

Dear Resident,

Please find enclosed the Genesee County Drain Commissioner-Division of Water and Waste Services Consumer Confidence Report. The report contains data from both our former water supplier (January- November 2017) and Genesee County (November and December 2017) for water supply. This report is being sent to our wholesale and retail customers.

In June of 2017, we began to operate our water treatment plant in test mode for five months. During that period we tested all our equipment, treatment processes and were able to certify our laboratory for water testing. We began to distribute water in November of 2017.

In September of 2017, Michigan Department of Environmental Quality (MDEQ) established higher phosphate and pH requirements for our plant. Phosphate is used to reduce the risk of lead and copper in water. MDEQ set a new phosphate level of 2.5 mg/L, about 4 times higher than the previous level. We filed an objection to this elevated amount. When phosphate was added at the lower level our reported value (90th% Action Level) for lead was zero in June of 2017. Treatment techniques required to reach these elevated phosphate and pH levels have resulted in some complaints regarding white residue in customers' pots and pans after boiling water.

We are required by MDEQ to collect samples for various water quality parameters on a monthly basis and sample for lead and copper on a six month basis. To assure residents of our water quality, we increased the sampling rate to biweekly for water quality and to monthly for lead and copper. Since operating our water treatment plant, our investigative samples have reportable levels of zero for lead and copper. In our first MDEQ round of sampling for lead and copper we are required to collect 60 samples. As of this report, 51 samples have been collected and analyzed. We project our action level to be zero for lead.

In February 2018, we rejected two consecutive deliveries of phosphate, over concerns for the quality of phosphate. This reduced our supply so we reduced our feed rate below 2.1 mg/L for fifteen days. These lower levels still averaged higher than our historic level of phosphate. After we received new shipments of adequate quality, we brought our dosage rate back up to 2.5 mg/L. We are now exploring alternative products and suppliers to avoid this occurring in the future. Our recent lead and copper samples were collected during the low feed rate period and results did not show any increase in reportable lead or copper.

Despite our continued test results indicating high water quality, the MDEQ determined we had a treatment technique violation. The notice of this violation is included within this report. We added less phosphate than MDEQ required. All our test results show we delivered high quality water with phosphate levels higher than historic to you, our customer.

Sincerely,

Jeff Wright, Drain Commissioner
John F. O'Brien, Director, Division of Water & Waste Services
Tim Davidek, Assistant Director, Division of Water & Waste Services
Kevin VanSickle, Superintendent, Water Treatment Plant
Mark Horgan, Chief, Operation and Maintenance
Matt Raysin, Assistant Director of Engineering

2017 Genesee County Water and Waste Services Detected Contaminants Tables - GLWA (Jan.-Nov. 2017)

Regulated Contaminant	Units	Health Goal MCLG	Allowed Level MCL	Highest Level Detected	Range of Detection	Violation yes/no	Major Sources in Drinking Water
2017 INORGANIC Chemicals - Monitoring at the Plant Finished Water Tap							
Fluoride	ppm	4	4	0.72	n/a	no	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Barium	ppm	2	2	0.01	n/a	no	Discharge of drilling waste; Discharge from metal refineries; erosion of natural deposits.
Nitrate	ppm	10	10	0.34	n/a	no	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Sodium (optional)	ppm	n/a	n/a	4.46	n/a	no	Erosion of natural deposits.

2017 DISINFECTION Residual & By-Product Monitoring in Distribution System/Organic Carbon/Turbidity							
Total TriHalonmethanes (TTHM)	ppb	n/a	80	LRAA 35.2	9.3 to 57.8	no	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	ppb	n/a	60	LRAA 17	5 to 17	no	By-product of drinking water disinfection
Disinfectant (Total Chlorine residual)	ppm	MRDGL 4	MRDL 4	RAA 0.7	0.2 to 1.60	no	Water additive used to control microbes
Total Organic Carbon	Treatment Technique: The Total Organic Carbon (TOC) removal 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.
Turbidity (NTU)	Highest single measurement cannot exceed 1 NTU; 0.29 NTU highest detected Lowest monthly % of Samples Meeting Turbidity Limit of 0.3 NTU (Minimum 95%)					no	Soil Run Off

Turbidity is a measure of the cloudiness of water. It is monitored because it is a good indicator of the effectiveness of the filtration system.

