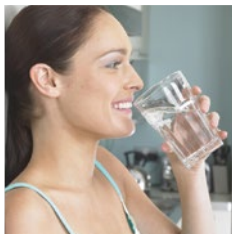
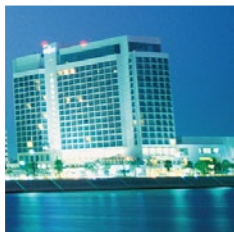
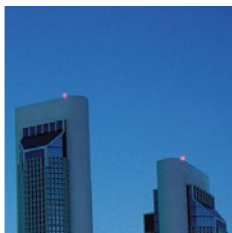
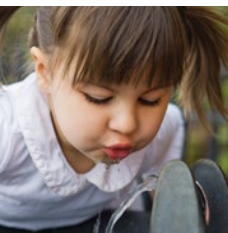




Corpus Christi
Water Department

2012 Annual Water Quality Report

A SUPERIOR RATED WATER SYSTEM





Dear Water Customers,

The Corpus Christi Water Department is pleased to present its 2012 Annual Water Quality Report in accordance with the United States Environmental Protection Agency (USEPA) National Primary Drinking Water Regulations, 40 CFR Part 141 Subpart 0, which requires all drinking water suppliers to provide the public with an annual statement describing the water supply and the quality of its water.

Highly trained professionals take steps to perform extensive water quality monitoring and testing so that our water supply meets or exceeds all federal and state drinking water requirements. We are mindful of our responsibility to provide you with a safe product at all times.

Corpus Christi's surface water is supplied through a network of three reservoirs, including Choke Canyon and Lake Corpus Christi which are located in the Nueces River Basin. The Nueces River transports water from the two reservoirs where it is pumped to the O. N. Stevens Water Treatment Plant.

Water pumped from Lake Texana through the Mary Rhodes Pipeline is blended at the treatment plant.



2012 Drinking Water Quality Report

Our drinking water is regulated by the Texas Commission on Environmental Quality (TCEQ). The information that follows lists all of the federally regulated or monitored contaminants which have been found in our drinking water. The U.S. EPA required water systems to test for up to 97 contaminants.

Inorganic Contaminants

Year	Constituent (Unit of Measure)	Average	Range	MCL	MCLG	Likely Source of Contaminant
2011	Barium (ppm)	0.125	0.125–0.125	2	2	Discharge of drilling waste, erosion of natural deposits
2012	Fluoride (ppm)	0.24	0.24–0.24	4	4	Erosion of natural deposits, water additive
2012	Nitrate (ppm)	0.43	0.43–0.43	10	10	Petroleum/metal discharge, erosion of natural deposits
2011	Gross Beta Emitters (pCi/L)	5.4	5.4–5.4	50	0	Decay of natural/man-made deposits
2011	Selenium (ppb)	0.67	NA	50	50	Erosion of natural deposits

Disinfection By-Products

Year	Constituent (Unit of Measure)	Average	Range	MCL	MCLG	Likely Source of Contaminant
2012	Total Trihalomethanes (ppb)	74.4	4.7–234.0	80	NA	By-product of drinking water disinfection
2012	Total Haloacetic Acids (ppb)	18.3	<1.0–47.4	60	NA	By-product of drinking water disinfection

Total Organic Carbon

Year	Constituent (Unit of Measure)	Average	Range	MCL	MCLG	Likely Source of Contaminant
2012	Source Water (ppm)	7.33	6.81–7.84	NA	NA	Naturally present in the environment
2012	Plant 1 (ppm)	5.29	4.74–5.96	NA	NA	Naturally present in the environment
2012	Plant 2 (ppm)	5.20	4.51–5.96	NA	NA	Naturally present in the environment
2012	Plant 1 Removal Ratio (% removal*)	1.10	0.93–1.31	NA	NA	Naturally present in the environment
2012	Plant 2 Removal Ratio (% removal*)	1.40	0.93–3.91	NA	NA	Naturally present in the environment

Total Organic Carbon (TOC) has no health effects. The disinfectant can combine with TOC to form disinfection by-products. Disinfection is necessary to ensure that water does not have unacceptable levels of pathogens. By-products of disinfection include trihalomethanes (THM) and haloacetic acids (HAA5) which are reported elsewhere in this report.

*Removal ratio is the percent of TOC removed by the treatment process divided by the percent of TOC required by TCEQ to be removed.

Organic Contaminants

Year	Constituent (Unit of Measure)	Average	Minimum	Maximum	MCL	MCLG
2012	Atrazine (ppb)	0.1	NA	NA	3.0	3.0

Maximum Residual Disinfectant Level

Year	Constituent (Unit of Measure)	Average	Range	MCL	MCLG	Likely Source of Contaminant
2012	Chloramines (ppm)	2.35	2.2–2.6	4.0	<4.0	Disinfectant used to control microbes

Unregulated Contaminants

Year	Constituent (Unit of Measure)	Average	Range	MCL	MCLG	Likely Source of Contaminant
2012	Bromodichloromethane (ppb)	12.4	6.8–32.9	NA	NA	By-product of drinking water disinfection
2012	Chloroform (ppb)	6.7	2.4–16.6	NA	NA	By-product of drinking water disinfection
2012	Dibromochloromethane (ppb)	21.6	12.3–68.9	NA	NA	By-product of drinking water disinfection
2012	Bromoform (ppb)	36.7	9.5–115.6	NA	NA	By-product of drinking water disinfection

Unregulated contaminants such as bromodichloromethane, chloroform, dibromochloromethane and bromoform as disinfection by-products. There is no maximum contaminant level for these chemicals at the entry point of distribution.

