

# Consumer Confidence Report

2009

## Annual Drinking Water Quality Report

### Oklahoma Ordnance Works Authority MidAmerica Industrial Park Water Treatment Plant PWSID No. OK1021602

We're very pleased to provide you with this year's Annual Quality Water 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.

Our water source is surface water drawn from the Grand (Neosho) River. We have a Source Water Assessment and Protection Report, written by the Oklahoma Department of Environmental Quality (DEQ), available from our office that provides more information such as potential sources of contamination. Based on the DEQ analysis, the overall qualitative susceptibility rating for this public water supply is MODERATE.

I'm pleased to report that our drinking water is safe and meets Federal and State requirements. This report shows our water quality and what it means.

If you have any questions about this report or concerning your water utility, please contact Mr. Jason Stutzman, (918) 825-3500. 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 board meetings. They are held on the fourth Tuesday of every other month beginning with February, at 10:00 AM at the Oklahoma Ordnance Works Authority (OOWA) Administration Office.

The OOWA routinely monitors for constituents in your drinking water according to Federal and State laws. Table 1 shows the results of our monitoring for the period of January 1<sup>st</sup> to December 31<sup>st</sup>, 2009. (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 constituents. It's important to remember that the presence of these constituents does not necessarily pose a health risk.

#### WATER QUALITY DATA TABLE

Table 1 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 Table 1 is from testing done in the calendar year of the report. In Table 1 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:

- *Parts per million (ppm) or Milligrams per liter (mg/l)*
- *Parts per billion (ppb) or Micrograms per liter (ug/l)*
- *Picocuries per liter (pCi/L)* - picocuries per liter is a measure of the radioactivity in water.
- *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.

- **Treatment Technique (TT)** - A treatment technique is 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.
- **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 (MCLG)** - 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.
- **LT2ESWTR** – Long Term 2 Enhanced Surface Water Treatment Rule
- **Stage 2 DBPR** – Stage 2 Disinfection By-Product Rule
- **UCMR2** – Unregulated Contaminants Monitoring Rule 2

**TABLE 1**

<b>Microbiological Contaminants</b>						
<b>Contaminant</b>	<b>Violation (Y / N)</b>	<b>Highest Level Detected</b>	<b>Range Detected</b>	<b>MCL</b>	<b>MCLG</b>	<b>Likely Source of Contaminant</b>
Total Coliform Bacteria (System <40 monthly samples)	N	0 positive	0 positive	1 positive	0 positive	Naturally present in the environment.
Fecal coliform & E. coli	N	N/A	N/A	A routine sample and repeat sample are total coliform positive, and one is also fecal coliform or E. coli	0	Human and animal fecal wastes.
Turbidity (NTU)	N	0.26	0.03 – 0.26	TT = 1 NTU	N/A	Soil runoff.
Turbidity (NTU)	N	< 0.3 NTU 100% of monthly samples		TT < 0.3 NTU in 95% of monthly samples	N/A	Soil runoff.
Total Organic Carbon	N	1.49 RAA	1.08 – 2.04	> 1.0 Removal ratio running annual average (4Q)	N/A	Naturally present in the environment.
<b>Radiochemical Contaminants</b>						
<b>Contaminant</b>	<b>Violation (Y / N)</b>	<b>Highest Level Detected</b>	<b>Range Detected</b>	<b>MCL</b>	<b>MCLG</b>	<b>Likely Source of Contaminant</b>
Gross Beta (pCi/L)	N	1.0	1.0 – 1.0	50	0	Decay of natural and man-made deposits.
Gross Alpha (pCi/L)	N	0.80	0.51 – 0.80	15	0	Erosion of natural deposits.
<b>Inorganic Contaminants</b>						
<b>Contaminant</b>	<b>Violation (Y / N)</b>	<b>Highest Level Detected</b>	<b>Range Detected</b>	<b>MCL</b>	<b>MCLG</b>	<b>Likely Source of Contaminant</b>
Antimony (ppb)	N	4	0 – 4	6	6	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder

Barium (ppb)	N	57	53 – 57	2000	2000	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Fluoride (ppm)	N	1.02	0.80 – 1.02	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Nitrate – NO <sub>3</sub> (ppm)	N	0.81	0.61 – 0.81	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Lead (ppb)	N	10 @ 90 <sup>th</sup> percentile		AL = 15 90% of samples below this level	0	Corrosion of household plumbing systems, erosion of natural deposits.
Copper (ppm)	N	0.37 @ 90 <sup>th</sup> percentile		AL = 1.3 90% of samples below this level	1.3	Corrosion of household plumbing systems, erosion of natural deposits; leaching from wood preservatives.
<b>Synthetic Organic Contaminants</b>						
Contaminant	Violation (Y / N)	Highest Level Detected	Range Detected	MCL	MCLG	Likely Source of Contaminant
Atrazine (ppb)	N	0.73	0 – 0.73	3	3	Runoff used from herbicide used on row crops.
<b>Disinfection By-Products</b>						
Contaminant	Violation (Y / N)	Highest Level Detected	Range Detected	MCL	MCLG	Likely Source of Contaminant
TTHM [Total trihalomethanes] (ppb)	N	42 RAA	21 – 60	80 running annual average (4Q)	N/A	By-product of drinking water disinfection.
HAA5 [Haloacetic acids] (ppb)	N	36 RAA	2.5 – 58	60 running annual average (4Q)	N/A	By-product of drinking water chlorination.
Chlorite (ppm)	N	0.90	0.12 – 0.90	1.0	0.8	Water additive used to control microbes.
Chlorine (ppm)	N	2.4	1.4 – 2.4	MRDL = 4	MRDLG = 4	Water additive used to control microbes.
Chlorine Dioxide (ppb)	N	90	0 – 90	MRDL = 800	MRDLG = 800	Water additive used to control microbes.

