



Annual **WATER**
QUALITY
REPORT

Water testing performed in 2011



Presented By _____
City of Ormond Beach

PWS ID#: 3640963

Continuing Our Commitment

We are pleased to present our annual Water Quality Report for testing completed from January 1, 2011, through December 31, 2011. The blended product from both the lime softening and Low-Pressure Reverse Osmosis (LPRO) processes at the City's water plant provides our customers with the best quality of drinking water. In 2011, the Water Treatment Facility was certified by the Florida Department of Environmental Protection as having 99.99 percent (4-log) inactivation/removal of viruses, a distinction that grants an additional layer of protection to consumers. Additionally, the City placed three new wells online to improve the capability of our water supply for meeting customer demands.

Community Participation

You are invited to attend any of our regularly scheduled City Commission meetings and voice your concerns about your drinking water. The meetings are held at 22 South Beach Street, Ormond Beach, in the City Hall Commission Chambers. For more information, please see the Daytona Beach News-Journal for a complete listing of times and dates, or visit the Ormond Beach website at www.ormondbeach.org.

Important Health Information

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

Substances That Might Be in Drinking Water

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 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, the U.S. EPA prescribes regulations that 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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at (800) 426-4791.

How Is My Water Treated?

Once the source water arrives at the plant, a portion (about 4 MGD [million gallons per day], or two-thirds) is treated by a lime softening process, with the remainder (about 2 MGD, or one-third) treated by Low-Pressure Reverse Osmosis (LPRO) technology. The total rated capacity of the City of Ormond Beach Water Treatment Plant is 12 MGD.

The lime softening process is immediately preceded by an aeration process to remove dissolved gases contained in the source water. Lime and polymer are then added to promote the removal of turbidity and hardness present in the source water. After the initial softening process, carbon dioxide is added to stabilize the water and reduce corrosion in piping and household plumbing. The water is then filtered to remove any remaining suspended particles.

The LPRO process includes an initial pH adjustment of source water, membrane filtration, and post-treatment processes. The membrane filtration system effectively removes salts, hardness, and other minerals naturally found in water. Post-membrane treatment activities include the removal of carbon dioxide and hydrogen sulfide by employing degasification.

Water treated by lime softening and LPRO processes is blended and then treated with an inhibitor to further reduce corrosion of your household plumbing. The naturally occurring fluoride content is supplemented at a level recommended by the American Dental Association. A combination of chlorine and ammonia (chloramines) is applied to provide a safe and effective disinfectant residual throughout the storage and distribution system. Once or twice a year, liquid chlorine is added to the distribution system to enhance disinfection effectiveness.

Water Conservation

Water conservation measures are an important first step in protecting our water supply. Such measures not only save the supply of our source water, but can also save you money by reducing your water bill. Here are a few suggestions.

Inside Your Home:

- Fix leaking faucets, pipes toilets, etc.
- Replace old fixtures, and install water-saving devices in faucets, toilets, and appliances
- Wash only full loads of laundry
- Do not use the toilet for trash disposal
- Take shorter showers
- Do not let the water run while brushing teeth or shaving
- Soak dishes before washing
- Run the dishwasher only when full

Outdoors

- Water the lawn and garden in the early morning or evening
- Use mulch around plants and shrubs
- Repair leaks in faucets and hoses
- Use water from a bucket to wash your car and save the hose for rinsing

Who Treats My Water?

The City of Ormond Beach Water Treatment Plant (WTP) is classified by the Florida Department of Environmental Protection as a Class “A” treatment facility. This designation requires a tremendous amount of expertise and responsible oversight by the operational staff and also requires the facility to be managed by an operator possessing a Class “A” license. The WTP must also be staffed by at least one Class “C” licensed operator twenty-four hours a day, every day of the year. The City’s expert WTP staff far exceeds these requirements as more than half of the operators at the facility have obtained their Class “A” license, the highest operator license rating issued by the State of Florida.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Bob Barclay, Chief Plant Operator, at (386) 676-3568, or write to Dave Ponitz, Utilities Manager, at 501 North Orchard Street, Ormond Beach, Florida, 32174.

