

Where Does My Water Come From?

The City of Cocoa has supplied central Brevard County with high quality drinking water since 1957. Cocoa's drinking water system processed approximately 9.3 billion gallons of water last year, with a peak flow of 36 million gallons per day (MGD) during the month of May. Average daily flow has increased from 22 mgd in 1990 to 25 mgd in 2008. Our water sources are ground water wells, aquifer storage and recovery wells, and Taylor Creek Reservoir.

Ground Water Wells – Our system consists of 48 wells in east Orange County. The well field can produce a maximum of 60 MGD. Cocoa was permitted to pump 26.2 MGD for average flows and 42.6 MGD for maximum flows. The wells draw from the Upper Floridan and Intermediate Aquifer.

Aquifer Storage and Recovery (ASR) Wells – Cocoa's ASR system consists of 10 wells, two control valve stations, and a backflow preventer. Approximately 1 billion gallons of treated water can be stored 300 feet underground in the Floridan Aquifer during periods of low demand and recovered during periods of high demand.

Taylor Creek Reservoir – Provides an additional source of surface water. It has the capacity to store 4 billion gallons of fresh water. Cocoa is permitted to withdraw an average of 8.8 MGD and a maximum of 12 MGD. Water from the reservoir is blended with groundwater.

Source Water Assessment

The Florida Department of Environmental Protection (FDEP) completed a Source Water Assessment on Cocoa's system in 2004. This assessment was conducted to provide information about any potential sources of contamination in the vicinity of our water supply. Source water assessment rating for the wells was considered moderate for the one potential source of contamination identified: petroleum storage tanks. These tanks are located at each well to hold fuel for stand-by engines in the event of power outages. The tanks are regularly inspected for leakage. The Taylor Creek Reservoir intake assessment was low with no potential sources of contamination. The assessment results are available on the FDEP Source Water Assessment and Protection Program web site at www.dep.state.fl.us/swapp.

How Is My Water Treated and Purified?

The Claude H. Dyal Water Treatment Plant is capable of treating both ground water and surface water. Ground water enters the plant where chlorine, lime, soda ash, and coagulant are added to remove hardness and suspended solid material. Fluoride is then added to the water. Carbon dioxide is added to reduce the pH and stabilize the water. Chloramination is used to disinfect the water before passing through filters containing sand and anthracite coal. Turbidity (cloudiness) is constantly measured at each filter.

Surface water requires a completely different type of treatment. Surface water enters the plant where ferric sulfate and hydrated lime are added. Ozone is added to clarified water for disinfection, taste and odor removal, and for control of disinfection by-products. After adding ozone, the water is treated with hydrated lime, carbon dioxide, chlorine, and ammonia before passing through filters. Turbidity is constantly measured at each filter. Water from both processes is pumped into storage tanks before it is sent into the distribution system and to your home or business.

Continuing Our Commitment

The City of Cocoa is pleased to present their annual water quality report. The City of Cocoa's Claude H. Dyal Water Treatment Plant routinely monitors for contaminants in your drinking water according to Federal and State Laws, rules, and regulations. This report is based on the results of our monitoring for the period of January 1 through December 31, 2008. We are pleased to tell you that our compliance with all state and federal drinking water laws remains exemplary. Our NELAC (National Environmental Laboratory Accreditation Conference) certified laboratory continuously analyzes water quality throughout the treatment process to ensure superior drinking water is delivered to our customers. We remain vigilant in meeting the challenges of source water protection, water conservation and community education while continuing to serve the needs of all of our water users.

For more information about this report, for questions relating to your drinking water, or for additional copies of this report, please call the Water Conservation/Public Relations Officer, Catherine Carter, at (321) 433-8705.

Community Participation

You are welcome to attend Cocoa's regularly scheduled Council meetings held on the second and fourth Tuesday of every month. Contact the City Clerk at (321) 433-8488 to confirm day, time, and location of the meeting.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as people 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. Environmental Protection Agency/Centers for Disease Control (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 at (800) 426-4791.

Water Conservation Requirements by St. Johns River Water Management District:

- Irrigate before 10:00 am and after 4:00 pm.
- Daylight Saving Time (summer) no more than 2 days a week.
- Eastern Standard Time (winter) no more than 1 day a week.

