

Annual
WaterQualityReport

Water testing performed in 2010



Presented By _____
City of Vineland

PWS ID#: 0614003

Quality First

Once again we are proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2010. As in years past, we are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education while continuing to serve the needs of all of our water users. Thank you for allowing us to continue providing you and your family with high-quality drinking water.

We encourage you to share your thoughts with us on the information contained in this report. Should you ever have any questions or concerns, we are always available to assist you.

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 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 an ion-exchange facility 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 (used to protect distribution system pipes) are added before the water is pumped to sanitized water towers and into your home or business.

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.

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 Tuesday of each month beginning at 7:30 p.m. at City Hall, Seventh and Wood Streets, Vineland, New Jersey.

Contact Us

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.


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	7			13		1	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.

Lead and 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. The City of Vineland Water Utility is 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.



About Our Violations

Monitoring

During the first and second quarters of 2010, the City of Vineland failed to collect the required number of samples for disinfection by-products HAAs and TTHMs.

Treatment Technique

Well #6 had Gross Alpha Particles results of 98.22 pCi/l on 12/13/10; this was deemed a treatment technique violation by the Bureau of Safe Drinking Water. At the time of the incident, this well had been off-line pending replacement of resin. Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

MCL

The Running Annual Average from sampling in September 2009, showed that our system exceeded the standard or maximum contaminant level for Gross Alpha and Combined Radium at Well No. 14. The Running Annual Average for Gross Alpha was 15.82 pCi/L. We have since brought this well into compliance. We have also installed five Radium Removal Treatment Plants in the City of Vineland. We have made adjustments to this well, which has reduced the running annual average to below the MCLs. The wells in Vineland are not run on a continuous basis, which reduces the risk factors even further. We are continuing to sample and monitor this well for compliance. Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.

The average of the samples taken in the third quarter of 2010 indicated that this water exceeded the standard or the maximum contaminant level (MCL) for Combined Radium 226/228, which is 5 pCi/l. The running average of Combined Radium 226/228 of the Wells that ran was between 1.9–6.21. The EPA has set an enforceable drinking water standard for Radium to reduce the risk of these adverse health effects. The City of Vineland Water-Sewer Utility has installed Radium Removal Treatment Systems on the three wells that had the highest Gross Alpha and Combined Radium 226/228 previously sampled. The City Water-Sewer Utility has constructed Treatment Systems on four more wells that had exceeded the MCL. We are continuing to sample and construct additional Radium Removal Systems, until our Wells are all below the MCLs for these substances. Some people who drink water containing Radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.

On 9/2/10 we received notice that the sample collected on 8/20/10 showed that our system exceeds the standard, or maximum contaminant level (MCL), for MTBE. The standard for MTBE is 70 ppb (parts per billion). MTBE was found at 239 ppb. This well ran for a very short time for testing purposes and its water was blended with another well pumping at the same time, which would lower the contaminant level. We anticipate resolving the problem in a timely manner; until then, the well will be off. Some people who drink water containing MTBE in excess of the MCL over many years could experience problems with their kidneys.

We routinely monitor for drinking water contaminants. We took 39 samples to test for the presence of coliform bacteria during August 2010 and October 2010. Three of our samples showed the presence of total coliform bacteria. The standard is that no more than 1.5 samples per month may do so. The distribution system has been flushed and disinfected, and additional samples do not show the presence of coliform bacteria. Further testing shows that this problem has been resolved. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present. Coliforms were found in more samples than allowed, and this was a warning of potential problems.

Tap vs. Bottled

Thanks in part to aggressive marketing, the bottled water industry has successfully convinced us all that water purchased in bottles is a healthier alternative to tap water. However, according to a four-year study conducted by the Natural Resources Defense Council, bottled water is not necessarily cleaner or safer than most tap water. In fact, about 25 percent of bottled water is actually just bottled tap water (40 percent, according to government estimates).

The Food and Drug Administration is responsible for regulating bottled water, but these rules allow for less rigorous testing and purity standards than those required by the U.S. EPA for community tap water. For instance, the high mineral content of some bottled waters makes them unsuitable for babies and young children. Furthermore, the FDA completely exempts bottled water that's packaged and sold within the same state, which accounts for about 70 percent of all bottled water sold in the United States.

People spend 10,000 times more per gallon for bottled water than they typically do for tap water. If you get your recommended eight glasses a day from bottled water, you could spend up to \$1,400 annually. The same amount of tap water would cost about 49 cents. Even if you installed a filter device on your tap, your annual expenditure would be far less than what you'd pay for bottled water.

For a detailed discussion on the NRDC study results, check out their Web site at www.nrdc.org/water/drinking/bw/exesum.asp.

