



# FREMONT Michigan

“NOW AND ALWAYS -- A Fine City • A Great Community”

## 2016 WATER QUALITY REPORT

The City of Fremont is proud to present to you our Water Quality Report for calendar year 2016. In compliance with federal requirements, the City developed this report to provide you with valuable information about your drinking water. As summarized in this report, last year the City’s water met or exceeded all federal and state government standards set for water quality and safety. We are very proud of that fact.

The federal Safe Drinking Water Act (SDWA) requires water utilities to annually provide detailed water quality information to its customers. The City is committed to providing you with this information about your water supply because customers who are informed are our best allies in supporting improvements necessary to maintain the highest drinking water standards.

The report is published annually in the City of Fremont newsletter, the “City Beat”. Additional copies are available at the City Offices or on the City’s website at [www.cityoffremont.net](http://www.cityoffremont.net). The public is invited to participate in the water quality reporting by making recommendations to the City Council at its regularly scheduled meetings on the 1<sup>st</sup> & 3<sup>rd</sup> Mondays of each month. Meeting dates are posted at City Hall and on the City’s website.

This Water Quality Report is presented to you by the Fremont Water Department and its spokesperson, Brian Hettinger, Superintendent of Public Works. Mr. Hettinger can be contacted as follows:

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WELL S	WELLFIELD LOCATION	DEPT H	DESIGN PUMPING CAPACITY (Gallons per minute-gpm)
# 1	Decker		Discontinued; sealed 1992
# 2		104'	390 gpm
# 3		123'	380 gpm
# 4	Maple St.		Discontinued; sealed 1973
# 5	Cherry Hill	125'	250 gpm
# 6	Branstrom	192'	530 gpm
# 7		244'	550 gpm
# 8	Daisy	190'	850 gpm
# 9		120'	1,000 gpm
#10		148'	1,000 gpm

### WATER SOURCES

The general 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.

The City’s water is obtained exclusively from eight 12”-diameter groundwater wells (see table), as opposed to surface water sources such as rivers, lakes or streams. It is possible for the eight wells to pump approximately 4,890 gallons/minute (gpm) or over 7 million gallons/day (gpd) at maximum pumpage rates. Our highest pumping day for 2016 was August 10<sup>th</sup> 2.205 million gallons.

The MI Department of Environmental Quality (MDEQ) has assigned a contamination vulnerability to Fremont’s source water. The geologic sensitivity for “unconfined aquifers” is characterized as “high”. City wells 2, 3, 5, 6 and 7 have been determined by the MDEQ to be “highly susceptible to potential contaminants.”

Fremont has established a Wellhead Protection Area Committee, which is a composite of people from the surrounding community whose intent is keeping the water you drink safe. The Committee includes representatives from the Gerber Products Company, Dayton and Sherman Townships, MSU Cooperative Extension, Fremont Area Community Foundation, MDEQ, the City’s water engineering firm of Fishbeck, Thompson, Carr & Huber, Newaygo County agricultural representatives and City leaders. The Wellhead Protection program is working with property owners in the two wellhead protection areas (located in the City and in Dayton & Sherman Townships) to:

- Identify and eliminate potential contamination hazards to our groundwater

- Prohibit uses of properties that could lead to potential groundwater contamination (e.g. no dumps, landfills, fuel depots or bulk fertilizer/chemical storage sites)
- Locate and properly plug abandoned wells on both public & private properties
- Provide educational materials & resources on groundwater protection to property owners within the protection areas.

ELEVATED STORAGE TANKS	CAPACITY	YEAR BUILT
N. Weaver	500,000 gals.	1966
N. Decker	750,000 gals.	1993
E. Main	200,000 gals.	1993

## WATER STORAGE

The water system includes three elevated steel storage tanks. The Weaver & Decker tanks supply both operating & fire storage to the main part of the distribution system. The E. Main tank supplies operating storage for the high-pressure district on the east part of town. A booster pumping station in the base of the Decker tank supplies both operating & fire flows for the district and the E. Main tank.

## CONTINUING WATER SYSTEM INVESTMENTS

- 2011 Improvements:**  
 6" to 8" Butterfield & Garden from Stewart to Pine  
 6" to 8" Pine from Gerber to Lake Dr.  
 New 8" from Gerber to New High School  
**Storage Tanks:**  
 Weaver Tank new cathodic protection  
 Decker Tank repainted exterior  
**Well Fields:**  
 Daisy wells  
 Installed permanent generator on site  
 Branstrom wells  
 Installed transfer switch for portable generator
- 2012 Improvements:**  
**water main:**  
 8"-12" New Cedar from Sullivan to Gerber  
 4"-8" Sullivan from Woodrow to old Cedar  
 6"-8" Old Cedar from Sullivan to Weaver  
 6"-8" Weaver from old Cedar to Woodrow  
**Storage Tanks:**  
 Cleaned and inspected interior of Weaver Tank  
 Cleaned and repainted exterior of East Main Tank  
**Wells:**  
 #10 Well cleaned and inspected, motor reconditioned
- 2013 Improvements :**  
 New 8" on Maple from Stewart to Weaver  
 New 8" on Mechanic from Sheridan to Maple  
 New 8" on Mechanic from Oak to Woodrow
- 2014 Improvements:**  
 New 8" watermain on Oak St from Mechanic to Stewart  
**Wells:**  
 #2 New motor and pump assembly
- 2015 Improvements:**  
 #3 new motor  
 #7 new motor
- 2016 Improvements:**  
 New 8" water main on Fremont Street from Main Street to State Street  
 Well #9 cleaned and inspected

