

2016 West Bloomfield Water Quality Report

The West Bloomfield Water Utilities Department wants you to know your tap water is safe to drink and that it meets or surpasses all federal and state standards for quality and safety.

ATTENTION: This Is an Important Report on Water Quality and Safety.

This report contains important information about your drinking water. Have someone translate it for you, or speak with someone who understands it.

The West Bloomfield Township Water Utilities Department is proud of the fine drinking water it supplies and is honored to provide this report to you. The 2016 Annual Consumer Confidence Report on Water Quality shows the sources of our water, lists the results of our tests, and contains important information related to water and health. The West Bloomfield Water Utilities Department will immediately notify you if there is ever any reason for concern about our water. We are pleased to show you how we have surpassed water quality standards as mandated by the Environmental Protection Agency (EPA) and the State of Michigan Department of Environmental Quality (MDEQ).

About our System

The West Bloomfield Township Water Utilities Department purchased 2,219,040,736 gallons of treated water from The Great Lakes Water Authority (GLWA) in 2016. GLWA's system uses water drawn from two intakes in the Detroit River; one to the north near the mouth of Lake St. Clair and another to the south near Lake Erie. The water is directed to four (4) large water treatment plants for processing. A fifth water treatment plant located in St. Clair County uses surface water from Lake Huron.

West Bloomfield's source water comes from the lower Lake Huron watershed. The watershed includes numerous short, seasonal streams that drain to Lake Huron. The MDEQ in partnership with the Detroit Water and Sewerage Department and several other governmental agencies performed a source water assessment back in 2004 to determine the susceptibility or relative potential of contamination. The susceptibility rating is a seven-tiered scale from "very low" to "very high" based primarily on geologic sensitivity, water chemistry, and contaminant sources. The Lake Huron source water intake is categorized as having a moderately low susceptibility to potential contaminant sources. The Lake Huron water treatment plant has historically provided satisfactory treatment of this source water to meet drinking water standards.

The GLWA voluntarily developed and received approval in 2016 for a Source Water Protection

Program (SWIPP) for the Lake Huron Water Treatment Plant Intake. The program includes seven (7) elements that include the following: roles and duties of government units and water supply agencies, delineation of a source water protection area, identification of potential source water protection area, management approaches for protection, contingency plans, siting of new sources and public participation and education.

How do we know the water is safe to drink?

Treatment facilities operate 24 hours a day, seven days a week. The treatment process begins with disinfecting the source water with chlorine to kill harmful microorganisms that can cause illness. Next, a chemical called Alum is mixed with the water to remove the fine particles that make the water cloudy or turbid. Alum causes the particles to clump together and settle to the bottom. Fluoride is also added to protect our teeth from cavities and decay.

The water then flows through fine sand filters called beds. These filters remove even more particles and certain microorganisms that are resistant to chlorine. Finally, a small amount of phosphoric acid and chlorine are added to treated water just before it leaves the treatment plant. The phosphoric acid helps control the lead that may dissolve in the water from your household plumbing systems. The chlorine keeps the water disinfected as it travels through water mains to reach your home.

In addition to a carefully controlled and monitored treatment process, the water is tested for a variety of substances before treatment, during various stages of treatment, and throughout the distribution system. Hundreds of samples are tested each week in certified laboratories by highly qualified and trained staff. GLWA water not only meets safety and health standards but also ranks among the top 10 in the country for both water quality and value.

Opportunities for Public Participation

We invite public participation in decisions that affect drinking water quality. The Board of Trustees for West Bloomfield Township meets the first and third Monday of each month. There are also public hearings and meetings open to the public. To confirm dates and times, or for information on other activities happening in the Department, please contact the Township Clerk's office at (248) 451-4848.

We welcome your comments and opinions about this report and will be happy to answer any questions you may have. Please direct your comments and inquiries to Justin Taylor, Administrative Superintendent, at (248) 451-4843.

Other Monitoring

In addition to testing that is required to be performed, the GLWA voluntarily tests for hundreds

of additional substances and microscopic organisms to make certain our water is safe and of the highest quality. If you are interested in a more detailed report, contact the GLWA web site at www.glwater.org or contact Mary Lynn Semegen (313) 926-8102 or email her at mary.semegen@glwater.org

Community Information –

Water Rates Are Tied to Sprinkling Use

West Bloomfield Township's water rate increases are primarily driven from annual suburban community increases allocated from the GLWA, whereby we purchase our drinking water from. Additionally West Bloomfield must expend funds to operate, maintain & replace its water infrastructure. A large component of GLWA's calculation includes the amount of water our community uses during the time when their water plants produce the most amount of water within a given hour of a day. This is referred to as Peak Hour Demand. Our community uses its most amount of water at the same time GLWA's water plants pump its most water. This is typically between 5am and 3pm. Therefore, in order to help keep annual water rate increases to a minimum we strongly recommend that watering of lawns is refrained between 5am and 3pm each day. A tremendous amount of sprinkling usage occurs in West Bloomfield on a daily basis from May thru October. We kindly ask that you attempt to help do your part to use water between 3:00pm and 5:00am to assist in keeping water rates from unnecessarily escalating from year to year.