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;

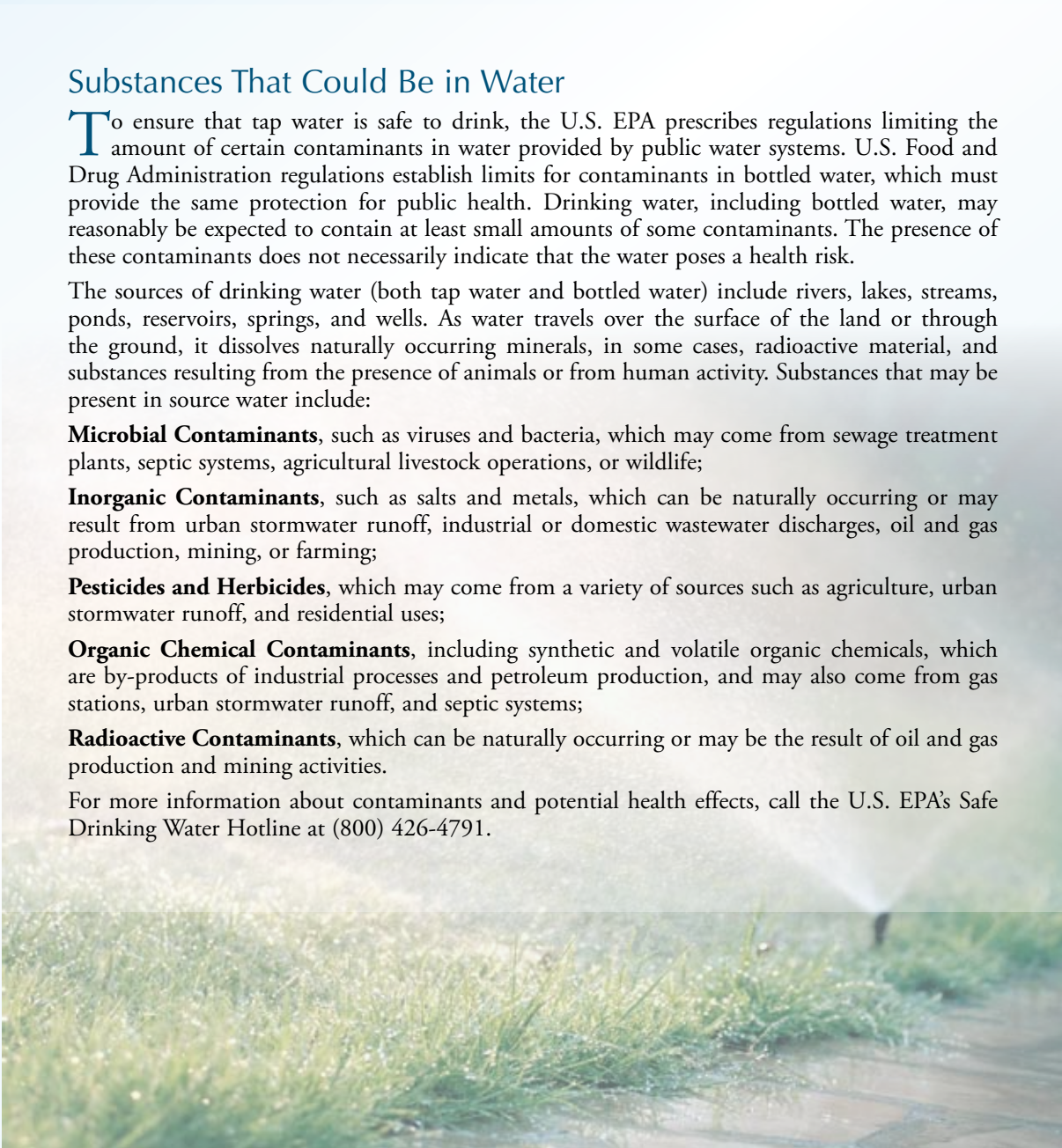
Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

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.



Sampling Results

During the past year we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic 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.

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 or visit <http://water.epa.gov/drink/hotline>.

REGULATED SUBSTANCES ¹

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Alpha Emitters (pCi/L)	2009	15	0	15.82	ND-15.82	Yes	Erosion of natural deposits
Chlorine (ppm)	2010	[4]	[4]	1.29	0.02-1.29	No	Water additive used to control microbes
Combined Radium (pCi/L)	2010	5	0	6.21	ND-6.21	Yes	Erosion of natural deposits
Haloacetic Acids [HAA] (ppb)	2010	60	NA	1.511	ND-1.511	No	By-product of drinking water disinfection
Methyl tert-Butyl Ether [MTBE] (ppb)	2010	70	NA	239	ND-239	Yes	Leaking underground gasoline and fuel tanks; gasoline and fuel oil spills
Nitrate ² (ppm)	2010	10	10	8.73	2.89-8.73	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2010	80	NA	1.511	ND-1.511	No	By-product of drinking water disinfection
Total Coliform Bacteria (# positive samples)	2010	1 positive monthly sample	0	3	NA	Yes	Naturally present in the environment

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)	2008	1.3	1.3	0.334	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	2008	15	0	2.6	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits

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 and 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.

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 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).