2010 Annual Drinking Water Quality Report

CITY OF BIG SPRING

PHONE NUMBER: 432-264-2393 & 432-264-2500

SPECIAL NOTICE

Required language for ALL community
Public water supplies:

You may be more vulnerable than the general population to certain microbial contaminants, such as Cryptosporidium, in drinking water. Infants, some elderly or immunocompromised persons such as those undergoing chemo- therapy for cancer; those who have undergone organ transplants; those who are undergoing treatment with steroids; and people with HIV/AIDS or other immune system disorders can be particularly at risk from infections. You should seek advice about drinking water from your physician or health care provider. Additional guidelines on appropriate means to lessen the risk of infection by Cryptosporidium are available from the State Drinking Water Hotline at (800) 426-4791.

PUBLIC PARTICIPATION OPPORTUNITIES…

We encourage public interest and participation in our community's decisions affecting drinking water. Informed consumers are our best allies in maintaining safe drinking water. Regular City Council meetings occur on the 2nd and 4th Tuesdays each month, beginning at 5:30 in the City Council Chambers at 307 East 4th St. We will also be happy to answer any questions about this report, as well as any you may have concerning your water. Call Tony Modisette at 432-264-2393 or Todd Darden at 432-264-2500.

EN ESPAÑOL…

Este informe incluye information importante sobre el agua potable. Si tiene preguntas o comentarios sobre éste informe en español,
favor de llamar al tel. 432-264-2393 – para hablar con una persona bilingue en español.

OUR DRINKING WATER IS REGULATED…

by the Texas Commission on Environmental Quality (TCEQ) and they have determined that certain water quality issues exist which prevent our water from meeting all of the requirements as stated in the Federal Drinking Water Standards. Each issue is listed in this report as a violation, and we have been working closely with the TCEQ to achieve solutions.

OUR DRINKING WATER COMES FROM…

one of or a combination of four reservoirs: Lakes O.H.Ivie, J.B.Thomas, E.V.Spence, and Moss. It is supplied to us before treatment by the Colorado River Municipal Water District. Blending is done by them prior to the City of Big Spring receiving it. A Source Water Susceptibility Assessment for our drinking water sources is currently being updated by the TCEQ and will be provided to us this year. The report will describe the susceptibility and types of constituents that may come into contact with your drinking water source based on human activities and natural conditions. The information contained in the assessment will allow us to focus our source water protection strategies. Some of this source water assessment information will be available later this year on Texas Drinking Water Watch at http://dww.tceq.state.tx.us/DWW/. For more information on source water assessments and protection efforts in our system, please contact us.

WATER SOURCES…

The sources of drinking water (both tap and bottled water) include rivers, 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 before treatment include: microbes, inorganic contaminants, pesticides, herbicides, radioactive contaminants, and organic chemical contaminants.

ALL DRINKING WATER may contain contaminants. When drinking water meets federal standards there may not be any health-based benefits to purchasing bottled water or point-of-use devices. 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 water poses a health threat. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (1-800-426-4791).

SECONDARY CONSTITUENTS…

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

ABOUT THE FOLLOWING PAGES…

The pages that follow list all of the federally regulated or monitored contaminants which have been found in our drinking water. The U. S. EPA requires water systems to test for up to 97 contaminants.

DEFINITIONS

Maximum Contaminant Level (MCL)
The highest permissible level of a contaminant 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 health risk. 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.

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 contamination.

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

ABBREVIATIONS

NTU - Nephelometric Turbidity Units

pCi/L - picocuries per liter (a measure of radioactivity)

ppm - parts per million, or milligrams per liter

ppb - parts per billion, or micrograms per liter

Inorganic *Contaminants*

Year	Contaminant	Average Level	Minimum Level	Maximum Level	MCL	MCLG	Unit of Measure	Source of Contamination
2010	Fluoride	0.19	0.19	0.19	4	4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge form fertilizer and aluminum factories.
2010	Nitrate	0.04	0.04	0.04	10	10	ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
2005	Gross beta emitters	8.4	8.4	8.4	50	0	pCi/L	Decay of natural and man-made deposits.
2005	Gross alpha	0.2	0.2	0.2	15	0	pCi/L	Erosion of natural deposits.

Organic Contaminants: TESTING WAIVED, NOT REPORTED, OR NONE DETECTED

Maximum Residual Disinfectant Level

Year	Disinfectant	Average Level	Minimum Level	Maximum Level	MRDL	MRDLG	Unit of Measure	Source of Chemical
2010	Chloramine	1.70	0.5	4.3	4.0	<4.0	ppm	Disinfectant used to control microbes.