2017 MICROBIOLOGICAL CONTAMINANTS - Monthly Monitoring in Distribution System

Total Coliform Bacteria (% positive samples/month)	%	0	>5% of monthly samples	1.1	n/a	no	Naturally present in the environment.
E.coli Bacteria (# positive samples)	#	0	0	0	n/a	no	Human and animal fecal waste.

A violation occurs when a routine sample and repeat sample, in any given month, are total coliform positive, and one is also E-coli positive.

2017 LEAD AND COPPER MONITORING at CUSTOMER'S TAP

Regulated Contaminants	Test Date	Unit	Health Goal MCLG	Action Level AL	90th Percentile Value	Number of Samples Over AL	Violation Yes/No	Major Sources in Drinking Water
Lead	2017	ppb	0	15	0	0	no	Corrosion of Household Plumbing Erosion of natural deposits.
Copper	2017	ppm	1.3	1.3	0.01	0	no	Corrosion of Household Plumbing System; Erosion of natural deposits; leaching wood preservatives.

Combined Radium, 5/23/2014 Radium 226 & 228	pCi/L	0	5	n/a	Level Detected 0.86+ or -0.55	no	Erosion of natural deposits.
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Unregulated Contaminants:

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. Before EPA regulates a contaminant, it considers adverse health effects, the occurrence of the contaminant in drinking water, and whether the regulation would reduce health risk. GCDC began monitoring for 28 unregulated contaminants in 2013. The following tables list the unregulated substances detected during the 2013 & 2014 calendar years.

2013-2014 Unregulated Contaminants - Monitoring at the Source

Contaminant	Unit	Range	Source
Strontium	ppb	88.3-110	Erosion of natural deposits.
Hexavalent Chromium	ppb	0.076-0.13	Discharge from steel and pulp mills; Erosion of natural deposits.
Total Chromium	ppb	0.23-0.46	Discharge from steel and pulp mills; Erosion of natural deposits.
Vanadium	ppb	ND-0.32	Erosion of natural deposits.

2013-2014 Unregulated Contaminants - Monitoring at the Distribution Source

Contaminant	Unit	Range	Source
Strontium	ppb	97.2-106	Erosion of natural deposits.
Hexavalent Chromium	ppb	0.082-0.1	Discharge from steel and pulp mills; Erosion of natural deposits.
Total Chromium	ppb	0.22-0.34	Discharge from steel and pulp mills; Erosion of natural deposits.
Vanadium	ppb	ND-0.23	Erosion of natural deposits.

2017 Consumer Confidence Report

This report contains our water quality data for 2017 required by the United States Environmental Protection Agency

The residents of Genesee County received water from the Great Lakes Water Authority (GLWA) from January 2017 through November 2017. The Genesee County Drain Commissioner- Division of Water and Waste Services (GCDC-WWS) Water Treatment Plant supplied water to our customers for the months of November and December 2017.

The water source for both GLWA and GCDC-WWS is Lake Huron.

The Division distributes water to nineteen communities within Genesee County. Routine water samples are taken daily at the Water Plant, as well as, weekly and monthly in the distribution system. MDEQ/EPA required sampling is performed to ensure safe and reliable drinking water.

Additional Information

To ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. The Food & Drug Administration (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 Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

The sources for 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 waters 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 including agriculture, urban stormwater runoff and residential use.
- 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 stormwater runoff and septic systems
- Radioactive contaminants, which can be naturally occurring or be 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, who are 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 (Communicable Disease Center) establishes guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants. These are available from the Safe Drinking Water Hotline (800-426-4791) or www.epa.gov/safewater.

How Do I Read This Chart?

