2017 Drinking Water Quality Report
♦ Hastings Municipal Authority ♦

We are pleased to present to you our **Annual Drinking Water Quality Report** for the 2017 operating year. This report provides you with information about the quality of water and the services we deliver to you every day. Our constant goal is to provide you with a dependable supply of drinking water that meets or exceeds state and federal water quality drinking water health standards.

The Sources: The Hastings Municipal Authority's water system (Public Water Supply ID Number 4110013) is supplied from two sources. The primary source is a spring discharge known as the Pardee No. 29, Mine Spring No. 1 located approximately 1.3 miles east of the Borough. The second source is supplied through an interconnection with the Elder Township Water Authority (ETWA) which receives its water from two groundwater wells owned and operated by Patton Municipal Authority. The ETWA source serves as a supplemental source to the Hastings water system, supplying approximately 10,000 gallons per day, but is also capable of operating as a backup source to provide up to 300,000 gallons per day. The raw (untreated) water from the Mine Spring No. 1 source is treated using the Authority's water treatment facility that uses pre-ozonation, direct filtration using tri-media rapid sand filters, chlorine disinfection and a computer operated instrumentation and control system. The water treatment process produces a high-quality drinking water that meets all State and Federal potable water quality standards. The water supplied from the ETWA is finished water that has previously been treated at the Patton well sites and is blended with the treated water in the Hastings water system at its point of connection to the Hastings distribution system near the Haida and 3rd Avenue intersection.

The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. All sources of drinking water are subject to potential contamination by constituents that are naturally occurring or manmade. The constituents can be microbial, organic or inorganic chemicals, or radioactive materials. 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 and gas production, mining or farming.
- **Pesticides and Herbicides**, which may come from a variety of sources such as agricultural and residential uses.
- **Radioactive contaminants** which are naturally occurring.
- **Organic chemical contaminants** including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems.

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/ Centers for Disease Control (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.

Source Water Assessment: A Source Water Assessment has not yet been completed by the PA Department of Environmental Protection (PA DEP) for the Hastings Municipal Authority water supply. However, a source water assessment was completed in 2002 for the Patton source, but since the assessment was prepared for the Chest Creek surface water source that is no longer in use by the Borough, that assessment is not representative of the current Patton groundwater source that supplemented the HMA system during 2017. Information on the PA DEP source water assessment program and the current status of assessments being conducted is available from the PA DEP website at website at www.depgreenport.state.pa.us/elibrary/GetFolder.aspx?FolderID=4490.

Water Quality: 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.

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 Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

WE ARE PLEASED TO REPORT THAT OUR WATER MEETS ALL FEDERAL AND STATE REQUIREMENTS.

The Hastings Municipal Authority routinely monitors for constituents in your drinking water according to Federal and State laws. The following table shows the results of our water quality monitoring for the period of January 1st through December 31, 2017. The table also provides information regarding the quality of water provided from the Patton Municipal Authority water system, since water was provided to the HMA system via the Elder Township Water Authority water system in 2017. A complete copy of Patton Borough's 2017 Water Quality Report may be obtained from the Patton Borough Office located at 800 Fourth Ave, Patton. 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 previous years in accordance with the Safe Drinking Water Act. The date has been noted on the enclosed sampling results table. Only those contaminants found in the Authority's treated water are listed on the table, and all those detected are below the allowable limits. Many other contaminants are regulated and have been routinely tested for, but have not been found to be present at levels that are detectable. These have been listed below the following table.

