

2015
CLAY TOWNSHIP
WATER QUALITY REPORT

***9625 Ainsworth Rd.
Algonac, MI 48001***

PWS ID#: MI1450

Continuing Our Commitment

We proudly present our annual water quality report. This edition covers all testing completed from January through December 2015. As in the past, we are committed to delivering the best quality drinking water. To that end, we remain vigilant in meeting the challenges of source water protection, water conservation and community education while continuing to serve the needs of all of our water users.

In May 2015, we completed a full replacement of filter membranes. The 360 replacements are a slightly different design than the originals. These membranes are more durable and reportedly, they will require fewer repairs and are more durable than our previous models.

We continue to be a member of the Huron to Erie Drinking Water Monitoring Network. This network provides raw water quality monitoring and a web based alert system to participants from Lake Huron down to Lake Erie. The monitoring equipment is designed to sample the raw water every 15 minutes and report any water quality changes. The communication system and detection devices associated with the network are valuable tools and is considered the first line of defense in protecting our drinking water.

Security of Our system

We want to ensure all of our customers and citizens of Clay Township that security of our Water Filtration Plant and our distribution system is of utmost importance in our everyday operation. We have security alarms on all of our facilities and have made upgrades to our security lighting and cameras over the past several years. We urge all of our citizens to be vigilant and even overly cautious as to any suspicious occurrences or questionable persons claiming to be Water Department staff. Please, if in question, request identification of any person(s) claiming to be Twp. personnel before allowing entrance to your home or business. If you have any questions or concerns in this matter, please feel free to contact Mr. Jon DeBoyer –Water Dept. Superintendent at 810-794-9303 or Mr. Artie Bryson –Twp. Supervisor at 810-794-9303 and voice your concerns or questions. If you should see any suspicious activity, please do not hesitate to call the Clay Twp. Police Dept. at (810) 794-9381.

We want you to rest assured that we are doing everything in our power to provide the highest level of security for our system and your safety.

Working Hard For You

Under the Safe Drinking Water Act (SDWA), the U.S. EPA is responsible for setting national limits for hundreds of substances in drinking water, and also specifies various treatments that water systems must use to remove these substances. Each system continually monitors for these substances and reports to the U.S. EPA if detected in the drinking water. The U.S. EPA uses this data to ensure that consumers are receiving clean water.

This publication conforms to regulations under the SDWA requiring water utilities to provide detailed water quality information to their customers annually. We are committed to providing you with this information about your water supply because water customers who are well informed are our best allies in supporting improvements necessary to maintain the highest drinking water standards. Copies of this report can be obtained from the Clay Twp. office and the Water Department. This report will not be mailed to individual customers. For more information about this report, or for any questions relating to your drinking water, please call Mr. Jon DeBoyer, Superintendent at (810) 794-9303, or the Twp. Supervisor at (810) 794-9303.

Community Participation

You are invited to participate in our public forum at the Clay Twp. Board meetings and voice your concerns about your drinking water. The Twp. Board meets the 1st and the 3rd Monday of each month beginning at 7:30 p.m. at the Twp. Hall, 4710 Pte Tremble Rd.

Where Does My Water Come From?

The City of Algonac Water Filtration Plant provides an excellent and abundant water supply to the citizens of Algonac and Clay Township. We are extremely fortunate to have at our disposal a superb water source in the St. Clair River, which is considered part of the overall Great Lakes Water System. This source is one of the most desirable and sought after water sources known in North America Today. Our treatment plant processes over 400 million gallons of clean drinking water to our community annually.

Special Health Information

Some people may be more vulnerable to contaminants in the drinking water than the general population. Immuno-compromised persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC (Center for Disease Control and prevention) 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.

Substances Expected To Be In Drinking Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain substances in water provided by public water systems. The U.S. Food and Drug Administration (FDA) regulations establish limits for substances 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 these contaminants does not necessarily indicate that the water poses a health risk.

