Monitoring period: 4/1/2016-12/31/2017)	43.0	29.8-86.3	ppb	n/a	80*	No	By-product of drinking water chlorination.
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Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys or central nervous system, and may have an increased risk of getting cancer.

Inorganic Contaminants

	Highest Level Detected	Range of Levels Detected	Unit of Measurement	MCLG	MCL	Violation?	Likely Source of Contamination
Antimony, Total (Monitoring period: 1/1/2013-12/31/2016)	0.983	<0.5-1.0	ppb	6	6	No	Erosion of natural deposits; discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic (Monitoring period: 1/1/2015-12/31/2016)	5.07	<2-5.07	ppb	0	10	No	Erosion of natural deposits; run-off from orchards, electronics production wastes.

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 cost of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known at high concentrations to cause cancer in humans and is linked to other health effects such as skin damage and circulatory problems.

Barium (Monitoring period: 1/1/2014-12/31/2016)	0.18	0.04-0.18	ppm	2	2	No	Erosion of natural deposits; discharge of drilling wastes; discharge from metal refineries.
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	Highest Level Detected	Range of Levels Detected	Unit of Measurement	MCLG	MCL	Violation?	Likely Source of Contamination
Chromium Total (Monitoring period: 1/1/2014-12/31/2016)	16.3	<0.2-16.3	ppb	100	100	No	Erosion of natural deposits; discharge from steel and pulp mills.
Chromium VI (Monitoring period: 1/1/2014-12/31/2014)	1.40	0.13-1.40	ppb	100	100	No	
Fluoride	0.90	0.24-0.90	ppm	4	4	No	Erosion of natural deposits; water additive to promote strong teeth; fertilizer discharge.
Nitrate-Nitrite	5.41	0.28-5.41	ppm	10	10	No	Erosion of natural deposits; run-off from fertilizer use; leaching from septic tanks, sewage.
Selenium (Monitoring period: 1/1/2014-12/31/2016)	7.33	3.70-7.33	ppb	50	50	No	Erosion of natural deposits; discharge from petroleum and metal refineries; discharge from mines.
Sodium (State requirement)	110	39-110	ppm	n/a	500	No	Element of the alkali metal group found in nature, soil and rocks.

Radioactive Contaminants ***MCL is based on Gross alpha excluding radon and uranium.*

(Monitoring period is 1/1/2013 through 12/31/2017)

Gross Alpha including Radon and Uranium	5.63	<3-5.63	pCi/l	0	15**	No	Erosion of natural deposits.
Radium (Ra 226 + Ra 228)	0.48	0.48	pCi/l	0	5	No	Erosion of natural deposits.

Synthetic Organic Contaminants (including pesticides and herbicides)

Di(2-ethylhexyl)phthalate	3.11	<2-3.11	ppb	0	6	No	Discharge from rubber and chemical factories.
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Rubber seat was replaced on sample tap, prior to sampling. Confirmation sample not detected (<2.0 ppb).

Unregulated Water Quality Data	Range of Levels		Unit of Measurement
	Average Level Detected	Detected	
Bromochloroacetic acid	5.23	4.01-8.11	ppb
Bromodichloromethane	12.1	8.27-24.5	ppb
Bromoform	0.85	<0.5-1.84	ppb
Chloroform	22.6	11.7-53.0	ppb
Dibromoacetic acid	1.69	0.81-2.75	ppb
Dibromochloromethane	6.29	2.96-10.3	ppb
Dichoroacetic acid	13.1	6.08-29.0	ppb
Molybdenum	3.62	3.1-3.8	ppb
Monochloroacetic acid	2.14	<2.0-7.26	ppb
Nickel	0.00431	0.00097-0.0289	ppm
Radium-226	0.48	0.48	pCi/l
Radium-228	<0.866	<0.866	pCi/l
Strontium	320	280-380	ppb
Sulfate	67	<10-287	ppm
Total Organic Carbon (TOC)	3.06	2.56-4.45	ppm
Trichloroacetic acid	3.35	1.36-10.1	ppb
Vanadium	3.74	1.7-5.0	ppb

Mineral Analysis	Range of Levels		Unit of Measurement
	Average Level Detected	Detected	
pH	8.83	8.57-9.21	pH units
Alkalinity (total) as CaCO ₃	111	50-150	ppm
Aluminum	0.07	<0.01-0.44	ppm
Calcium	47	39-54	ppm
Chloride	28	18-63	ppm
Color (in cobalt platinum units)	3	1-7	ppm
Dissolved Solids	453	385-585	ppm
Hardness (total) as CaCO ₃	10	9-13	grains per gallon
Iron	<0.02	<0.02	ppm
Magnesium	14	9-27	ppm
Manganese	0.01	<0.01-0.07	ppm
Phosphate	0.17	<0.05-0.46	ppm
Potassium	9	6-11	ppm
Silica	20.8	5.4-33.3	ppm
Spec. Conductance @25 deg. C.	598	480-780	umhos
Temperature	15.4	1.4-27.9	degrees Celsius
Zinc	0.01	<0.01-0.03	ppm