Disinfection Byproducts

Year	Contaminant	Avg Level	Minimum Level	Maximum Level	MCL	Unit of Measure	Source of Contaminant
2010	Total Haloacetic Acids	21.1	3.1	37.8	60	ppb	Byproduct of drinking water disinfection.
2010	Total Trihalomethanes	86.4	45.2	146	80	ppb	Byproduct of drinking water disinfection.

Unregulated Initial Distribution System Evaluation for Disinfection Byproducts

This evaluation is sampling required by EPA to determine the range of total trihalomethane and haloacetic acid in the system for future regulations. The samples are not used for compliance, and may have been collected under non-standard conditions. EPA also requires the data to be reported here.

Year	Contaminant	Avg Level	Minimum Level	Maximum Level	MCL	Unit of Measure	Source of Contaminant
2008	Total Haloacetic Acids	29.7	0	46.2	NA	ppb	Byproduct of drinking water disinfection.
2008	Total Trihalomethanes	59.2	0	98.5	NA	ppb	Byproduct of drinking water disinfection.

Unregulated Contaminants

Bromoform, chloroform, bromodichloromethane, and dibromochloromethane are disinfection byproducts. There is no maximum contaminant level for these chemicals at the entry point to distribution.

Year	Contaminant	Avg Level	Minimum Level	Maximum Level	Unit of Measure	Source of Contaminant
2010	Chloroform	1.1	<1.0	1.6	ppb	Product of drinking water disinfection.
2010	Bromoform	46.5	26	111	ppb	Product of drinking water disinfection.
2010	Bromodichloromethane	5.5	3.8	8.6	ppb	Product of drinking water disinfection.
2010	Dibromochloromethane	15.2	9.3	27.9	ppb	Product of drinking water disinfection.

Lead and Copper

Year	Contaminant	The 90th Percentile	Number of Sites Exceeding Action Level	Action Level	Unit of Measure	Source of Contaminant
2010	Lead	3.1	0	15	ppb	Corrosion of household plumbing systems; erosion of natural deposits.
2010	Copper	0.23	0	1.3	ppm	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.

Recommended Additional Health Information for Lead

"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. This water supply 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 at 1-800-426-4791 or at http://www.epa.gov/safewater/lead."

Total Organic Carbon

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

Year	Contaminant	Avg Level	Minimum Level	Maximum Level	Unit of Measure	Source of Contaminant
2010	Source Water	9.47	5.27	14.0	ppm	Naturally present in the environment.

Total Coliform

Total coliform bacteria are used as indicators of microbial contamination of drinking water because testing for them is easy. While not disease-causing organisms themselves, they are often found in association with other microbes that are capable of causing disease. Coliform bacteria are more hardy than many disease-causing organisms; therefore, their absence from water is a good indication that the water is microbiologically safe for human consumption.

Year	Contaminant	Highest Monthly Number of Positive Samples	MCL	Unit of Measure	Source of Contaminant
2010	Total Coliform Bacteria	2	Two or more coliform found samples in any single month.	Presence	Naturally present in the environment.

Fecal Coliform REPORTED MONTHLY, TESTS FOUND NO FECAL COLIFORM BACTERIA.

Turbidity

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.

Year	Contaminant	Highest Single Measurement	Lowest Monthly % of Samples Meeting Limits	Turbidity Limits	Unit of Measure	Source of Contamination
2010	Turbidity	1.03	6.55 %	0.3	NTU	Soil runoff.

