

2011 Midland Water Quality Report

Drinking Water Quality Report

PWSID: TX1650001

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 EPA's Safe Drinking Water Hotline at (800) 426-4791.

For more information regarding this report, contact Stuart Purvis, Director of Utilities, at 432-685-7260.

Our Drinking Water is Regulated

by the Texas Commission on Environmental Quality (TCEQ) and they have determined that certain water quality issues exist which prevent our water from meeting all of the requirements as stated in the Federal Drinking Water Standards. Each issue is listed in this report as a violation and we are working closely with the TCEQ to achieve solutions.

En Español

Este reporte incluye información importante sobre el agua potable. Si tiene preguntas o discusiones sobre éste reporte en español, favor de llamar al tel. (432) 685-7100 par hablar con una persona bilingue en español.

Special Notice

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).

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. We 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>.

Public Participation Opportunities

The Midland City Council meets on the 2nd and 4th Tuesdays of each month at City Hall, 300 N. Loraine Street, at 10:00 a.m. The Council agenda is posted for public notice at least 72 hours prior to the meetings. To find out whether water issues will be considered at a particular City Council meeting, please call the Utilities Department at (1-432-685-7260).

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 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.

Where Do We Get Our Drinking Water?

Midland's drinking water comes from the Ogallala and Edwards-Trinity Plateau aquifers in Martin and Andrews Counties and from surface water sources owned and operated by the Colorado River Municipal Water District

(CRMWD); lakes J.B. Thomas, O.H. Ivie, Moss Creek and E.V. Spence.

A Source Water Susceptibility Assessment for your drinking water sources(s) is currently being updated by the Texas Commission on Environmental Quality. This information describes the susceptibility and types of constituents that may come into contact with your drinking water source based on human activities and natural conditions. The information contained in the assessment allows us to focus source water protection strategies. 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 =](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.

Arsenic

The maximum contaminant level (MCL) for arsenic decreased from 0.05 mg/l (50ppb) to 0.010 mg/l (10ppb) effective January 23, 2006. If we violate, you will be notified. 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.

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. For a complete list of all contaminants tested and the analytical results, go to: <http://dww.tceq.texas.gov/DWW/>

Report Data

Inorganic Contaminants

Collection Date	Contaminant	Highest Level Detected	Range of Levels Detected	MCL	MCLG	Unit of Measure	Violation	Source of Contaminant
7/19/2011	Arsenic	56	3 - 56.3	10	0	ppb	Y	Erosion of natural deposits; Runoff from orchards; runoff from glass and electronics production wastes.
1/26/2011	Barium	0.224	0.224 - 0.224	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
7/19/2011	Fluoride	4.4	0.2 - 4.66	4.0	4	ppm	Y	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
1/26/2011	Nitrate (measured as Nitrogen)	3	0.26 - 2.93	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; erosion of natural deposits.
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.								
12/20/2011	Selenium	70	7 - 105	50	50	ppb	Y	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.

Radioactive Contaminants

Year	Contaminant	Highest Level Detected	Range of Levels Detected	MCL	MCLG	Unit of Measure	Violation	Source of Contaminant
1/26/2011	Beta/photon emitters	11	11 - 11	4	0	mrem/yr	N	Decay of natural and man-made deposits.
1/26/2011	Gross alpha excluding radon and uranium	2.3	2.3 - 2.3	15	0	pCi/L	N	Erosion of natural deposits.

Synthetic Organic Contaminants including pesticides

Collection Date	Contaminant	Highest Level Detected	Range of Levels Detected	MCL	MCLG	Unit of Measure	Violation	Source of Contaminant
1/26/2011	Dalapon	1.5	0 - 1.5	200	200	ppb	N	Runoff from herbicide used on rights of way

Volatile Organic Compounds - No regulated contaminants were found above detection limits

Disinfection Byproducts

Year	Contaminant	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Unit of Measure	Violation	Source of Contaminant
3/31/2011	Haloacetic Acids (HAA5)	11	0 - 20.6	No goal for the total	60	ppb	N	By-product of drinking water chlorination.
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.								
1/26/2011	Total Trihalomethanes (TThm)	78	41 - 127	No goal for the total	80	ppb	N	By-product of drinking water chlorination.
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.								

Lead & Copper

Date Sampled	Contaminant	MCLG	Action Level (AL)	90th Percentile	# Sites over AL	Unit of Measure	Violation	Likely Source of Contamination
1/26/2011	Copper	1.3	1.3	0.115	0	ppb	N	Corrosion of household plumbing systems; Leaching from wood preservatives; Erosion of natural deposits
1/26/2011	Lead	0	15	0	0	ppb	N	Corrosion of household plumbing systems; Erosion of natural deposits;

Coliform Bacteria

Maximum Contaminant Level Goal	Total Coliform Maximum Contaminant Level	Highest no. of Positive	Fecal Coliform or E. Coli Maximum Contaminant Level	Total No. of Positive E. Coli or Fecal Coliform Samples	Violation	Likely Source of Contamination
0	5% of monthly samples are positive.	0.8% of samples were positive	A routine sample and a repeat sample are total coliform positive, and one is also fecal coliform or E. coli positive.	0	N	Naturally present in the environment

Turbidity

	Limit (Treatment Technique)	Level Detected	Violation	Likely Source of Contamination
Highest single measurement	1 NTU	0.5 NTU	N	Soil Runoff
Lowest monthly % meeting limit	0.3 NTU	98.89%	N	Soil Runoff

Residual Disinfectant Level

Year	Disinfectant	Average Level	Minimum Level	Maximum Level	MRDL	MRDLG	Unit of Measure	Source of Chemical
2011	Chloramines	1.42	0.50	2.50	4.0	<4.0	ppm	Disinfectant used to control microbes.