Water Conservation Tips

Water conservation measures are an important first step in protecting our water supply. Such measures save the supply of our source water and save you money by reducing your water bill. Here are a few suggestions:

Indoor conservation tips:

- Fix leaking faucets, pipes, toilets, etc.
- Replace old fixtures; 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.
- Turn the faucet off when brushing teeth.

Outdoor conservation tips:

- Use mulch around drought-tolerant plants and shrubs.
- Repair leaks in faucets, hoses and sprinkler systems.
- Install a rain sensor if you have an in-ground irrigation system.
- Connect to reclaimed water for irrigation.

Information on other ways that you can help conserve water can be found at:

www.epa.gov/safewater/publicoutreach/index.html and www.sjrwmd.com/floridaswater/conservation/index.html

CLAUDE H. DYAL TREATMENT WATER PLANT 600 SCHOOL STREET, COCOA FL 32922

WATER TESTING PERFORMED IN 2008
PWS ID#: FL 3050223

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:

(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 stormwater 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 stormwater 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 stormwater 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 (800) 426-4791.

Cryptosporidium in Drinking Water

Cryptosporidium is a microbial parasite found in surface water throughout the United States. We have detected Cryptosporidium in the untreated surface water. We detected this contaminant in two out of nine samples tested. Although filtration removes Cryptosporidium, the most commonly used filtration methods cannot guarantee 100% removal. Ozone is a powerful disinfectant that effectively destroys Cryptosporidium. Cocoa ozonates all surface water before it is filtered to ensure as high a removal rate as possible. Cryptosporidium may cause serious illness in 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. These people should seek advice from their health care providers. Cryptosporidium must be ingested for it to cause disease, and it may be spread through means other than drinking water.

2008 DRINKING WATER QUALITY REPORT

Proudly presented by:

CLAUDE H. DYAL WATER TREATMENT PLANT



The City of Cocoa sampled Taylor Creek Reservoir for Cryptosporidium once a month. This is in accordance with FDEP'S Long Term 2 Enhanced Surface Water Treatment Rule. This rule requires that the city sample for Cryptosporidium to provide a baseline for the amount of Cryptosporidium in Taylor Creek Reservoir. This baseline will be used by the U.S. Environmental Protection Agency (U.S. EPA) to increase treatment techniques or allow established techniques to continue to treat the surface water. Compliance sampling began in October 2006 and ended in October 2008.

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 Cocoa Utilities 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>.

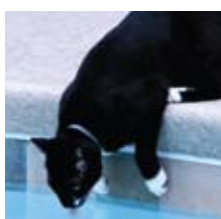
Contamination from Cross-Connections

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 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 main breaks causing contaminants to be siphoned off from the equipment and into the drinking water line (backsiphonage).

The most common sources of cross-connection contamination at home is outside water taps and garden hoses. Garden hoses create hazards 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 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 continually survey 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 www.epa.gov/safewater/crossconnection.html. You can also call the Safe Drinking Water Hotline at (800) 426-4791.



2008 WATER TESTING RESULTS

During the past year, we have taken thousands of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The table below shows 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. The state requires us to monitor for certain substances less 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.

MICROBIOLOGICAL CONTAMINANTS

Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL Violation Y/N	Highest Monthly Percentage/Number	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria (% positive samples)	2008 (Monthly)	No	1.3 %	0	For systems collecting at least 40 samples per month: presence of coliform bacteria in 5% of monthly samples	Naturally present in the environment

Total coliform bacteria: Highest Monthly Percentage/Number is the highest monthly percentage of positive samples for systems collecting at least 40 samples per month.

Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL Violation Y/N	Total Number of Positive Samples for the Year	MCLG	MCL	Likely Source of Contamination
Fecal coliform and E. coli	2008 (Monthly)	No	1**	0	0*	Human and animal fecal waste

* MCL for fecal coliforms is 0 for acute violations only where a fecal or E. Coli positive is followed by a repeat sample positive for fecal, E. Coli or total coliform.

** The repeat sample was absent of any Fecal Coliform or E. Coli therefore there was no violation.

- A fecal or E. Coli positive followed by proper repeat sampling absent of any contamination does not generate a violation as long as the total coliform rule has not been violated. For a system taking over 40 samples per month, this result is then totaled with any total coliform positive compliance results for the month to determine percentage compliance with the total coliform rule.
- A system that collects more than 40 samples per month and has one positive sample followed by two positive repeat samples, with at least one of those being fecal positive, would have an MCL violation, even if the total number of positive samples is less than 5% of the total for the month.

Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL Violation Y/N	Highest Single Measurement	Lowest Monthly Percentage of Samples Meeting Regulatory Limits	MCLG	MCL	Likely Source of Contamination
Turbidity (NTU)	2008 (Daily)	No	.29	100	N/A	TT	Soil runoff

Note: The result in the lowest monthly percentage column is the lowest monthly percentage of samples reported in the Monthly Operating Report meeting the required turbidity limits.

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.

RADIOLOGICAL CONTAMINANTS

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.

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)	2008 Monthly (February, June-December)	No	3.36	ND-3.36	0	15	Erosion of natural deposits
Radium 226 + 228 [Combined Radium] (pCi/L)	2008 Monthly (February, June-December)	No	2.1	ND-2.1	0	5	Erosion of natural deposits

INORGANIC CONTAMINANTS

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
Arsenic (ppb)	2008 Monthly (February, June-December)	No	0.934	ND -2.34	N/A	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium (ppm)	02/25/08	No	0.0064	N/A	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Cyanide (ppb)	02/26/08	No	3.0	N/A	200	200	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Fluoride (ppm)	03/07/08	No	0.73	N/A	4	4.0	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at optimum levels between 0.7 and 1.3 ppm
Nitrite (as Nitrogen) (ppm)	02/21/08	No	0.025	N/A	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrate (as Nitrogen) (ppm)	03/01/08	No	0.15	N/A	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm)	02/25/08	No	64	N/A	N/A	160	Salt water intrusion, leaching from soil

SYNTHETIC ORGANIC CONTAMINANTS INCLUDING PESTICIDES AND HERBICIDES

2,4,5-TP (Silvex) (ppb)	02/29/08	No	0.061	N/A	50	50	Residue of banned herbicide
Pentachlorophenol (ppb)	05/31/08	No	0.0090	N/A	0	1	Discharge from wood preserving factories

VOLATILE ORGANIC CONTAMINANTS

Toluene (ppm)	02/29/08	No	0.00036	N/A	1	1	Discharge from petroleum factories
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STAGE 1 DISINFECTANT AND DISINFECTION BY-PRODUCTS

For Chloramines, the Level Detected is the highest running annual average (RAA), computed quarterly, of monthly averages of all samples collected. For Haloacetic Acids or TTHMs, 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 Initial Distribution System Evaluation (IDSE) results as well as Stage 1 compliance results.

*The 0.1 residual was a onetime occurrence that resulted from an extra sampling event on a dead end line. Aside from that occurrence, the range of results is 0.6-4.6 without that extra sample.

**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.

Disinfectant or Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL or MRDL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Chloramines (ppm)	2008 (Quarterly)	No	3.0	0.1* - 4.6	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
Haloacetic Acids (five) (HAA5) (ppb)	2008 (Quarterly)	No	30.6	6.84 - 63.0**	N/A	MCL = 60	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes] (ppb)	2008 (Quarterly)	No	61.0	17.8 - 130**	N/A	MCL = 80	By-product of drinking water disinfection

The monthly TOC removal ratio is the ratio between the actual TOC removal and the required TOC rule removal requirements.

Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	TT Violation Y/N	Lowest Running Annual Average, Computed Quarterly, of Monthly Removal Ratios	Range of Monthly Removal Ratios	MCLG	MCL	Likely Source of Contamination
Total Organic Carbon (ppm)	2008 (Monthly)	No	1.5	1.5 - 1.6	N/A	TT	Naturally present in the environment

LEAD AND COPPER (TAP WATER SAMPLES WERE COLLECTED FROM SITES THROUGHOUT THE COMMUNITY)

Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	AL Violation Y/N	90th Percentile Result	No. of sampling sites exceeding the AL	MCLG	AL (Action Level)	Likely Source of Contamination
Copper (tap water) (ppm)	09/2008	No	0.10	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	09/2008	No	3.1	0	0	15	Corrosion of household plumbing systems, erosion of natural deposits

Table of Definitions

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

NA: Not Applicable

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

Nephelometric Turbidity Unit (NTU): Measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Picocurie per liter (pCi/L): Measure of the radioactivity in water.

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

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