It's easy! Our water is tested to assure that it is safe and healthy. These tables are based on tests conducted by GCDC-WWS and the City of Detroit and GLWA within the last five (5) calendar years. We conduct many tests throughout the year, however, only tests that show the presence of a contaminant are shown here. The table on this page is a key to the terms used in the following tables. Sources of Contaminants show where this substance usually originates.

Key to Detected Contaminants Tables

Symbol	Abbreviation for	Definition/Explanation
LRAA	Locational Running Annual Average	The average of analytical results for samples at a particular monitoring location during the previous four quarters.
MCLG	Maximum Contaminant Level Goal	The level of a contaminant in drinking water below which there is no known or expected risk to health.
MCL	Maximum Contaminant Level	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.
ug/L	Micrograms per liter	A microgram = 1/1000 milligrams • 1 microgram per liter is equal to 1 part per billion (ppb)
MRDLG	Maximum Residual Disinfectant Level Goal	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.
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.
ppb	Parts per Billion (one in one billion)	The ppb is equivalent to micrograms per liter. A microgram = 1/1000 milligrams.
ppm	Parts per million (one in one million)	The ppm is equivalent to milligrams per liter. A milligram = 1/1000 grams.
NTU	Nephelometric Turbidity Units	Measures the cloudiness of water.
TT	Treatment Technique	A required process intended to reduce the level of a contaminant in drinking water.
AL	Action Level	The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements which a water system must follow.
HAA5	Haloacetic acids	HAA5 is the total of bromoacetic, chloroacetic, dibromoacetic, dichloroacetic, and trichloroacetic acids. Compliance is based on the total.
TTHM	Total Trihalomethanes	Total Trihalomethanes is the sum of chloroform, bromodichloromethane, dibromochloromethane, and bromoform. Compliance is based on the total.
N/D	Not Detected	
pCi/L	picocuries per liter	A measure of radioactivity.
n/a	not applicable	
>	Greater Than	
RAA	Running Annual Average	The average of analytical results for all samples taken during the previous twelve months.

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER
Genesee County Drain Commissioner-WWS Water System Did Not Meet
Treatment Requirements

Our water system recently violated a drinking water treatment technique requirement. It does not require that you take any action. As our customers, you have a right to know what happened, what you should do, and what we have done to correct this situation.

We treat our water to control corrosion and prevent lead and copper in the pipes from dissolving into the water. To ensure we're optimizing corrosion control, we routinely sample the water before it enters the distribution system for water quality parameters specifically orthophosphate and pH. We are required to maintain these parameters within state-designated ranges. While we were unable to always maintain the directed dosage, of 2.1 mg/L orthophosphate, we were able to consistently feed some into the system. We also consistently added lime to raise pH which is an additional method of treatment for corrosion control.

What should I do?

No actions need to be taken. However, if you have specific health concerns, consult your doctor.

What does this mean?

This situation does not require that you take any action. If it had, you would have been notified immediately. This is a treatment violation but does not mean there is lead or copper in your drinking water. In fact, the most recent monitoring indicates that lead and copper levels were below the action levels set by the EPA in at least 90% of residential drinking water taps sampled. During the period when we added phosphate at a reduced rate, we maintained an aggressive investigative sampling regime which indicated NO lead or copper levels near or at the EPA established levels. Also, we are monitoring for lead and other water quality indicators on a regular basis. It is important that we take measures to control lead and copper levels in the water, because ingesting lead or copper can cause serious health consequences.

Lead: Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

Copper: Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's disease should consult their personal doctor.

What happened? What is being done?

On two consecutive delivery dates, the supplier provided the wrong phosphate product and these shipments were rejected. Efforts to obtain reliable deliveries of the specified ortho-phosphate product were not successful. As a result, the water plant was unable to meet the required dosage minimum of 2.1 mg/L of phosphate for 15 days during the first three months of the year. The Division has sought and selected vendors of an alternative product which required some piping changes at our facility. Temporary piping was installed as quickly as possible to return to compliance with the State-mandated phosphate level.

