



The City of DeLand – Main Water System DeLand, Florida



2009 Annual Consumer Report on the Quality of Our Drinking Water

Water Source and Source Water Assessment/ Protection Program

The raw water supply for the City of DeLand - Main Water System is derived from 15 deep wells obtaining groundwater from the Floridan Aquifer. These wells can produce a total firm capacity in excess of 15.4 million gallons per day. The wells are located at various locations throughout the city. Well depths range from 250 feet to 350 feet. Water treatment processes include chlorination, fluoridation, aeration and corrosion control.

The Department of Environmental Protection performed a Source Water Assessment on our system in 2009 which provides the most current information available. The assessment was conducted to provide information about any potential sources of contamination in the vicinity of our wells. Twenty-two potential sources of contamination were determined that include industrial wastewater and underground storage tanks where susceptibility levels range from low for industrial wastewater to moderate for petroleum storage tanks. The assessment results are available on the FDEP Source Water Assessment Protection Program website at www.dep.state.fl.us/swapp.

Overview

In 2009, your water department distributed 2.0 billion gallons of water to 17,302 connections servicing an estimated 43,255 residents. We encourage public interest and communication to assist us in making decisions affecting your drinking water. In keeping with our directive of a customer oriented utility, we are proud to provide a Water Quality Hotline (386-740-6854) and an informational website at www.deland.org. City Commission meetings offer opportunities for public participation in decisions that may affect the quality of water. The Commission meets at 7:00 PM on the first and third Monday of each month at 120 South Florida Avenue. Please call City Hall at (386-626-7000) for additional information. For further information, also see U.S. Environmental Protection Agency (EPA) Water at www.epa.gov/safewater/ or on the world wide web at <http://www.waterdata.com>.

An Explanation of the Water-Quality Data Table

Our water is tested to assure that it is safe. The table shows the results of our water-quality analyses for the period of January 1, 2009 to December 31, 2009. Regulated contaminants that are required, by Federal and State regulatory agencies, to be tested in our water and that have been detected, are listed here. The table contains the name of each detected substance, the highest level allowed by regulation (MCL), the ideal goals for public health (MCLG), the amount detected, the usual sources of such contamination, and a key to units of measurement. Definitions of MCL and MCLG are important.

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

Initial Distribution System Evaluation (IDSE): An important part of the Stage 2 Disinfection Byproducts Rule (DBPR). The IDSE is a one-time study conducted by water systems to identify distribution system locations with high concentrations of trihalomethanes (THMs) and haloacetic acids (HAAs). Water systems will use results from the IDSE, in conjunction with their Stage 1 DBPR compliance monitoring data, to select compliance monitoring locations for the Stage 2 DBPR.

Maximum Contaminant Level or 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 or 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 or MRDL: 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.

Maximum Residual Disinfectant Level Goal or 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.

Not Detected (ND): Not detected by laboratory analysis.

Parts per million (ppm) or Milligrams per liter (mg/l): one part per million corresponds to one minute in two years, or a single penny in \$10,000,000.

Parts per billion (ppb) or Micrograms per liter (ug/l): one part per billion corresponds to one minute in 2,000 years, or a penny in \$10,000,000.

The following tables list the contaminants which were present or within detectable levels during the City of DeLand's most recent testing. Even though the following contaminants were present, the detected levels are well below the MCL's (Maximum Contaminant Levels) prescribed by Federal and State regulation. Again, the data presented in this report is from the most recent testing performed in accordance with regulations.

PRIMARY DRINKING WATER STANDARD (Regulated in order to protect against possible adverse health effects)

Microbiological Contaminants						
Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL Violation (Y/N)	High Monthly # of Positive Samples	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria	Feb., May, June, Aug., Sept., Oct./ 2009	N	1	0	Presence of coliform bacteria in 5% of monthly samples.	Naturally present in the environment

Radiological Contaminants							
** Results in the Level Detected column for radiological contaminants and inorganic contaminants are the highest average at any of the sampling points or the highest detected level at any sampling point, depending on the sampling frequency.							
Contaminant and Unit of Measurement	Dates of samp. (mo./yr.)	MCL Violation (Y/N)	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Alpha emitters (pCi/L)	May, Aug., Nov./ 2008	N	1.6	ND – 1.6	0	15	Erosion of natural deposits
Radium 226 & 228 (pCi/L)	May, Aug., Nov./ 2008	N	0.8	ND – 0.8	0	5	Erosion of natural deposits