Dental Associations Advise Against Fluoride in Baby Formula

Although the American Dental Association and the Florida Dental Association both endorse fluoridated water as an effective way to prevent tooth decay, they have issued an advisory recommending that non-fluoridated bottled water be used in powdered or liquid-concentrate baby formula for infants.

The advisories note that too much fluoride can cause “fluorosis”, resulting in a discoloration or streaks on teeth. “While the appropriate amount of fluoride can help prevent tooth decay, too much fluoride creates a risk for enamel fluorosis, which is an esthetic concern,” says the Florida Dental Association report. “Because of their smaller size and weight, infants’ bodies often require less than older children and adults.”

The advisories recommend mothers’ breast milk for infants or ready-to-feed baby formula. If using powdered or liquid concentrate baby formula, then non-fluoridated bottled water rather than fluoridated tap water is recommended.

The dental benefits or risks of fluoridated drinking water have been an ongoing nationwide debate for over 50 years. Like most of the cities in the area, the City of Ormond Beach provides fluoridated water.

Important Information on 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. The City of Ormond Beach 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.

What’s a Cross-Connection?

Cross-connections that contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air conditioning systems, fire sprinkler systems, irrigation systems), or water sources of questionable quality. Cross-connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line (backpressure). Contamination can also occur when the pressure in the drinking water line drops due to fairly routine occurrences (main breaks, heavy water demand), causing contaminants to be sucked out from the equipment and into the drinking water line (backsiphonage).

Outside water taps and garden hoses tend to be the most common sources of cross-connection contamination at home. The garden hose creates a hazard when submerged in a swimming pool or when attached to a chemical sprayer for weed killing. Garden hoses that are left lying on the ground may be contaminated by fertilizers, cesspools, or garden chemicals. Improperly installed valves in your toilet could also be a source of cross-connection contamination.

Community water supplies are continuously jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed and maintained. We have surveyed all industrial, commercial, and institutional facilities in the service area to make sure that all potential cross-connections are identified and eliminated or protected by a backflow preventer. We also inspect and test each backflow preventer to make sure that it is providing maximum protection.

For more information, review the Cross-Connection Control Manual from the U.S. EPA’s Web site at <http://water.epa.gov/infrastructure/drinkingwater/pws/crossconnectioncontrol/index.cfm>. You can also call the Safe Drinking Water Hotline at (800) 426-4791.

What's Your Water Footprint?

The water footprint of an entity is defined as the total volume of freshwater that is used to produce the goods and services that are consumed or produced by the entity. For example, 11 gallons of water are needed to irrigate and wash the fruit in one half-gallon container of orange juice. Thirty-seven gallons of water are used to grow, produce, package, and ship the beans in that morning cup of coffee. Two hundred and sixty-four gallons of water are required to produce one quart of milk, and 4,200 gallons of water are required to produce two pounds of beef.

According to the U.S. EPA, the average American uses about 100 gallons of water daily. In fact, in the developed world, one flush of a toilet uses as much water as the average person in the developing world allocates for an entire day's cooking, washing, cleaning, and drinking.

To check out your own water footprint, go to www.h2oconserve.org or visit www.waterfootprint.org to see how the water footprints of other nations compare.

Source Water Assessment

In 2011, the Department of Environmental Protection performed a Source Water Assessment on our system. The assessment was conducted to provide information about any potential sources of contamination in the vicinity of our wells. There are 21 potential sources of contamination identified for this system, with levels of susceptibility ranging from low to moderate. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at www.dep.fl.us/swapp.

Where Does My Water Come From?

The City of Ormond Beach's primary water supply is from a groundwater source called the Floridan Aquifer. Covering a total of about 100,000 square miles, this aquifer is one of the major sources of groundwater in the United States. It underlies all of Florida, southern Georgia, and small parts of adjacent Alabama and South Carolina. This underground reservoir is made up of mostly sand and limestone layers. This water is typically very hard; that is, it contains a relatively high concentration of calcium and, to a lesser extent, magnesium. The water is also high in total dissolved solids and iron and also contains significant amounts of the dissolved gases carbon dioxide and hydrogen sulfide. Our Eastern wellfield also contains significant levels of salt.

