Town of Chesapeake City Water Quality Report for 2021

PWSID# MD0070006 SPRING 2022

Superior Water Quality

Artesian Water Company, The Town of Chesapeake City's water operator, is pleased to provide this Water Quality Report for the year 2021. Please notice that substances such as iron, chloride, and sodium are commonly found in drinking water. They occur naturally at trace levels, and the United States Environmental Protection Agency (EPA) has deemed that these substances pose no health hazard from consumption in drinking water. This report indicates the concentrations of these and many other substances obtained during analyses performed from January 1, 2021 – December 31, 2021 unless otherwise specified. If you have any questions about this report or the quality of your tap water, please contact The Town of Chesapeake City at (410) 885-5298.

Town of Chesapeake City

WATER QUALITY REPORT

Information concerning public water system

MD0070006

EPA WaterSense PARTNER

www.epa.gov/watersense/

A Safe Water Source

The Town of Chesapeake City water system is supplied with water purchased from Artesian Water Company's (Delaware) system. The system's supply comes from groundwater wells. The Artesian Water Company (Delaware) Main System's complete water quality report can be viewed at *https://www.artesianwater.com/wp-content/uploads/2021/05/wqawc2020.pdf*. Artesian Water Company (Delaware) uses the best available technology and conducts regular testing to ensure water quality.

The Division of Public Health, in conjunction with the Department of Natural Resources and Environmental Control, has conducted source water assessments for nearly all community water systems in the state of Delaware. The Source Water Assessment report can be found on the Delaware SWAPP website *www.delawaresourcewater.org/assessments* or contact Artesian's Water Quality Department at (443) 245-7777 to obtain a copy.

Town of Chesapeake City
Water Quality Report for 2021

PWSID# MD0070006

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of contaminants in water provided by public water systems. The table below lists all of the drinking water contaminants that we detected. Although many more contaminants were tested, only those substances listed below were found in your water. All sources of drinking water contain some naturally occurring contaminants. At low levels, these substances are generally not harmful in our drinking water. Removing all contaminants would be extremely expensive, and in most cases, would not provide increased protection of public health. A few naturally occurring minerals may actually improve the taste of drinking water and have nutritional value at low levels. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. As such, some of our data, though representative, may be more than one year old. In this table you will find terms and abbreviations that might not be familiar to you. To help you better understand these terms, we have provided the definitions below the table.

	Unit of Measure	Highest Level Allowed (MCL)	Ideal Goal (MCLG)	Highest Level Detected	Range of Level Detected Low – High	Sample Date	Violation ?	Likely Source of Contamination
Disinfection/Disinfection By-Products								
Chlorine (free)	ppm	4 (MRDL)	4 (MRDLG)[1]	1.52	0.82 – 1.52	2021	No	Disinfectant used in drinking water industry.
Haloacetic Acids, total	ppb	60		3.72	3.72	2021	No	By-product of drinking water chlorination.
Trihalomethanes, total	ppb	80		6.8	6.8	2021	No	By-product of drinking water chlorination.

	Unit of Measure	MCL	Average Level Detected	Range of Level Detected Low – High	Sample Date	Violation ?	Likely Source of Contamination
Unregulated Contaminants							
Alkalinity, total	ppm	n/r	92.5	70.1 – 131.0	2021	n/a	
Calcium Hardness	ppm	n/r	24.8	16.0 – 60.0	2021	n/a	
Conductivity	umhos/cm	n/r	151.9	133.4 – 163.2	2021	n/a	
Phosphate, total	ppm	n/r	1.37	0.76 – 2.09	2021	n/a	

	Unit of Measure	SMCL	Average Level Detected	Range of Level Detected Low – High	Sample Date	Violation ?	Likely Source of Contamination
Secondary Contaminants							
Iron	ppm	0.3	0.09	nd – 0.40	2021	n/a	Short-term fluctuations related to iron removal treatment.
pH, Field	0 - 14 scale	6.5 – 8.5	7.83	7.25 – 8.17	2021	n/a	

Unit Descriptions

- ppm — Parts per million, or milligrams per liter (mg/L)
- ppb — Parts per billion, or micrograms per liter (µg/L)
- pCi/L — Picocuries per liter (a measure of radioactivity)
- umhos — Measurement of conductivity
- n/a — Not applicable
- ND — Not detected
- n/r — Monitoring not required, but recommended

Notes For All Contaminants

1. The U.S. Environmental Protection Agency sets the MRDLG for chlorine residual at 4 parts per million (ppm).

Important Drinking Water Definitions

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.

