

# 2011 Annual Drinking Water Quality Report

## Mannford Public Water System

We're very pleased to provide you with this year's Annual Drinking Water Quality Report. We want to keep you informed about the excellent water and services we have delivered to you over the past year. Our goal is and always has been, to provide to you a safe and dependable supply of drinking water. This report shows our water quality and what it means.

Our water source is surface water which comes from Mannford City Lake. We are working on the source water protection plan. Once it is completed the source water protection plan will be available in our office. Information such as potential sources of contamination is listed in the plan.

If you have any questions about this report or concerning your water utility, please contact Gary Adams at 918-865-3888. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. They are held on the second Thursday of each month at 6 pm. at City Hall except for the July 2012 meeting will be held on July 17, 2012 at 6:00 p.m..

Mannford routinely monitors for contaminants in your drinking water according to Federal and State laws. This table shows the results of our monitoring for the period of January 1<sup>st</sup> to December 31<sup>st</sup>, 2011. (Some of our data may be more than one year old because the state allows us to monitor for some contaminants less often than once per year.) All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. It's important to remember that the presence of these contaminants does not necessarily pose a health risk.

### WATER QUALITY DATA TABLE

**The table below lists all of the drinking water contaminants we detected for the calendar year of this report. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report.**

In this table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

*Non-Detects (ND)* - laboratory analysis indicates that the constituent is not present.

*Parts per million (ppm) or Milligrams per liter (mg/l)*

*Parts per billion (ppb) or Micrograms per liter (ug/l)*

*Parts per trillion (ppt) or Nanograms per liter (nanograms/l)*

*Parts per quadrillion (ppq) or Picograms per liter (picograms/l)*

*Picocuries per liter (pCi/L)* - picocuries per liter is a measure of the radioactivity in water.

*Millirems per year (mrem/yr)* - measure of radiation absorbed by the body.

*Nephelometric Turbidity Unit (NTU)* - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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

*Treatment Technique (TT)* - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

*Maximum Contaminant Level (MCL)* - The MCL is 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 Contaminant Level Goal* - The MCLG is 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.

## WATER QUALITY DATA

Contaminant	Violation Yes/No	Highest Level Detected	Range Detected	MCL	MCLG	Likely Source of Contamination
<b>Microbiological Contaminants</b>						
1. Total Coliform Bacteria (System takes <40 monthly samples)	yes	1 positive	present or absent	1 positive	0	Naturally present in the environment
2. Fecal coliform and E.coli ( <i>highest number of samples in a single month</i> )	no	0.00	ND	a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or E. coli positive	0	Human and animal fecal waste
3. Turbidity (NTU) ( <i>highest single measurement</i> )	no	0.24 NTU	0.08 - 0.24 NTU	Coagulation / Sedimentation = 1 NTU	N/A	Soil runoff
4. Turbidity (NTU) ( <i>highest monthly level</i> )	no	0.24 NTU	0.08 - 0.24 NTU	Coagulation / Sedimentation ≤ 0.3 NTU in 95% of monthly samples	N/A	
5. Total Organic Carbon	no	3.34 ppm	2.44 - 3.34 ppm	Coagulation / Sedimentation N/A	No goal for the total	Naturally present in the environment
<b>Inorganic Contaminants</b>						
12. Barium (ppb)	no	Date sampled 3/13/06 0.011	0.011 - 0.011	2 ppm	2 ppm	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
17. Chlorine (ppm)	yes	4.1	0.40 - 4.10	MRDL = 4.0	MRDLG = 4.0	Water additive used to control microbes
23. Fluoride (ppm)	no	Date sampled 3/13/06 0.12 ppm	0.12 - 0.12	4 ppm	4 ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
24. Lead (ppb)	no	0.00	ND	AL=15 <i>Action Level – 90% of samples must be below this level.</i>	0	Corrosion of household plumbing systems, erosion of natural deposits
26. Nitrate - NO <sub>3</sub> (ppm) (as Nitrogen)	no	0.13	0.13 - 0.13	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
<b>Volatile Organic Contaminants</b>						
42. Haloacetic Acids (HAA5) (ppb)	no	32	12.2 - 22.3	60	N/A	By-product of drinking water chlorination
49. TTHM [Total trihalomethanes] (ppb)	no	66	36.2 - 74.7	80	N/A	By-product of drinking water chlorination

**Microbiological contaminants:**

(1) Total Coliform. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially- harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.

(2) Fecal coliform/E.Coli. 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, and people with severely compromised immune systems.

(3) & (4) Turbidity. 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.

(5) Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver, or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.

**Inorganic Contaminants:**

(17) Chlorine. Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.

**Volatile Organic Contaminants:**

(42) Haloacetic Acids. Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

(49) 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.

Stage 2 DBP Rule requires some systems to complete an Initial Distribution System Evaluation (IDSE) to characterize DBP levels in their distribution systems and identify locations to monitor DBPs for Stage 2 DBP Rule compliance. The following table summarizes the individual sample results for the IDSE monitoring in 2009.

Contaminant	Number of Analyses	Minimum Level Detected	Highest Level Detected
Haloacetic Acids (HAA5) (ppb)	12	28.5	109.0
Total Trihalomethanes (TTHM) (ppb)	12	61.7	250.0

The significance of this evaluation which was performed during 2009, is that it has been determined that additional sampling site locations are needed and will be added to the required routine monitoring schedule. The additional sampling and testing will begin in February 2013 when the EPA’s Stage 2 DBP Rule is scheduled to begin for Mannford.

**What does this mean?**

The table shows that our system uncovered some problems this year. The duration of the violation was February 27, 2011, the potential adverse health effects are; (Chlorine: Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.) The MCL of 4.0 ppm was exceeded to a level of 4.1 ppm for a period of approximately 2 hours. We have corrected this by February 27, 2011. Also, on December 12, 2011; (Total Coliform: Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially- harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.) We had 1 sample that resulted positive for the presence of Total Coliform. There can be many causes for this, such as wind-blown debris during sample collection. As a result of this, the required subsequent follow-up testing was performed, and it was confirmed that no harmful E.coli bacteria were present. We have corrected this by December 12, 2011.

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 we treat it 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.

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 (800-426-4791).

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 microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

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. Mannford 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>.

MCLs are set at very stringent levels. To understand the possible health effects described for many regulated contaminants, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a significant increased risk of having the described health effect.

In our continuing efforts to maintain a safe and dependable water supply it may be necessary to make improvements in your water system. The costs of these improvements may be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements.

Este informe contiene información importante acerca de su agua potable. Haga que alguien lo traduzca para usted o hable con alguien que lo entienda bien.

We at the Mannford Public Water System work around the clock to provide top quality water to every tap, said Gary Adams.