City Of Mt. Pleasant
ANNUAL DRINKING WATER QUALITY REPORT

We are very pleased to present our Annual Water Quality Report for the Mt. Pleasant water supply system. Each year a similar report is prepared for all City water customers to provide water quality information. We want to keep all of our customers informed about the excellent water and services we have delivered over the past year. Our goal is to provide a safe and dependable supply of drinking water.

If you have any questions about this report or concerning your water utility, please contact Jamie Hockemeyer Water Superintendent at (989) 779-5427. We want our valued customers to be informed about their water utility. If you want to learn more about the operation of your City government, please attend any of our regularly scheduled City Commission meetings. They are held in the evenings on the second and fourth Mondays of every month at City Hall.

WE ARE PLEASED TO REPORT THAT OUR DRINKING WATER MEETS ALL FEDERAL AND STATE REQUIREMENTS. For those people with special health issues and concerns, the following paragraph contains EPA water use guidelines which may be applicable to you.

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 at 1-800-426-4791.

Our source water is groundwater under direct influence of surface water, drawn from six (6) groundwater wells and a Ranney™ horizontal collector well. The groundwater wells are located south and southwest of Mt. Pleasant and range from 120' to 465' deep. The Ranney™ Collector is located southwest of Mt. Pleasant adjacent to the Chippewa River. Water from the wells and the collector is pumped to the Water Treatment Plant where it is softened, filtered, disinfected and sent to the distribution system for use by our customers.

The State performed an assessment of our source water in 2003 to determine the susceptibility or the relative potential of contamination. The susceptibility rating is on a six-tier scale from "very-low" to "very-high" based primarily on geologic sensitivity, water chemistry, and contamination sources. The susceptibility of our groundwater wells ranges from very low to moderate. The susceptibility of the Ranney™ Collector to potential contamination is high. While there are no identifiable sources of contamination present, we have made an effort to protect our sources by implementing a wellhead protection program. If you would like to know more about the report please contact the Water Department.

The City of Mt. Pleasant Water Department routinely monitors for contaminants in your drinking water according to Federal and State laws and sampling directives. The Test Results Table on the following pages shows the results of our monitoring for the period of January 1st to December 31st, 2017. Drinking water, including bottled water, may be reasonably 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 at 1-800-426-4791.

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 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:

Microbial contaminants, such as viruses, protozoa, and bacteria may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife. Inorganic contaminants, such as salts and metals, can be naturally-occurring or result from urban storm water run-off, industrial, or domestic wastewater discharges, oil and gas production, mining, or farming. Pesticides and herbicides may come from a variety of sources such as agriculture, urban storm water run-off, and residential uses. Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production can also come from gas stations, urban storm water run-off, and septic systems. Radioactive contaminants, 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, the 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.

The following terms and abbreviations are found throughout this report.

Non-Detect (ND) - Laboratory analysis indicates that the constituent is not present.

NA - Not applicable.

Parts per million (ppm) or Milligrams per liter (mg/l) - A measure of the concentration of a contaminant in water. One part per million is equivalent to one minute in two years, or one inch in sixteen miles.

Parts per billion (ppb) or Micrograms per liter (ug/L) - A measure of the concentration of a contaminant in water. One part per billion is equivalent to one minute in 2,000 years, or one inch in sixteen thousand miles.

Nephelometric Turbidity Unit (NTU) - Turbidity is a measure of the clarity of the water. We monitor turbidity because it is a good indicator of the effectiveness of our filtration system. Turbidity in excess of 5 NTU is just noticeable to the average person.

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

Treatment Technique (TT) - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

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.

Running Annual Average (RAA) – The average of analytical results for samples obtained during the calendar year.

Locational Running Annual Average (LRAA) – The average of analytical results for samples obtained at a particular monitoring location during the previous four calendar quarters.

