Village of Clinton
2012 Drinking Water Quality Report
June 7, 2013

OVERVIEW.

This Water Quality Report is designed to provide information on the Village's water distribution and treatment systems. It provides information on the Source of Water, Water Testing, Terms and Abbreviations, and Test Results.

The Village gets its water from four wells and treats it with chlorine and polyphosphate. The chlorine is used for disinfection. The polyphosphate sequesters possible sediment build up in the water lines and makes the water less corrosive to your plumbing fixtures. The water is tested for a variety of contaminates on a regular basis. New federal legislation requires the Village to publish a summary of the test results annually to help keep water customers informed about the water they drink.

In our continuing efforts to maintain a safe and dependable water supply it may be necessary to make improvements in our water system. The costs of those improvements may be reflected in the water rates. At this point the Village is seriously investigating the construction of an iron removal plant. If that plant were constructed, the water rates would have to be increased to fund the debt and operating costs.

If you have any questions or concerns about your water utility please contact Mr. George Service or Mr. Matt Dorr, 119 E. Michigan Ave, Clinton, Michigan. You may call them at (517) 456-7494, or send e-mail to villageofclinton@tc3net.com. If you want to learn more please contact Mr. Service or Mr. Dorr to schedule a meeting. You can also get information by attending the Clinton Village Council meetings held on the first and third Mondays of each month.

NEW SECURITY MEASURES TAKEN.

As a result of the events of September 11, 2001 the Village of Clinton has taken numerous steps to make the water facilities more secure.

SOURCE WATER ASSESSMENT REPORT

"Your water comes from four groundwater wells, drawing from the River Raisin watershed. 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-tiered scale from "very-low" to "high" based primarily on geologic sensitivity, water chemistry and contaminant sources. The susceptibility of our source is rated moderately high for well field number one and moderate for well field number two and four.

The primary source of water is well number 1 located at River and Clark Street. Well number 4 is used as a back up during periods of high usage. Well number 2 is backup for fire fighting capacity. Wells 2 and 4 are located on the west side of the River Raisin at the south end of Tate Park. Well numbers 1 and 2 have depths of 33 to 42 feet. Well number 4 is 112 feet deep. The Village uses well number 1 as a primary source since it has a low level of iron. Well number 4, however, has a very high level of iron.

"Significant sources of contamination include any possible dumping or leakage within 200' of well field number 1 and possible farm run off within 200' of well field number two and four. We are making efforts to protect our sources by taking all necessary security measures and planning to develop more in our wellhead protection plan in the near future.

NEW WELL PLACED IN OPERATION

Over the past 2 years well 1 has developed a problem with capacity loss due mainly to the aquifer becoming plugged. Mineral deposits accumulating over time in the gravel pack around the well point seem to be the cause.

In November 2012 the new well 5 was installed in Tate Park near the river next to the softball fields. The new well was not put in service until May 2013. The test results will follow in next year's report. Water quality for well 5 at start was deemed very good.

WATER TESTING. The Village routinely tests the water for contaminants according to Federal and State laws. The results of our monitoring for the year ending December 31, 2012, met all monitoring requirements for 2012 as per the Michigan Department of Environmental Quality (MDEQ). The Sate allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. All of the data is representative of the water quality, but some are more than one year old.

As water travels over the land or underground, it can pick up substances or contaminants such as microbes, inorganic and organic chemicals, and radioactive substances. Drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe drinking Water Hotline (800-426-4791).

The sources of 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 water:

- 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 agriculture, urban stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, 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.
- Lead related contaminants, 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. Village of Clinton 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 in available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead. Note: lead has never been detected in any of our raw well water.

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. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

The state also requires monitoring of some constituents less than annually. There are many constituents that are tested for quarterly, annually, and every third year. Of all these constituents tested, the Village of Clinton's well water had only a few contaminates at the detectable level. Of those, none were at a level of any health concern requiring a change in the treatment process. The Village's drinking water met or exceeded all Federal and State requirements last year

Minimum Contamination Levels (MCL) is set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

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. The EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline 800 426-4791. A list of these microbiological contaminants is also available at the Village Office.

TERMS AND ABBREVIATIONS.

The table uses many terms and abbreviations you might not be familiar with. To help you better understand these terms we have provided the following definitions:

- Non-Detect (ND) - Laboratory analysis indicates that the constituent is not present.
- Parts per million (ppm) or Milligrams per liter (mg/l) - One part per million corresponds to one minute in two years or a single penny in $10,000.
- Parts per billion (ppb) or Micrograms per liter - One part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.
- Parts per trillion (ppt) or Nanograms per liter (nanograms/l) - One part per trillion corresponds to one minute in 2,000,000 years, or a single penny in $10,000,000,000.
- Picocuries per liter (pCi/L) - Picocuries per liter is a measure of the radioactivity in water.
- Action Level - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- Maximum Contaminant Level (MCL) - The "Maximum Allowed" MCL is 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.
- Maximum Contaminant Level Goal - The "Goal" (MCLG) is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

Maximum residual disinfectant level goal (MRDLG): 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.

