CITY OF MARSHALL

COMMISSION AGENDA INFORMATION SHEET:

MEETING DATE: March 10, 2016

PROJECT: Consider and respond to a report of EPA regulation and control of lead and copper in municipal drinking water. (Public Services Director)

DESCRIPTION: The City of Flint, Michigan has received an enormous amount of publicity and scrutiny in recent months due to the level of lead in their drinking water. There have been many reports by the media, some being more accurate than others, but the adverse actions are very simple to explain. We have researched what happened in Flint, Michigan and we are being careful when we make statement, because there are still ongoing investigation - but there may have been two actions in Flint, Michigan that possibly caused the adverse results – 1) CNN reports state that the City of Flint stopped taking treated water from the City of Detroit (from Lake Huron) to save money while a new water line was constructed, and switched their water source to Flint River which is apparently corrosive, and 2) additional media reports state that they were not treating Flint River water with a corrosion inhibitor (polyphosphate and orthophosphate blend) as specifically set out in EPA standards. Failure to treat water with a corrosion inhibitor can allow lead to leach into drinking water. The City of Marshall has been using a corrosion inhibitor for decades at an annual cost of approximately of $13,000 to $15,000, a small price to pay to keep lead from leaching into our treated water supply.

The EPA adopted the Safe Drinking Water Act (SDWA) in 1975, which was amended in 1986 to address lead in solder, pipe and fittings; there have been additional updates in 1991, 2007, 2011, and 2014 (beginning in 2014, all new water meters, fittings, and piping sold are required to meet "no lead" standards). In general, the SDWA sets out standards for every public water system or distributor in order to provide safe quality drinking water. As a side note, private water wells and bottled water are not covered by the SDWA; bottled water is regulated by the Federal Food and Drug Administration.

EPA regulations set out Maximum Contaminant Levels (MCL) for potential organic or inorganic contaminants that could affect drinking water safety. In January of this year, we presented a report to the City Commission regarding our annually required Water Quality Report which includes MCLs for several items, including lead and copper – our next report (for calendar 2015) is due for distribution to

all water customers in July of this year. Testing for lead and copper levels are required every three years; we are due to test in 2016. A copy of the 2014 Water Quality Report which we presented in January is attached for additional review. Of note, lead and copper levels tested in our city drinking water are way below the EPA action levels.

The City of Marshall began testing for lead and copper in 1992 as a direct result of new EPA standards. Beginning in 1992, we were required to test 60 residential locations and as a result of low levels of lead and copper, our requirement was reduced to 30 sites in 1996; we have never exceeded the lead or copper MCL since we began testing, this is due in large part, to our use of a corrosion inhibitor in our treatment process. In addition to our testing, the Texas Commission on Environmental Quality (TCEQ) annually takes tests for lead and copper independent of our tests.

Do we expect more updates to the SWDA as a result of water issues in Flint, Michigan - Yes!

COST:
N/A – Report Presentation

FUNDING: **Acct. Name & No** **Original Budget** **As Bid**
N/A – Report Presentation

RECOMMENDED ACTION:
N/A – Report Presentation

CITY CONTACT: J. C. Hughes, Public Services Director 903-503-4503

ATTACHMENTS:
2014 Drinking Water Quality Report

cc: File

Opportunities For Public Participation

The public is always welcome to attend Commission Meetings scheduled on the second and fourth Thursday of each month at 6:30 PM at City Hall. For more information about these meetings, call 903-935-4421.

How to Contact Us

For Questions or Concerns Regarding Water Quality or About This Report, please Contact the Water Treatment Plant at:

903-935-4485

Monday–Friday
8:00 AM–5:00 PM

Water Billing Questions:
903-935-4435

Water and Sewer Emergencies:
903-935-4485

Source Water Assessment Questions:
903-935-4485

TCEQ:
903-535-5100

or Visit Our Website at:
www.marshalltexas.net

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. 903-935-4455 or 903-935-4439 para hablar con una persona bilingüe en español.