VIOLATIONS

Violation Type	Health Effects	Duration	Explanation / Steps to Correct
More than 5% of monthly combined filter effluent samples exceeded 0.3 NTU	Turbidity has no health effects. However, it can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-producing organisms, including bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.	01/01/2010 to 01/31/0210	Caused by several factors, including high levels of golden algae in our source water from Lake Spence due to drought conditions, and excessive solids in the treatment plant basins. We have begun receiving water from Lake Ivie blended with Lake Spence water, resulting in a better quality raw water to treat. We have completed a solids removal project at the plant and are looking into methods for removing excessive levels of golden algae and sludge.
More than 5% of monthly combined filter effluent samples exceeded 0.3 NTU	Turbidity has no health effects. However, it can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-producing organisms, including bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.	02/01/2010 to 02/28/2010	Caused by several factors, including high levels of golden algae in our source water from Lake Spence due to drought conditions, and excessive solids in the treatment plant basins. We have begun receiving water from Lake Ivie blended with Lake Spence water, resulting in a better quality raw water to treat. We have completed a solids removal project at the plant and are looking into methods for removing excessive levels of golden algae and sludge.
More than 5% of monthly combined filter effluent samples exceeded 0.3 NTU	Turbidity has no health effects. However, it can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-producing organisms, including bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.	03/01/2010 to 03/31/0210	Caused by several factors, including high levels of golden algae in our source water from Lake Spence due to drought conditions, and excessive solids in the treatment plant basins. We have begun receiving water from Lake Ivie blended with Lake Spence water, resulting in a better quality raw water to treat. We have completed a solids removal project at the plant and are looking into methods for removing excessive levels of golden algae and sludge.
More than 5% of monthly combined filter effluent samples exceeded 0.3 NTU	Turbidity has no health effects. However, it can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-producing organisms, including bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.	04/01/2010 to 04/30/2010	Caused by several factors, including high levels of golden algae in our source water from Lake Spence due to drought conditions, and excessive solids in the treatment plant basins. We have begun receiving water from Lake Ivie blended with Lake Spence water, resulting in a better quality raw water to treat. We have completed a solids removal project at the plant and are looking into methods for removing excessive levels of golden algae and sludge.

Violation Type	Health Effects	Duration	Explanation / Steps to Correct
The quarterly average for TTHM's exceeded the MCL of 80 ppb.	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, and or central nervous systems, and may have an increased risk of getting cancer.	01/01/2010 to 03/31/2010	Water samples taken during this sample period showed level of contaminant in our drinking water exceeded the MCL for this period. We have made adjustments to our disinfection process to help improve the results as well as a change in source water blending may improve future results.
The quarterly average for TTHM's exceeded the MCL of 80 ppb.	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, and or central nervous systems, and may have an increased risk of getting cancer.	04/01/2010 to 06/30/2010	Water samples taken during this sample period showed level of contaminant in our drinking water exceeded the MCL for this period. We have made adjustments to our disinfection process to help improve the results as well as a change in source water blending may improve future results.
The quarterly average for TTHM's exceeded the MCL of 80 ppb.	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys ,and or central nervous systems, and may have an increased risk of getting cancer.	07/01/2010 to 09/30/2010	Water samples taken during this sample period showed level of contaminant in our drinking water exceeded the MCL for this period. We have made adjustments to our disinfection process to help improve the results as well as a change in source water blending may improve future results.
The quarterly average for TTHM's exceeded the MCL of 80 ppb.	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, and or central nervous systems, and may have an increased risk of getting cancer.	10/01/2010 to 12/31/2010	Water samples taken during this sample period showed level of contaminant in our drinking water exceeded the MCL for this period. We have made adjustments to our disinfection process to help improve the results as well as a change in source water blending may improve future results.

Public Notice Rule	No associated health effects.	01/31/2010 to 02/18/2010	We fell short to adequately notify you our drinking water customers about a violation in the drinking water regulations. We have been on improving our reporting procedures to help ensure violations are reported in a timely manner.

Secondary and Other Constituents Not Regulated (No associated adverse health effects)

Year	*Contaminant*	*Avg Level*	*Minimum Level*	*Maximum Level*	*Secondary Limit*	*Unit of Measure*	*Source of Constituent*
2010	Bicarbonate	101	101	101	NA	ppm	Corrosion of carbonate rocks such as limestone.
2010	Chloride	1170	1170	1170	300	ppm	Abundant naturally occurring element; used in water purification; byproduct of oilfield security.
2010	Hardness as Ca/Mg	783	783	783	NA	ppm	Naturally occurring calcium & magnesium.
2010	pH	7.1	7.1	7.1	>7.0	units	Measure of corrosivity of water.
2010	Sodium	661	661	661	NA	ppm	Erosion of natural deposits; byproduct of oilfield activity.
2010	Sulfate	827	827	827	300	ppm	Naturally occurring; common industrial byproduct; byproduct of oilfield activity.
2010	Total Alkalinity as CaCO3	83	83	83	NA	ppm	Naturally occurring soluble mineral salts.
2010	Total Dissolved Solids	3100	3100	3100	3100	ppm	Total dissolved mineral constituents in water.

A SPECIAL THANKS TO THE RETIRED SENIORS VOLUNTEEER PROGRAM (RSVP) FOR THEIR HELP WITH THIS REPORT.

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