Violations

Violation Type	Health Effects	Duration	Explanation	Steps to Correct
ENTRY POINT 003: MCL VIOLATION- FLUORIDE	Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Children may get mottled teeth.	1/1/2011 to 3/31/2011	The Paul Davis well field has elevated fluoride levels. This source is currently no more than 25% of the City supply. These readings were taken of raw well water at the well field. Residents of town do not get this water but the blend which meets regulatory standards.	The City has redesigned the entry points to our system to insure that the water from the Paul Davis well field is blended with treated surface water to insure the levels of fluoride are always below regulatory limits. We are currently completing a pilot study to install point of use devices on the 5 customers who only receive this water to eliminate this violation.
ENTRY POINT 003: MCL VIOLATION- FLUORIDE	Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Children may get mottled teeth.	4/1/2011 to 6/30/2011	The Paul Davis well field has elevated fluoride levels. This source is currently no more than 25% of the City supply. These readings were taken of raw well water at the well field. Residents of town do not get this water but the blend which meets regulatory standards.	The City has redesigned the entry points to our system to insure that the water from the Paul Davis well field is blended with treated surface water to insure the levels of fluoride are always below regulatory limits. We are currently completing a pilot study to install point of use devices on the 5 customers who only receive this water to eliminate this violation.
ENTRY POINT 003: MCL VIOLATION- FLUORIDE	Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Children may get mottled teeth.	7/1/2011 to 9/30/2011	The Paul Davis well field has elevated fluoride levels. This source is currently no more than 25% of the City supply. These readings were taken of raw well water at the well field. Residents of town do not get this water but the blend which meets regulatory standards.	The City has redesigned the entry points to our system to insure that the water from the Paul Davis well field is blended with treated surface water to insure the levels of fluoride are always below regulatory limits. We are currently completing a pilot study to install point of use devices on the 5 customers who only receive this water to eliminate this violation.

Violations (con't)

Violation Type	Health Effects	Duration	Explanation	Steps to Correct
ENTRY POINT 003: MCL VIOLATION- FLUORIDE	Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Children may get mottled teeth.	10/1/2011 to 12/31/2011	The Paul Davis well field has elevated fluoride levels. This source is currently no more than 25% of the City supply. These readings were taken of raw well water at the well field. Residents of town do not get this water but the blend which meets regulatory standards.	The City has redesigned the entry points to our system to insure that the water from the Paul Davis well field is blended with treated surface water to insure the levels of fluoride are always below regulatory limits. We are currently completing a pilot study to install point of use devices on the 5 customers who only receive this water to eliminate this violation.
ENTRY POINT 003: MCL VIOLATION- ARSENIC	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.	7/1/2011 to 9/30/2011	The Paul Davis well field has elevated arsenic levels. This source is currently no more than 25% of the City supply. These readings were taken of raw well water at the well field. Residents of town do not get this water but the blend which meets regulatory standards.	The City has redesigned the entry points to our system to insure that the water from the Paul Davis well field is blended with treated surface water to insure the levels of arsenic are always below regulatory limits. We are currently completing a pilot study to install point of use devices on the 5 customers who only receive this water to eliminate this violation.
ENTRY POINT 003: MCL VIOLATION- ARSENIC	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.	10/1/2011 to 12/31/2011	The Paul Davis well field has elevated arsenic levels. This source is currently no more than 25% of the City supply. These readings were taken of raw well water at the well field. Residents of town do not get this water but the blend which meets regulatory standards.	The City has redesigned the entry points to our system to insure that the water from the Paul Davis well field is blended with treated surface water to insure the levels of arsenic are always below regulatory limits. We are currently completing a pilot study to install point of use devices on the 5 customers who only receive this water to eliminate this violation.
ENTRY POINT 003: MCL VIOLATION- SELENIUM	Selenium is an essential nutrient. However, some people who drink water containing selenium in excess of the MCL over many years could experience hair or fingernail losses, numbness in fingers or toes, or problems with their circulation.	10/1/2011 to 12/31/2011	The Paul Davis well field has elevated selenium levels. This source is currently no more than 25% of the City supply. These readings were taken of raw well water at the well field. Residents of town do not get this water but the blend which meets regulatory standards.	The City has redesigned the entry points to our system to insure that the water from the Paul Davis well field is blended with treated surface water to insure the levels of selenium are always below regulatory limits. We are currently completing a pilot study to install point of use devices on the 5 customers who only receive this water to eliminate this violation.
ENTRY POINT 001: SWTR VIOLATION- LOW CT GREATER THAN 4 HOURS	Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.	5/1/2011 to 5/29/2011	A chlorine solution line broke below the surface of the ground at the water purification plant. While the instrumentation indicated chlorine was being added to the drinking water, in fact, it was being injected into the soil. This resulted in chlorine levels lower than regulatory levels in half of the plant for over 4 hours.	The City repaired the line and reestablished the flow of chlorine. During the time the chlorine levels were low, chlorine dosing in the other half of the plant was increased to insure no water was delivered to town without the appropriate chlorine residual.

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Definitions and Abbreviations

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. MRDLG's 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.

Action Level (AL)

The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

- Avg** – 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)
- ppm** – parts per million, milligrams per liter (mg/l), or one ounce in 7,350 gallons of water
- ppb** – parts per billion, micrograms per liter ($\mu\text{g/l}$), or one ounce in 7,350,000 gallons of water
- ppt** – parts per trillion, nanograms per liter, or one ounce in 7,350,000,000 gallons of water
- na** – not applicable