Inorganic Contaminants							
Contaminant and Unit of Measurement	Dates of samp. (mo./yr.)	MCL Violation (Y/N)	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Cyanide (ppb)	May/ 2008	N	0.021	ND – 0.021	200	200	Discharge from metal factories, discharge from plastic and fertilizer factories
Fluoride (ppm)	May/ 2008	N	1.4	0.08 - 1.4	4	4	Erosion of natural deposits; water additive which promotes strong teeth when at optimum levels between 0.7 and 1.2 ppm; discharge from fertilizer and aluminum factories
Sodium (ppm)	May/ 2008	N	47	8.7 - 47	n/a	160	Salt water intrusion, leaching from soil

Barium (ppm)	May/ 2008	N	0.05	0.02 - 0.05	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Nitrate (as Nitrogen) ppm	May/ 2009	N	1.0	0.053 - 1.0	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

Volatiles Organic Contaminants

Toluene (ppm)	Feb., May, Aug., Nov./ 2009	N	0.0003	ND - 0.0003	1	1	Discharge from petroleum factories
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** The result in the Level Detected column for TTHMs, HAA5s & Chlorine is the highest of the four quarterly running annual averages of results from all sampling sites. Range of results is the range (lowest to highest) from all individual sample sites.

**Stage 1 Disinfection By-Product (D/DBP) Contaminants and Disinfectant Residuals

Contaminant and Unit of Measurement	Dates of sampling	MCL Violation (Y/N)	Level Detected	Range of Results (lowest to highest)	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
TTHM-Total Trihalomethanes (ppb)	Feb., May, July, Nov./09	N	79	0.85 - 79	n/a	MCL=80	By-product of drinking water disinfection
HAA5-Haloacetic Acids (ppb)	Feb., May, July, Nov./09	N	47.2	1.78 - 47.2	n/a	MCL=60	By-product of drinking water disinfection
Chlorine (ppm)	2009 (monthly)	N	1.0	0.09 - 2.2	MRDLG= 4.0	MRDL=4.0	Water additive used to control microbes

Lead and Copper (Tap water samples were collected for lead and copper analyses from homes throughout the service area)

Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	AL Exceeded (Y/N)	90th Percentile Result	No. of sample sites exceeding the AL	MCLG	AL (Action Level)	Likely Source of Contamination
Copper (tap water) (ppm)	July, Aug./ 2008	N	0.72	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	July, Aug./ 2008	N	1.7	1	0	15	Corrosion of household plumbing systems, erosion of natural deposits

**Stage 2 Disinfection By-Product (IDSE Study) Contaminants and Disinfectant Residuals

Contaminant and Unit of Measurement	Dates of sampling	MCL Violation (Y/N)	Level Detected	Range of Results (lowest to highest)	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
TTHM-Total Trihalomethanes (ppb)	Oct./ 08, Jan., Apr., July/ 09	N	63	0.64 - 100	n/a	MCL=80	By-product of drinking water disinfection
HAA5-Haloacetic Acids (ppb)	Oct./ 08, Jan., Apr., July/ 09	N	26.1	ND - 45.6	n/a	MCL=60	By-product of drinking water disinfection
Chlorine (ppm)	Oct., 2008 - July 2009	N	0.82	0.23 - 2.2	MRDLG= 4.0	MRDL=4.0	Water additive used to control microbes

As you can see by the table, our system had no primary drinking water violations. We are proud that your drinking water meets or exceeds all Federal and State requirements. The EPA has determined that your water is safe at these levels.

Additional Health Information

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 DeLand 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 <http://www.epa.gov/safewater/lead>. 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 radioactive material, and can pick up substances resulting from the presence of plants, 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 and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm 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, stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organics, which are by-products 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. The Food and Drug Administration (FDA) 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 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 Safe Drinking Water Hotline at 1-800-426-4791.

Some people may be more vulnerable to contaminants in drinking water than is 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 about drinking water 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 (800-426-4791).

We at the City of DeLand work around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water resources, which are the heart of our community, our way of life and our children's future. Thank you.