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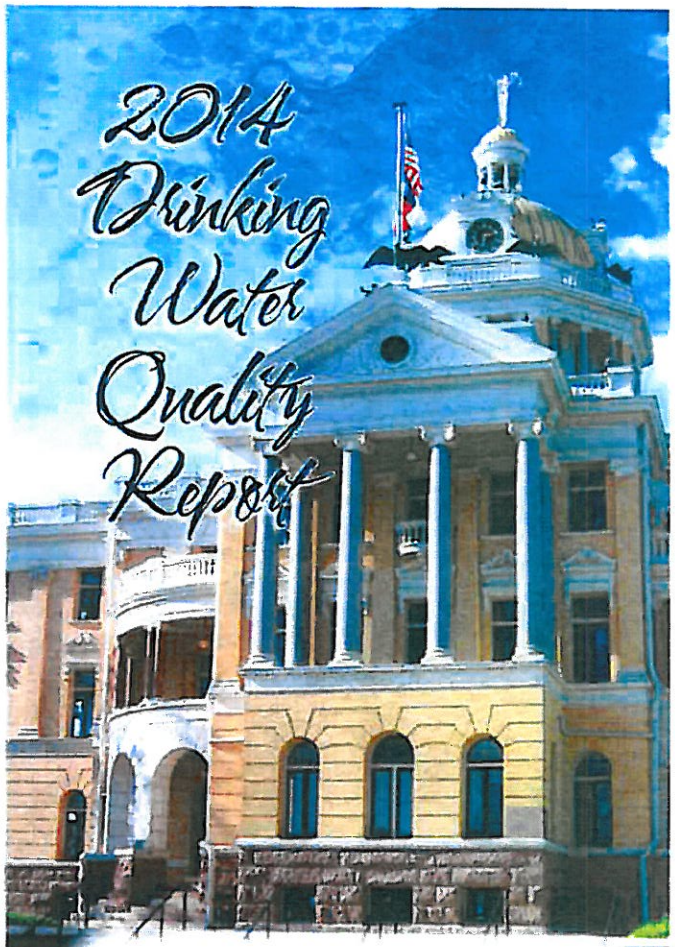
CITY OF MARSHALL WATER UTILITY DIVISION
PO BOX 698
MARSHALL TX 75671



2014 Drinking Water Quality Report

City of MARSHALL TEXAS

Public Water System ID #1020002

Annual Water Quality Report for the period of January 1 to December 30, 2014. This report is intended to provide you with important information about your drinking water and the efforts made by the water system to provide safe drinking 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 EPAs Safe Drinking Water Hotline at (800) 426-4791.

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; 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.

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 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 include:

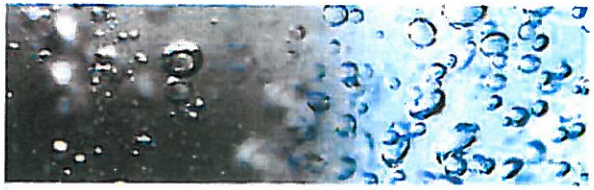
- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial 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.: 903-935-4436 para hablar con una persona bilingüe en español.

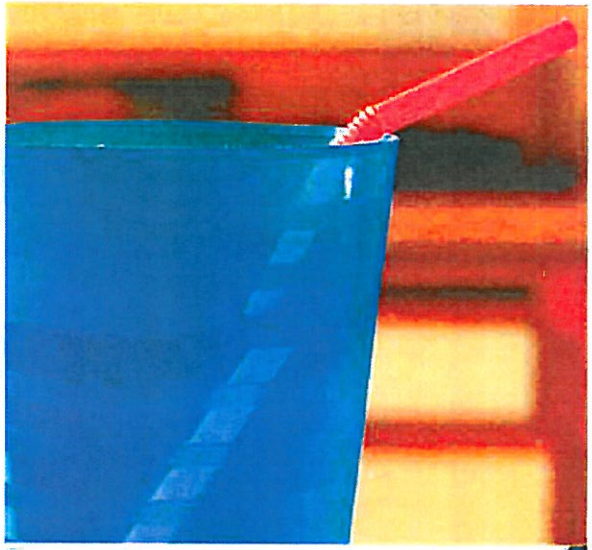
Where Do We Get Our Drinking Water?

