

# City of Dorrance

## – Water Quality Report *(covers calendar year 2016)*

This pamphlet lists water quality information for the City of Dorrance. It includes limited details on the source and quality parameters and how our water compares to Environmental Protection Agency (EPA) and state standards. It's important that customers be aware of the efforts that are made continually to improve their water system. To learn more, please attend any of the regularly scheduled meetings that are held on the second Saturday of each month at 8 a.m. at City Hall. For more information, contact Bob Boatright at 785-324-1982 or Doug Guenther at 785-445-2283.

The water source for Dorrance is from wells and has a connection to Ellsworth RWD 1. The water is treated to remove contaminants. A disinfectant is also added to protect the water supply against microbial contaminants.

### A message from EPA

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. The city treats water according to EPA's regulations. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

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 particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/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 (800-426-4791).

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 (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.

Contaminants that may be present in source water before treatment may 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 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 and residential uses.

■ **Radioactive contaminants**, which are naturally occurring.

■ **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.

■ **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. Your water system 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 thirty seconds to two 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 <http://www.epa.gov/safewater/lead>.

■ **Total Coliform Rule (TCR)**: Coliform bacteria are usually harmless, but their presence in water can be an indication of disease-causing bacteria. When coliform bacteria are found, special follow-up tests are done to determine if harmful bacteria are present in the water supply. If this limit is exceeded, the water supplier must notify the public by newspaper, television or radio. During 2016, the utility collected two samples per month.

### Water Quality Data

The table on the reverse side lists all the drinking water contaminants that we detected during the 2016 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless noted, the data presented in this table is from testing done January 1 - December 31, 2016. The state requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old. The bottom line is that the water that is provided to you is safe.

### Terms & Abbreviations

- **Maximum Contaminant Level Goal (MCLG)**: The "Goal" is the level of a contaminant in drinking water below which there is no known or expected risk to human health. MCLGs allow for a margin of safety.
- **Maximum Contaminant Level (MCL)**: the "Maximum Allowed" MCL is the highest level of a contaminant allowed in drinking water. MCLs are set as close to the MCLGs as feasible using best available treatment technology.
- **Secondary Maximum Contaminant Level (SMCL)**: recommended level for a contaminant that is not regulated and has no MCL.
- **Action Level (AL)**: The concentration of a contaminant that, if exceeded, triggers treatment or other requirements.
- **Technique (TT)**: A required process intended to reduce levels of a contaminant in drinking water.
- **Maximum Residual Disinfectant Level (MRDL)**: 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.
- **Non-Detects (ND)**: Lab analysis indicates the contaminant is not present.
- **Parts per Million (ppm) or milligrams per liter (mg/l)**
- **Parts per Billion (ppb) or micrograms per liter (µg/l)**
- **Picocuries per Liter (pCi/L)**: A measure of the radioactivity in water.
- **Millirems per Year (mrem/yr)**: Measure of radiation absorbed by the body.
- **Period Average (MPA)**: An average of sample results obtained during a defined time frame, common examples of monitoring periods are monthly, quarterly and yearly.
- **Nephelometric Turbidity Unit (NTU)**: A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person. Turbidity is not regulated for ground water systems.
- **Running Annual Average (RAA)**: Average of sample results obtained over the most current 12 months and used to determine compliance with MCLs

## Testing Results for the City of Dorrance

Microbiological	Result	MCL	MCLG	Typical Source
COLIFORM (TCR)	In the month of September, 4 samples returned as positive	MCL: Systems that Collect Less Than 40 Samples per Month - No more than 1 positive monthly sample	0	Naturally present in the environment
E. COLI	In the month of September, 1 sample returned as positive	MCL: A Routine Sample and a Repeat Sample are Total Coliform Positive, and One is also Fecal Positive/E. Coli Positive	0	Human and animal fecal waste

Fecal coliforms and E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems.

During the past year the city was required to conduct one Level 1 assessment. One Level 1 assessment was completed. In addition, the city was required to take one corrective actions and the city completed one of the actions.

E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely compromised immune systems. We found E. coli bacteria, indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments. We were required to complete a Level 2 assessment because we found E. coli in our water system.

Regulated Contaminants	Collection Date	Highest Value	Range (low/high)	Unit	MCL	MCLG	Typical Source
ARSENIC	2/2/2015	18	2.4 - 18	ppb	10	0	Erosion of natural deposits
ATRAZINE	3/16/2016	0.56	0.41 - 0.56	ppb	3	3	Runoff from herbicide used on row crops
BARIUM	3/8/2015	0.068	0.057 - 0.068	ppm	2	2	Discharge from metal refineries
CHROMIUM	3/8/2015	2.7	1.6 - 2.7	ppb	100	100	Discharge from steel and pulp mills
FLUORIDE	3/8/2015	0.2	0.18 - 0.2	ppm	4	4	Natural deposits; Water additive which promotes strong teeth.
NITRATE	2/26/2016	3.7	3.7	ppm	10	10	Runoff from fertilizer use
SELENIUM	10/11/2016	7.9	4.9 - 7.9	ppb	50	50	Erosion of natural deposits

Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.

Disinfection Byproducts	Monitoring Period	Highest RAA	Range (low/high)	Unit	MCL	MCLG	Typical Source
TOTAL HALOACETIC ACIDS (HAA5)	2016	20	20	ppb	60	0	By-product of drinking water disinfection
TTHM	2016	74	74	ppb	80	0	By-product of drinking water chlorination

Lead and Copper	Monitoring Period	90 <sup>th</sup> Percentile	Range (low/high)	Unit	AL	Sites Over AL	Typical Source
COPPER, FREE	2013 - 2015	0.15	0.0098 - 0.21	ppm	1.3	0	Corrosion of household plumbing

Unresolved Deficiency Date Identified	Facility	Comments
12/05/2016	DISTRIBUTION	The city determines and records chlorine residuals Monday through Friday in the distribution system. The city needs to determine and record chlorine residuals every day including weekends and holidays in the distribution system. This system needs to submit the daily chlorine residual sheets to the NCDO for the next three months by the 10th of the following month. This needs to start immediately.