2017 Water Quality Report – Hastings Municipal Authority

Detected Regulated Contaminant Table							
Contaminant (Unit of Measure)	MCL	MCLG	Level Detected	Range	Sample Period	Violation (Yes/No)	Likely Source of Contamination
Turbidity							
Turbidity (NTU) *[HMA Entry Point]*	TT=1NTU single measurement	0	0.184	0.028 to 0.184	05/19/2017 (highest)	No	Soil Runoff -Turbidity is a measure of cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.
	TT= at least 95% of monthly samples ≤ 0.3		100% less than 0.3 NTU limit	N/A	2017	No	
Inorganic Contaminants							
Copper (ppm) *[HMA Distribution system]*	AL = 1.3	1.3	0.125 [90th percentile]	Zero sites above AL out of 11 sites sampled 2016		No	Corrosion of household plumbing systems
Lead (ppb) *[HMA Distribution system]*	AL = 15	0	0.00 [90th percentile]	Zero sites above AL out of 11 sites sampled 2016		No	Corrosion of household plumbing systems
Nitrate (ppm) *[HMA Entry Point]*	10	10	0.482	ND to 0.964	2017	No	Runoff from fertilizer use; leaching from septic tanks; Erosion of natural deposits
Barium (ppm) *[HMA Entry Point]*	2	2	0.026	NA – one sample only	8/15/2017	No	Discharge from drilling wastes, Discharge from metal refineries; Erosion of natural deposits
Fluoride (ppm) *[HMA Entry Point]*	2	4	0.124	NA – one sample only	8/15/2017	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Selenium (ppb) *[HMA Entry Point]*	50	50	7.3	ND – 7.3	8/15/17	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
Calcium (ppm) *[Patton Borough Entry Point]*	NA	NA	15.93	15.53 to 15.93	2016	No	Erosion of natural deposits
Disinfection Residuals and Disinfection Byproducts							
Chlorine (ppm) *[HMA Distribution system]*	MRDL = 4	MRDLG =4	1.91 (highest)	1.0 to 1.91	Dec 2017	No	Water additive used to control microbes
Chlorine (ppm) *[HMA Entry Point 101]*	MinRDL = 0.2	N/A	Lowest level detected = 0.63	0.63 to 2.21	2017 Low-11/15/17	No	Water additive used to control microbes
Chlorine (ppm) *[HMA Entry Point 102]*	MinRDL = 0.2	N/A	Lowest level detected = 0.55	0.55 to 3.45	2017 Low-8/17/17	No	Water additive used to control microbes
Chlorine (ppm) *[Patton Borough Entry Point]*	MinRDL = 0.2	N/A	Lowest level detected = 0.0	0.0 to 1.9	2017 Low-7/9/17	No	Water additive used to control microbes
Bromate (ppb) *[HMA Entry Point 101]*	10	0	2.88	ND to 23*	2017	No	Byproduct of drinking water chlorination
Total Trihalomethanes (ppb) *[HMA Distribution system]*	80	N/A	17.48**	10.8 to 24.6	2017	No	Byproduct of drinking water chlorination
Total Haloacetic Acids (ppb) *[HMA Distribution system]*	60	N/A	1.94**	1.15 to 3.44	2017	No	Byproduct of drinking water disinfection

**Bromate - One sample out of eight samples collected in 2017 exceeded the MCL established for Bromate. However, bromate was not detected in the remaining seven samples collected. Some people who drink water containing bromate in excess of the MCL over many years may have an increased risk of getting cancer.*

***For Haloacetic Acids and Total Trihalomethanes the Highest Level Detected column = Highest Running Annual Average Result*

Hastings Raw Water Quality Table

Microbial Contaminants

Contaminant Name	Highest Level Detected	Range of Detection	Sample Period	Violation (Yes or No)	Likely Source of Contamination in Drinking Water
E. Coli Bacteria	91	ND to 91	2017	No	Human and animal fecal waste

Raw Water Quality Table Notes:

The Hastings Municipal Authority (HMA) began testing its raw (untreated) water sources for *E. coli* in late October of 2017 to comply with the LT2 Enhanced Surface Water Treatment Rule. Testing continued through 2017 and will be completed in late 2018. To date, all results have been within normal, expected ranges. The HMA has treatment processes in place at its water filtration and treatment facility that have been designed to remove or inactivate these contaminants from the raw water prior to the release of the treated water to the distribution system. The HMA treatment facility uses ozonation, filtration and chlorine disinfection to ensure that these constituents are removed and/or inactivated.

Supplemental Information Regarding Lead in Drinking Water – Although lead was **not** detected in samples collected from the Hastings distribution system, elevated levels of lead, if present, 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. Hastings Municipal Authority 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 or at *http://www.epa.gov/safewater/lead*.