Our drinking water is obtained from SURFACE water sources. It comes from the following River: BIG CYPRESS BAYOU. 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 detections of these contaminants may be found in this Consumer Confident Report. For more information on source water assessments and protection efforts at our system, contact the City of Marshall Water Treatment Plant at 903-935-4492.



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/swav/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/



Secondary Constituents

Many constituents (such as calcium, sodium, or iron) which are often found in drinking water, can cause taste, color, and odor problems. The taste and odor constituents are called secondary constituents and are regulated by the State of Texas, not the EPA. These constituents are not causes for health concern. Therefore, secondaries are not required to be reported in this document but they may greatly affect the appearance and taste of your water.

About The Following Pages

The pages that follow list all of the federally regulated or monitored contaminants which have been found in your drinking water. The U.S. EPA requires water systems to test for up to 97 contaminants.

Definitions

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

Average (Avg.)—Regulatory compliance with some MCLs are based on running annual average of monthly samples.

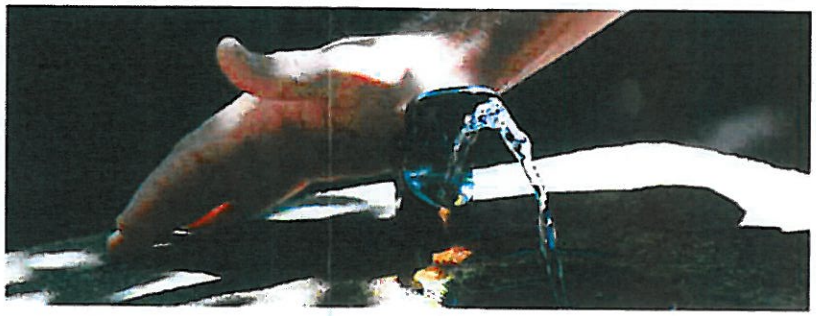
Maximum Contaminant Level (MCL)—The highest permissible level of a contaminant in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG)—The level of a contaminant in drinking water below which there is no known or expected health risk. MCLGs allow for a margin of safety.

Maximum Residual Disinfectant Level (MRDL)—The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

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 contamination.

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



Water Loss Audit 2014

In the water loss audit submitted to the Texas Water Development Board for the time period of January–December 2014, our system lost an estimated 469,644,621 gallons of water. If you have any questions about the water loss audit, please call 903-935-4492.

Abbreviations

MFL—million fibers per liter (measure of asbestos)

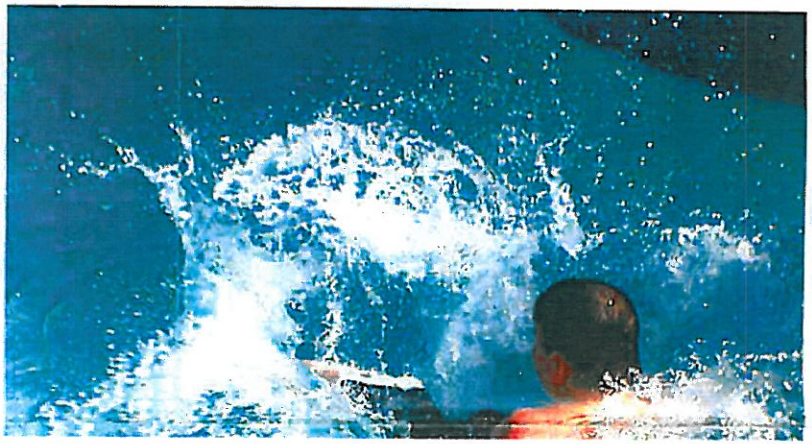
NA—not applicable

NTU—nephelometric turbidity units (measure of turbidity)

pCi/L—picocuries per liter (measure of radioactivity)

ppb—parts per billion, or micrograms per liter (µg/L)

ppm—parts per million, or milligrams per liter (mg/L)



Coliform Bacteria

Coliform bacteria are naturally present in the environment.

Year	Max. Contaminant Level Goal	Tot. Coliform Max. Contaminant Level	Highest No. of Positive	Tot. No. of Positive E. Coli or Fecal Coliform Samples
2014	0	0	0	0
Likely Source: Naturally present in the environment.				

