Annual WATER QUALITY REPORT

Reporting Year 2013

Presented By

City of Beaumont
Water Utilities Department

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Este reporte incluye informacion importante sobre el agua para tomar. Para asistencia en espanol, favor de llamar al telefono (409) 866-0026.

There When You Need Us

Since 2005, the City of Beaumont has experienced two major hurricanes, Rita and Ike, and two smaller scale storms, Gustav and Humberto. The devastation caused by these natural disasters changed the dynamics of emergency response and the image of the City's utility workers. The brief interruption in water, wastewater, and solid waste services made the public, police, firefighters, and EMS realize that the men and women providing these services are the front-line first responders and that their duties are essential to the existence of the City. In the morning of every disaster, the men and women of the City Utilities Department put their super-hero uniforms on and placed themselves on the front lines of the battlefield against massive amounts of debris blocking City streets, broken water lines causing pressure reduction, and power interruption jeopardizing the public's health with potential sanitary sewer overflows. Like the super heroes in the movies, the City Utilities Department men and women were victorious every time. The difference is that their victory was over real life challenges and not fictional evil forces.

From the experiences since 2005, the City Utilities Department embarked on a journey to become as independent as possible from other entities when it comes to assets and emergency response. It has been determined from the Department's experiences that an effective response in a timely manner can only occur if the Department has its own resources. Every year the Department gets closer to becoming self-sufficient when facing natural and/or man-made disasters.

In 2006, the City Utilities Department took a new approach to water and wastewater maintenance. The operation was converted from its historical patching approach to a rehabilitation technique that provides long-term solutions. The City of Beaumont Utilities Department dared to step outside the box and reclassify some of its employees to perform construction rehabilitation work instead of repairs. Today the City Utilities Department has two pipe bursting crews rehabilitating sanitary sewer pipes, one directional drilling crew installing new water lines, and one manhole rehabilitation crew resurfacing old manholes. The four construction crews utilize state-of-the-art technologies and perform the work at approximately a third of contractor prices.

In December 2013 the City Utilities Department initiated a pilot program to clean City streets on a daily basis. The success of the program turned it into a full time part of the operation. Since its inception, the program has cleaned 2,765 miles of streets and picked up 754,972 pounds (377 tons) of litter and 3,864 tires. Please call 311 to report any areas that need to be cleaned.

In conclusion, the leaders and employees of the City Utilities Department are committed to protecting the public's health and safety. It has been proven that the education, experience, knowledge, and dedication of the City Utilities men and women provide them with the tools to weather any type of storm. The citizens of Beaumont should rest assured that their water, wastewater, and garbage collection services are being optimized. By no means am I claiming that the City Utilities Department is perfect, but we strive daily to achieve perfection through never-ending improvements and a clear vision of the future.

- Dr. Hani J. Tohme, P.E., Director of City Utilities

Public Meetings

The Water Utilities Department is part of the City government and follows not only Federal and State regulations but also ordinances established by City Council. The City Council meets each Tuesday at City Hall, 801 Main Street, Beaumont, Texas 77704, at 1:30 p.m., or you may contact the Council members at (409) 880-3770. You are invited to participate in our public forum and to voice your concerns about your drinking water.

Lead in Home Plumbing

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 we 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 www.epa.gov/safewater/lead.

Important Health Information

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 chemotherapy 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 Safe Drinking Water Hotline at (800) 426-4791.

Questions?

We present our annual water quality report covering all testing performed between January 1 and December 31, 2013. Please remember that we are always available to assist you should you ever have any questions or concerns about your water. For more information about this report, please contact Karin K. Warren, Water Quality Control Manager, at (409) 785-3006.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water that 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 these contaminants does not necessarily indicate that the water poses a health risk.

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 can acquire naturally occurring minerals, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater 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 which may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

Contaminants may be found in drinking water that may cause taste, color, or odor problems. These types of problems are not necessarily causes for health concerns. For more information on the taste, odor, or color of drinking water, please contact our business office. For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Source Water Assessment

A Source Water Assessment Plan (SWAP) is currently being updated by the Texas Commission on Environmental Quality. This information describes 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 allows us to focus our source water protection strategies. Some of this source water assessment information is available on Texas Drinking Water Watch at http://dww.tceq.state.tx.us/DWW/. For more information on source water assessments and protection efforts at our system, please contact us.

Where Does My Water Come From?

The City of Beaumont has two sources of water: 1) well water is pumped from the Chicot Aquifer at three different well sites located in Hardin County and 2) surface water from the Neches River, with three separate intakes located at various spots upriver from Beaumont. Well water receives chlorination before it is pumped to the City. Surface water receives more complex treatment, including filtration and chlorination. The City of Beaumont checks and analyzes both sources of water daily to insure compliance with all Federal and State requirements. The water plant is manned 24 hours a day, 7 days a week to give you the best-quality water possible. Contaminants may be found in drinking water that may cause taste, color, or odor problems. Sometimes the City has water line breaks. When they occur, the color comes from iron and mineral deposits inside the pipe that have been dislodged. After the water line is repaired, the water will clear and you may run your faucet to clear the discolored water in your home's pipes. To report a water line break, please call Water & Sewer Maintenance Division at 860-3221.

TipTopTap

The most common signs that your faucet or sink is affecting the quality of your drinking water are discolored water, sink or faucet stains, a buildup of particles, unusual odors or tastes, and a reduced flow of water. The solutions to these problems may be in your hands.