Test Results Table (Results are from 2017 unless noted)						
Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCL-Max Allowed	MCLG	Likely Source of Contamination
Regulated Physical Parameters						
1. Turbidity Lowest % samples meeting treatment limits (where 100% indicates full compliance) Max =	No	100% 0.09	NTU	TT	n/a	Naturally present in the environment, soil runoff. Measurement of suspended matter in water. Compliance is measured at the filter confluence point.
Regulated Inorganic Parameters						
2. Copper* 90^{th} % = # exceeding AL =	No	 31 0	ppb	AL=1300	1300	Corrosion of household plumbing systems
3. Fluoride Range = Maximum =	No	 0.0 – 0.8 0.8	ppm	4	4	Water additive to promote strong teeth
4. Lead* 90^{th} % = # exceeding AL =	No	 0 0	ppb	AL=15	0	Corrosion of household plumbing systems
5. Chlorine Range = Highest RAA =	No	 0.2 – 1.4 0.7	ppm	MRDL = 4	MRDLG= 4	Water additive used to control microbes
Regulated Volatile Organic Contaminants (monitored in the distribution system)						
6. TTHM Total Trihalomethanes Range = Highest LRAA=	 No	42-90 71	ppb	 80	n/a	By-product of drinking water chlorination. Compliance with the MCL is calculated using a LRAA for each sample site.
7. HAA5 Haloacetic Acids Range= Highest LRAA=	 No	11-22 20	ppb	 60	n/a	By-product of drinking water chlorination. Compliance with the MCL is calculated using a LRAA for each sample site.
Unregulated Inorganic Parameters						
8. Sodium	No	95	ppm	none	none	Erosion of natural deposits

**Results are from 2015.* *Lead and Copper is sampled triannually. See next page for more details.*

As you can see by the Test Results Table, our system had no MCL violations. We're proud that your drinking water meets or exceeds all Federal and State requirements. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

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 (2) liters of water every day, which is approximately eight (8) - 8 ounce glasses of water, at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect. We constantly monitor the water supply for various constituents.

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 Mt. Pleasant is responsible for providing high quality drinking water, but cannot control the variety of materials used in household plumbing components. Lead in drinking water is rarely the sole cause of lead poisoning, but it can add to a person's total lead exposure. All potential sources of lead in the household should be identified and removed, replaced or reduced. Our water supply is softened, and this process has optimized corrosion control. By controlling the corrosivity of the water the amount of lead in your drinking water is kept to a minimum. 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 or at http://www.epa.gov/safewater/lead. Lead and Copper sampling takes place triannually per regulatory requirements of the US EPA Lead and Copper Rule (LCR). Sampling was performed in 2015 as shown above and will take place again in 2018.

Fluoridation is performed at the Water Treatment Plant for dental health purposes. The Center for Disease Control (CDC) has the following advice for parents of infants; "The proper amount of fluoride from infancy through old age helps prevent and control tooth decay. Recent evidence suggests that mixing powdered or liquid infant formula concentrate with fluoridated water on a regular basis may increase the chance of a child developing the faint white markings of very mild or mild enamel fluorosis. Parents should follow the advice of the formula manufacturer and their child's doctor for the type of water appropriate for the formula they are using. Parents and caregivers of infants fed primarily with formula from concentrate who are concerned about the effect that mixing their infant's formula with fluoridated water may have in developing enamel fluorosis can lessen this exposure by mixing formula with low fluoride water most or all of the time." http://www.cdc.gov/fluoridation/safety/infant_formula.htm. In 2015, the US Department of Health and Human Services determined 0.7 ppm (mg/L) of fluoride in water to be the optimal level.

We, at the Mt. Pleasant Water Department, work hard to provide top quality water to every tap and our motto *"Good Water Every Day!"* reflects this focus. We ask that all our customers help us protect our water resources.

Our Cross Connection Control Program is designed to protect the City's water supply from any unwanted flow from residential, commercial, or industrial customers. A cross-connection is a connection or potential connection between potable (safe) water and any source containing water or other substances that are not safe for human consumption.