Secondary and Other Constituents Not Regulated (No associated adverse health effects)

Year	Constituent	Avg. Level	Min. - Max. Level	Secondary Limit
2014	Chloride (ppm)	19.9	19.9	300
Abundant naturally occurring element; used in water purification; by-product of oil field activity.				
2014	Sulfate (ppm)	9.9	9.9	300
Naturally occurring; common industrial by-product; by-product of oil field activity.				
2014	Total Dissolved Solids (ppm)	114.0	114.0	1000
Total dissolved mineral constituents in water.				

Radioactive Contaminants

Year	Contaminant	Highest Level Detected	Min. - Max. Level	MCL	MCLG
2011	Combined Radium (pCi/L)	1	1–1	5	0
Likely Source: Erosion of natural deposits.					

Inorganic Contaminants

Year	Contaminant	Highest Level Detected	Min. - Max. Level	MCL	MCLG
2014	Fluoride (ppm)	0.40	0.40–0.40	2.4	2.4
Likely Source: Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.					
2014	Nitrate (ppm)	0.28	0.28–0.28	10	10
Likely Source: Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.					
2014	Nitrite (ppm)	0.02	0.02–0.02	1	1
Likely Source: Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.					
2014	Barium (ppm)	0.05	0.05–0.05	2	2
Likely Source: Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.					

Total Organic Carbon

Total organic carbon (TOC) no health effects. The disinfectant can combine with TOC to form disinfection by-products. Disinfection is necessary to ensure that water does not have unacceptable levels of pathogens. By-products of disinfection include trihalomethanes (THMs) and haloacetic acids (HAA) which are reported elsewhere in this report.

Year	Contaminant	Avg. Level	Min. - Max. Level
2014	Source Water (ppm)	9.59	7.0–18.0
Naturally present in the environment.			
2014	Drinking Water (ppm)	4.2	3.5–5.5
Naturally present in the environment.			
2014	Removal Ratio (% removal*)	1.1	.97–1.38
NA			

*Removal ratio is the percent of TOC removed by the treatment process divided by the percent of TOC required by TCEQ to be removed.

Maximum Residual Disinfectant Level

Systems must complete and submit disinfection data on the Surface Water Monthly Operations Report (SWMOR). On the CCR report, the system must provide disinfectant type, minimum, maximum and average levels.

Year	Disinfectant	Avg. Level	Min. - Max. Level	MRDL	MRDLG
2014	Chloramines (ppm)	2.5	0.8–3.3	4	<4
Source: Disinfectant used to control microbes.					

Disinfection By-Products

Year	Contaminant	Highest Level Detected	Min. - Max. Level	MCL
2014	Total Haloacetic Acids (ppb)	40	11.6–73.6	60
Likely Source: By-product of drinking water chlorination.				
2014	Total Trihalomethanes (ppb)	81	20.7–160.7	80
Likely Source: By-product of drinking water chlorination.				

Lead and Copper

Year	Contaminant	The 90 Percentile	Number of Sites Exceeding Action Level	Action Level
2013	Lead (ppb)	2.65	0	15
Likely Source: Corrosion of household plumbing systems; erosion of natural deposits.				
2013	Copper (ppm)	0.0695	0	1.3
Likely Source: Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.				

Required Additional Health Information for 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. 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 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 http://www.epa.gov/safewater/lead."

Turbidity

Turbidity is a measurement of the cloudiness of the water caused by suspended particles. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration.

Year 2014	Limit (Treatment Technique)	Level Detected	Violation
Highest Single Measurement (NTU)	1	.29	N
Lowest Monthly % Meeting Limit (NTU)	0.3	% 100	N
Likely Source: Soil runoff.			

Violations

Total Trihalomethanes (TTHM)

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..

Violation Type	Violation Begin	Violation End
MCL, LRAA	July 1, 2014	Sept. 30, 2014
Water samples showed that the amount of this contaminant in our drinking water was above its standard (called a maximum contaminant level and abbreviated MCL) for the period indicated.		

We are taking the following actions to address this issue: The trihalomethanes were above the State TCEQ mandated levels at locations at the far reaches of the water distribution system, which require regular line flushing to maintain mandated levels. The City Water Utility Treatment Division will conduct additional hydrant flushing in these areas to improve the water quality and maintain levels within the State TCEQ guidelines.