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.

AL — ACTION LEVEL : The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

MRDLG — MAXIMUM RESIDUAL DISINFECTANT LEVEL GOAL: 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.

MRDL — MAXIMUM RESIDUAL DISINFECTANT LEVEL: 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.

SMCL — SECONDARY MAXIMUM CONTAMINANT LEVEL: Non-enforceable guideline which is not directly related to public health, commonly associated with cosmetic or aesthetics within the water.

Expected Substances In Drinking Water

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 (1-800-426-4791).

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, 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 stormwater 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 stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants, which 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, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

If You Have A Special Health Concern

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 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 (1-800-426-4791).

Lead In Drinking Water

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. Artesian 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 ***www.epa.gov/safewater/lead***.

Radon

Radon is a radioactive gas that is found in nearly all soils. It typically moves up through the ground to the air and into homes through the foundation. Drinking water from a ground water source can also add radon to the home air.

KIDS CORNER

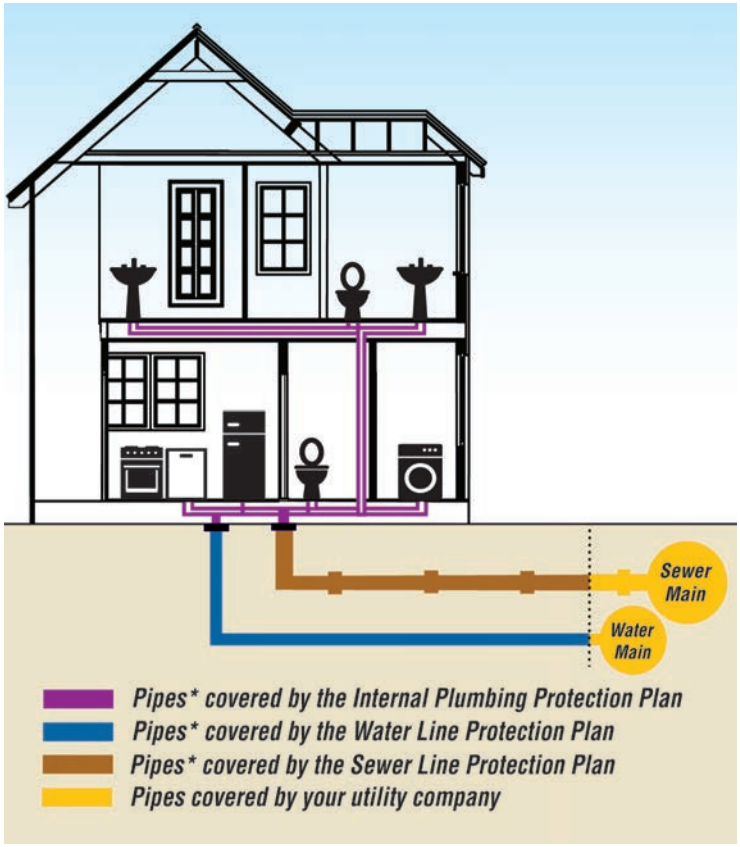
Clean water is one of our most precious natural resources. Artesian knows how valuable water is, and how important it is for all of us to conserve, now and in the future. Teaching the next generation about the water cycle and ways to conserve in your home or garden can be both educational and entertaining.