The City of Ormond Beach currently operates 33 wells in four different wellfields serving the raw groundwater supply to the City's Water Treatment Facility. Source water from these wellfields is blended and pumped to the City's Water Treatment Facility for treatment. Another wellfield located in the Breakaway Trails area, comprised of three (3) wells, provides a separate groundwater source for serving the irrigation and fire protection systems needs for the Breakaway Trails area. Our water supply is not exposed to air and is not subject to direct pollution and contamination that a river or a surface water reservoir experiences.

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. Although all of the substances listed here are under the Maximum Contaminant Level (MCL), we feel it is important that you know exactly what was detected and how much of the substance was present in the water. We are pleased to report that our drinking water meets all federal and state requirements and, as presented in the tables below, our system had no violations.

PRIMARY REGULATED CONTAMINANTS							
Microbiological Contaminants							
CONTAMINANT AND UNIT OF MEASUREMENT	DATE OF SAMPLING (MO./YR.)	MCL VIOLATION (YES/NO)	HIGHEST MONTHLY PERCENTAGE/ NUMBER	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION	
Total Coliform Bacteria (% positive samples)	1/11–12/11	No	5	0	Presence of coliform bacteria in 5% of monthly samples	Naturally present in the environment	
Inorganic Contaminants							
CONTAMINANT AND UNIT OF MEASUREMENT	DATE OF SAMPLING (MO./YR.)	MCL VIOLATION (YES/NO)	LEVEL DETECTED ¹	RANGE OF RESULTS ¹	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
Cyanide (ppb)	4/11	No	8.4	NA	200	200	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Fluoride (ppm)	04/11	No	0.73	NA	4	4.0	Erosion of natural deposits; discharge from fertilizer and aluminum factories; water additive that promotes strong teeth when at optimum dose of 0.7 ppm
Nitrate [as Nitrogen] (ppm)	04/11	No	0.14	NA	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm)	04/11	No	53	NA	NA	160	Salt water intrusion; leaching from soil
Stage 1 Disinfectants and Disinfection By-Products							
CONTAMINANT AND UNIT OF MEASUREMENT	DATE OF SAMPLING (MO./YR.)	MCL VIOLATION (YES/NO)	LEVEL DETECTED ²	RANGE OF RESULTS ²	MCLG OR [MRDLG]	MCL OR [MRDL]	LIKELY SOURCE OF CONTAMINATION
Chloramines (ppm)	1/11–12/11	No	3.37	0.2–5.2	[4]	[4.0]	Water additive used to control microbes
Haloacetic Acids (five) [HAA5] (ppb)	9/11 & 12/11	No	24	18–29	NA	60	By-product of drinking water disinfection
TTHM [Total Trihalomethanes] (ppb)	9/11 & 12/11	No	55	43–67	NA	80	By-product of drinking water disinfection
Lead and Copper (Tap water samples were collected from sites throughout the community)							
CONTAMINANT AND UNIT OF MEASUREMENT	DATE OF SAMPLING (MO./YR.)	AL EXCEEDANCE (YES/NO)	90TH PERCENTILE RESULT	NO. OF SAMPLING SITES EXCEEDING THE AL	MCLG	AL (ACTION LEVEL)	LIKELY SOURCE OF CONTAMINATION
Copper [tap water] (ppm)	06/11–07/11	No	0.19	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead [tap water] (ppb)	06/11–07/11	No	6.2	2	0	15	Corrosion of household plumbing systems; erosion of natural deposits

¹ Results in the Level Detected column for 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.

² For chloramines or chlorine, the level detected is the highest running annual average (RAA), computed quarterly, of monthly averages of all samples collected. For haloacetic acids or TTHM, the level detected is the highest RAA, computed quarterly, of quarterly averages of all samples collected if the system is monitoring quarterly or is the average of all samples taken during the year if the system monitors less frequently than quarterly. Range of Results is the range of individual sample results (lowest to highest) for all monitoring locations, including Stage 1 compliance results.

Definitions

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

IDSE (Initial Distribution System Evaluation): 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.

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

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).