MANHEIM AREA WATER & SEWER AUTHORITY

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2015 ANNUAL DRINKING WATER QUALITY REPORT

PWSID #: 7360078 NAME: MANHEIM AREA WATER & SEWER AUTHORITY "MAWSA"

Este informe contiene información importante acerca de su agua potable. Haga que alguien lo traduzca para usted, ó hable con alguien que lo entienda. (This report contains important information about your drinking water. Have someone translate it for you, or speak with someone who understands it.)

WATER SYSTEM INFORMATION:

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 the Operations Supervisor, Sam Getz, at 717-665-2737. Our office hours are Monday to Friday from 8AM to 12PM, and 12:30PM to 4PM.

We want you to be informed about your water supply. If you want to learn more, please attend any of our regularly scheduled meetings. Meetings are held in Borough Hall at 15 East High Street, Manheim at 7PM on the second Thursday of each month.

SOURCE(S) OF WATER:

The source of our drinking water are two wells (#4 and #6) drilled into the Eplea formation aquifer, which lies about 200 feet below the Earth's surface. An aquifer is an underground body of water, which is tapped by drilling wells and pumping the water to the surface of distribution. The 200 feet of earth between surface sources and this aquifer helps to purify the water before it actually reaches the aquifer, making it easier for us to treat before we pump it into your water distribution system.

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

SOURCE WATER PROTECTION:

In 2013 the Manheim Area Water and Sewer Authority (MAWSA) joined with the Northwest Lancaster County Authority (NWLCA) and the Pennsylvania Department of Environmental Protection (DEP) Source Water Protection Technical Assistance Program (SWPTAP) to pursue an increasing desire to protect our overlapping source water protection zones. Both MAWSA and NWLCA wish to preserve and improve the safety of their drinking water supplies for their customers today and into the future. Potential contaminations from various sources including agricultural operations, auto related businesses, industrial sites, and former industrial and brownfield sites are of a concern to all involved. The objective of the joint effort is to develop a source water protection plan that delineates the recharge areas for MAWSA and the NWLCA water sources, determine the transport times and pathways of potential contaminants, identify potential sources of contamination, educate the public on the importance of source water protection, plan for potential pollution events, and comply with DEP regulations cited in Chapter 109, Section 1.3

MONITORING YOUR WATER:

We routinely monitor for contaminants in your drinking water according to federal and state laws. The following tables show the results of our monitoring for the period of January 1 to December 31, 2015. The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data is from prior years in accordance with the Safe Drinking Water Act. The dates have been noted on the sampling results table.

DEFINITIONS:

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

HAA5 - Haloacetic Acids (Five)

IOC - Inorganic Chemical

Maximum Contaminant Level (MCL) - 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 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.

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.

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.

Minimum Residual Disinfectant Level (MinRDL) - The minimum level of residual disinfectant required at the entry point to the distribution system.

***DEFINITIONS** (continued):*

Mrem/year = millirems per year (a measure of radiation absorbed by the body)
ng/L = nanogram per Liter
pCi/L = picocuries per liter (a measure of radioactivity)
pb = parts per billion, or micrograms per liter (µg/L)
ppm = parts per million, or milligrams per liter (mg/L)
ppq = parts per quadrillion, or picograms per liter
ppt = parts per trillion, or nanograms per liter
THM - Trihalomethane
Treatment Technique (TT) - A required process intended to reduce the level of a contaminant in drinking water.
TTHM - Total Trihalomethanes

DETECTED SAMPLE RESULTS:

Contaminant	MCL in CCR Units	MCLG	Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Barium IOC	2	2	0.043	0.043	MG/L	2015	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine	4	4	0.89	0.61 – 0.89	ppm	2015	N	Water additive used to control microbes
Chromium IOC	0.1	0.1	0.001	N/A	ppb	2015	N	Discharge from steel and pulp mills; Erosion of natural deposits
Fluoride IOC	2	2	0.84	0.84	ppm	2015	N	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
HAA5 (Distribution)	60	N/A	0.7375	0 – 2.37	ppb	2015	N	By-product of drinking water disinfection
Nitrate	10	10	5.9	5.71 – 6.1	ppm	2015	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits