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.

ND=Not detected

NA=Not Applicable

The Village of Clinton strives to provide top quality water. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.

Respectfully Submitted,

Mr. Matt Dorr, DPW/Water Operator

nregulated Contaminants

Well 1	Violation Y/N	Level Detected	Range of Detection	Date of Sampling	MCL	MCL	Likely Source of Contamination
Chloride (ppm)	N	134		2012			Naturally present
Hardness as CaCO3 (ppm)	N	422		2012			Naturally present
Iron (ppm)	N	ND		2012			Naturally present
Sodium (ppm)	N	70		2012			Naturally present
Well 2							
Chloride (ppm)							
Hardness (ppm)							
Iron (ppm)	N	23		2012			Naturally present
Sodium (ppm)	N	346		2012			Naturally present
Well 4	N	1.8		2012			Naturally present
Chloride (ppm)	N	13		2012			Naturally present
Hardness (ppm)							
Iron (ppm)							
Sodium (ppm)	N	40		2012			Naturally present
	N	360		2012			Naturally present
	N	.6		2012			Naturally present
	N	22		2012			Naturally present

egulated contaminants are those for which EPA has not established drinking water standards. Monitoring helps EPA to mine where these contaminants occur and whether it needs to regulate those contaminant."

Detected Inorganic Contaminants

Well 1	Violation Y/N	Level Detected	Range of Detection	Date of Sampling	MCLG	MCL	Likely Source of Contamination
1. Copper (ppb) Next test 2014	N	800	0 homes > AL	2011		AL=1300	Corrosion of household plumbir systems; erosion of natural deposits; leaching from wood preservatives
2. Lead (ppb) Next test 2014	N	2	0 homes > AL	2012	0	AL=15	Corrosion of household plumbir systems, erosion of natural depc
3. Nitrate (as Nitrogen) (ppm)	N	2.8Well 1 NDWell 4	ND-2.8	2012	10	10	Runoff from fertilizer use; leach from septic tanks, sewage; erosi of natural deposits.
4. Fluoride (ppm)	N	.13 well 1 .30well 4	0.11-.29	2012	4	4	Erosion of natural deposits; wat additive which promotes strong teeth; discharge from fertilizer a aluminum factories.
5. Arsenic Next test 2015	N	ND-well 1 ND-well 4		2012	NA	50	Erosion of natural deposits; Run from orchards; runoff from glas electronics production wastes.

Disinfectant Byproducts:Total Trihalomethanes (TTHM) and Haloacetic Acids(HAA5)

	Violation Y/N	Level Detected	Range of Detection	Date of Sampling	MCLG	MCl	Likely Source of Contamination
TTHM Site 1 (ppb)	N	11.0	11-12	2010 next 2013	NA	80	By-product of Drinking Water Chlorination
TTHM Site 2 (ppb)	N	9.6	11-12	2010 next 2013	NA	80	By-product of Drinking Water Chlorination
HAA5 Site 1 (ppb)	N	2	ND-2	2010 next 2013	NA	60	By-product of Drinking Water Chlorination
HAA5 Site 2 (ppb)	N	2	ND-2	2010 next 2013	NA	60	By-product of Drinking Water Chlorination

Chlorine Residual

Chlorine or Chloramines	Violation Y/N	Level Detected	Range of Detection	Date of Sampling	MRDL	MR DLG	Likely Source of Contamination
Bacteriological Sample Site #1	N	.22	.01-.43	2012 monthly	4	4	Water additive used to control microbes
Bacteriological Sample Site #2	N	.21	.04-.38	2012 monthly	4	4	Water additive used to control microbes
Monthly Average of Samples	N	.21		2012 monthly	4	4	
RAA Computed Quarterly	N	.15		2012 monthly	4	4	

Chlorine Residual

Chlorine or Chloramines	J	F	M	A	M	J	J	A	S	O	N	D
Bacteriological Sample Site #1	.16	.34	.21	.10	.14	.43	.33	.22	.28	.01	.33	.30
Bacteriological Sample Site #2	.04	.16	.04	.05	.11	.38	.22	.26	.14	.04	.25	.12
Monthly Average of Samples	.10	.25	.12	.07	.13	.41	.28	.24	.21	.03	.29	.21
RAA Computed Quarterly	-	-	.11	-	-	.13	-	-	.17	-	-	.20

Maximum residual level chlorine is 4.0

Chlorine goal is 4.0