



# Marco Island Utilities

## 2006 Water Quality Report

### MARCO ISLAND

This report shows our water quality results and what they mean. It also provides important information about your water and how it relates to your health. The information in this report is based primarily on 2006 facts and figures. However, the U.S. Environmental Protection Agency (EPA) does not require us to perform all tests every year. When necessary, some data was obtained from prior years. As directed by the agencies that regulate our industry, only values from these tests that exceeded specified criteria are included. We will notify you immediately if there is any reason for concern about our water.

Marco Island Utilities operates the water treatment and distribution system serving Marco Island. Our water is obtained from two sources, surface water from the Marco Lakes on the mainland and groundwater from the Floridian Aquifer. The water is treated through a complex multi-step water treatment process that includes enhanced lime softening, filtration, and reverse osmosis, chlorination and corrosion inhibition. To provide additional water during the dry winter months, we installed an underground water storage system that we call our Aquifer Storage and Recovery ( ASR ) wells. In the rainy months, we pump water underground. During the last several years, we have successfully recovered millions of gallons from storage. The Department of Environmental Protection has performed a Source Water Assessment on our system. These assessments were conducted to provide information about any potential sources of contamination in the vicinity of our wells (or surface water intakes). Potential sources of contamination identified include underground petroleum storage tank and dry cleaning facilities. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at [www.dep.state.fl.us/swapp](http://www.dep.state.fl.us/swapp).

If you have any questions about this report or concerns about your water utility, please contact your Marco Island Utilities Representative at 1(239) 394-3880. You may also visit the DEP web site at [www.myflorida.com](http://www.myflorida.com) or call the EPA Safe Drinking Water Hotline at 1(800) 426-4791. We want our valued customers to be informed about their water utility. If you would like to learn more, please call us for information about the next opportunity for public participation in decisions about your drinking water.

## HOW DO I READ THIS?

It's easy. The table shows the results of our water-quality analyses. The column marked "Level Detected" shows the highest results from the last time tests were performed. "Likely Sources" shows where this substance usually originates. Descriptions below explain other important details. In this table you may find unfamiliar terms and abbreviations. To help you better understand unfamiliar terms and abbreviations we've provided the following definitions:

**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.

"ND" means not detected and indicates that the substance was not found by laboratory analysis.

Parts per million (ppm) or Milligrams per liter (mg/l) – one part by weight of analyte to 1 million parts by weight of the water sample.

Parts per billion (ppb) or Micrograms per liter (µg/l) – one part by weight of analyte to 1 billion parts by weight of the water sample.

Parts per trillion (ppt) or Nanograms per liter (nanograms/l) - one part by weight of analyte to 1 trillion parts by weight of the water sample.

Parts per quadrillion (ppq) or Picograms per liter (picograms/l) - one part by weight of analyte to 1 quadrillion parts by weight of the water sample.

Picocurie per liter (pCi/L) - measure of the radioactivity in water.

Millirem per year (mrem/yr) - measure of radiation absorbed by the body.

Million fibers per liter (MFL) - measure of the presence of asbestos fibers that are longer than 10 micrometers.

Nephelometric Turbidity Unit (NTU) - measure of the clarity of water. Turbidity in excess of 3 NTU is just noticeable to the average person.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

## WHAT CAN I EXPECT TO FIND IN MY 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, can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- (A) **Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.**
- (B) ***Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.***
- (C) ***Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.***
- (D) ***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 storm water runoff, and septic systems.***
- (E) ***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 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 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 1(800) 426-4791.

## 2006 ANNUAL DRINKING WATER QUALITY TEST RESULTS

Marco Island Utilities 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, 2006 for Marco Island - PWS ID # 5110183. The Environmental Protection Agency (EPA) requires monitoring of over 80 drinking water contaminants. Those contaminants listed in the table below are the only contaminants detected in your drinking water.

Note: The result in the lowest monthly percentage column is the lowest monthly percentage of samples meeting the turbidity limits reported in the Monthly Operating Report.							
Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL Violation Y/N	The Highest Single Measurement	The Lowest Monthly Percentage of Samples Meeting Regulatory Limits	MCLG	MCL	Likely Source of Contamination
Turbidity (NTU)	1/06-12/06	Y	1.44	76.1%	N/A	TT	Soil runoff

**Turbidity** is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. High turbidity can hinder the effectiveness of disinfectants.