Drinking water, including bottled water, may reasonably be expected to contain at least some small amounts of 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 at (800) 426-4791.

Additional Information

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. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of land or through the ground, it dissolves naturally occurring minerals and radioactive material, and can pick-up other 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 come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salt 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 runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm runoff and septic systems.
- Radioactive contaminants, can be naturally occurring or the result of oil and gas production and mining activities.

People with special health concerns

Some people may be more vulnerable to contaminants in drinking water than is 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. The 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 at (800) 426-4791.

National Primary Drinking Water Regulation Compliance

In 2016 West Bloomfield had no monitoring violations; no samples were returned positive for coliform. The regulations require confirmation of any positive result by re-sampling the location in question and sampling points surrounding the location within twenty-four (24) hours of notification or the next business day.

IMPORTANT HEALTH INFORMATION

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. West Bloomfield Water Department is responsible for providing high quality drinking water, but cannot control the variety of materials used in home 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. GLWA drinking water does not contain lead. Orthophosphates are generated during the treatment process to coat your service pipes with a film that prevents lead and copper from leaching into your water. GLWA maintains optimum levels of orthophosphates in the water to preserve this film and ensure continued protection from lead exposure.

Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (800) 426-4791 or <http://www.epa.gov/safewater/lead>.

| 2016 Turbidity – Monitored every 4 hours at Plant Finished Water Tap | | | | | | | | |
|---|--|--|---|-----------------------------|---|---------------------------|---------------------------------|---|
| Highest Single Measurement Cannot exceed 1 NTU | Lowest Monthly % of Samples Meeting Turbidity Limit of 0.3 NTU (minimum 95%) | Violation Yes/No | Major Sources in Drinking Water | | | | | |
| 0.28 NTU | 100% | No | Soil Runoff | | | | | |
| Turbidity is a measure of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration system. | | | | | | | | |
| 2016 Special Monitoring | | | | | | | | |
| Contaminant | MCLG | MCL | Level Detected | Source of Contamination | | | | |
| Sodium (ppm) | n/a | n/a | 4.00 | Erosion of natural deposits | | | | |
| Collection, sampling result information and table provided by Great Lakes Water Authority (GLWA) Water Quality Division, MI Semegen. | | | | | | | | |
| Regulated Contaminant | Treatment Technique | | Typical Source of Contaminant | | | | | |
| Total Organic Carbon (ppm) | The Total Organic Carbon (TOC) removal ratio is calculated as the ratio between the actual TOC removal and the TOC removal requirements. The TOC was measured each month and because the level was low, there is no requirement for TOC removal. | | Erosion of natural deposits | | | | | |
| West Bloomfield Township Lead and Copper Results | | | | | | | | |
| 2014 Lead and Copper Monitoring at Customer's Tap | | | | | | | | |
| Regulated Contaminants | Test Date | Units | Health Goal MCLG | Action Level AL | 90 th Percentile Value* | Number of Samples Over AL | Violation | Major Sources in Drinking Water |
| Lead | 2014 | ppb | 0 | 15 | 0 | 0 | No | Corrosion of household plumbing systems; Erosion of natural deposits |
| Copper | 2014 | ppm | 1.3 | 1.3 | .0601 | 0 | No | Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives |
| *The 90 th percentile value means 90 percent of the homes tested have lead and copper levels below the given 90 th percentile value. If the 90 th percentile value is above the AL additional requirements must be met. Lead and copper testing is scheduled to occur in West Bloomfield in 2017. | | | | | | | | |
| Lake Huron Water Treatment Plant | | | | | | | | |
| 2016 Regulated Detected Contaminants Tables | | | | | | | | |
| Regulated Contaminant | Test Date | Units | Health Goal MCLG | Allowed Level MCL | Highest Level Detected | Range of Detection | Violation Yes/No | Major Sources in Drinking Water |
| Inorganic Chemicals – Annual Monitoring at Plant Finished Water Tap | | | | | | | | |
| Fluoride | 5/10/16 | ppm | 4 | 4 | 0.50 | n/a | No | Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories. |
| Nitrate | 5/10/16 | ppm | 10 | 10 | 0.46 | n/a | No | Runoff from fertilizer use; Leaching from septic tanks; sewage; Erosion of natural deposits. |
| Disinfection By Products – Monitoring in Distribution System STAGE 2 | | | | | | | | |