VIOLATIONS

Hastings Municipal Authority – No Violations in 2017

Patton (Supplemental Source) – No Violations in 2017

Other: Patton (Supplemental Source) – As shown in the Entry Point Disinfection Residual Table, the chlorine residual measured at the Patton water system's entry point failed to meet the required minimum concentration during a routine test conducted on July 9, 2017. The low result was detected and corrective action was taken within the four-hour window allowable by the regulations. No violation was issued.

*Other contaminates that have been tested for, but were **not detected** included:*

Inorganic Contaminants: (2017) Arsenic, Cadmium, Chromium, Cyanide, Mercury, Nickel, Antimony, Beryllium, Selenium, Thallium, Nitrites; **(2012)** Asbestos

Volatile Organic Compounds [VOCs] (2017): Benzene, Carbon tetrachloride, Chlorobenzene, para-Dichlorobenzene, o-Dichlorobenzene, 1-2-Dichloroethane, 1,1-Dichloroethylene, Cis-1,2-Dichloroethlyene, trans-1,2-Dichloroethylene, Dichloromethane 1,2-Dichloropropane, Ethylbenzene, Styrene, Tetrachloroethylene, Toluene, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, Trichloroethylene, Vinyl chloride; Xylenes, and 1,2,4-trichlorobenzene

Synthetic Organic Compounds [SOCs] (2017): Endrin, Lindane, Methoxychlor, Toxaphene, Dalapon, Diquat, Endothall, Glyphosate, Di(2-Ethylhexyl)Adipate, Oxymal, Simazine, Di(2-Ethylhexyl)Phthalate, Piclorem, Dinoseb, Hexachlorocyclopentadiene, Carbofuran, Atrazine, Alachlor, Heptachlor, Heptachlor Epoxide, 2,4-D, 2,4,5-TP Silvex, Hexachlorobenzene, Benzo(A)pyrene, Pentachlorophenol, PCBs, 1,2-Dibromo,3-Chloroprop, Ethylene Dibromide, Chlorodane; **(2014)** Dioxin

Radiological Contaminants: (2015) Gross Alpha; **(2012)** Combined Uranium, Radium-226 and Radium-228

Definitions and Abbreviations:

(The following are definitions of terms and abbreviations used throughout this report and in the Water Quality Tables)

Action Level (AL) - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
HMA – Hastings Municipal Authority; **ETWA** – Elder Township Water Authority; **PMA** – Patton Municipal Authority
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 contamination.
Minimum Residual Disinfection Level (MinRDL)- The minimum level of residual disinfectant required at the entry point to the distribution system.
N/A - Not applicable; **ND** - Not Detected; **NTU**=Nephelometric Turbidity Units (a measure of water clarity)
ppb - Parts per billion or micrograms per liter (µg/L); **ppm -** Parts per million or milligrams per liter (mg/L)
Treatment Technique (TT) - A required process intended to reduce the level of a contaminant in drinking water.

- PLEASE CONSERVE OUR WATER RESOURCES -

The Hastings Municipal Authority requests that customers conserve our water resources by conserving water in the home and at places of work. Efficient water use can have major environmental, public health, and economic benefits by helping to improve water quality, maintain aquatic ecosystems, and protect drinking water resources. Efficient use of water, through behavioral, operational, or equipment changes, if practiced broadly can help mitigate the effects of drought. Efficiency measures can also save the homeowner money on their water and energy bills. The following tips and suggestions were obtained from the Wateruseitwisely website and can help you conserve water, save money and protect and preserve our water resources. For many more water saving tips and water conservation resources, please visit their website at www.wateruseitwisely.com.

Kitchen:

- When washing dishes by hand, don't let the water run. Fill one basin with wash water and the other with rinse water.
- Dishwashers typically use less water than washing dishes by hand. Now, Energy Star dishwashers save even more water and energy.
- If your dishwasher is new, cut back on rinsing. Newer models clean more thoroughly than older ones.
- Designate one glass for your drinking water each day, or refill a water bottle. This will cut down on the number of glasses to wash.
- Soak pots and pans instead of letting the water run while you scrape them clean.
- Use the garbage disposal sparingly. Instead, compost vegetable food waste and save gallons every time.
- Rinse your fruits and vegetables in a pan of water instead of running water from the tap. Use the rinse water to water house plants.
- Don't use running water to thaw food. For water efficiency and food safety, defrost food in the refrigerator.
- Install an instant water heater near your kitchen sink so you don't have to run the water while it heats up. This also reduces energy costs.
- Keep a pitcher of drinking water in the refrigerator instead of running the tap. This way, every drop goes down you and not the drain.
- Reuse leftover water from cooked or steamed foods to start a nutritious soup, it's one more way to get eight glasses of water a day.
- Cook food in as little water as possible. This also helps it retain more nutrients.
- Select the proper pan size for cooking. Large pans may require more cooking water than necessary.
- If you accidentally drop ice cubes, don't throw them in the sink. Drop them in a house plant instead.
- When shopping for a new dishwasher, use the Consortium for Energy Efficiency website to compare water use between models.

