



BEAUTY AND PROGRESS
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City of Miramar

2013 Water Quality Report

City Commission

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Este es un reporte de suma importancia, con respecto a la calidad de su agua.
Si usted quiere recibir este folleto en español, por favor llame al telefono
(954) 602-4357 o visite: www.ci.miramar.fl.us/utilities/lab.html

A Message from the City Manager

Dear Miramar Residents and Business Owners,

On behalf of the City of Miramar, I am pleased to present the 2013 Annual Water Quality Report. Miramar has always been committed to providing outstanding customer care and high quality, uninterrupted water service. This report highlights efforts carried out by our staff and provides an affirmation to this commitment.

You will be pleased to know that Miramar continues to operate and expand innovative water conservation programs and improve its infrastructure. In 2012, the Reclaimed Water Distribution System Expansion Project was completed, and in 2013 we continued to promote and implement the City's reclaimed water system. The benefit of expanding the reclaimed water system helps to promote water conservation throughout our city.

We are proud of our water quality and of the professionals who work hard every day to maintain these high standards. Their efforts make our city a better place to live, work, and play.

For more information or questions regarding this report, please contact customer service at 954-602-Help (4357).



Kathleen Woods-Richardson
City Manager



WHERE DO WE GET OUR WATER?

Miramar's drinking water comes from two underground reservoirs, the Biscayne and Floridan Aquifers. The Biscayne Aquifer is made of coral rock and its thickness ranges from 60 to 150 feet below Miramar's ground surface. The Biscayne Aquifer is fed by Lake Okeechobee, the Everglades and from rainfall directly over the Aquifer. While the Floridan Aquifer is composed of carbonate rock and is 1350 feet below Miramar's ground surface. The Floridan Aquifer is fed from water originated in the Appalachian region; it flows downstream until it is forced underground. Water is then drawn from the Aquifer by supply wells and is processed in two treatment plants before distribution to your home. A Source Water Assessment provides information about ground water quality prior to treatment and distribution.

Both tap water and bottled drinking water sources include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material. It can also pick up unwanted substances from animals or human activity.

Some microbial contaminants may include: viruses and bacteria that come from sewage treatment plants, septic tanks, agricultural livestock operations, and wildlife. Inorganic contaminants include: salts and metals that can occur naturally or as a result of urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

Other contaminants are pesticides and herbicides from agriculture, urban storm water runoff, and residential uses; organic chemical contaminants, including synthetic and volatile organic chemicals that are by-products of industrial processes and petroleum production or from gas stations, urban storm water runoff, and septic tanks; and naturally occurring radioactive contaminants or those resulting from oil and gas production and mining activities.

To ensure safe tap water, the Environmental Protection Agency (EPA) prescribes regulations that limit the amount of contaminants in 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.

All drinking water (including bottled water) may reasonably be expected to contain small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. For more information about contaminants and potential health effects, call the Environmental Protection Agency's Safe Drinking Water Hotline at (800) 426-4791.



WATER TREATMENT

The City of Miramar operates the East and the West Water Treatment Plants. Well pumps withdraw groundwater from the Biscayne and Floridan Aquifers. The raw water is treated using nanofiltration and reverse osmosis process at the West Plant and a conventional lime softening process at the East Plant. The treatments remove sediments, harmful bacteria and certain minerals. The water is disinfected by chlorination and fluoridated. Water treated by both plants is then conveyed through the water distribution piping system.

WATER QUALITY

The City of Miramar's Water Treatment Facilities are in compliance with all National Primary Drinking Water Regulations (NPDWR). Total coliform bacteria are a good indicator of harmful bacteria in water. Lead, copper and radioactive tests are conducted once every three years.

When water leaves the treatment plants, it is virtually free of lead and copper. Lead contamination comes primarily from household plumbing corrosion. Lead and copper were sampled at 60 voluntary sites. The 90th percentile value of the latest samplings for lead and copper are reported in the attached table. Even though two sites exceeded the action level for lead, they were resampled and results indicated that they were in compliance. Some homes with lead services and pipes may experience higher levels. If you are not sure whether your pipes contain lead or copper, run tap water from the faucet until it changes temperatures to flush the pipes.

The City of Miramar's public water system routinely monitors for contaminants in your drinking water according to Federal and State laws, rules, and regulations. Except where indicated otherwise, this report is based on the results of our monitoring for the period of January 1 to December 31, 2013. Data obtained before January 1, 2013, and presented in this report are from

As per Rule 62-550.518(2), F.A.C., The City is required to take a minimum of one monthly raw water sample for bacteriological analysis that is representative of each ground water source (i.e. well). Samples were not collected from two Floridan aquifer wells (F-1 and F-2) and it was unknown whether bacteria existed in the raw water between August 2012 and March 2013. Therefore, the health effects of the water at that time are unknown. Nevertheless, raw water goes through a series of treatment and disinfection processes before it is sent to consumers. Monthly samples collected at the water treatment plants and in the distribution system during the period did not show Total Coliform bacteria and met all drinking water standards. Monthly bacteriological sampling of the Floridan wells F-1 and F-2 was resumed in April 2013.

