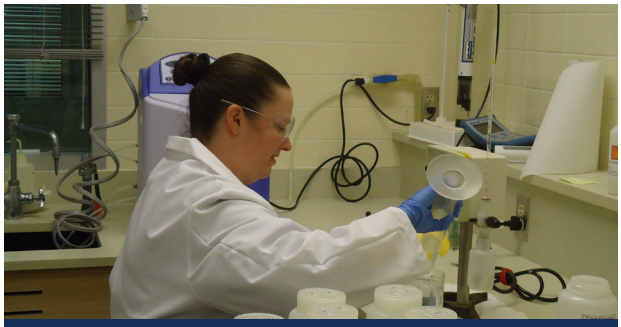
Test Results (2019 data unless otherwise noted)

Regulated Contaminants

Tested and Detected	Units	Regulatory Limit (MCL)	Goal (MCLG)	Ashland Plants	Lincoln *(a)*	Violation Yes/No	Likely Source (in U.S. drinking water systems)
Inorganic Contaminants							
Antimony - Ashland (08/16)	ppb	6	6	ND-0.672	N/A	No	Discharge from petroleum refineries, Fire retardants; ceramics; electronics; solder
Arsenic - Ashland	ppb	10	N/A	6.13-6.22	N/A	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronic production
Atrazine	ppb	3	3	ND-0.08	N/A	No	Runoff from herbicide used on row crops
Barium - Ashland	ppb	2000	2000	110-112	N/A	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Copper ***(a)*** - Lincoln (06/16) 90th percentile	ppm	1.3*	1.3	N/A	0.006-1.56 0.724	No	Corrosion of household plumbing; erosion of natural deposits; leaching from wood preservatives
Fluoride ***(b)*** (monthly)	ppm	4	4	0.91-0.97	0.91-1.01 ***(b)***	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Lead ***(a)*** - Lincoln 90th percentile	ppb	15*	0	N/A	ND-13.7 3.12	No	Corrosion of household plumbing; erosion of natural deposits
Nickel - Ashland (08/16)	ppb	100	N/A	1.48-2.15	N/A	No	Erosion of natural deposits; leaching
Nitrate+Nitrite - Ashland	ppm	10	10	0.61-0.65	N/A	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium (07/16)	ppb	50	50	ND-6.61	N/A	No	Erosion of natural deposits
Radioactive Contaminants							
Combined Radium 226 and 228 (11/15)	pCi/L	5	0	0.62-1.04	N/A	No	Erosion of natural deposits
Gross Alpha (including Radon & U)	pCi/L	15	0	7.91	N/A	No	Erosion of natural deposits
Radium - 228 (11/15) Ashland	ug/L	30	0	0.62-1.04	N/A	No	Erosion of natural deposits
Disinfection - Byproducts *(d)*							
Trihalomethanes - Lincoln maximum RAA	ppb	80	N/A	26.5 (05/16)	29.2-49.9 38.2	No	Byproduct of drinking water chlorination
Total Haloacetic Acid Lincoln maximum RAA	ppb	60	N/A	N/A	8.64-35.2 21.8	No	Byproduct of drinking water chlorination
Bromate	ppb	10	0	ND - 2.3	N/A	No	Byproduct of drinking water ozonation
Clarity							
Turbidity ***(c)***	NTU	0.3	N/A	0.03-0.11	N/A	No	Soil runoff

Microbiological	Total Coliform Maximum Contaminant Level	Goal (MCLG)	Highest Monthly Positive Coliform Samples	Total Positive E. Coli or Fecal Coliform Samples in 2019	Violation	Fecal Coliform or E. Coli Maximum Contaminant Level	Likely Source of Contamination
Coliform Bacteria	5% of monthly samples are positive	0	1 (0.66%)	0	No	Fecal Coliform or E. Coli MCL; A routine sample and a repeat sample are total coliform positive, and one is also fecal coliform or E. Coli positive.	Total Coliform bacteria are naturally present in the environment. Fecal coliform and E. Coli are present in human and animal fecal waste.



Repeated Testing

Unregulated Contaminants Tested

Lincoln Water System monitors the following unregulated contaminants:

Tested and Detected	Ashland	Units
Total Organic Carbon	2.94-4.43 *(d)*	ppm
Sulfate	84.5-85.6	ppm

The City of Lincoln is required to test for the following contaminants: Coliform Bacteria, Antimony, Arsenic, Asbestos, Barium, Beryllium, Cadmium, Chromium, Copper, Cyanide, Fluoride, Lead, Mercury, Nickel, Nitrate, Nitrite, 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, Endothall, Endrin, Ethylene dibromide, Glyphosate, Heptachlor, Heptachlor epoxide, Hexachlorobenzene, Hexachlorocyclopentadiene, Lindane, Metolachlor, Methoxychlor, Oxamyl (Vydate), Pentachlorophenol, Picloram, Polychlorinated biphenyls, Simazine, Toxaphene, Dioxin, Silvex, Benzene, Carbon Tetrachloride, o-Dichloro- benzene, Para-Dichlorobenzene, 1,2-Dichlorethane, 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-Tetrachlorethane, 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.

Lincoln's water is moderately hard.

Alkalinity, pH and hardness are important when considering a water softener.

American Water Works Association
Nebraska Section

Lincoln Water System is a proud member of AWWA.

Key to Test Results

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.

ppm (parts per million) = mg/L (milligrams per liter) - One ppm corresponds to 1 gallon of water in 1 million gallons of water.

