

WATER QUALITY REPORT – 2017

for Klines Resort WSSN: 40471, St. Joseph County



This report covers the drinking water quality for Klines Resort, for the calendar year 2016. This information is a snapshot of the quality of the water that we provided to you last year. Included are details about where your water comes from, what it contains, and how it compares to Environmental Protection Agency (EPA) and state standards.

Your water comes from four (4) groundwater wells located within the community's boundaries. The State performs routine surveys of our source water to determine the susceptibility or the relative potential of contamination. The susceptibility rating is on a seven-tiered scale from "very-low" to "very high" based primarily on geologic sensitivity, water chemistry and contaminant sources. The susceptibility of our source water is moderately low. If you would like to know more about the report or see a copy please contact the office at the number listed at the bottom of this report.

- **Contaminants and their presence in water:** 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 **EPA's Safe Drinking Water Hotline (800-426-4791)**.
- **Vulnerability of sub-populations:** 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 systems 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 EPA's Safe Drinking Water Hotline (800-426-4791).

- **Sources of Drinking Water:** The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. Our water comes from 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 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 storm-water 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 and residential uses.
- * **Radioactive contaminants**, which are naturally occurring.
- * **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 storm water runoff, and septic systems.

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 provide the same protection for public health.



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The table below lists all the drinking water contaminants that we detected during the 2016 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, 2016. 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 is more than one year old.

Terms and abbreviations used below:

- **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 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.
- **Action Level (AL):** The concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.
- **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.
- **N/A:** Not applicable **ND:** not detectable at testing limit **ppb:** parts per billion or micrograms per liter **ppm:** parts per million or milligrams per liter **pCi/l:** picocuries per liter (a measure of radiation).

Regulated Contaminant	Unit	MCL	MCLG	Level Detected	Range of detections	Sample date (if not 2016)	Violation Yes / No	Typical Source of Contaminant
Arsenic	ppb	10	0	7	N/A	7/09/2012	No	Erosion of natural deposits
Chlorine*	ppm	MRDL = 4	MRDLG = 4	0.20	0.12 to 0.23		No	Water additive used to control microbes
Nitrate	ppm	10	10	1.0	N/A	2/17/2016	No	Runoff from fertilizer
Total Haloacetic Acids	ppb	60	60	1	N/A	7/19/2016	No	By-product of drinking water disinfection
TTHMs -Total Trihalomethanes	ppb	80	N/A	8.1	N/A	7/19/2016	No	By-product of drinking water disinfection
Radioactive Contaminants		MCL	MCLG	Level Detected	Range	Sample date (if not 2016)	Violation Yes / No	Typical Source of Contaminant
Radium 226	pCi/L	5	0	0.34	N/A	2/9/2015	No	Erosion of natural deposits
Radium 228	pCi/L	5	0	0.07	N/A	2/9/2015	No	Erosion of natural deposits
Contaminant Subject to AL	Unit	Action Level	MCLG	90% of Samples ≤ This Level	Number of Samples Above AL	Sample date (if not 2016)	Violation Yes / No	Typical Source of Contaminant
Copper**	ppm	1.3	1.3	0.100	0	9/09/2014	No	Corrosion of household plumbing systems, Erosion of natural deposits.
Unregulated Contaminants***	Unit	MCL	MCLG	Our water	Range of detections	Sample date (if not 2016)	Violation	Typical Source of Contaminant
Sodium	ppm	N/A	N/A	14	N/A	2/17/2016	No	Erosion of natural deposits

* Chlorine was calculated using the running annual average.

** 90 percent of the samples collected were at or below the level reported for our water.

*** Unregulated contaminants are those for which EPA has not established drinking water standards. Monitoring helps EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants.

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Lead in Drinking Water: 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. Klines Resort 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 two 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 EPA's Safe Drinking Water Hotline at 1-800-426-4791 or on the USEPA Web site. (<http://www.epa.gov/safewater/lead>).

About Arsenic: While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

Is our water system meeting other rules that govern our operations? The State and EPA require us to test our water on a regular basis to ensure its safety. We met all the monitoring and reporting requirements in 2016.