As per Rule 62-560.410 and 40 CFR, Section 141, Subpart O requires Public Water Systems (PWS) to inform the customers served by the system about any exceedances of the Maximum Concentration Limit (MCL). During March 2013 routine monitoring, a total of 138 samples from our distribution system were collected and tested for presence of total coliform. The result indicated that 7.97% of our samples showed the presence of total coliform bacteria, which exceeded the standard that no more than 5% of the samples may test positive. 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. This violation under the standards in Rule 62-550.310(5)(a) poses non-acute risk to health. Since then, the City has modified the sampling protocols and has been below the 5% MCL for all samples collected.

Inadequate sanitary seals for wells #1, 4, and 5 of the East Water Treatment Plant and wells #1 and 2 of the West Water Treatment Plant were found during the 2013 compliance inspection conducted at the water treatment plant on August 8th, 2013. These deficiencies are considered significant and the City of Miramar has contracted with Florida Design Contractors, Inc. to address these deficiencies. These repairs at the wells will be completed by December 2014.

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 Miramar 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>.

Lead may cause high blood pressure, hearing problems, and kidney or nervous system disorders in adults. In infants and children, lead can interfere with the formation of blood cells, cause low birth weight, delay physical and mental development or be a cancer risk. At high levels copper can cause gastrointestinal difficulties. Some people may be more vulnerable to contaminants in drinking water than 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 people, and infants can be particularly at risk from infections. These people should seek advice about their drinking water from their healthcare providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from the Safe Drinking Water Hotline at 1-800-426-4791.

HELPFUL INFORMATION

The Florida Department of Environmental Protection (FDEP) has performed a **Source Water Assessment** on our system in 2013. There are 2 potential sources of contamination (Wastewater Reclamation Facility and Injection Wells) identified for this system with unknown and low susceptibility level. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp

Superchlorination will take place for two consecutive weeks and will be scheduled during the last quarter of 2014. Further information will be provided on water bills, local newspapers, the City's cable channel, and the City's website.

2013 CITY OF MIRAMOR FINISHED WATER QUALITY (JANUARY 1, 2013 - DECEMBER 31, 2013)

REGULATED PRIMARY CONTAMINANTS

CONTAMINANT	TIME OF SAMPLING (month/year)	UNITS	VIOLATION OF MCL?	MCLG	MCL	LEVEL DETECTED	RANGE OF RESULTS	LIKELY SOURCE OF CONTAMINATION
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MICROBIOLOGICAL CONTAMINANTS

Total Coliform Bacteria (positive samples)	1/2013-12/2013		Yes	0	5.0%	7.97%		
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INORGANIC CONTAMINANTS

Fluoride, F	09/2013	ppm	No	4.0	4	0.90	0.82-0.90	Water additive which promotes strong teeth when at the optimum level of 0.7ppm; erosion of natural deposits; discharge from fertilizer and aluminum factories
Sodium, Na	09/2013	ppm	No	N/A	160	28.3	17.4-28.3	Slight salt water intrusion; natural leaching from soil
Barium	09/2013	ppm	No	2	2	0.006	ND – 0.006	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits

STAGE I DISINFECTANT AND DISINFECTION BY-PRODUCTS

DISINFECTANT OR CONTAMINANT & UNIT OF MEASURE	TIME OF SAMPLING (month/year)	UNITS	MCL OR MRDL VIOLATION	MRDLG	MRDL	LEVEL DETECTED	RANGE OF RESULTS	LIKELY SOURCE OF CONTAMINATION
Chlorine and Chloramines	1/2013-12/2013	mg/L	No	4.0	4	2.51	0.53-3.56	Water additive used to control microbes

STAGE II DISINFECTANT/DISINFECTION BY-PRODUCT (D/DBP) PARAMETERS

Total Trihalomethanes (TTHMs)	5/2013-1/2014	ppb	No	N/A	80	41.6	9.9-67.7	By-product of drinking water chlorination
Haloacetic Acids (HAAs)	5/2013-1/2014	ppb	No	N/A	60	23.4	2.9-45.4	By-product of drinking water chlorination

LEAD & COPPER

CONTAMINANT	TIME OF SAMPLING (month/year)	UNITS	AL VIOLATION Y/N	MCLG	ALL (ACTION LEVEL)	90% PERCENTILE RESULTS	NO. OF SAMPLES EXCEEDING THE AL	LIKELY SOURCE OF CONTAMINATION
Copper, Cu (2011)	07/2011	ppm	No	1.3	1.3	0.428	0	Corrosion of household plumbing systems; erosion of natural deposits
Lead, Pb (2011)	07/2011	ppb	No	0	15	12	2	Corrosion of household plumbing systems; erosion of natural deposits

The EPA requires monitoring of over 80 drinking water contaminants. Those contaminants listed in the table above are the only contaminants detected in your drinking water.



