MADISONVILLE WATER FILTRATION PLANT
850 LAKE PEE WEE ROAD
MADISONVILLE, KY 42431

2016 WATER QUALITY REPORT

PWSID: KY0540936 **Billing Information: (270)824-2100 Accounts Payable**

Information About Your Drinking Water

The Madisonville Water Department consistently strives to provide water of high quality. This brochure is a summary of the quality of water provided to our customers last year (2016). Included in this report are details of where your water comes from, what it contains, and how it compares to standards set by regulatory agencies.

In order to ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in your drinking water. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Sources of Madisonville's Drinking Water

The source waters are Lake Pee Wee and the Green River. Both are surface water sources. 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 land's surface or through the ground, it dissolves naturally-occurring minerals and radioactive material, and can be polluted by animals or human activity. Contaminants that may be present in source water include:

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

Inorganic contaminates, 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 users.

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 runoff, and septic systems.

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

"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 U.S. Environmental Protection Agency's Safe Drinking Water Hotline at (800-426-4791)."

Special Info Available: *"Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemo-therapy, 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 healthcare providers. Environmental Protection Agency and Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the EPA's Safe Drinking Water Hotline (800-426-4791)."*

Scheduled Public Meetings

City Council Meetings are scheduled for the first (1st) and third (3rd) Monday of each month at 4:30 p.m. The meetings are held at the City Council Chambers. Customer views are welcome.

Source Water Assessment Study Completed

The Safe Drinking Water Act Amendments of 1996 require every water system to prepare a source water assessment that addresses the system's susceptibility to potential sources of contamination. The completed plan is available for review at the Madisonville Water Treatment Plant. An analysis of Madisonville's water supply indicates that there are seven hundred fifty-nine potential contaminant sites with the possibility of contaminating the water supply located within the watershed. Sources of high potential impact include seventy-nine chemical storage/use facilities and five hundred fifty-two oil/gas wells which have the potential for contamination due to leaching, leaks and spills. The Calhoun, Central City, Sacramento, Island, Livermore and four small scale wastewater treatment facilities have the potential of contamination from the possibility of untreated wastewater discharges. Potential contaminants from chemical use and storage are present at various industrial sites, coal mines, marinas, and landfills. Other potential areas of concern located within the watershed are roads, bridges and highways which pose a risk due to the possibility of hazardous materials entering the water supply from traffic accidents, spills, and illegal dumping. Households which are not connected to a public wastewater system present a source of contamination due to the possibility of failing septic systems. Farms located within the watershed present the possibility of siltation, pathogens, pesticides and fertilizer to enter the water supply.

Information About 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 local public 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 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your 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.

A Word From The Superintendent

It is an honor to serve as your Water Treatment Plant Superintendent. The operators and I strive to produce water of the highest quality for the public and businesses of Madisonville. Because I believe water to be a communities greatest asset, I ask for your help in keeping our source water clean. Please report any suspicious activity on Lake Pee Wee to the Madisonville Water Plant or Police Dept.

Sincerely Yours,

Christopher W Spriggs

Spanish (Español) Este informe contiene información muy importante sobre la calidad de su agua beber. Tradúzcalo o hable con alguien que lo entienda bien.

Treated Water Quality Summary

Detected Substance (Sample Date)	Highest Detected Level (Range of Detect)	Violation Yes/No	Highest Level Allowed (EPA's MCL[1])	Ideal Goals EPA's MCLG[2]	Sources of Contaminants
Regulated at the Treatment Plant					
Barium (02/16)	0.028ppm (NA)	**NO**	2 ppm	2 ppm	Erosion of natural deposits
Fluoride (02/16)	0.6 ppm (NA)	**NO**	4 ppm	4 ppm	Natural geology/sediment
Total Organic Carbon (This is measured in ppm, but reported as a ratio).	Lowest annual 1.36 ratio avg (1.15-1.67)	**NO**	**Treatment Technique**[6]	none	Natural river sediment
Regulated in the Distribution System					
Chlorite (2016)	0.60ppm (0.01 – 0.61)	**NO**	1 ppm	0.8 ppm	Disinfection interaction
Haloacetic Acids (Stage 2) (2016)	54 ppb avg (18 – 79)	**NO**	60 ppb avg	0 ppb	Disinfection interaction
Total Trihalomethanes (Stage 2) (2016)	88 ppb avg (27 – 143)	**NO**	80 ppb avg	0 ppb	Disinfection interaction
Total Trihalomethanes (Stage 2 Site 072) (2016)	88 ppb avg (73 – 88)	**NO**	80 ppb avg	0 ppb	Disinfection interaction
Total Trihalomethanes (Stage 2 Site MM4) (2016)	81 ppb avg (71 – 81)	**NO**	80 ppb avg	0 ppb	Disinfection interaction
Chlorine (2016)	1.56 ppm avg (0.50 –2.8)	**NO**	**MRDL**[3] 4.0 ppm	**MRDLG**[4] 4.0 ppm	Water additive used to control microbes.
Chlorine Dioxide (2016)	520 ppb (0-520)	**NO**	0.80 ppm	**MRDLG**[4] 0.80ppm	Water additive used to control microbes.
Regulated at the Customers' Tap					
Copper (06/15) 0 sites above Action Limit	0.102 ppm (0.108 ppm – 90th percentile)	**NO**	**Action Level**[5] 1.3 ppm	1.3 ppm	Corrosion of household plumbing systems
Particulate Test Results					
Turbidity	0.06 NTU (<0.3 100 %)	**NO**	**Treatment Technique** [6]	none	Natural river sediment
Other Contaminants					
Cryptosporidium [oocysts/L]	0 Out of 18 Samples	**NO**	0	**TT** 99% removal	Human and animal fecal waste