Bathroom:

- If your shower fills a one-gallon bucket in less than 20 seconds, replace the showerhead with a WaterSense® labeled model. It can save you up to 750 gallons a month
- Shorten your shower by a minute or two and you'll save up to 150 gallons per month.
- Time your shower to keep it under 5 minutes. You'll save up to 1,000 gallons per month.
- Toilet leaks can be silent! Be sure to test your toilet for leaks at least once a year.
- Put food coloring in your toilet tank. If it seeps into the bowl without flushing, there's a leak. Fix it and start saving gallons.
- When running a bath, plug the bathtub before turning on the water. Adjust the temperature as the tub fills.
- Upgrade older toilets with water-saving WaterSense® labeled models.
- If your toilet flapper doesn't close properly after flushing, replace it.
- Turn off the water while you brush your teeth and save up to 4 gallons a minute. That's up to 200 gallons a week for a family of four.
- If your toilet was installed before 1992, purchasing a WaterSense® labeled toilet can reduce the amount of water used for each flush.
- Consider buying a dual-flush toilet. It has two flush options: a half-flush for liquid waste and a full-flush for solid waste.
- Plug the sink instead of running the water to rinse your razor and save up to 300 gallons a month.
- Turn off the water while washing your hair and save up to 150 gallons a month.
- When washing your hands, turn the water off while you lather.
- Take 5-minute showers instead of baths. A full bathtub requires up to 70 gallons of water.
- Install water-saving aerators on all of your faucets.
- Drop tissues in the trash instead of flushing them and save water every time.
- One drip every second adds up to five gallons per day! Check your faucets and showerheads for leaks.
- While you wait for hot water, collect the running water and use it to water plants.

Laundry Room:

- When doing laundry, match the water level to the size of the load.
- Washing dark clothes in cold water saves water and energy, and helps your clothes retain their color.
- When shopping for a new washing machine, compare resource savings among Energy Star models. Some can save up to 20 gallons of water per load. Check the Consortium for Energy Efficiency website to compare water use between models.

General Indoor:

- Teach children to turn off faucets tightly after each use.
- Watch the Home Water Challenge video or use the Home Water Audit Calculator to see where you can save water.
- Encourage your school system and local government to develop and promote water conservation among children and adults.
- Monitor your water bill for unusually high use. Your bill and water meter are tools that can help you discover leaks.
- Learn how to use your water meter to check for leaks.
- Reward kids for the water-saving tips they follow.
- Avoid recreational water toys that require a constant flow of water.
- Grab a wrench and fix that leaky faucet. It's simple, inexpensive, and you can save 140 gallons a week.
- Be a leak detective! Check all hoses, connectors, and faucets regularly for leaks.
- We're more likely to notice leaky faucets indoors, but don't forget to check outdoor faucets, pipes, and hoses.
- See a leak you can't fix? Tell a parent, teacher, employer, or property manager, or call a handyman.
- At home or while staying in a hotel, reuse your towels.
- Make suggestions to your employer or school about ways to save water and money.
- Run your washer and dishwasher only when they are full. You can save up to 1,000 gallons a month.