Radiological Contaminants	Collection Date	Highest Value	Range (low/high)	Unit	MCL	MCLG	Typical Source
COMBINED RADIUM (-226 & -228)	6/10/2014	1.8	0.8 - 1.8	PCI/L	5	0	Erosion of natural deposits

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Secondary Contaminants-Non Health Based Contaminants-No Federal Maximum Contaminant Level (MCL) Established.	Collection Date	Highest Value	Range (low/high)	Unit	SMCL
ALKALINITY, TOTAL	2/2/2015	300	270 - 300	MG/L	300
CALCIUM	2/2/2015	190	160 - 190	MG/L	200
CHLORIDE	3/8/2015	130	120 - 130	MG/L	250
CONDUCTIVITY @ 25 C UMHOS/CM	2/2/2015	1300	1200 - 1300	UMHO/CM	1500
CORROSIVITY	3/8/2015	0.56	0.29 - 0.56	LANG	0
HARDNESS, TOTAL (AS CaCO3)	2/2/2015	510	450 - 510	MG/L	400
IRON	2/2/2015	0.054	0.014 - 0.054	MG/L	0.3
MAGNESIUM	3/8/2015	11	10 - 11	MG/L	150
NICKEL	2/2/2015	0.011	0.0011 - 0.011	MG/L	0.1
PH	3/8/2015	7.5	7.1 - 7.5	PH	8.5
PHOSPHORUS, TOTAL	2/2/2015	32	0.65 - 32	MG/L	5
POTASSIUM	3/8/2015	5.6	4.1 - 5.6	MG/L	100
SILICA	2/2/2015	28	26 - 28	MG/L	50
SODIUM	2/2/2015	110	92 - 110	MG/L	100
SULFATE	2/2/2015	190	160 - 190	MG/L	250
TDS	2/2/2015	950	760 - 950	MG/L	500
ZINC	2/2/2015	0.11	0.066 - 0.11	MG/L	5

Regulated Contaminants	Collection Date	Water System	Highest Value	Range (low/high)	Unit	MCL	MCLG	Typical Source
ARSENIC	4/13/2016	ELLSWORTH CO RWD 1	1.1	1.1	ppb	10	0	Erosion of natural deposits
ATRAZINE	6/27/2016	ELLSWORTH CO RWD 1	0.58	0.58	ppb	3	3	Runoff from herbicide used on row crops
BARIUM	4/13/2016	ELLSWORTH CO RWD 1	0.077	0.077	ppm	2	2	Discharge from metal refineries
FLUORIDE	7/12/2016	ELLSWORTH CO RWD 1	0.58	0.49 - 0.58	ppm	4	4	Natural deposits; Water additive which promotes strong teeth.
NITRATE	3/15/2016	ELLSWORTH CO RWD 1	0.27	0.27	ppm	10	10	Runoff from fertilizer use
SELENIUM	4/13/2016	ELLSWORTH CO RWD 1	1.9	1.9	ppb	50	50	Erosion of natural deposits

Secondary Contaminants	Collection Date	Water System	Highest Value	Range (low/high)	Unit	SMCL
ALKALINITY, TOTAL	4/13/2016	ELLSWORTH CO RWD 1	120	120	MG/L	300
CALCIUM	4/13/2016	ELLSWORTH CO RWD 1	84	84	MG/L	200
CHLORIDE	4/13/2016	ELLSWORTH CO RWD 1	190	190	MG/L	250
CONDUCTIVITY @ 25 C UMHOS/CM	4/13/2016	ELLSWORTH CO RWD 1	1100	1100	UMHO/CM	1500
CORROSIVITY	4/13/2016	ELLSWORTH CO RWD 1	-0.062	-0.062	LANG	0
HARDNESS, TOTAL (AS CaCO3)	4/13/2016	ELLSWORTH CO RWD 1	270	270	MG/L	400
MAGNESIUM	4/13/2016	ELLSWORTH CO RWD 1	15	15	MG/L	150
METOLACHLOR	6/25/2014	ELLSWORTH CO RWD 1	0.98	0.98	ppb	
NICKEL	4/13/2016	ELLSWORTH CO RWD 1	0.0029	0.0029	MG/L	0.1
PH	4/13/2016	ELLSWORTH CO RWD 1	7.5	7.5	PH	8.5
POTASSIUM	4/13/2016	ELLSWORTH CO RWD 1	11	11	MG/L	100
SILICA	4/13/2016	ELLSWORTH CO RWD 1	8.4	8.4	MG/L	50
SODIUM	4/13/2016	ELLSWORTH CO RWD 1	110	110	MG/L	100
SULFATE	4/13/2016	ELLSWORTH CO RWD 1	140	140	MG/L	250
TDS	4/13/2016	ELLSWORTH CO RWD 1	640	640	MG/L	500
ZINC	4/13/2016	ELLSWORTH CO RWD 1	0.0086	0.0086	MG/L	5

Please Note: Because of sampling schedules, results may be older than 1 year.

During the 2016 calendar year, the water systems that we purchase water from had the below noted violation(s) of drinking water regulations.

Water System	Analyte	Compliance Period	Comments
ELLSWORTH CO RWD 1	TOTAL CARBON	JANUARY 2016	FAILURE TO MONITOR