<0.3 100 % indicates that in 100% of the time, the produced water was below the maximum allowable level for turbidity. Turbidity has no health effects, but it is used to monitor the effectiveness of the treatment process. However, turbidity can interfere with disinfection and provide an environment for microbial growth. The allowable level for turbidity is < (less than) 0.3 NTU 95% or no more than 1 NTU. The test unit NTU actually is a measurement of the clarity of the water. A turbidity value of 5 NTU would be just slightly cloudy in appearance. The treatment technique for Total Organic Carbon (TOC) is based on the lowest running average for the monthly ratios of the % TOC removal required. A minimum ratio of 1.00 is required to meet this treatment technique. We are pleased to note we did achieve this removal rate.

LISTED ABOVE is the contaminants detected in Madisonville's drinking water during 2016 or as otherwise noted.
Samples for total coliform are monitored on a monthly basis. There were no total coliform positive samples in 2016.
NOT LISTED are the non-detected values of the other contaminants monitored for in 2016.
The results of all monitoring performed are available at the water office.

***DEFINITIONS:**

[1] **Maximum Contaminant Level (MCL)**
"The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology**."**

[2] **Maximum Contaminant Level Goal (MCLG)**
"The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety."

[3] **Maximum Residual Disinfectant Level (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."

[4] **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 contaminants."

[5] **Action Level**—The concentration of a contaminant which, if exceeded triggers treatment or other requirements that a water system must follow.

[6] **Treatment Technique—** A required process intended to reduce the level of a contaminant in drinking water.

EPA—Environmental Protection Agency
NA—indicates that only one test was performed in 2015. A range does not apply.
ND—Not detected. Result was below instrument detection limit.
pCi/l— a measure of radioactivity
NTU—Standard turbidity unit
ppm—part per million (equivalent to one minute in 2 years).
ppb—part per billion (equivalent to one minute in 2000 years)
ratio – Relation between two similar things. For TOC's, this value is obtained by dividing the TOC of the untreated water by the TOC of treated water.

Violations: Disinfection By-Product Rule

We received two violations during 2016 for exceeding the MCL for Trihalomethane (THM). The standard for THM is 0.080 mg/L. It is determined by averaging all samples collected at each sampling location for the last 12 months. The highest THM local running annual average at one of our system's locations for 2016 was 0.088 mg/L. The treatment and distribution operators are working dillagently to resolve this problem. We We have sought the assistance of the Division of Water, technical assistance providers and other industry professionals find solutions to reduce disinfection by-product formation at the treatment plant and within our distribution system. We anticipate resolving the problem by December 2018.

Health Effects:

TTHMs [Total Trihalomethanes]. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

PUBLIC NOTICE

Our water system violated one or more drinking water standards over the past year. Even though these were not emergencies, as our customers, you have a right to know what happened and what we did to correct these situations.

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During 1/1/16 – 3/31/16 & 10/1/16 - 12/31/16, we did not complete all monitoring by failing to report or correctly report testing for Haloacetic Acids and Trihalomethanes. Therefore, we could not verify the quality of your drinking water to the primacy agency during that time.

Compliance monitoring for the Stage 2 Disinfection By-Product Rule requires public water systems to monitor for Trihalomethanes (THM) and Haloacetic acids (HAA). The standard for THM is 0.080 mg/L and the standard for HAA is 0.060 mg/L.

A calculation of analytical results is part of an Operational Evaluation Level Report (OEL) to determine the potential of exceeding these standards. The operational evaluation requirements are intended as an indicator of operational performance and to allow systems to identify proactive steps to remain in compliance. Failure to submit an evaluation report to the State in the required time frame is a violation and requires a public notification.

We failed to submit an OEL for the period 1/1/16 – 3/31/16 & 10/1/16 - 12/31/16. There is nothing you need to do. While preparing the 2016 Water Quality Report we discovered that the OEL reports had not been submitted. This was an administrative oversight and we have since submitted the reports. Public health was not compromised as a result of this violation.

For more information, please contact Chris Spriggs at 270-824-2145 or PO Box 710 Madisonville, KY 42431.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

For questions about the quality of our drinking water, or this report, contact Christopher W. Spriggs at the Madisonville Water Filtration Plant. The telephone number is (270) 824-2145. We work around the clock to provide top quality water to every tap. We ask all our customers to protect our water sources, which are the heart of our community and our children's future.