

Annual
WATER
QUALITY
REPORT

Reporting Year 2013



Presented By
City of Vineland

PWS ID#: 0614003

There When You Need Us

We are once again proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2013. 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 to assist you 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 p.m. at City Hall, Seventh and Wood Streets, Vineland, New Jersey.

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. Some wells pass the raw water through filters on the way to the aerator to remove nitrate or 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 (to protect distribution system pipes) are added before the water is pumped to sanitized water towers and into your home or business.

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. 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.

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 the public health demand of water intended for human consumption.

All 14 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 provide roughly 3.5 billion gallons of drinking water every year.

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 that 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 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 by-products of industrial processes and petroleum production and may also come from gas stations, urban stormwater 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.

QUESTIONS?

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

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 upon 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/ 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.

Sources	PATHOGENS			NUTRIENTS			PESTICIDES			VOLATILE ORGANIC COMPOUNDS			INORGANICS			RADIONUCLIDES			RADON			DISINFECTION BY-PRODUCT 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			
Wells – 13		4	9	11	2		9	4	12	1	7	6	13						13						12		
GUDI-0																											

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, stormwater drain protection, or hazardous waste collection programs.

About Our Violation

In 2013, the NJDEP sampled Well TP004008 (Well 4) for ethylene dibromide or EDB. The samples showed that the well had an EDB level that was higher than the MCL of 50 ppt. Well 4 is the only well that was not in compliance with the MCL.

The Vineland Water Utility has discussed the appropriate water treatment for this contaminant with the NJDEP and engineering consultants. At this time, Vineland Water Utility will use this well in a last on-first off scenario, if needed. We anticipate water treatment removal of this contaminant to be installed by late 2014.

Some people who drink water containing ethylene dibromide in excess of the MCL over many years could experience problems with their livers, stomachs, reproductive systems, or kidneys, and may have an increased risk of getting cancer.

Sampling Results

During the past year, we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, or volatile organic contaminants. The tables below show only those contaminants that were detected in the water. The state requires us to monitor for certain substances less often 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 3rd stage of the EPA's Unregulated Contaminant Monitoring Regulation (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if the EPA needs to introduce new regulatory standards to improve drinking water quality. Any UCMR3 detections are shown in the data tables below.

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 ¹							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
1,2-Dichloroethane (ppb)	2013	2	0	0.74	ND-0.74	No	Discharge from industrial chemical factories
Alpha Emitters (pCi/L)	2013	15	0	6.89	ND-6.89	No	Erosion of natural deposits
Benzene (ppb)	2013	1	0	0.23	ND-0.23	No	Discharge from factories; Leaching from gas storage tanks and landfills
Combined Radium (pCi/L)	2013	5	0	4.86	ND-4.86	No	Erosion of natural deposits
Ethylene Dibromide (ppt)	2013	50	0	63	ND-63	Yes	Discharge from petroleum refineries
Haloacetic Acids [HAAs]-Stage 1 (ppb)	2013	60	NA	1.49	ND-1.49	No	By-product of drinking water disinfection
Haloacetic Acids [HAAs]-Stage 2 (ppb)	2013	60	NA	0	0-0	No	By-product of drinking water disinfection
Methyl tert-Butyl Ether [MTBE] (ppb)	2013	70	NA	1.48	0.17-1.48	No	Leaking underground gasoline and fuel tanks, gasoline and fuel oil spills
Nitrate ² (ppm)	2013	10	10	6.97	ND-6.97	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes]-Stage 1 (ppb)	2013	80	NA	10.52	ND-10.52	No	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes]-Stage 2 (ppb)	2013	80	NA	0	0-0	No	By-product of drinking water disinfection
Tetrachloroethylene (ppb)	2013	1	0	0.66	ND-0.66	No	Discharge from factories and dry cleaners
Trichloroethylene (ppb)	2013	1	0	0.22	ND-0.22	No	Discharge from metal degreasing sites and other factories

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH% TILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2011	1.3	1.3	0.0739	0/31	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2011	15	0	1.3	0/31	No	Corrosion of household plumbing systems; Erosion of natural deposits

SECONDARY SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	RUL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Iron (ppb)	2013	300	NA	34	ND-34	No	Leaching from natural deposits; Industrial wastes
Manganese (ppb)	2013	50	NA	6.8	ND-6.8	No	Leaching from natural deposits

UNREGULATED CONTAMINANT MONITORING REGULATION 3 (UCMR3)

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
1,1-Dichloroethane (ppb)	2013	32	ND–32	Virtually all 1,1-dichloroethylene is used in making adhesives, synthetic fibers, refrigerants, food packaging, and coating resins such as the saran types
1,4-Dioxane (ppb)	2013	0.140	ND–0.140	Primarily used as stabilizer and solvent; Also a component of some cosmetics, detergents, and shampoos
Chlorate (ppb)	2013	100	ND–100	Disinfection by-product resulting from the use of chlorine dioxide as a disinfectant and for odor and taste control in water
Chromium (ppb)	2013	3.2	ND–3.2	Odorless and tasteless metallic element found naturally in rocks, plants, soil, and volcanic dust, and in humans and animals
Cobalt (ppb)	2013	2.9	ND–2.9	Naturally occurring element; human exposure through air, drinking water, and food
Hexavalent Chromium Compounds (ppb)	2013	1.9	ND–1.9	Often used in electroplating, leather tanning, and textile manufacturing; found in some drinking water sources
Strontium (ppb)	2013	46	ND–46	Occurs nearly everywhere in small amounts; traces found in air, dust, soil, foods, and drinking water
Vanadium (ppb)	2013	0.21	ND–0.21	Compounds found in fossil fuels and in over 50 different mineral ores

¹ 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 a monitoring waiver for synthetic organic chemicals.

² 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.

Definitions

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

ppt (parts per trillion): One part substance per trillion parts water (or nanograms per liter).

RUL (Recommended Upper Limit): RULs are established to regulate the aesthetics of drinking water (i.e., taste and odor).