We will update this report annually and will keep you informed of any problems that may occur throughout the year, as they happen. Copies are available at the Klines Resort office. This report will not be sent to you.

For more information about safe drinking water, visit the U.S. Environmental Protection Agency at www.epa.gov/safewater/.

For more information about your water, or the contents of this report, please contact:

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22260 Klines Resort Rd.
Three Rivers, MI 49093
Telephone: 269-649-2514

Protecting Your Home Against Cross-Connections

A cross-connection is a permanent or temporary piping arrangement which can allow your drinking water to be contaminated if a backflow condition occurs. "Backflow" is just what it sounds like: water flowing in the opposite direction from its normal flow. When this happens, contaminants may be "sucked" into the water system through cross connections.

Over half of the nation's cross-connections involve unprotected garden hoses. Without proper protection devices, a garden hose has a potential to poison our community's water supply.

Backflows due to cross-connections are serious plumbing problems. They can cause sickness and even death. However, they can be avoided by the use of proper protection devices. **Every spigot at your home should have a hose-bib vacuum breaker installed.** This is a simple, inexpensive device available at most hardware and plumbing stores, or from the resort office. Installation is as easy as attaching your hose.

Many of the newer frost-free type spigots have backflow protection built into the spigot. Look for a round plastic cap just behind the hand valve. If you do not see this on the spigot, you need to add a vacuum breaker.

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There are a number of other plumbing connections that require backflow protection. These include:

Toilet tanks: anti-siphon valve is required (these come standard on all newer toilets).

Hot tubs, spas, and pools: safe air gap or approved vacuum breaker required.

Water softeners: safe air gap is required on discharge line.

Lawn sprinkler systems: pressure vacuum breaker (must be tested by a state certified inspector).

Tubs or sinks with hose threads on faucet: safe air gap, approved vacuum breaker if hose is used.

The Michigan DEQ requires Klines Resort to conduct routine inspections for cross connections. You can help us by making sure that all your hose connections have vacuum breakers installed, and that your toilet valves are in good repair. In addition, **everyone with an in-ground lawn sprinkler system must have their pressure vacuum breaker tested by a state licensed inspector** and submit proof to the office. Thanks for your cooperation!

Water Conservation

Thanks to another mild summer, in 2016 we pumped 8.4 million gallons of water, well below the record 12.4 million gallons pumped in 2012. Monthly use in 2016 ranged from 270 thousand gallons in Feb to 1.6 million gallons in July. About half of the water we pumped entered our sewers. The balance was used on lawns, gardens, and exterior washing or was lost through drips and leaks!

The cost of operating and maintaining the water and wastewater system is included in your rent. While you may not receive separate water & sewer bills, these costs represent a significant part of our operating budget and directly affect our rates. **Please do your part to use water wisely and avoid unnecessary rate increases.** Here are a few suggestions:

IN YOUR HOME:

- Make sure your faucets, toilets and other fixtures are maintained to not drip, leak or run.
- Run full loads in your dish washer and washing machine.
- When remodeling, install water saving devices (toilets, shower heads, faucets) and “energy star” rated appliances.
- As Barney sings, “And we never - ever - ever let the water run!”

IN YOUR YARD:

- **PLEASE!!! Turn off automatic sprinklers after it has rained or when rain is forecast.**
- **Water only when your lawn needs it.** A good soaking a couple times a week is plenty.
- **Avoid watering lawns during midday heat.** Most of the water will be lost to evaporation!
- **Aim sprinklers** to avoid wasting water on roads, walks, etc.
- **Use a timer** to avoid letting water run too long.
- **At most, you should water your lawn 3 times per week.** Keeping lawns wet promotes surface tree roots and encourages harmful molds and fungus.

IN EMERGENCIES:

- In case of a power outage, turn off all hoses and sprinklers and limit water use to bare necessities. While there should be an adequate supply in the water tower, our sewer lift stations will not run until generators are hooked up.
- In case of fire, a water main break, or during annual flushing a large volume of water will be used. This may cause rusty water in the lines. Stop your laundry immediately and limit water use until the problem is corrected. Then run a cold water tap until water clears.
- In case of a broken line in your home, contact resort personnel immediately to shut off the water supply to your home.