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2016 WATER QUALITY REPORT
City of Ennis
P.O. Box 220
Ennis, TX 75120

2016¹ Drinking Water Quality Report (CONSUMER CONFIDENCE REPORT)



The City of Ennis

115 W. Brown Street
Ennis, Texas 75119
(972) 875-1234

<http://www.ennis-texas.com>
0700001

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 chemotherapy for cancer; persons 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 providers. 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."

Public Participation Opportunities

Date: August 11, 2016
Time: 10 am
Location: City Hall
Phone No: 972-875-1234

To learn about future public meetings concerning your drinking water, or to request to schedule one, please call us.

Our Drinking Water is Regulated

This report is a summary of the quality of the water we provide our customers. The analysis was made by using the data from the most recent U.S. Environmental Protection Agency (EPA) required tests and is presented in the attached pages. We hope this information helps you become more knowledgeable about what's in your drinking water.

Source of 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.

Contaminates that may be present in our source water include:

- Microbial contaminants, such as viruses and bacteria, which 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 storm water 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 storm water 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 storm water runoff, and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

En Español

Este informe incluye información importante sobre el agua potable. Si tiene preguntas o comentarios sobre éste informe en español, favor de llamar al tel. 972-875-1234 para hablar con una persona bilingüe en español.

Where do we get our drinking water?

The source of the drinking water used by the City of Ennis is surface water from Lake Bardwell. The TCEQ completed an assessment of your source water and results indicate that some of your sources are susceptible to certain contaminants. The sampling requirements for your water system are based on this susceptibility and previous sample data. Any detection of these contaminants may be found in this Consumer Confidence Report. For more information on source water assessments and protection efforts at our system, contact Robert Bolen. For more information about your sources of water, please refer to the Source Water Assessment Viewer available at the following URL: <http://gis3.tceq.state.tx.us/swaw/Controller/index.jsp?wtrsrc>. Further details about sources and source water assessments are available in Drinking Water Watch at the following URL: <http://dww.tceq.texas.gov/DWW/>

All drinking water may contain contaminants

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. 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 water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at (1-800-426-4791).

Constituents (such as calcium, sodium, or iron) may be found in drinking water and that may cause taste, color, or odor problems. These types of problems are not necessarily causes for health concerns. In the water loss audit submitted to the Texas Water Development Board for the time period of January through December of 2015, our system lost an estimated 144,159,025 gallons or 8% of production. For more information about the water loss audit or taste, odor, or color in drinking water, please contact the City of Ennis at 972-875-1234 or at www.ennistexas.gov

Definitions and Abbreviations

Maximum Contaminant Level Goal or 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 Contaminant Level or 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 Residual Disinfectant Level Goal or 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.

Maximum Residual Disinfectant Level or 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.

mrem: millirems per year (a measure of radiation absorbed by the body)

ppm: parts per million or milligrams per liter - or one ounce in 7,350 gallons of water.

ppb: parts per billion or micrograms per liter - or one ounce in 7,350,000 gallons of water.

na: not applicable.

Avq: Regulatory compliance with some MCLs are based on running annual average of monthly samples.

NTU - Nephelometric Turbidity Units

MFL - million fibers per liter (a measure of asbestos)

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

¹Data compiled from 2015 water samples.

Regulated Substances

These substances are regulated or are required to be monitored and were detected in Ennis tap water. None of the detected substances exceeded the regulated limits.

Year	Substance	Units	Average	Minimum	Maximum	MCL	MCLG	Possible Source
2015	Atrazine	ppm	0.00017	0.00017	0.00017	0.003	0.003	Runoff from herbicide used on row crops
2015	Antimony	ppm	0.00026	.00026	.00026	0.006	0.006	Discharge from petroleum refineries, fire retardants, ceramics, solder
2015	Barium	ppm	0.068	0.068	0.068	2	2	Erosion of natural deposits, discharge from drilling and metal refineries
2015	Chromium	ppm	0.00071	0.00071	0.00071	0.1	0.1	Discharge from steel and pulp mills, erosion of natural deposits
2015	Fluoride	ppm	0.655	0.655	0.655	4	4	Erosion of natural deposits, water additive which promotes strong teeth, discharge from fertilizer and aluminum factories
2015	Nitrate *1	ppm	0.838	0.838	0.838	10	10	Runoff from fertilizer use, leaching from septic tanks, sewage erosion of natural deposits
2015	Cyanide	ppm	0.056	0.056	0.056	0.2	0.2	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
2011	Beta/photon emitters*2	pCi/L	4.5	4.5	4.5	50	0	Decay of natural and man – made deposits
2011	Combined Radium 226&228	pCi/L	1.0	1.0	1.0	5	0	Decay of natural and man – made deposits
2015	Chloramines *3	ppm	3.4	1.8	4.1	MRDL=4	MRDLG=4	Disinfectant used to control microbes
2015	Total Coliform *4	found/not found	1	1	1	*4	0	Naturally present in the environment
2015	Total Haloacetic Acids *5	ppb	12.2	23.70	35.7	60	NA	Byproduct of drinking water disinfection
2015	Total Trihalomethanes *5	ppb	56.5	37.8	71.5	80	NA	Byproduct of drinking water disinfection
2015	Total Organic Carbon (TOC) *6							
2015	Source Water	ppm	5.07	4.49	5.44			Naturally present in the environment
2015	Drinking Water	ppm	3.28	2.80	3.82			Naturally present in the environment
2015	Removal Ratio	%	1.24	1.00	1.77		%Removal*	NA
Year	Substance	Units	Highest Single Measurement		Lowest Monthly % of Samples Meeting Limit		Turbidity Limits	Possible Source
2015	Turbidity *7	NTU	0.10		100		0.3	Soil runoff
Year	Substance *8	Units	Action Level	Number of Sites > Action Level	90th Percentile		Possible Source	
2013	Lead	ppb	0.015	1	0.0877		0.000185	Corrosion of household plumbing systems; erosion of natural deposits
2013	Copper	ppm	1.3	1	1.5		0.0109	Corrosion of household plumbing systems, corrosion of natural deposits, leaching from wood preservatives.