Turbidity

Year	Constituent (Unit of Measure)	Highest Single Measurement	Lowest % of Samples Meeting Limits	Entry Point MCL	Single Measurement MCL	Likely Source of Contaminant
2012	Plant 1 (NTU)	0.28	100	≤0.3	1.0	Soil runoff
2012	Plant 2 (NTU)	0.21	100	≤0.3	1.0	Soil runoff

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.

Microbial Contaminants

Year	Constituent (Unit of Measure)	Highest Monthly % of Positive Samples	Unit of Measurement	MCL	Likely Source of Contaminant
2012	Total Coliform Bacteria	0.5	Presence	**	Naturally present in the environment
2012	Fecal Coliform and <i>E. coli</i>	0	Presence	***	Naturally present in the environment

Presence of coliform bacteria in 5% or more of the monthly samples. *A routine sample and a repeat sample are total coliform positive, and one is also fecal coliform or *E. coli* positive.

Fecal Coliform bacteria, in particular *E. coli*, are members of the coliform bacteria group originating in the intestinal tract of warm-blooded animals and are passed into the environment through feces. The presence of fecal coliform bacteria (*E. coli*) in drinking water may indicate recent contamination of the drinking water with fecal material.

Lead and Copper Rule Monitoring

Year	Constituent (Unit of Measure)	90th Percentile	No. of Sites Exceeding Action Level	Action Level	Likely Source of Contaminant
2012	Lead (ppb)	2.69	1	15.0	Corrosion of household plumbing systems, erosion of natural deposits
2012	Copper (ppm)	0.065	0	1.3	Corrosion of household plumbing systems, erosion of natural deposits

Unregulated Contaminant Monitoring Rule 2 (UCMR2)

Year	Screening Survey List 2	Average	Range	MCL	Likely Source of Contaminant
2009	Nitrosamines (ppm) <i>N</i> -Nitrosodimethylamine (NDMA)	0.0069	0.0023–0.0147	NA	Naturally found in water or form when disinfectant is added for treatment

Secondary and Other Constituents – Not Associated with Adverse Health Effects

Many constituents, such as calcium, sodium, or iron, which are often found in drinking water, can cause taste, color and odor problems. The taste and odor constituents are called secondary constituents and are regulated by the State of Texas, not the USEPA. These contaminants are not causes for health concern. Therefore, secondaries are not required to be reported, but they may greatly affect the appearance and taste of your water.

Year	Constituent	Average	Range	MCL	Likely Source of Contaminant
2012	Aluminum (ppm)	0.166	0.065–0.868	0.05–0.2	Abundant naturally occurring element
2011	Bicarbonate (ppm)	122	122–122	NA	Corrosion of carbonate rocks such as limestone
2012	Calcium (ppm)	70.81	13–136	NA	Abundant naturally occurring element
2012	Chloride (ppm)	248	248–248	300	Abundant naturally occurring element, used in water purification
2012	Copper (ppm)	0.004	0.002–0.006	1.0	Corrosion of household plumbing systems, erosion of natural deposits
2012	Hardness as Ca/Mg (ppm)	203	128–268	NA	Naturally occurring calcium and magnesium
2011	Magnesium (ppm)	11.8	11.8–11.8	NA	Abundant naturally occurring element
2012	Manganese (ppm)	0.034	0.002–0.255	0.05	Abundant naturally occurring element
2011	Nickel (ppm)	0.001	0.001–0.001	NA	Erosion of natural deposits
2012	pH	7.7	7.5–7.9	>7.0	Measure of corrosivity of water
2012	Sodium (ppm)	135	135–135	NA	Erosion of natural deposits, oil field by-product
2012	Sulfate (ppm)	97.2	97.2–97.2	300	Naturally occurring, oil field by-product
2012	Total Alkalinity (ppm) as CaCO ₃	130	85–168	NA	Naturally occurring soluble mineral salts
2012	Total Dissolved Solids (ppm)	589	168–807	1,000	Total dissolved mineral constituents in water

Definitions

Action level (AL) – The concentration of a contamination which, if exceeded, triggers treatment or other requirements which a water system must follow.

Maximum Contaminant Level (MCL) – The highest level of a contamination allowed in drinking water. MCLs are set as close to the 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.

Maximum Residual Disinfectant Level (MRDL) – The highest level of disinfectant allowed in drinking water. There is convincing

evidence that addition of a disinfectant is necessary for control of microbial contaminants. The limit is the running annual average.

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.

Most Probable Number (MPN)

Nephelometric Turbidity Units (NTU) – A measure of turbidity in water.

picoliters per liter (pCi/L) – A measure of radioactivity.

parts per billion (ppb) – One part per billion is equal to one packet of artificial sweetener sprinkled into 250,000 gallons of iced tea.

parts per million (ppm) – One part per million is equal to one packet of artificial sweetener sprinkled into 250 gallons of iced tea.

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

Turbidity – A measure of clarity of drinking water.



A Reminder to Conserve Water

Most of us take for granted that we will always have enough water. Unfortunately, our area often experiences long periods of drought. We encourage residents to continue to conserve water as we strive to provide the highest water quality in Texas. Conservation is saving tomorrow's water today and conservation begins with each of us.

Visit our web site for conservation tips and information at www.cctexas.com/government/water/conservation.

Want to Know More About Your Water?

For more information on the quality of your drinking water, visit our website at www.cctexas.com/government/water and click on "General Info" on the lower left hand side of the page. Check out our "Guide to Common Water Quality Concerns" informational link in the menu on the left side of the webpage.



"Like" us on Facebook to receive information on upcoming events, major line breaks, water quality information, and more.

www.facebook.com/ccwaterquality

Or call our water quality hotline at **361-826-1234** to speak with someone.



Corpus Christi Water Department

2726 Holly Road, Corpus Christi, TX 78415

www.cctexas.com/government/water

