WATER QUALITY REPORT 2011

The City of
BETHANY

Commitment to Quality

Once again we are proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2011. As in years past, we are committed to delivering the best quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, and water conservation, while serving the diverse needs of all of our water users. Thank you for allowing us to continue providing you and your family with high quality drinking water.

Where Does My Water Come From?

The City of Bethany operates twenty-three (23) groundwater wells. These wells draw water from the North Canadian Alluvium and Terrace Deposits and are under the direct influence of surface water. The water is treated using a series of processes applied in sequence including coagulation, flocculation, sedimentation, filtration, and disinfection. Coagulation removes dirt and other particles suspended in the source water by adding chemicals (coagulants) to form tiny sticky particles called "floc", which attract the dirt particles. Flocculation (the formation of larger flocs from smaller flocs) is achieved using gentle, constant mixing. The heavy particles settle naturally out of the water in a sedimentation basin. The clear water then moves to the filtration process where the water passes through sand and charcoal filters that remove even smaller particles. A state-of-the-art disinfection process using chloramines then kills bacteria and other microorganisms (viruses, cysts, etc.) that may be in the water before the water is stored and distributed to homes and businesses in the community.

An analysis of contamination susceptibility of our source water has been done and the source water protection plan is available for viewing by contacting the Bethany Water Treatment Plant at 405-789-1421

Substances That Could Be in Water

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 risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (800-426-4791).

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: microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife; inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban stormwter runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, or farming; pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses; 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; and 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, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Tom Seymour, Water Plant Supervisor, at (405) 789-1421. The Bethany Water Treatment Plant is located at 8308 NW 50th Street, Bethany, OK 73008.

If you want to learn more, please attend any of the regularly scheduled meetings of the Bethany Public Works Authority. The meetings are held the first and third Tuesday of every month at 7:30 p.m. in the Council chambers at City Hall, 6700 NW 36th Street, Bethany, Oklahoma.

Important Health Information

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 particulary at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at 800-426-4791.

PLEASE SEE THE BACK OF THIS SHEET FOR SPECIFIC WATER QUALITY INFORMATION

BETHANY WATER QUALITY SUMMARY 2011

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of contaminants in water provided by public water systems. The table below lists all of the drinking water contaminants that we detected during the calendar year of this report. Although many more contaminants were tested, only those substances listed below were found in your water. All sources of drinking water contain some naturally occurring contaminants. At low levels, these substances are generally not hamful in our drinking water. Removing all contaminants would be extremely expensive, and in most cases, would not provide increased protection of public health. A few naturally occurring minerals may actually improve the taste of drinking water and have nutritional value at low levels. Unless otherwise noted, the values presented in this table are from testing done in the calendar year of the report. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. As such, some of our data, though representative, may be more than one year old. In this table you will find terms and abbreviations that might not be familiar to you. To help you better understand these terms, we have provided the definitions below the table.

Lead & Copper

Substance (units)	Year Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Violation	Typical Source
Copper (ppm)	2011	1.3	1.3	0.024	0	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.

Regulated Substances

Disinfectants & Disinfectant Byproducts

Substance (units)	Year Sampled	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Violation	Typical Source
Haloacetic Acids (ppb)	2011	5	2.58 - 6.04	No goal for the total	60	N	By-product of drinking water chlorination.
Total Trihalomethanes (ppb)	2011	12	1.04 - 17.4	No goal for the total	80	N	By-product of drinking water chlorination.

Inorganic Contaminants

Barium (ppm)	2011	0.035	0.035 - 0.035	2	2	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Flouride (ppm)	2011	0.22	0.22 - 0.22	4	4.0	N	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrates (as N) (ppm)	2011	1	1.42 - 1.42	10	10	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

Radioactive Contaminants

Beta/Photon Emitters (mrem/yr)	2011	1.47	1.47 - 1.47	0	4	N	Decay of natural and man-made deposits.
Combined Radium 226/228 (pCi/L)	2011	0.39	0.39 - 0.39	0	5	N	Erosion of natural deposits.

Turbidity

	Limit (TT)	Level Detected	Violation	Typical Source
Highest single measurement	1 NTU	0.03 NTU	N	Soil runoff
Lowest monthly % meeting limit	0.3 NTU	100%	N	Soil runoff

Definitions

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

MCL (Maximum Contaminant Level): 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.

MCLG (Maximum Contaminant Level Goal): 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.

MRDL (Maximum Residual Disinfectant Level): 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.

MRDLG (Maximum Residual Disinfectant Level Goal): 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 (Not Detected): Indicates that the substance was not found by laboratory analysis.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

pCi/L (picocuries per liter) & mrem/yr (millirem per year): Measures of radioactivity.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

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