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 can acquire naturally occurring minerals, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Substances that may be present in the water include:

- Microbial contaminants-such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations , or wildlife;
- Inorganic Contaminants, such as salts and metals which can be naturally occurring or may result from urban storm water runoff, including 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 water runoffs and residential uses;
- Organic Chemical Contaminants, including synthetic and volatile organic chemicals (VOC's), which are by products of industrial processes and petroleum production, and may also come from gas stations, urban storm water runoff, and septic systems;
- Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.
- For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Information on the Internet

The U.S. EPA Office of Water (www.epa.gov/watrhome) and the Centers for Disease Control and Prevention (www.cdc.gov). Web sites provide a substantial amount of information on many issues relating to water resources, water conservation and public health. Also, the Michigan Department of Environmental Quality (MDEQ), has a Website (www.michigan.gov/deq) that provides complete and current information on water issues in our own state.

Naturally Occurring bacteria

The simple fact is that bacterial and other micro-organisms inhabit our world. They can be found all around us: in our food, on our skin, in our bodies, in the air, soil and water. Some are harmful to us and some are not. A coliform bacterium is common in the environment and is generally not harmful. The presence of this bacterial form in drinking water is a concern because it indicates that the water may be contaminated with other organisms that can cause disease. Throughout the year, we analyzed over 500 samples

(over 45 per month) for coliform bacteria. In this time none of the samples analyzed came back positive for these bacteria. Federal regulations require that public water resulting in a positive result for coliform bacteria, must be further analyzed for fecal coliform bacteria. Fecal coliforms are present only in human and animal waste. Because these bacteria can cause illness, it is unacceptable for fecal coliform to be present in drinking water in any concentration. Our tests indicated no fecal contamination is present in our drinking water.

Information on Lead and Copper

If present, elevated levels of lead can cause serious health problems, especially for pregnant women. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The Clay Twp. Water Department 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://water.epa.gov/drink/info/lead/index.cfm>).

Water Conservation Tips

Water conservation measures are an important first step in protecting our water supply. Such measures not only save the supply of our source water, but can also save you money by reducing your water bill. Here are a few suggestions:

- Fixing leaks in faucets, pipes and toilets;
- Replace old fixtures, install water saving devices in faucets toilets etc.,
- Wash only Full loads of laundry
- Do not use the toilet for trash disposal
- Shorter showering
- Do not allow water to run while shaving or brushing teeth
- Soak dishes before washing
- Run dishwasher only when full

You can conserve outdoors as well:

- Water the lawn and garden in early morning or evening
- Use mulch around plants and shrubs
- Repair leaks in faucets and hoses
- Use water saving nozzles
- Use water from a bucket to wash your car-save the hose for rinsing

***Information on additional ways to conserve water can be found at
<http://water.epa.gov/polwaste/nps/chap3.cfm>***

Contamination from Cross Connections

Cross connections that could contaminate drinking water distribution lines are a major concern. A cross connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air conditioning systems, sprinkler systems, irrigation systems, car washes) or water sources of questionable quality. Cross connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line –causing backpressure. Contamination can also occur when the pressures in the drinking water lines drop due to fairly routine occurrences (main breaks, heavy water demand) causing contaminants to be sucked out from the equipment and into the drinking water line(back-siphon).

Outside water taps and garden hoses tend to be the most common sources of cross-connection contamination from the home. The garden hose creates a hazard when submerged in a swimming pool or when attached to a sprayer for weed killing. Garden hoses that are left on the ground may be contaminated by fertilizers, cesspools, or garden chemicals. Properly installed vacuum breakers will prevent any contaminants from entering the water system through a garden hose. (Screw on vacuum breakers for hose bibs can be purchased from any hardware store). Improperly installed valves in your toilet could also be a source of cross-connection contamination.

Community water supplies are continuously jeopardized by cross-connections unless appropriate valves (known as backflow prevention devices) are installed and maintained. We have surveyed all industrial and institutional facilities in the service area to make sure that all potential cross-connections are identified and eliminated or protected by a backflow prevention device.

What's in my water?

We are pleased to report that during the past year, the water delivered to your home or business complied with (or exceeded) all State and Federal Drinking Water Standards. For your information, we have compiled a list in the table below showing what substances were detected in our drinking water during 2014. Although all of the substances listed below are under the Maximum Contaminant Level (MCL) set by the U.S. EPA, we feel it is important that you know exactly what was detected and in what amounts.