The LT2ESWTR requires systems to monitor their source water (water prior to treatment plant), calculate an average *Cryptosporidium* concentration and use those results to determine if their source is vulnerable to contamination and may require additional treatment. We believe it is important for you to know that *cryptosporidium* may cause serious illness in immune-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders. These people should seek advice from their care providers. Initial sampling results

indicate that the current source is free of *cryptosporidium*. As required by EPA, we will continue to monitor for *cryptosporidium*. Table 2 summarizes the source water data collected in 2007-2009:

**TABLE 2**

<b>LT2ESWTR</b>				
<b>Analysis of water prior to treatment</b>	<b>Number of Analysis</b>	<b>Mean</b>	<b>Range of Analysis</b>	<b>Units</b>
<i>Cryptosporidium</i>	24	0	0 - 0	Oocysts/L
E. coli	24	27.2	1.0 – 130	E. coli / 100 mL
Turbidity	24	11.4	3.3 – 42.5	NTU

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 Stage 2 DBP Rule bases TTHM and HAA5 compliance on locational running annual average (LRAA) calculated at each monitoring location. Initial sampling results indicate that values are within limit. As required by EPA, we will continue to monitor for DBP levels. Table 3 summarizes the LRAA for 2008:

**TABLE 3**

<b>Stage 2 DBP</b>					
<b>Contaminants</b>	<b>Number of Analyses</b>	<b>Highest Level Detected</b>	<b>Minimum Level</b>	<b>Maximum Level</b>	<b>Units</b>
Total Haloacetic Acids (HAA5)	16	36 LRAA	16	48	ppb
Total Trihalomethanes (TTHM)	16	51 LRAA	20	85	ppb

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. Sample results indicate non-detect (ND) for the quarterly sampling. Table 4 summarizes UCMR 2 testing conducted in 2009.

**TABLE 4**

<b>UCMR 2 List 1 Contaminants</b>			
<b>Contaminants</b>	<b>Average for the Year</b>	<b>Range of Detections</b>	<b>Likely Source of Contamination</b>
<b>2 Priority Compounds (1 insecticide and 1 insecticide degradate), by EPA Method 527</b>			
Dimethoate	ND	ND	Insecticide used on cotton and other field crops, orchard crops, vegetable crops, in forestry, and for residential uses
Terbufos sulfone	ND	ND	Degradate of the parent compound, terbufos; terbufos used for systemic control of soil-borne insects and nematodes in fields of corn, grain sorghum, and sugar beets
<b>5 Flame Retardants, by EPA Method 527</b>			
2,2',4,4'-tetrabromodiphenyl ether (BDE-47)	ND	ND	Flame retardants added to plastics (for products such as computer monitors, televisions, textiles, and plastic foams)

2,2',4,4',5-pentabromodiphenyl ether (BDE-99)	ND	ND	Flame retardants added to plastics (for products such as computer monitors, televisions, textiles, and plastic foams)
2,2',4,4',5,5'-hexabromodiphenyl ether (BDE-153)	ND	ND	Flame retardants added to plastics (for products such as computer monitors, televisions, textiles, and plastic foams)
2,2',4,4',6-pentabromodiphenyl ether (BDE-100)	ND	ND	Flame retardants added to plastics (for products such as computer monitors, televisions, textiles, and plastic foams)
2,2',4,4',5,5'-hexabromobiphenyl (HBB)	ND	ND	Flame retardant additive; production of polybrominated biphenyls ended in 1976 in U.S. after an incident of significant accidental agricultural contamination in 1973
<b>3 Explosives, by EPA Method 529</b>			
2,4,6-trinitrotoluene (TNT)	ND	ND	Used as an explosive in bombs and grenades, also used as a propellant; small amounts used for industrial explosive applications, such as deep well and underwater blasting; chemical intermediate in manufacture of dyestuffs and photographic chemicals
1,3-dinitrobenzene	ND	ND	Used in explosives; also formed as a by-product during the manufacture of the explosive TNT; used in the manufacture of aramid fibers, spandex, and dyes
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	ND	ND	Used in detonators, primers, mines, rocket boosters, and plastic explosives; used in fireworks and demolition blocks, and as a rodenticide

As you can see in Table 1, our system had no violations. We are proud that your drinking water meets or exceeds all Federal and State requirements. We have learned through our monitoring and testing that some constituents have been detected. The EPA has determined that your water **IS SAFE** at these levels.

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).

MCLs are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink two liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

Thank you for allowing us to continue providing your family with clean, quality water this year. In order to maintain a safe and dependable water supply we sometimes need to make improvements that will benefit all of our customers. These improvements are sometimes reflected as rate structure adjustments. Thank you for understanding.

Please call our office if you have questions. We at the Oklahoma Ordnance Works Authority work around the clock to provide top quality water to every tap.