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

N/A - Not applicable

ND - Not detected

pCi/L - pico curies per liter (measure of radioactivity)

NTU - Nephelometric Turbidity Unit: A measure of the cloudiness of the water

LRA - Locational Running Average

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

90th Percentile – Represents the highest value found out of 90 percent 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.

(a) Water from the treatment plant does not contain detectable lead or copper. Tests for lead and copper are collected from the customer's tap to ensure the substances have not been dissolved from the customer's service lines or interior piping system.

(b) Fluoride is added in treatment to bring the natural level of about 0.4 ppm to the State required level of 0.8-1.2 ppm.

(c) TT - Treatment Technique

(d) Samples collected quarterly from 10/1/2018- 9/30/2019

* Action Level is the concentration of a contaminant which triggers treatment or another requirement which a water system must follow.

Water Quality Parameters 2019

(Average of 12 monthly water quality analyses)

pH (in pH units)	7.63
Total Alkalinity (CaCO3)	174 ppm
Total Hardness (CaCO3) (13 grains per gallon)	207 ppm
Total Dissolved Solids	365 ppm
Calcium	61 ppm
Chloride	23 ppm
Iron	<0.05 ppm
Manganese	2.2 ppb
Sodium	33.2 ppm
Sulfate	86.3 ppm

Lincoln Water System Facts

- Lincoln Water System spends $1.43 million for electricity and diesel fuel to treat and pump water to Lincoln and another $1.21 million for electricity to distribute water to all parts of the City.
- Each person in Lincoln used an average of 111 gallons of water every day in 2019.
- The City of Lincoln covers an area of more than 99.1 square miles.
- Lincoln Water System maintains 1,230 miles of water mains, 11,934 fire hydrants and 27,903 valves.
- 115 broken mains were repaired in 2019.
- Water service lines between the main and private property are owned and maintained by the property owner.
- Water delivered to your home or business can vary in temperature from 49°F to 76°F.

To Learn More

For answers to questions you may have or to learn more about the water you drink, call John Keith, Manager of Laboratory Services, Lincoln Water System, at 402-441-1622. This report and other information about water are available on the City's website at water.lincoln.ne.gov.

Drinking water quality and the infrastructure required to deliver water to homes and businesses in Lincoln are essential to the community. The Lincoln Water System Facilities Master Plan, available at lincoln.ne.gov (keyword: water master plan) is a great way to learn more about Lincoln's water system and its future plans for providing the community an adequate supply of high-quality drinking water. The Mayor and City Council make decisions regarding Lincoln Water System. To participate or provide input, contact your City Council representative. A list is available at council.lincoln.ne.gov.

Additional Sampling Results

As required by the United States Environmental Protection Agency (USEPA), Lincoln Water System tested for several unregulated contaminants in 2018 and 2019 and will continue additional sampling in 2020. Unregulated contaminants are those that do not yet have a drinking water standard set by USEPA. The purpose of testing for these contaminants is to help USEPA decide whether they should have a standard. Below are the test results from our treatment plant and our distribution system. If you wish to see the full set of results, please contact Lincoln Water System, John Keith at 402-441-1622 or PO Box 144, Ashland, NE 68003.

Detected Unregulated Contaminants (Treatment Plant Samples)	Monitoring Period	Average	Range	Unit
Bromide	2019	2.4	2.4 - 2.4	ug/L

Detected Unregulated Contaminants (Distribution System Samples)	Monitoring Period	Average	Range	Unit
MonoBromoAcetic Acid	2019	0.63	0.57 - 0.7	ug/L
DichloroAcetic Acid	2019	10.3	7.0 - 12.5	ug/L
TriChloroAcetic Acid	2019	6.58	5.6 - 7.2	ug/L
BromoChloroAcetic Acid	2019	6.1	5.1 - 6.8	ug/L
BromoDiChloroAcetic Acid	2019	4.97	4.0 - 6.0	ug/L
DiBromoAcetic Acid	2019	2.07	1.6 - 2.3	ug/L
ChloroDiBromoAcetic Acid	2019	1.99	1.7 - 2.2	ug/L
HAA5 Group	2019	19.4	15.5 - 22.7	ug/L
HAA6Br Group	2019	15.6	13.9 - 18.0	ug/L
HAA9 Group	2019	32.5	27.5 - 37.7	ug/L

Tested For But Not Detected Unregulated Contaminants

Germanium, Ethoprop, alpha-Hexachlorocyclohexane, Dimethipin, Chloropyrifos, Profenofos, Tribufos, Oxyfluorfen, Tebuconazole, Total Permethrin (cis- & trans-), butylated hydroxyanisole (BHA), o-toluidine, Quinoline, 2-propen-1-ol (allyl alcohol), 1-butanol, 2-methoxyethanol, MonochloroAcetic Acid, TriBromoAcetic Acid, Anatoxin, Total Microcystins, Cylindrospermopsin

Home Water Treatment Devices

Lincoln Water System meets all state and federal water quality standards. Use of a supplemental filter or home water treatment device is a personal preference, however, if not properly maintained, it could cause water quality problems. In selecting a filter or home water treatment device, determine what substance you want to remove and look for a filter that has a National Sanitation Foundation / Underwriter's Laboratories (NSF/UL) certification to remove those specific substances. Information on plumbing fixtures and in-home filters is available by calling 1.800.NSF.MARK or visiting nsf.org.