

# ANNUAL WATER QUALITY REPORT

REPORTING YEAR 2019

*Presented By*  
**City of Vineland**

## Our Mission Continues

We are once again pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2019. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best-quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education, while continuing to serve the needs of all our water users.

Please remember that we are always available should you ever have any questions or concerns about your water.

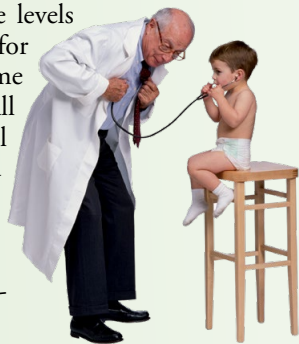


## Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. The Vineland City Council meets the second and fourth Tuesdays of each month, beginning at 6:30 p.m. at City Hall, Seventh and Wood Streets, Vineland, NJ.

### Important Health Information

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 are caring for an infant, you should ask advice from your health-care provider.



## Where Does My Water Come From?

The City of Vineland Water Utility's customers are fortunate because we enjoy an abundant water supply from groundwater. Our groundwater supply is not exposed to air and is not subject to direct pollution and contamination like a river or reservoir. In fact, groundwater is the highest-quality water available to meet public health demand of water intended for human consumption.

All 13 municipal wells draw water from the Kirkwood-Cohansey aquifer at depths ranging from 160 feet to 200 feet. This aquifer holds an estimated 17 trillion gallons of water beneath the pristine Pinelands, a million-acre protected reserve. Combined, our pumping and treatment facilities can provide roughly 3.3 billion gallons of drinking water every year.

## Water Main Flushing

Distribution mains (pipes) convey water to homes, businesses, and hydrants in your neighborhood. The water entering distribution mains is of very high quality; however, water quality can deteriorate in areas of the distribution mains over time. Water main flushing is the process of cleaning the interior of water distribution mains by sending a rapid flow of water through the mains.

Flushing maintains water quality in several ways. For example, flushing removes sediments like iron and manganese. Although iron and manganese do not pose health concerns, they can affect the taste, clarity, and color of the water. Additionally, sediments can shield microorganisms from the disinfecting power of chlorine, contributing to the growth of microorganisms within distribution mains. Flushing helps remove stale water and ensures the presence of fresh water with sufficient dissolved oxygen, disinfectant levels, and an acceptable taste and smell.

During flushing operations in your neighborhood, some short-term deterioration of water quality, though uncommon, is possible. You should avoid tap water for household uses at that time. If you do use the tap, allow your cold water to run for a few minutes at full velocity before use, and avoid using hot water to prevent sediment accumulation in your hot water tank.

Please contact us if you have any questions or if you would like more information on our water main flushing schedule.



## How Is My Water Treated and Purified?

The treatment process consists of a series of steps. First, raw water is drawn from the Kirkwood-Cohansey aquifer by vertical turbine well pumps and is sent to an aerator, which oxidizes the iron levels that are present in the water and raises the pH level. Some wells pass the raw water through filters on the way to the aerator to remove iron and radium, and some pass raw water through an air stripper to remove volatile organic compounds. The water then goes to a mixing tank where lime, chlorine, and a corrosion inhibitor (used to protect distribution system pipes) are added before the water is pumped to sanitized water towers and into your home or business.



## Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

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, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances 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, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may 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 may also come from gas stations, urban storm-water runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

“ We remain vigilant in delivering the best-quality drinking water ”

## Lead in Home Plumbing

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. We are responsible for providing high-quality drinking water, but we 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. However, for those served by a lead service line, flushing times may vary based on the length of the service line and plumbing configuration in your home. If your home is set back further from the street, a longer flushing time may be needed. To conserve water, other household water usage activities, such as showering, washing clothes, and running the dishwasher,

are effective methods of flushing out water from a service line. 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 at (800) 426-4791 or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).



## QUESTIONS?

For more information about this report, or for any questions related to your drinking water, please call Michael S. Lawler, Superintendent, at (856) 794-4056.

## Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. And, the water we deliver must meet specific health standards. Here, we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels. The State recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

We participated in the 4th stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR4) program by performing additional tests on our drinking water. UCMR4 sampling benefits the environment and public health by providing the U.S. EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if U.S. EPA needs to introduce new regulatory standards to improve drinking water quality. Unregulated contaminant monitoring data are available to the public, so please feel free to contact us if you are interested in obtaining this information. If you would like more information on the U.S. EPA's Unregulated Contaminants Monitoring Rule, please call the Safe Drinking Water Hotline at (800) 426-4791.

**Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.**

### REGULATED SUBSTANCES <sup>1</sup>

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Alpha Emitters (pCi/L)	2019	15	0	9.17	3.97–9.17	No	Erosion of natural deposits
Arsenic (ppb)	2019	5	0	1	ND–1	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Combined Radium (pCi/L)	2019	5	0	4.03	NA	No	Erosion of natural deposits
Dichloromethane (ppb)	2019	5	0	0.3	0.3–0.3	No	Discharge from pharmaceutical and chemical factories
Haloacetic Acids [HAAs] (ppb)	2019	60	NA	60	ND–60	No	By-product of drinking water disinfection
Mercury [inorganic] (ppb)	2019	2	2	1	0.2–1	No	Erosion of natural deposits; Discharge from refineries and factories; Runoff from landfills; Runoff from cropland
Methyl Tert-Butyl Ether [MTBE] (ppb)	2019	70	NA	1	0.1–1	No	Leaking underground gasoline and fuel tanks; Gasoline and fuel oil spills
Naphthalene (ppb)	2019	300	NA	0.2	0.2–0.2	No	Discharge from industrial chemical factories; Exposure to mothballs
Nitrate (ppm)	2019	10	10	7.7	0.039–7.7	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2019	80	NA	11.2	3–11.2	No	By-product of drinking water disinfection
Xylenes [total] (ppb)	2019	1,000	1,000	0.3	0.1–0.3	No	Discharge from petroleum factories; Discharge from chemical factories