DEFINITIONS & ABBREVIATIONS

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the Maximum Contaminant Level Goal (MCLG) as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (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.

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

Locational Running Annual Average (LRAA): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters.

Maximum Residual Disinfectant Level (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 (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.

A: Absent

ND: Non-detectable

pCi/L: PicoCurie per liter, a measure of radioactivity in water

ppm: Parts per million

ppb: Parts per billion

2013 WATER AND WASTE WATER PROJECTS UPDATE

NEIGHBORHOOD IMPROVEMENTS

The City of Miramar Utilities Department has continued our commitment to provide water and wastewater improvements throughout the City.

EAST MIRAMAR FIRE HYDRANTS & WATER MAIN IMPROVEMENT PROJECT PHASE III

The City of Miramar completed Phase III of the Eastern Miramar Fire Hydrants & Water Main Improvement Project in 2013. The project involved replacing approximately 13,000 linear feet of water main pipes and added 35 new fire hydrants within the boundaries of Utopia Dr. to the east, Acapulco Dr. to the west, Granada Blvd. to the north and Embassy Blvd. to the south.

This project replaced aging water mains and increased the fire protection in the area. In addition, the project provided over 48,000 square yards of roadway asphalt overlay by resurfacing the roads in the project boundaries.

WASTEWATER COLLECTION SYSTEM REHABILITATION

The City of Miramar's wastewater collection system provides sewer services to the residents and businesses of Miramar. Due to aging and normal deterioration, the sewer pipes which were constructed in the 1950's need to be repaired and/or replaced as they have reached the end of their useful life.

As an on-going effort of maintaining sewer services while eliminating groundwater infiltration/inflow (I/I) the City was able to rehabilitate approximately 8,300 linear feet of gravity sewer pipe lines in the area located between University Drive and Island Drive. The pipe lines were rehabbed using a newly developed trenchless technology to restore sewer services without excavation, resulting in reduced roadway construction and disruption to the residents and businesses in the area.

RECLAIMED WATER DISTRIBUTION SYSTEM EXPANSION

In 2013, the City of Miramar continued to implement its reclaimed water program and has extended water services to more communities and businesses.

The benefits of expanding the reclaimed water system help to promote water conservation, encourage efficient and effective use of reclaimed water and assist in keeping utility rates down. The City of Miramar continues to collaborate with the State of Florida, the Florida Department of Environmental Protection, the Florida Section of the WaterReuse® Association, and the South Florida Water Management District in promoting water reuse and conservation.

WATER CONSERVATION PROGRAM

The City of Miramar, along with 18 other local governments and water utilities, has made it a priority to conserve water throughout our community through The Broward Water Partnership. In 2013, The Broward Partnership Program was awarded "Best in Class" for excellence in water conservation programs from the Florida section of the American Water Works Association. The Partnership has set a goal to save 30 million gallons of water per day.

Help us reach this goal by making an effort to conserve water. Residents and businesses can participate in this award-winning program as a way to help reach that target. The City of Miramar offers free WaterSense approved conservation devices including regular and hand-held shower heads, kitchen and bathroom faucet aerators, toilet leak detection tablets, and commercial sink spray heads. To get you free devices, please contact 954-602-HELP to schedule pick-up. Water conservation is the least costly and easiest plan to preserving this precious resource for future generations.

To learn more ways to save, visit www.ConservationPays.com

BE WATER SMART ... START SAVING WATER TODAY!*

HERE ARE SOME MORE TIPS ON HOW YOU CAN SAVE WATER:

- Fix a Leak: Small household leaks can add up to gallons of water lost every day.
- Turn off the tap while shaving or brushing teeth.
- Showers use less water than baths, as long as you keep an eye on how long you've been lathering up!
- Plug up the sink or use a wash basin if washing dishes by hand.
- Use a dishwasher; and when you do, make sure it's fully loaded!
- Keep a pitcher of drinking water in the refrigerator instead of letting the faucet run until the water is cool.
- Add food wastes to your compost pile instead of using the garbage disposal.
- Wash only full loads of laundry or use the appropriate water level or load size selection on the washing machine.
- Create a water-smart landscape that is both beautiful and efficient to give your home the curb appeal you desire.
- Sweep driveways, sidewalks, and steps rather than hosing off.
- Wash the car with water from a bucket, or consider using a commercial car wash that recycles water.
- If you have a pool, use a cover to reduce evaporation when pool is not being used.