Check out the links below to access some fun facts and interactive games.

https://drinktap.org/Kids-Place

https://wateruseitwisely.com/kids/

https://www.epa.gov/watersense/watersense-kids



Service Line Protection Plans

We encourage all of our customers to enroll in our Water, Sewer, and Internal Plumbing Protection Plans. Nearly 25% of our customers are currently enrolled in the water service line protection plan and nearly 20% have enrolled in the sewer line protection plan since we began offering them in 2007.

As a homeowner, you are responsible for the maintenance of the water and sewer lines that run from your house to the street, as well as all of the internal water and wastewater pipes within your home. Clogs, breaks, blockages from tree roots, and even pipe collapses can and do happen without warning. Pipes that become clogged can backup systems with raw sewage causing major inconvenience, while breaks and collapses can harm the environment and be expensive and unpleasant to cleanup.

Customers who are informed and prepared contribute to protecting water resources that we all enjoy through responsible care for pipes. Artesian's Service Line Protection Plans guarantee an added peace of mind of water, sewer, and internal plumbing protection that can help cover the unexpected costs of repairing and replacing internal wastewater pipes, leaking water lines, and pipe collapses to sewer lines that could cost you thousands of dollars!

The Plans are Easy, Affordable and Convenient

- Emergency expert service repairs around-the-clock, managed by an experienced Artesian team
- No deductible or hidden service fees
- No negotiating with contractors or plumbers
- Easy monthly billing added to your existing water bill

Water Line Protection Plan - $5.50/month

Sewer Line Protection Plan - $11.00/month

Internal Plumbing Protection Plan - $8.50/month

Enroll online at: ***www.artesianwater.com*** Or call: **302.453.6930**

Artesian Water Company Water Quality Report for 2021

PWSID# DE0000552

In order to ensure that tap water is safe to drink, the United States Environmental Protection Agency (EPA) prescribes regulations which limit the amount of contaminants in water provided by public water systems. The table below lists all of the drinking water contaminants that we detected during 2021. Although many more contaminants were tested, only those substances listed below were found in your water. All sources of drinking water contain some naturally occurring contaminants. At low levels, these substances are generally not harmful in our drinking water. Removing all contaminants would be extremely expensive, and, in most cases, would not provide increased protection of public health. A few naturally occurring minerals may actually improve the taste of drinking water and have nutritional value at low levels. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. As such, some of our data, though representative, may be more than one year old. In this table you will find terms and abbreviations that might not be familiar to you. To help you better understand these terms, we have provided the definitions below the table.

	Unit of Measure	Highest Level Allowed (MCL)	Ideal Goal (MCLG)	Highest Level Detected	Range of Level Detected	Year Sampled	Violation?	Likely Source of Contamination
Inorganic Contaminants								
Barium	ppm	2	2[1]	0.244	nd – 0.244	2020	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Chromium	ppb	100	100[1]	5	nd – 5	2020	No	Discharge from steel and pulp mills; Erosion of natural deposits.
Cyanide, Free	ppm	200	200[1]	12	nd – 12	2020	No	Discharge from steel/metal factories; discharge from plastic and fertilizer factories.
Fluoride	ppm	2	2[1]	1.26	0.41 – 1.26	2021	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nickel	ppb	100	100[1]	8	nd – 8	2020	No	Erosion of natural deposits.
Nitrate[2]	ppm	10	10[1]	6.76	nd – 6.76	2021	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Selenium	ppb	50	50[1]	5	nd – 5	2020	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.
Volatile Organic Contaminants								
Cis-1,2-Dichlorlethene	ppb	70	0	0.6	nd – 0.6	2021	No	Discharge from drug and chemical factories.
Methylene Chloride	ppb	5	0	1	nd – 1	2020	No	Discharge from drug and chemical factories.
Methyl-t-butyl Ether (MTBE)	ppb	10	0	6.9	nd – 6.9	2021	No	Gasoline additive.
Radiological Contaminants								
Gross Alpha	pCi/l	15	0	5.1	nd – 5.1	2019	No	Erosion of natural deposits of certain minerals that are radioactive and may emit a form of radiation known as alpha radiation.
Radium, combined	pCi/l	5	0	4.1[3]	0.7 – 5.2[4]	2020	No	Erosion of natural deposits.
Disinfection/Disinfection By-Products								
Chlorine (free and total)	ppm	4(MRDL)	4(MRDLG)[5]	3.20	nd – 3.20	2021	No	Disinfectant used in drinking water industry.
Haloacetic Acids, total[4]	ppb	60		21.94[3]	nd – 34.30[4]	2021	No	By-product of drinking water chlorination.
Trihalomethanes, total[4]	ppb	80		54.25[3]	12.40 – 100.00[4]	2021	No	By-product of drinking water chlorination.