Entry Point Disinfectant Residual							
Contaminant	**Minimum Disinfectant Residual**	**Lowest Level Detected**	**Range of Detections**	**Units**	**Sample Date**	**Violation Y/N**	**Sources of Contamination**
Chlorine	0.2	0.25	0.25 – 1.89	MG/L	2015	N	Water additive used to control microbes.

2013 Copper and Lead							
Contaminant	**Action Level (AL)**	**MCLG**	**90th %ile Value**	**Units**	**# of Sites Above AL of Total Sites**	**Violation Y/N**	**Sources of Contamination**
Copper	1.3	1.3	0.091	ppm	0	N	Corrosion of household plumbing.
Lead	15	0	2.8	ppb	0	N	Corrosion of household plumbing.

Non-detected contaminants ("0" results or less than 0 results); Antimony IOC, Arsenic IOC, Beryllium IOC, Cadmium IOC, Cyanide (free) IOC, Mercury IOC, and Nickel IOC, Nitrite, Selenium IOC, and Thallium IOC.

Turbidity						
Contaminant	**MCL**	**MCLG**	**Level Detected**	**Sample Date**	**Violation Y/N**	**Source of Contamination**
Turbidity	TT=2.0 NTU for a single measurement	N/A	0.623	2015	Y	Soil runoff.
	TT= at least 95% of monthly samples < 1.0		0.070	2015	N	

Raw Source Water Microbial					
Contaminants	**MCLG**	**Total # of Positive Samples**	**Dates**	**Violation Y/N**	**Sources of Contamination**
E. coli	0	0	2015	N	Human and animal fecal waste.

Microbial					
Contaminants	**MCL**	**MCLG**	**Highest # or % of Positive Samples**	**Violation Y/N**	**Sources of Contamination**
Total Coliform Bacteria	For systems that collect <40 samples/month: • More than 1 positive monthly sample For systems that collect ≥ 40 samples/month: • 5% of monthly samples are positive	0	0	N	Naturally present in the environment.
Fecal Coliform Bacteria or *E. coli*	0	0	0	N	Human and animal fecal waste.

HEALTH EFFECTS

MCLs are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 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.

OTHER VIOLATIONS

Turbidity Violation: March 20, 2015 and December 22, 2015. MAWSA experienced turbidity violations pertaining to a malfunction of the monitoring equipment.

- Public notifications were issued.
- Compliance was achieved in both instances.
- Turbidity is routinely monitored for filter performance effectiveness. MAWSA has purchased more advanced equipment to assure continued quality.
- 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.
- For all violations on any public water system, enter the public water system ID at; http://www.drinkingwater.state.pa.us/ccr/index.html.

EDUCATIONAL INFORMATION

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 stormwater run-off, 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 stormwater 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 stormwater runoff, and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA and DEP prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. FDA and DEP 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 Environmental Protection Agency's *Safe Drinking Water Hotline* (800-426-4791).

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. MAWSA 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. MAWSA also enforces the removal of galvanized/lead carrying piping from the home, and checks for such installations at property inspections. 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*. Additional resources for lead research may be found on our web site at *http://www.mawsa.org*.

Other Information: The Manheim Area Water & Sewer Authority has a constant goal of providing you with a dependable supply of safe drinking water. We want you to understand some of the efforts made to improve the water treatment process, and to protect our water resources. MAWSA is dedicated to providing top quality water to every tap each day. It has been our privilege to assure that our system's water quality meets, or exceeds, regulatory requirements when it reaches your tap each day. We ask that all of our customers help us to protect our water sources, which are the heart of our community, our way of life, and our children's future.