## Definitions

**90th %ile:** The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

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

**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.

**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.

**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.

**NA:** Not applicable.

**ND (Not detected):** Indicates that the substance was not found by laboratory analysis.

**pCi/L (picocuries per liter):** A measure of radioactivity.

**ppb (parts per billion):** One part substance per billion parts water (or micrograms per liter).

**ppm (parts per million):** One part substance per million parts water (or milligrams per liter).

**RUL (Recommended Upper Limit):** These standards are developed to protect aesthetic qualities of drinking water and are not health based.

### Tap Water Samples Collected for Copper and Lead Analyses from Sample Sites throughout the Community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2019	1.3	1.3	0.12	6/60	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2019	15	0	0.94	6/60	No	Lead services lines; Corrosion of household plumbing systems, including fittings and fixtures; Erosion of natural deposits

### SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	RUL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Iron <sup>2</sup> (ppb)	2019	300	NA	293	0–293	No	Leaching from natural deposits; Industrial wastes
Manganese (ppb)	2019	50	NA	16.5	0–16.5	No	Leaching from natural deposits
pH (Units)	2019	6.5–8.5	NA	8.35	6.88–8.35	No	Naturally occurring

### UNREGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH
1,2,3-Trichloropropane (ppb)	2019	0.01	0.009–0.01
Dibromochloromethane (ppb)	2019	4.4	0.7–4.4
Orthophosphate (ppm)	2019	0.81	0.03–0.81

### UNREGULATED CONTAMINANT MONITORING RULE - PART 4 (UCMR4)

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH
Bromide (ppb)	2018	68.1	0–68.1
Bromochloroacetic Acid (ppb)	2018	0.763	0–0.763
Bromodichloroacetic Acid (ppb)	2018	0.71	NA
Chlorodibromoacetic Acid (ppb)	2018	0.324	0–0.324
Dibromoacetic Acid (ppb)	2018	1.65	0.33–1.65
Dichloroacetic Acid (ppb)	2018	0.461	0–0.461
HAA5 (ppb)	2018	1.8	0–1.8
Manganese (ppb)	2018	24.1	5.8–24.1
Quinoline (ppb)	2018	0.08	0–0.08

## Protecting Your Water Source: What is SWAP?

SWAP (Source Water Assessment Plan) is a program of the New Jersey Department of Environmental Protection (NJDEP) for the study of existing and potential threats to the quality of public drinking water sources throughout the state. Sources are rated depending on their contaminant susceptibility.

The New Jersey Department of Environmental Protection has completed and issued the Source Water Assessment Report and Summary for this public water system, which is available at [www.state.nj.us/dep/swap/](http://www.state.nj.us/dep/swap/) or by contacting NJDEP's Bureau of Safe Drinking Water at (609) 292-5550. You may also contact Michael S. Lawler at (856) 794-4056.

Vineland Water Utility is a public water system, consisting of 13 wells with source water coming from the Kirkwood-Cohasey aquifer.

Source	PATHOGENS			NUTRIENTS			PESTICIDES			VOLATILE ORGANIC COMPOUNDS			INORGANICS			RADIONUCLIDES			RADON			DISINFECTION BYPRODUCT PRECURSORS			
	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	
13 Wells		4	9	11	2			9	4	12		1	7	6		13				13			1	12	

If a system is rated highly susceptible for a contaminant category, it does not mean a customer is or will be consuming contaminated drinking water. The rating reflects the potential for contamination of source water, not the existence of contamination. Public water systems are required to monitor for regulated contaminants and to install treatment if any contaminants are detected at frequencies and concentrations above allowable levels. As a result of the assessments, NJDEP may customize (change existing) monitoring schedules based on the susceptibility ratings.

Source-water protection is a long-term dedication to clean and safe drinking water. It is more cost effective to prevent contamination than to address contamination after the fact. Every member of the community has an important role in source water protection. NJDEP recommends controlling activities and development around drinking water sources, whether it is through land acquisition, storm-water drain protection, or hazardous waste collection programs.

<sup>1</sup> Under a waiver granted on December 30, 1998, by the State of New Jersey Department of Environmental Protection, our system does not have to monitor for synthetic organic chemicals/pesticides because several years of testing have indicated that these substances do not occur in our source water. The SDWA regulations allow monitoring waivers to reduce or eliminate the monitoring requirements for asbestos, volatile organic chemicals, and synthetic organic chemicals. Our system received monitoring waivers for synthetic organic chemicals and asbestos.

<sup>2</sup> The recommended upper limit for iron is based on unpleasant taste of the water and staining of laundry. Iron is an essential nutrient, but some people who drink water with iron levels well above the recommended upper limit could develop deposits of iron in a number of organs of the body.