*1 Nitrate Advisory - Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider. *2 The MCL for beta particles is 4 mrem/year. EPA considers 50 pCi/L to be the level of concern for beta particles. *3 Systems must complete and submit disinfection data on the Surface Water Monthly Operations Report (SWMOR). On the CCR report, the system must provide disinfection type, minimum, maximum, and average level. *4 Total coliform bacteria are used as indicators of microbial contamination in 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 harder than many disease-causing organisms; therefore, their absence from water is a good indication that the water is microbiologically safe for human consumption. Two or more total coliform found samples in any single month is the MCL. *5 Not all sample results may have been used for calculating the Highest Level Detected because some results may be part of an evaluation to determine where compliance sampling should occur in the future. *6 Total organic carbon (TOC) no health effects. The disinfectant can combine with TOC to form disinfection byproducts. Disinfection is necessary to ensure that water does not have unacceptable levels of pathogens. Byproducts of disinfection include trihalomethanes (THMs) and haloacetic acids (HAA) 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. *7 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. *8 Definitions: Action Level Goal (ALG): The level of a contaminant in drinking water below which there is no known or expected risk to health. ALGs allow for a margin of safety. Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow. We collected lead and copper samples in 2013 and while all samples were properly collected and within required parameters we failed to provide the Lead Consumer Notification to the sample sites and the Lead Consumer Certification to the State in a timely fashion which caused an infraction of the rules language. This matter has been fully resolved. "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 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 (800) 426-4791 or at <http://www.epa.gov/safewater/lead>.

Unregulated and Substances of Interest

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. Any unregulated contaminants detected are reported in the following table. For additional information and data visit <http://www.epa.gov/safewater/ucmr/ucmr2/index.html>, or call the Safe Drinking Water Hotline at (800)426-4791.

Year	Substance	Units	Average	Minimum	Maximum	MCL	MCLG	Possible Source
2015	Chloroform	ppm	24.5	7.5	41.0	Not Regulated	Not Regulated	By-product of drinking water disinfection; not regulated individually; included in Total Trihalomethanes
2015	Bromoform	ppm	2.01	<1.0	3.1	Not Regulated	Not Regulated	
2015	Bromodichloromethane	ppm	20.1	15.1	25.2	Not Regulated	Not Regulated	
2015	Dibromochloromethane	ppm	10.5	7.32	13.2	Not Regulated	Not Regulated	
2015	Aluminum	ppm	0.022	0.022	0.022	0.2	0.2	Erosion of natural deposits; residue from some surface water treatment processes
2015	Copper Free	ppm	0.0013	0.0013	0.0013	1.0	1.0	Erosion of natural deposits; leaching from wood preservatives
2015	Magnesium	ppm	2.89	2.89	2.89	NA	NA	Leaching from natural deposits; industrial wastes
2015	Manganese	ppm	0.001	0.001	0.001	0.05	0.05	Erosion of natural deposits; leaching
2015	Sodium	ppm	43.5	43.5	43.5	NA	NA	Naturally occurring element
2015	Zinc	ppm	0.0034	0.0034	0.0034	5.0	5.0	Naturally occurring element
2015	Sulfate	ppm	70.6	70.6	70.6	300	300	Erosion of natural deposits; oil field activity
2015	Metolachlor	ppm	0.0002	0.0002	0.0002	NA	NA	Herbicide runoff
2015	Chloride	ppm	35.2	35.2	35.2	300	300	Naturally occurring element; oil field activity
2015	Nickel	ppm	.002	.002	.002	NA	NA	Erosion of natural deposits; discharge from metal factories
2015	Potassium	ppm	7.68	7.68	7.68	NA	NA	Leaching from natural deposits; industrial waste
2015	Total Dissolved Solids (TDS)	ppm	321	321	321	1000	1000	Runoff/leaching from natural deposits
2015	pH	units	7.5	7.3	7.8	>7.0	>7.0	Measure of corrosivity of water
2015	Total Alkalinity	ppm	94.6	94.6	94.6	NA	NA	Naturally occurring soluble mineral salts
2015	Hardness as CaMg	ppm	122	122	122	NA	NA	Naturally occurring calcium and magnesium