Kitchen sink and drain

Hand washing, soap scum buildup, and the handling of raw meats and vegetables can contaminate your sink. Clogged drains can lead to unclean sinks and backed up water in which bacteria (i.e., pink and black colored slime growth) can grow and contaminate the sink area and faucet, causing a rotten egg odor. Disinfect and clean the sink and drain area regularly. Also, flush regularly with hot water.

Faucets, screens, and aerators

Chemicals and bacteria can splash and accumulate on the faucet screen and aerator, which are located on the tip of faucets and can collect particles like sediment and minerals resulting in a decreased flow from the faucet. Clean and disinfect the aerators or screens on a regular basis.

Check with your plumber if you find particles in the faucet's screen as they could be pieces of plastic from the hot water heater's dip tube. Faucet gaskets can break down and cause black, oily slime. If you find this slime, replace the faucet's gasket with a higher-quality product. White scaling or hard deposits on faucets and shower heads may be caused by hard water or water with high levels of calcium carbonate. Clean these fixtures with vinegar or use water softening to reduce the calcium carbonate levels for the hot water system.

Water filtration/treatment devices

A smell of rotten eggs can be a sign of bacteria on the filters or in the treatment system. The system can also become clogged over time so regular filter replacement is important. (Remember to replace your refrigerator filters!)

Sampling Results

During the past year, we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The tables below show only those contaminants that were detected in the water. The State requires us to monitor for certain substances less often 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.

We participated in the 3rd stage of the EPA's Unregulated Contaminant Monitoring Regulation (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if the EPA needs to introduce new regulatory standards to improve drinking water quality. Any UCMR3 detections are shown in the data tables in this report.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)	2013	2	2	0.0527	0.0527–0.0527	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2013	[4]	[4]	2.54	0.38–4.05	No	Water additive used to control microbes
Haloacetic Acids [HAAs]–Stage 2 (ppb)	2013	60	NA	16.3	2.6–34.0	No	By-product of drinking water disinfection
Nitrate (ppm)	2013	10	10	0.15	0.11–0.19	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes]–Stage 2 (ppb)	2013	80	NA	28.4	14.8–47.0	No	By-product of drinking water disinfection
Total Coliform Bacteria[1] (% positive samples)	2013	More than 5% positive monthly samples	0	0.21	NA	No	Naturally present in the environment
Turbidity[2] (NTU)	2013	TT=1 NTU	NA	0.24	0.05–0.24	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2013	TT=95% of samples <0.3 NTU	NA	100	NA	No	Soil runoff

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2012	1.3	1.3	0.1487	0/49	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2012	15	0	1.3	0/49	No	Corrosion of household plumbing systems; Erosion of natural deposits

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Aluminum (ppb)	2013	200	NA	79	79–79	No	Erosion of natural deposits; Residual from some surface water treatment processes
Chloride (ppm)	2013	250	NA	20	20–20	No	Runoff/leaching from natural deposits
Fluoride (ppm)	2013	2.0	NA	0.62	0.62–0.62	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Manganese (ppb)	2013	50	NA	30	30–30	No	Leaching from natural deposits
pH (Units)	2013	6.5–8.5	NA	7.1	7.1–7.1	No	Naturally occurring
Sulfate (ppm)	2013	250	NA	53	53–53	No	Runoff/leaching from natural deposits; Industrial wastes
Total Dissolved Solids [TDS] (ppm)	2013	500	NA	170	170–170	No	Runoff/leaching from natural deposits
Zinc (ppm)	2013	5	NA	0.0051	0.0051–0.0051	No	Runoff/leaching from natural deposits; Industrial wastes

UNREGULATED SUBSTANCES [3]

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Bromoform (ppb)	2013	1.3	1.0–4.2	By-product of drinking water disinfection
Chlorodibromomethane (ppb)	2013	3.5	1.0–10.4	By-product of drinking water disinfection
Chloroform (ppb)	2013	16.3	2.4–29.7	By-product of drinking water disinfection
Nickel (ppb)	2013	0.002	0.002–0.002	Runoff/leaching from natural deposits; Industrial wastes
Sodium (ppm)	2013	30.7	30.7–30.7	Erosion of natural deposits

UNREGULATED CONTAMINANT MONITORING REGULATION 3 (UCMR3)

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Chlorate (ppb)	2013	22	22–22	Leaching from natural deposits
Hexavalent Chromium[4] (ppb)	2013	0.037	0.03–0.04	Occurs naturally in rocks, plants, soil, volcanic dust, and animals
Molybdenum (ppb)	2013	2.68	2–3	Runoff/leaching from natural deposits; Industrial waste
Strontium (ppb)	2013	71.55	50–100	Runoff/leaching from natural and/or industrial sources
Total Chromium (ppb)	2013	0.085	0.03–0.14	Erosion of natrual depsits; Industrial wastes
Vanadium (ppb)	2013	0.225	0.2–0.3	Runoff/leaching from agriculture or industrial activities

[1] The MCL is a routine sample that was total coliform positive and negative for *E. coli*. Repeat samples were conducted and the ground water wells were sampled; all were negative for total coliform and *E. coli*.

[2] Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system.

[3] Unregulated contaminants are those for which the U.S. EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist the EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

[4] The unregulated contaminant is part of the third round of the Unregulated Contaminant Rule. The monitoring began in 2013 and will continue through 2015. Hexavalent Chromium and Trivalent Chromium make up Total Chromium; the federal standard for Total Chromium is 0.1 mg/L or 100 ug/L.

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. Secondary MCLs (SMCLs) are established to regulate the aesthetics of drinking water (i.e., taste and odor).

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

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.

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.