To comply with the Long Term 2 Enhanced Surface Water Treatment Rule (LT2) we have been sampling our raw (untreated) source water monthly since October 2016 for Cryptosporidium. This sampling will continue through October 2018. These samples are analyzed by a contracted independent laboratory. Zero Cryptosporidium organisms were detected in 2017.

Below we have attached a notice of a monitoring violation from MDEQ that occurred in 2017. An equipment failure on Filter #7 was not repaired within the mandated timeline. In addition, we did not conduct the required grab samples for analysis during the timeline. This equipment was replaced and put into service 8/10/2017. The violation is related to water turbidity (clarity) monitored from one of the eight treatment filters and has no health effects.

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
GRAND RAPIDS DISTRICT OFFICE

RICK SNYDER
GOVERNOR

C. HEIDI GRETHER
DIRECTOR

SEP 06 2017

August 31, 2017

Mr. Malcolm Fox, Water Superintendent
City of Mount Pleasant
1303 North Franklin
Mt. Pleasant, Michigan 48858

VIOLATION NOTICE
WSSN: **04530**

Dear Mr. Fox:

SUBJECT: Violation Notice – Monitoring Violation Regarding Filtration Sampling Requirements

The Department of Environmental Quality (DEQ), Drinking Water and Municipal Assistance Division (DWMAD), records show that the City of Mount Pleasant water supply (supply) is in violation of the Safe Drinking Water Act 1976 PA 399, as amended (Act 399); R325.10720, *Filtration and disinfection; filtration sampling requirements.*

In accordance with the rules cited above, a supplier of water who employs conventional treatment *shall conduct continuous monitoring of turbidity for each individual filter and shall calibrate turbidimeters using the procedure specified by the manufacturer.* Further, the rule states…*If there is a failure in the…equipment…the supply shall conduct grab sampling every four hours instead of continuous monitoring, but for not more than five working days after the failure of the equipment for supplies serving 10,000 or more people or 14 days for supplies serving fewer than 10,000 people before a violation is incurred.* Upon noting faulty readings from the continuous monitoring equipment for Filter 7 on June 22, 2017, the water supply operator was unable to fix or replace the monitoring until August 10, 2017. In addition, the supply did not take confirmation grab samples every four hours in lieu of functioning continuous monitoring equipment.

The time frame for repairing the monitoring equipment for Filter 7 exceeded five days as required by Act 399. **Therefore, the city is being assessed a monitoring violation for failure to repair the continuous turbidity monitoring equipment within the required amount of time, and failure to conduct grab samples in lieu of continuous monitoring equipment.** The violation began when failure of the equipment was noted, or June 22, 2017, and ended when the monitoring equipment returned to operation on August 10, 2017.

Administrative rule R 325.10403 requires that suppliers provide public notice not later than one year after learning of a monitoring violation, or the supply may utilize its annual water quality report (Consumer Confidence Report). The required notification language must be included in your 2017 Consumer Confidence Report, distributed no later than July 1, 2018, and a signed and dated copy of the notice that was issued sent to us within 10 days of distributing the report.

Enclosed are sample documents which contain necessary language to meet the requirements of Act 399.

The DEQ is authorized under Section 7 of Act 399, MCL 325.1007, to issue fines for public water supply monitoring and reporting violations. Failure to collect grab samples or to repair a turbidimeter within five days a second time within 12 months will result in a fine of $1,000 per day, with a maximum of $10,000. Furthermore, failure to issue a public notice for this violation will result in a fine of at least $1,000 per day of the violation up to a maximum of $10,000. Additional violations are subject to fines of increasing amounts. If you would like more information on the DWMAD administrative fines policy, contact this office.

If you have any factual information you would like us to consider regarding these violations, please provide it in a written response by September 30, 2017. Any discussion and additional information you may wish to provide should be sent to Ernie Sarkipato, Grand Rapids District Office, 350 Ottawa Avenue NW, Unit 10, Grand Rapids, Michigan 49503, or sarkipatoe@michigan.gov.