	Unit of Measure	Action Level (AL)	MCLG	90th Percentile	No. of Sites Over AL	Year Sampled	Violation?	Likely Source of Contamination
Lead & Copper [7]								
90th Percentile Lead	ppb	15	0	0	0	2020	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
90th Percentile Copper	ppm	1.3	1.3[1]	0.245	0	2020	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.

Artesian Water Company Water Quality Report for 2021

PWSID# DE0000552

Unregulated Contaminants

	Unit of Measure	MCL	MCLG	Average Level Detected	Range of Level Detected	Year Sampled	Violation?	Likely Source of Contamination
Alkalinity, total	ppm	n/r		92	24 – 311	2020	n/a	
Conductivity	umhos	n/r		292	52 – 529	2020	n/a	
1, 4 Dioxane	ppb	n/r	3.5	0.10	nd – 0.20	2021	n/a	
Hardness, Calcium	ppm	n/r		79	30 – 247	2020	n/a	
Hardness, Total	ppm	n/r		126	40 – 330	2020	n/a	
Perfluorooctanoic acid (PFOA	ppb	n/r	0.070	0.005	nd – 0.040	2021	n/a	
Perfluorooctanesulfonic Acid (PFOS)	ppb	n/r	0.070	0.0005	nd – 0.0130	2021	n/a	
Phosphate, total	ppm	n/r		1.04	0.06 – 3.84	2021	n/a	
Total Organic Carbon (TOC)	ppb	n/r		0.20	nd – 2.8	2020	n/a	
Turbidity	NTU	5[6]	1	0.07	nd – 1.10	2020	n/a	

Delaware Secondary Contaminants

	Unit of Measure	State SMCL	Average Level Detected	Range of Level Detected	Year Sampled	Violation?	Likely Source of Contamination
Aluminum	ppb	50 – 200	nd	nd – 19	2020	n/a	
Chloride	ppm	250	59	nd – 149	2020	n/a	
Iron	ppm	0.3	0.03	nd – 0.31	2021	n/a	Short-term fluctuations related to iron removal treatment.
Manganese	ppm	0.05	0.029	nd – 0.048	2021	n/a	
pH, Field	0 - 14 scale	6.5 – 8.5	7.34	5.97 – 9.58	2021	n/a	Short-term fluctuations related to treatment processes.
Silver	ppm	0.1	nd	nd – 0.001	2020	n/a	
Sodium	ppm	n/r	38.00	6.52 – 91.30	2021	n/a	
Solids, total dissolved	ppm	500	226	40 – 388	2020	n/a	
Sulfate	ppm	250	20.5	nd – 53.6	2020	n/a	
Zinc	ppm	5	0.123	nd – 0.249	2020	n/a	

NOTES FOR ALL CONTAMINANTS

1. Although EPA sets the "goal" at the same level as the maximum contaminant level for these contaminants, Artesian Water strives to maintain levels lower than the MCL.
2. Nitrate [measured as Nitrogen] - Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you arecaring for an infant you should ask advice from your health care provider.
3. Highest 4-quarter average of samples collected and used by the State Division of Public Health for compliance.
4. Range includes all samples tested for, whereas highest level detected is based upon the highest 4-quarter average.
5. The U.S. Environmental Protection Agency sets the MRDLG for chlorine residual at 4 parts per million (ppm). Artesian Water strives to meet a range between 0.5 ppm and 3 ppm.
6. This MCL applies only to surface water systems.
7. Under the Lead and Copper Rule, we sample for these contaminants once every 3 years.