| Regulated Contaminant | Test Date | Units | Health Goal MCLG | Allowed Level MCL | Highest Level LRAA | Range of Detection | Violation Yes/No | Major Sources in Drinking Water |
| Total Trihalomethanes (TTHM) | 2016 | ppb | n/a | 80 | 29 | 18-43 | No | By-product of drinking water chlorination |
| Haloacetic Acids (HAAs) | 2016 | ppb | n/a | 60 | 14.75 | 12-22 | No | By-product of drinking water disinfection |
| Disinfectant Residuals Monitoring in Distribution System | | | | | | | | |
| Regulated Contaminant | Test Date | Units | Health Goal MRDLG | Allowed Level MRDL | Highest Level RAA | Range of Detection | Violation Yes/No | Major Sources in Drinking Water |
| Disinfectant (Total Chlorine residual) | Jan-Dec 2016 | ppm | 4 | 4 | 0.79 | 0.61-0.85 | No | Water additive used to control microbes |
| 2016 Microbiological Contaminants – Monthly Monitoring in Distribution System | | | | | | | | |
| Regulated Contaminant | MCLG | MCL | Highest Number Detected | Violation Yes/No | Major Sources in Drinking Water | | | |
| Total Coliform Bacteria | 0 | Presence of Coliform bacteria > 5% on monthly samples | 0 | No | Naturally present in the environment | | | |
| E.coli or fecal coliform bacteria | 0 | A routine sample and a repeat sample are total coliform positive, and one is also fecal or E.coli positive | 0 | No | Human waste and animal fecal waste | | | |
| 2014 Radionuclides | | | | | | | | |
| Regulated Contaminant | Test Date | Units | Health Goal MCLG | Allowed Level MCL | Level Detected | Violation Yes/No | Major Sources in Drinking Water | |
| Combined Radium Radium 226 & 228 | 5/13/14 | pCi/L | 0 | 5 | 0.86 + or - 0.55 | no | Erosion of natural deposits | |
| Unregulated Contaminant Monitoring | | | | | | | | |
| 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. Below is the report of unregulated contaminants detected during quarterly sampling and analysis performed during 2015 | | | | | | | | |
| Unregulated Contaminant | Test Date | Units | Average Level Detected | Range of Detection | Use or Environmental Source | | | |
| Strontium | 2015 | ppb | 101.58 | 95.7 – 107.5 | Naturally-occurring element; historically, commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-ray emissions | | | |
| Vanadium | 2015 | ppb | .28 | 0.0 – 0.5 | Naturally-occurring elemental metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst | | | |
| Chromium-6 | 2015 | ppb | .15 | 0.10 – 0.20 | Naturally-occurring element; used in making steel and other alloys; chromium-3 or -6 forms are used for chrome plating, dyes and pigments, leather tanning, and wood preservation | | | |
| Chromium | 2015 | ppb | .23 | 0.0 – 0.4 | Naturally-occurring element; used in making steel and other alloys. | | | |
| 2016 Key to Detected Contaminant Tables | | | | | | | | |
| Symbol | Abbreviation for | | Definition / Explanation | | | | | |
| > | Greater than | | | | | | | |
| °C | Celsius | | A scale of temp in which H ₂ O freezes @ 0 and boils @ 100 under standard conditions | | | | | |
| AL | Action Level | | The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements which a water system must follow | | | | | |
| HAAS | Haloacetic Acids | | HAAS is the total bromoacetic, chloroacetic, dibromoacetic, dichloroacetic and trichloroacetic acids. Compliance is based on the total. | | | | | |
| LRAA | Locational Running Annual Average | | | | | | | |
| MCL | Maximum Contaminant Level | | The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology. | | | | | |
| MCLG | Maximum Contaminant Level Goal | | The level of contaminant in H ₂ O below which there is no known expected risk to health | | | | | |
| Mg/L | Milligrams per liter | | A milligram = 1/1000 gram, 1 milligram per liter is equal to 1 ppm | | | | | |
| MRDL | Maximum Residual Disinfectant Level | | 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. | | | | | |
| MRDLG | Maximum Residual Disinfectant Level Goal | | 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 contaminants. | | | | | |
| n/a | Not Applicable | | | | | | | |
| ND | Not Detected | | | | | | | |
| NTU | Nephelometric Turbidity Unit | | Measures the cloudiness of the water | | | | | |
| pCi/L | Picocuries Per Liter | | A measure of radioactivity. Picocurie (pCi) means the quantity of radioactive material producing 2.22 nuclear transformations per minute. | | | | | |
| ppb | Parts per billion (one in one billion) | | The ppb is equivalent to micrograms per liter. A microgram = 1/1000 milligram | | | | | |
| ppm | Parts per million (one in one million) | | The ppm is equivalent to milligrams per liter. A milligram = 1/1000 gram | | | | | |
| RAA | Running Annual Average | | | | | | | |
| TT | Treatment Technique | | A required process intended to reduce the level of a contaminant in drinking water | | | | | |
| TTHM | Total Trihalomethanes | | Total Trihalomethanes is the sum of chloroform, bromochloromethane, dibromochloromethane, and bromoform. Compliance is based on total. | | | | | |
| Umhos | Micromhos | | Measure of electrical conductance of water | | | | | |

This report can also be found at <http://www.wbtownship.org>