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City of Owosso Water Quality Report March 2015

Dear Water Customer:

This report provides information on the quality of the drinking water supplied by the City of Owosso with specific details for calendar year 2014. The Federal Safe Drinking Water Act requires all community water systems, like Owosso's, to annually provide certain information to their customers. Included are details about where your water comes from, how it is treated, what it contains, and how it compares to Environmental Protection Agency (EPA) and state standards.

We encourage public interest and participation whenever decisions are made that impact our community's water system and water quality. The City water system is overseen by the Owosso City Council. Their meetings, at 7:30 p.m. at City Hall, 301 West Main Street, on the first & third Mondays of each month, provide a forum for public input.

SUMMARY

The drinking water provided by the City of Owosso meets, or is better than, federal and state safe drinking water standards. The major elements of our program to assure the safety of your drinking water include: assuring a safe source, providing comprehensive treatment, maintaining a reliable distribution system and carrying out an extensive monitoring program. Please contact us if you would like more detailed information, further explanations or to provide us with your comments or suggestions.

Staff Contact for further information or questions:

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GROUNDWATER SUPPLY

Six groundwater wells serve as our water supply source. The wells are completed in coarse sands and gravel with well screens typically between 60 and 140 feet below ground surface. The State rates our wells as “susceptible” to potential sources of contamination. This is based on an assessment of the water supply aquifer geology, well construction, historical groundwater quality data, and presence of identified contaminant sources in the delineated “wellhead protection zone”. Though our groundwater supply is rated as “susceptible” or vulnerable to contamination, extensive monitoring over decades of use indicates our combined well supply meets primary drinking water standards even before treatment. However, the rating indicates a need to maintain and increase our efforts to protect our groundwater supply from future sources of contamination.

WATER TREATMENT

Our groundwater supply, though safe to drink without treatment, is extremely hard with high levels of calcium, magnesium and iron. Water treatment consists of aeration, lime softening for hardness and iron reduction, pH adjustment using carbon dioxide, dual media filtration, and chlorination. Fluoride is added to replace naturally occurring fluoride removed during softening and to boost the concentration to 0.7 ppm (parts per million) as recommended as a dental health measure. In 2014 an average of 1.7 million gallons of water per day was treated and distributed to customers in the mid-County area. Average water hardness was reduced from 506 ppm to 170 ppm. Residuals solids from the softening process, predominantly calcium carbonate and magnesium hydroxide, are temporarily stored in on-site lagoons for dewatering. An average of 5,000 cubic yards of residual solids are removed annually and applied to farm fields as an agricultural liming material for soil pH adjustment. The water treatment plant is staffed and operates around the clock.

MONITORING FOR SAFETY AND COMPLIANCE

Certified plant operators conduct routine daily tests on our drinking water quality at the water plant laboratory. Additional samples are sent to the state, or other certified, laboratories for analyses to assure that our well supplies are free from contamination and that our treated drinking water meets all applicable state and federal drinking water standards. The state establishes a minimum monitoring schedule for our public water supply. All required samples were collected on a timely basis in 2014. All sample results are reported to the Michigan Department of Environmental Quality – Water Division - and are available public information.

MONITORING RESULTS

Listed in the table that follows are regulated drinking water contaminants detected by our monitoring program. In addition we conducted some additional “unregulated contaminant” monitoring as part of EPA’s program to determine where certain contaminants might occur in drinking water and whether the agency should consider regulating those contaminants in the future. Additional monitoring information, including the extensive list of contaminants that we tested for but did not detect, is available upon request. The results are from calendar year 2014 unless noted otherwise. Certain substances, such as radium, are monitored less frequently than once a year because previous monitoring results have been consistently below levels of concern and the levels are not expected to vary significantly from year to year. As in previous years **there were no violations of drinking water standards or monitoring requirements in 2014.**

Definitions:

- **Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. MCL's 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.
- **Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- **ppm:** parts per million or also expressed as milligrams per liter
- **ppb:** parts per billion or also expressed as micrograms per liter
- **pCi/l:** picocuries per liter (a measure of radioactivity)

	Standard	Highest Level Reportable	Goal	
CONTAMINANT	MCL	ACTUAL	MCLG	SOURCE OF THE SUBSTANCE
Total Trihalomethanes (ppb)	80	42	none	By-product of chlorination (range from 28 to 51 ppb)
Total Haloacetic Acids (ppb)	60	5	none	By-product of chlorination (range from 1 to 6 ppb)
Barium (ppm)	2	0.03	2	Erosion of natural deposits (2009 data)
Fluoride (ppm)	4	0.44	4	Erosion of natural deposits; also added to promote dental health. Range from 0.4 to 0.9 ppm (average = 0.65 ppm)
Alpha Emitters (pCi/l)	15	1.5	0	Erosion of natural deposits
Combined Radium (pCi/l)	5	1	0	Erosion of natural deposits (2003 data)
Selenium (ppb)	50	2	50	Erosion of natural deposits (2009 data)
Sodium (ppm)	None	28	None	Erosion of natural deposits
DISINFECTANT	MRDL	ACTUAL	MRDLG	
Chlorine, total (ppm)	4	0.27	4	Water treatment additive for control of microbial contaminants; average range from 0.20 to 0.33 ppm
	Action Level	90th Percentile Value	MCLG	
Lead (ppb)	15	13	0	Corrosion of service line or household plumbing. One sample, maximum of 35 ppb exceeded the Action Level.
Copper (ppb)	1300	LT 50	1300	Corrosion of service line or household plumbing. No sample exceeded the Action Level. Maximum of 70ppb.

UNREGULATED CONTAMINANTS	ACTUAL	SOURCE OF THE SUBSTANCE
Chlorate (ppb)	186	Present with sodium hypochlorite used for disinfection
Chromium (total) (ppb)	0.6	Naturally occurring element, used in making steel and other alloys
Chromium-6 (ppb)	0.4	Naturally occurring element, used in making steel and other alloys
Strontium (ppb)	241	Naturally occurring element
1,4 dioxane (ppb)	0.09	Used as a solvent and solvent stabilizer in various manufacturing processes

Unregulated contaminant monitoring helps EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants.

INFORMATION FROM EPA

The United States Environmental Protection Agency (EPA) has directed all public water suppliers to include the following information on the potential for contaminants in drinking water.

Information on 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. The City of Owosso 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 at <http://www.epa.gov/safewater/lead>.

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

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. (Note: Owosso's water supply source is groundwater from 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 runoff, industrial or domestic wastewater discharges, oil or gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential use.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and which 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 prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.