Definitions of Terms

90TH PERCENTILE — the 90th highest reading (out of a total of 100 samples), which is used to determine compliance with the Lead and Copper Rule.

ACTION LEVEL — the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

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.

MAXIMUM RESIDUAL DISINFECTANT LEVEL (MRDL) — the highest level of a disinfectant in drinking water. There is convincing evidence that addition of a disinfectant is necessary for the 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.

NEPHELOMETRIC TURBIDITY UNIT (NTU) — a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

SECONDARY MAXIMUM CONTAMINANT LEVEL (SMCL) – non-enforceable guideline which is not directly related to public health, commonly associated with cosmetic or aesthetics within the water.

NON-DETECTS (ND) — laboratory analysis indicates that the constituent is not present.

NOT REGULATED (N/R) — no MCL identified because these substances are unregulated.

PARTS PER MILLION (PPM) — 1 part per million corresponds to 1 minute in 2 years or a single penny in $10,000.

PARTS PER BILLION (PPB) — 1 part per billion corresponds to 1 minute in 2,000 years, or a single penny in $10,000,000.

PARTS PER TRILLION (PPT) — 1 part per trillion corresponds to 1 minute in 2,000,000 years, or a single penny in $10,000,000,000.

PICOCURIES PER LITER (PCI/L) — a measure of the radioactivity in water.

Expected Substances In Drinking Water

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 (1-800-426-4791).

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, 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 stormwater 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 stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants, which 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, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

If You Have A Special Health Concern

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 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 (1-800-426-4791).

Lead In Drinking Water

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. Artesian 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 ***www.epa.gov/safewater/lead***.

Radon, Cryptosporidium & Giardia

Radon is a radioactive gas that is found in nearly all soils. It typically moves up through the ground to the air and into homes through the foundation. Drinking water from a ground water source can also add radon to the home air. The EPA indicates that, compared to radon entering the home through soil, radon entering the home through water will in most cases be a small source of risk. The EPA and the State of Delaware have not yet set standards for monitoring radon in drinking water, although we do expect sampling to become mandatory in the near future. Artesian Water Company is keeping a close eye on the situation and will be sure to comply with any new regulations as required.

Cryptosporidium and Giardia parasites have been known to contaminate drinking water reservoirs of surface water treatment plants. Water purchased by Artesian from the Chester Water Authority and the City of Wilmington are surface water supplies. Both have tested for these parasites and have found no problems in their treated water product.

Monitoring Waivers

The Artesian Water Company public water system currently has a waiver for asbestos monitoring due to non-detectable results from 1995 sampling. The State of Delaware's Office of Drinking Water will be conducting new sampling to determine whether this waiver will be continued.

Artesian Water Service Facts

Population Served	**approximately 301,000**
Metered Customers	**94,300**
Annual Production	**8.4 billion gallons**
Miles of Main	**1,398**
Active Wells	**209**
Treatment Facilities	**73**
Storage Capacity	**175.4 million gallons**
Water Service Territory	**300 square miles**
Wastewater Service Territory	**34 square miles**
Average Cost Per Day for Residential Water Service	**$1.67**

If you have any questions about the contents of this report, please call Artesian at ***(302) 453-6930****, toll free at* ***1 (800) 332-5114*** *or email at* ***custserv@artesianwater.com****. Our Customer Service Representatives and Water Quality Department are ready to assist you. More information about Artesian is available at our website:* ***www.artesianwater.com****.*

Landlords, apartment managers, businesses, schools, etc. should share this information with others who might not receive this information directly. Consider posting the information in a public place or advise others that the report is available by contacting Artesian by phone or online at ***www.artesianwater.com****.*

Artesian Water Company
664 Churchmans Road
Newark, DE 19702

OVER 115 YEARS OF SUPERIOR SERVICE
ARTESIAN™ WATER COMPANY