** Results in the Level Detected column for radiological contaminants, inorganic contaminants, synthetic organic contaminants including pesticides and herbicides, and volatile organic 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.							
<b>Radiological Contaminants</b>							
Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Alpha emitters (pCi/l)	2/15/06	N	1.1	0.0 – 1.1	0	15	Erosion of natural deposits
Radium 226 or combined radium (pCi/l)	2/15/06	N	1.0	0.0 – 1.0	0	5	Erosion of natural deposits

<b>Inorganic Contaminants</b>							
<b>Contaminant and Unit of Measurement</b>	<b>Dates of sampling (mo./yr.)</b>	<b>MCL Violation Y/N</b>	<b>Level Detected</b>	<b>Range of Results</b>	<b>MCLG</b>	<b>MCL</b>	<b>Likely Source of Contamination</b>
Barium (ppm)	12--06	N	0.010	NA	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm)	12--06	N	0.069	NA	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (as Nitrogen) (ppm)	12--06	N	0.2	0.2-0.33	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm)	12--06	N	74	NA	N/A	160	Salt water intrusion ,leaching from soil
Lead as (point of entry) (ppb)	12--06	N	1.0	NA	NA	15	Residue from man made pollution such as auto emissions and paint lead pipe, casing and solder
Mercury (ppb)	12--06	N	0.1	NA	2.0	2.0	Erosion of natural deposits; discharge from refineries and factors; runoff and landfills; runoff from cropland
Cyanide (ppb)	12--06	N	6.3	NA	200	200	Discharge from steel/metal factories discharge from plastic and fertilizer factories

<b>Lead and Copper (Tap Water)</b>							
<b>Contaminant and Unit of Measurement</b>	<b>Dates of sampling (mo./yr.)</b>	<b>AL Violation Y/N</b>	<b>90th Percentile Result</b>	<b>No. of sampling sites exceeding the AL</b>	<b>MCLG</b>	<b>AL (Action Level)</b>	<b>Likely Source of Contamination</b>
Copper (tap water) (ppm)	2006	N	0.19	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	2006	N	4.0	0	0.015	15	Corrosion of household plumbing systems, erosion of natural deposits

<b>TTHMs and Stage 1 Disinfectant/Disinfection By-Product (D/DBP) Parameters</b>							
<b>Contaminant and Unit of Measurement</b>	<b>Dates of sampling (mo./yr.)</b>	<b>MCL Violation Y/N</b>	<b>Level Detected</b>	<b>Range of Results</b>	<b>MCLG or MRDLG</b>	<b>MCL or MRDL</b>	<b>Likely Source of Contamination</b>
77. Chloramines (ppm)	1/06-12/06	N	3.0	2.7-3.1	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
79. Haloacetic Acids (five) (HAA5) (ppb)	1/06 4/06— 7/06 10/06	N	18.98	4.42 – 18.25	NA	MCL = 60	By-product of drinking water disinfection
80. TTHM [Total trihalomethanes] (ppb)	1/06-4- 06-7-06- 10/06	N	25.17	17.54 - 44.4	NA	MCL = 80	By-product of drinking water disinfection
The monthly TOC removal ratio is the ratio between the actual TOC removal and the TOC rule removal requirements.							
<b>Contaminant and Unit of Measurement</b>	<b>Dates of sampling (mo/yr)</b>	<b>TT Violation Y/N</b>	<b>Annual Average Monthly Removal Ratio</b>	<b>Range of Monthly Removal Ratios</b>	<b>MCLG</b>	<b>MCL</b>	<b>Likely Source of Contamination</b>
83. Total organic carbon (ppm)	1/06 – 12/06	N	1.07	.7 - 1.20	N/A	TT	Naturally present in the environment

**Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.**

**On September 22, 2006, a breakdown of the Lime Softening water plant lime reactor, resulted in a treatment technique violation (elevated turbidity levels). A precautionary boil water notice was issued until the turbidity levels returned to acceptable levels and microbiological samples were acceptable. On September 25, 2006 a power outage at the Reverse Osmosis (RO) water plant caused a raw water main break at the pre-filter due to the wells continuing pumping water to the water plant while the RO train was shut down due to the power outage. The treatment technique violation, the failure to maintain the water plant and the failure to provide auxiliary power resulted in an enforcement case with the Department of Environmental Protection. The enforcement case was resolved through a Consent Order with the Department of Environmental Protection.**

**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, 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 microbiological contaminants are available from the SAFE DRINKING WATER HOTLINE (1-800-426-4791).**

**We at Marco Island would like you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to insuring the quality of your water. If you have any questions or concerns about the information provided, please feel free to call any of the numbers listed above.**