The second element of our corrosion control strategy, that of elevating the pH, was not interrupted by the phosphate shortage. This issue has been resolved.

For more information, please contact **Kevin VanSickle** at (810) 793-5123 or KVansickle@gcdcwws.com

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by the Genesee County Drain Commissioner located at 4414 Stanley Road, Columbiaville, MI 48421.



CERTIFICATION:

WSSN:02615

2017 Genesee County Water and Waste Detected Contaminant Tables - NEW WTP (Nov., Dec. 2017)

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 - Monitoring at the Plant Finished Water Tap								
Fluoride	12-7-17	ppm	4	4	0.85	n/a	no	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate	12-7-17	ppm	10	10	ND	n/a	no	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Barium	12-11-17	ppm	2	2	0.01	n/a	no	Discharge of drilling waste; Discharge from metal refineries; Erosion of natural deposits.

Disinfectant Residuals - Monitoring in Distribution

Regulated Contaminant	Test Date	Units	Health Goal MRDLG	Allowed Level MRDL	Monthly Ave.	Range of Detection	Violation yes/no	Major Sources in Drinking Water
Total Chlorine Residual	Dec 2017	ppm	4	4	0.64	0.4-0.9	no	Water additive used to control microbes

December 2017 Turbidity - Monitored every 4 hours at Plant Finished Water

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
0.56 NTU	99%	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.

Regulated Organic Carbon (ppm)	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 quarter and because the level was low, there is no TOC removal requirement.	Erosion of natural deposits

Radionuclides

Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level	Level Detected	Violation yes/no	Major Sources in Drinking Water
Combined Radium 226 and 228	12/7/2017	pCi/L	0	5	2.28±0.77	no	Erosion of Natural Deposits
Gross Alpha	12/7/2017	pCi/L	0	15	2.4±1.1	no	Erosion of Natural Deposits

Contaminant	MCLG	MCL	Level Detected	Source of Contamination
Sodium (ppm)	n/a	n/a	ND	Erosion of Natural Deposits



Jeff Wright,
Genesee County
Drain Commissioner
Water & Waste Services
G-4610 Beecher Rd.
Flint, MI 48532



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Important Health Information - 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. Genesee County Water and Waste Services 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 (800) 426-4791 or at <http://www.epa.gov/safewater/lead>.

Safe drinking water is a shared responsibility. The water that is delivered to our community does not contain lead. Lead can leach into drinking water through home plumbing fixtures, and in some cases, customer service lines. Corrosion control reduces the risk of lead and copper from leaching into your water. Orthophosphates are added during the treatment process as a corrosion control method to create a protective coating in service pipes throughout the system, including in your home or business. The County of Genesee performs required lead and copper sampling and testing in our community. Water consumers also have a responsibility to maintain the plumbing in their homes and business, and can take steps to limit their exposure to lead.

Opportunities for Public Participation

We encourage public interest and participation in our community's decisions affecting drinking water. Regular Advisory Board Meetings occur on the third Wednesday of every month, at G-4610 Beecher Road, Flint, Michigan at 9:00 A.M. The public is welcome.

National Primary Drinking Water Regulation Compliance

We'll be happy to answer any questions about Genesee County Division of Water and Waste Services and our water quality. Call Jim Thompson or Dan Lince at (810) 732-7870. You may also visit our website <http://www.gcdewws.com>.

Lake Huron Plant Source Water Assessment

Your source water comes from the lower Lake Huron watershed. The watershed includes numerous short, seasonal streams that drain to Lake Huron. The Michigan Department of Environmental Quality in partnership with the U.S. Geological Survey, the Detroit Water and Sewerage Department, and the Michigan Public Health Institute performed a source water assessment in 2004 to determine the susceptibility to potential contamination. The susceptibility rating is a seven-tiered scale ranging 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 contamination. The Lake Huron water treatment plant has historically provided satisfactory treatment of this source water to meet drinking water standards.

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 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. If you would like to know more information about the Source Water Assessment or the SWIPP, please contact your water department 810-732-7870.