Table definitions

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

DIST (Distribution)

MCL (maximum contaminant level) The highest level of a contaminant that is allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MCLG (Maximum Contaminant level goal) 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.

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 microbial contaminant reduction.

MRDLG (Maximum residual disinfectant level goal) The level of 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.

RAA Running Annual Average

N/A Not applicable.

ND Non detected

ppb – (part per billion) One part substance per 1 billion parts water.

ppm – (part per million) One part substance per 1 million parts water.

pCi/L-(picocuries per liter)

Water Quality Data

The table on the following page lists the drinking water contaminants that we detected during the 2015 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done January 1- December 31, 2015. The state 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.

Chlorine, HAA5 and TTHM results are reported as a "Running Annual Average (RAAs).

2015 Water Quality Data

REGULATED CONTAMINANTS	SAMPLE DATE	MCL	MCLG	AMT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Fluoride (ppm)	Daily	4	4	0.67	.58-.75	N	Water additives to protect teeth
Distribution Chlorine (ppm)	10 Monthly	4	N/A	0.74	.32-1.13	N	Highest running average
HAA5 Haloacetic acids (ppb)	Quarterly	60	N/A	14.67	8.54 25.7	N	By-product of drinking water disinfection
TTHM-Totals Trihalomethanes (ppb)	Quarterly	80	N/A	3.5	24-50	N	By-product of drinking water disinfection
Gross Alpha (pCi/L)	14-Aug	15	0	0.72+0.32	N/A	N	Cancer risk
Cyanide (ppm)	15-Aug	0.2	0.2	<.10 ppm	N/A	N	Thyroid/Neurological effects
Nitrate as N (ppm)	15-Aug	10	10	0.29	N/A	N	Methemoglobinemia/diuresis
Nitrate as N (ppm)	15-Aug	1	1	<0.50	N/A	N	Methemoglobinemia/diuresis
NON-REGULATED CONTAMINANTS	SAMPLE DATE	MCL	MCLG	AMOUNT DETECTED	RANGE	VIOLATION	TYPICAL SOURCE
Sodium	15-Aug	N/A		6.7 mg/l	N/A	N	Erosion on natural deposits
MICROBIOLOGICAL CONTAMINANT		MCL	MCLG	DETECT	RANGE		MAJOR SOURCE
Total Coliform Bacteria		>1	0	0	0	N	Naturally present in the environment
E-Coli Bacteria		0	0	0	0	N	Human and animal fecal waste
SUBSTANCE (UNITS)	SAMPLE DATE	MCL	MCLG	Highest Detection	Range	Violation	MAJOR SOURCE
Tap Turbidity (NTU)	Continual	0.3NTU	N/A	0.15	.01-0.15	N	Soil Run-off
<i>Percent of samples at or below 0.3 NTU's = 100%</i>							
CONTAMINANT SUBJECT TO AL	SAMPLE DATE	MCLG	DETECTED 90 TH PERCENTILE	ACTION LEVEL	SAMPLES ABOVE AL		TYPICAL SOURCE
LEAD** (ppb)	2014	0	1.5 ppb	15 ppb	0		Corrosion of household plumbing systems
COPPER (ppb)	2014	1300 ppb	270 ppb	1300 ppb	0		Corrosion of household plumbing systems

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

Monthly Requirement number of Bacti Samples not met for Clay Township

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During the month of January 2016 we did not get our number of required total coliform bacti samples. Our monthly minimum is 10 and we inadvertently collected 9. THIS VIOLATION DOES NOT POSE A THREAT TO YOUR DRINKING WATER.

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. Please share this information with all other people who drink this water, especially those who may have not 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.

The table below lists the monthly schedule for coliform bacti sampling and how many we should have took and how many we actually took and when.

Contaminant	Required Sampling Frequency	Number of samples taken	When all samples should have been taken	Date additional samples were (or will be) taken
Total Coliform	10	9	1/1/2016 to 1/31/2016	2/1/2016 to 2/29/2016

What happened? What is being done? We inadvertently collected 9 instead of 10 of our monthly bacti samples. We are making every effort to assure this does not happen again. All samples taken before and since have always met acceptable limits.

For more information, please contact the Clay Twp Water Department at 810-794-3475 or the MDEQ at 586-753-3755.