Landscaping:

- Use porous material for walkways and patios to prevent wasteful runoff and keep water in your yard.
- Group plants with the same watering needs together to avoid overwatering some while underwatering others.
- Reduce the amount of lawn in your yard by planting shrubs and ground covers appropriate to your site and native to your region.
- Plant in the spring and fall, when the watering requirements are lower.
- Avoid planting grass in areas that are hard to water, such as steep inclines and isolated strips along sidewalks and driveways.
- Leave lower branches on trees & shrubs and allow leaf litter to accumulate on the soil. This keeps the soil cooler and reduces evaporation.
- Start a compost pile. Using compost in your garden or flower beds adds water-holding organic matter to the soil.
- Use a layer of organic mulch on the surface of your planting beds to minimize weed growth that competes for water.
- Next time you add or replace a flower or shrub, choose a low-water-use plant and save up to 550 gallons each year.
- Call your local conservation office for more information about xeriscaping with water-thrifty trees, plants, and ground covers.
- For automatic water savings, direct water from rain gutters and HVAC systems to water-loving plants in your landscape.
- Read the "Landscape Watering by the Numbers" guidebook to help you determine how long and how much to water.
- Use a trowel, shovel, or soil probe to examine soil moisture depth. If the top two to three inches of soil are dry, it's time to water.
- Set a kitchen timer when using the hose as a reminder to turn it off. A running hose can discharge up to 10 gallons per minute.
- Check your sprinkler system frequently and adjust sprinklers so only your lawn is watered and not the house, sidewalk or street.
- Minimize evaporation by watering during the early morning hours when temperatures are cooler and winds are lighter.
- Look for WaterSense® labeled irrigation controllers. Timing is everything with irrigation. Learn how to set your controller properly.
- Apply water only as fast as the soil can absorb it. If water runs off your lawn easily, split your watering time into shorter periods.
- Water only when necessary. More plants die from over-watering than from under-watering.
- Signs of overwatering: Leaves turn lighter shades of green or yellow, young shoots wilt, and sometimes algae or fungi grow.
- Don't water your lawn on windy days when most of the water blows away or evaporates.
- Use drip irrigation for shrubs and trees to apply water directly to the roots, where it's needed.
- Water your plants deeply but less frequently to encourage deep root growth and drought tolerance.
- Use sprinklers that deliver big drops of water close to the ground. Smaller drops and mist often evaporate before hitting the ground.
- Use a rain barrel to harvest rainwater from gutters for watering gardens and landscapes.

General Outdoor:

- Winterize outdoor spigots when temperatures dip below freezing to prevent pipes from leaking or bursting.
- Use a commercial car wash that recycles water. Or, wash your car on the lawn, and you'll water your grass at the same time.
- Wash your pets outdoors, in an area of your lawn that needs water.
- When cleaning out fish tanks, give the nutrient-rich water to your non-edible plants.
- When you give your pet fresh water, don't throw the old water down the drain. Use it to water your trees or shrubs.
- Use a broom instead of a hose to clean patios, sidewalks and driveways, and save water every time.
- If you have an evaporative cooler, direct the water drain to plants in your landscape.

Check out these additional websites for more water conservation information:

www.epa.gov/WaterSense; wateruseitwisely.com/100-ways-to-conserve/index.php;
www.americanwater.com/49ways.php; www.epa.gov/greenhomes/ConserveWater.htm; www.h2ouse.org

Please help us find leaks, save water and reduce water service costs… Because water lines are located underground, leaks may go unnoticed for days and even years resulting in a considerable waste of our valuable water resource and additional costs for all customers. Please help us locate these leaks by reporting to the Water Department any occurrences of: water running in locations that are normally dry; wet spots in yards and streets; the sound of water running in your home when water is not in use; the sound of water trickling or running in a storm inlet when it is not raining; sudden or unusually low water pressure; and slugs of discolored or cloudy water. When an occurrence such as this is reported, a representative of the water department will make contact and investigate the situation.

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2017 DRINKING WATER REPORT

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

(This report contains important information about your drinking water. Translate it or speak with someone who understands it.)

IF YOU HAVE ANY QUESTIONS ABOUT THIS REPORT or concerning your water utility, please contact Mr. Thomas Kinney, Authority Chairman at 814-247-8240, Monday through Friday 8:00 a.m. to 4:00 p.m. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. They are held at 7:00 p.m. on the 2nd Thursday of each month at the Hastings Borough Building, 207-1 Fifth Avenue.

SPECIAL NOTICE: Customers are requested to inform the Authority of any changes in your account contact information, especially phone number changes, so that we may continue to be able to notify you via the Authority's Swiftreach Notification System in the event of a water service or water system emergency.