We anticipate and appreciate your cooperation in resolving this matter. If you have any questions, please feel free to contact me.

Sincerely,

Ernie Sarkipato, P.E.
Surface Water Treatment Engineering Specialist
Drinking Water and Municipal
Assistance Division

ES:kw

Enclosure

cc: Mr. Mike Bolf, P.E., Treatment Specialist, DEQ (via email)
Mr. Jon Bloemker, P.E., PhD, Chief, Engineering Unit, DEQ (via email)

EXHIBIT A
Timeline for Continuous Turbidimeter 7

June 22, 2017

Turbidity Meter 7 began reading very high, jumping from 0.01 NTU quickly and sporadically to around 1.0 NTU. This type of turbidity spike (if verified as actually occurring) would trigger reporting to the DEQ.

July 22, 2017

Readings continued to be around 1.0 NTU until this date, presumably some maintenance was done by water supply operators to attempt a fix to the issue. Readings began to stabilize again around 0.01-0.03 NTU.

July 23, 2017

Readings from Turbidimeter 7 again jump back to unusually high numbers, around 1.0 NTU.

July 24, 2017

Readings again return to more expected levels, again likely due to maintenance activities.

July 31, 2017

Readings remained low/normal until this date, when they jump back up to around 1.0 NTU.

August 1, 2017

Readings return to lower/normal levels briefly, but again jump up to 1.0 NTU by the end of the day.

August 10, 2017

Sporadically high and low readings continue to occur until the turbidimeter is replaced with a new unit on this date. Readings are immediately in the range of 0.03 – 0.06 NTU, which is expected and well within the acceptable operating range.

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

Monitoring Requirements Not Met for the City of Mount Pleasant

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether our drinking water meets health standards. We routinely monitor your water for turbidity (cloudiness). This tells us whether we are effectively filtering the water supply. From the dates of June 22, 2017, to August 10, 2017, continuous monitor for turbidity at Filter #7 was not reading accurately. This monitoring location is required by law, and we cannot be sure of turbidity levels leaving the filter during this period.

**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 which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.* These symptoms are not caused only by organisms in drinking water. If you experience any of these symptoms and they persist, you may want to seek medical advice.

What should I do? There is nothing you need to do at this time. This is not an emergency. You do not need to boil water or use an alternative source of water at this time. Even though this is not an emergency, as our customers, you have a right to know what happened and what we did to correct the situation.

The table below lists the contaminant we did not properly test for, how often we are supposed to sample for this contaminant, how many samples we are supposed to take, how many samples we took, when samples should have been taken, and the date we collected follow-up samples.

Contaminant	Required sampling frequency	Number of samples taken	When all samples should have been taken	Date additional samples were (or will be) taken
Turbidity	Continually	0	06/22/2017-06/30/2017	Continuous monitoring resumed on 8/10/17
Turbidity	Continually	0	07/01/2017-07/31/2017	Continuous monitoring resumed on 8/10/17
Turbidity	Continually	0	08/01/2017-08/10/2017	Continuous monitoring resumed on 8/10/17

What happened? What is being done? Our continuous turbidity monitoring equipment was not reading accurately during June, July, and August 2017. Because of this, we did not meet the requirements for turbidity monitoring during these sampling periods. We are making every effort to assure this does not happen again by replacing old turbidimeters in the water plant. Turbidity samples throughout the treatment process indicate there was not a problem with water quality during this time. Since the equipment was repaired and put back into service, turbidity results indicate that all results meet acceptable limits.

For more information, please contact Mr. Malcolm Fox, Operator-In-Charge, at 989-779-5426.

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 City of Mount Pleasant.

CERTIFICATION: WSSN: 04530

I certify that this water supply has fully complied with the public notification regulations in the Michigan Safe Drinking Water Act, 1976 PA 399, as amended, and the administrative rules.

Signature: Jamie Hockemeyer Title: WTP Superintendent Date Distributed: 5-31-2018