LOOK FOR THE LABEL

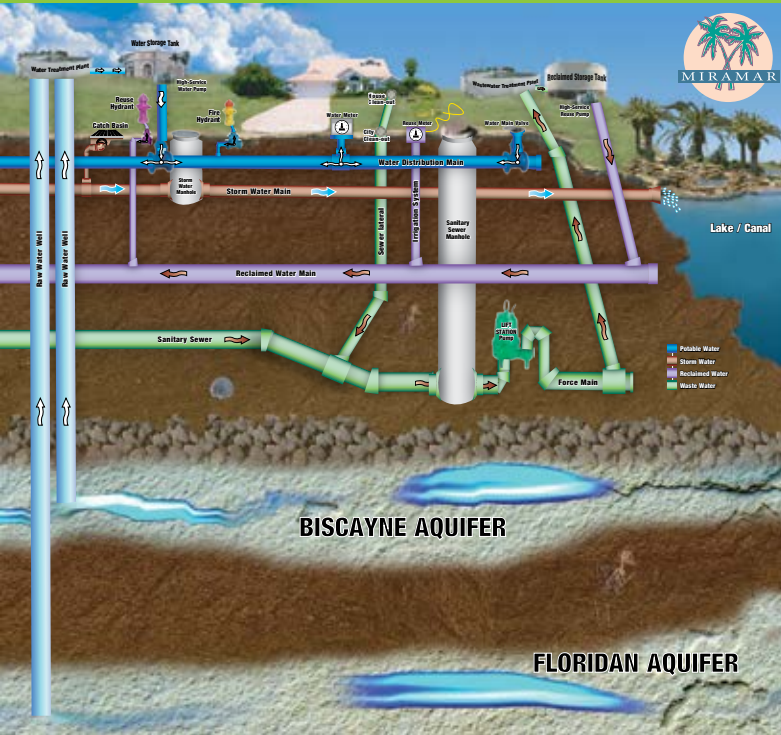
The WaterSense label will help you identify high-efficiency products, homes and programs. These water efficient options provide the same performance and quality you've come to expect, but with the added benefit of water savings.

WaterSense labeled products are backed by independent third party certification and meet EPA's specifications for water efficiency and performance. So, when you use WaterSense labeled products in your home or business, you can be confident you'll be saving water without sacrifice.

*This information is provided courtesy of EPA (Environmental Protection Agency) For more information visit www.epa.gov

UTILITIES CONVEYANCE SYSTEM

Potable Water, Waste Water, Storm Water & Reclaimed Water System



City of Miramar

Year-Round Landscape Irrigation Rule

Pursuant to South Florida Water Management District

Existing landscaping

- Watering is not allowed between 10 a.m. and 4 p.m.
- Residents and businesses with **odd-numbered** street addresses may water lawns and landscapes on **Wednesdays** and **Saturdays** before 10 a.m. or after 4 p.m.
- Residents and businesses with **even-numbered** street addresses, no street address or irrigate both even and odd address within the same zones, including multi-family units and homeowners associations, may water lawns and landscapes on **Thursdays** and **Sundays** before 10 a.m. or after 4 p.m.
- For the most efficient use of water, residents should avoid irrigating during both time periods on the same day.

New landscaping, sod or other plantings

- New landscaping can be watered without regard to restrictions on the first day it is installed.
- Landscaping that has been in place for **2 days to 30 days** can be watered on **Mondays, Tuesdays, Wednesdays, Thursdays, Saturdays and/or Sundays** during the hours allowed for regular landscape irrigation.
- Landscaping that has been in place from **31 days to 90 days** can be watered on **Mondays, Wednesdays, Thursdays and Saturdays** during the hours allowed for regular landscape irrigation.
- Additional watering days can only be used to benefit new landscaping. An entire irrigation system zone may only be watered if it contains at least 50 percent new landscaping.

Reclaimed Water for Irrigation

- Landscape irrigation using reclaimed water is not restricted.

Violations

- Local law enforcement or city/county zoning and code enforcement agencies have the authority to issue warnings and citations that can lead to fines.
- Violations of water restrictions may be reported to City of Miramar Code Enforcement at **602-HELP** or **(954) 602-4357**.

For more detailed information please log onto www.ci.miramar.fl.us/utilities and/or www.sfwmd.gov/waterwatch



For water test results, please call
Regulatory Compliance Superintendent, José Cardoso at (954) 883-6851

For water billing questions, please contact Customer Service at (954) 602-4357

For all other inquiries i.e., water leaks, water service activation, and general questions,
please contact the Customer service Response Team at (954) 602-HELP

This Miramar Water Report was produced by the Utilities Department of the City of Miramar, Florida Published June 2014.
Also available in Spanish at: www.ci.miramar.fl.us/utilities/lab.html

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