## WATER QUALITY TESTING FOR CONTAMINANTS

The City of Fremont water wells and distribution system are routinely monitored at designated intervals for contaminants in your drinking water according to Federal and State laws. **All of our water meets or exceeds Environmental Protection Agency (EPA) and MDEQ standards for safe drinking water**. This report shows water quality testing results from January through December of 2016. In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. Small amounts of microbial, inorganic or organic substances, as well as radioactivity can be picked up as water travels to any groundwater wells. 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 800-426-4791 or at their website at [www.epa.gov/safewater](http://www.epa.gov/safewater). Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses & bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations & 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 storm runoff and residential uses.
- Organic Chemical Contaminants, including synthetic and colatile 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.

Some people may be more vulnerable to contaminants in drinking water then the general population. Immune 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 from their health care providers about drinking water. EPA & Center for Disease Control (CDC) guidelines that offer an appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the EPA sources noted in the previous paragraph.

## 2016 WATER QUALITY DATA

Each day, our staff works to ensure the water delivered to your home meets all regulatory requirements and your expectations for safety, reliability and quality. For your protection, your drinking water is tested at designated intervals for many parameters. The State has reduced monitoring requirements for certain contaminants to less often than once per year because concentrations of these contaminants are not expected to vary significantly from year to year. We are proud to report there were no violations during that time. **All of the contaminants are well BELOW allowed levels.** Not listed are over 100 other contaminants, including pesticides and herbicides, for which we tested and that were not detected.

Substance (units)	Allowed Level (MCL)	Health Goal (MCLG)	Max. Level Detected in Water	Range of Detection	Sample Date	Violation Yes / No	Major Sources of Contaminants If Present in Drinking Water
<b>REGULATED MONITORING OF THE SOURCE WATER</b>							
Barium (ppm)	2	2	.07	.03-.07	2010	No	<ul style="list-style-type: none"> <li>• Discharge of drilling wastes</li> <li>• Discharge from metal refineries</li> <li>• Erosion of natural deposits</li> </ul>
Fluoride (ppm)	4	4	1.10	.45-1.10	2016	No	<ul style="list-style-type: none"> <li>• Erosion of natural deposits</li> <li>• Water additive that promotes strong teeth</li> <li>• Discharge from fertilizer &amp; aluminum factories</li> </ul>
Selenium (ppb)	50	50	1.0	0-0.1	2001	No	<ul style="list-style-type: none"> <li>• Erosion of natural deposits</li> </ul>
Cyanide (ppb)	0.2	0.2	N.D.	N.D.	2016	No	<ul style="list-style-type: none"> <li>• Discharge from steel &amp; metal factories</li> <li>• Discharge from plastic &amp; fertilizer factories</li> </ul>
Nitrates	10	10	1.24	<.5-1.24	2015	No	<ul style="list-style-type: none"> <li>• Runoff from fertilizers</li> </ul>
<b>REGULATED MONITORING OF RADIOACTIVE CONTAMINATES IN SOURCE WATER</b>							
Gross Alpha Emitters (pCi/L)	15	0	3.5	1.8-3.5	2014	No	<ul style="list-style-type: none"> <li>• Erosion of natural deposits</li> </ul>
Combined Radium (pCi/L)	5	0	1.23	.51-1.23	2011	No	<ul style="list-style-type: none"> <li>• Erosion of natural deposits</li> </ul>
<b>REGULATED MONITORING IN THE WATER DISTRIBUTION SYSTEM</b>							
TTHM - Total Trihalomethanes (ppm)	.08	N/A	N.D.	N.D.	2016	Yes	<ul style="list-style-type: none"> <li>• Byproduct of drinking water disinfection</li> <li>• Sampled Late</li> </ul>
R.A.A - Chlorine (PPM)	4	4	0.6	.4-.6	2016	No	<ul style="list-style-type: none"> <li>• Water additive used to control microbes</li> </ul>
<b>SPECIAL MONITORING OF UNREGULATED CONTAMINANT IN DISTRIBUTION SYSTEM</b>							
Sodium (ppm)	N/A	N/A	27.70	<10-27.70	2015	No	<ul style="list-style-type: none"> <li>• Naturally occurring mineral</li> </ul>
<b>REGULATED MONITORING AT THE CUSTOMER'S TAP</b>							

Substance (units)	Action Level (AL)	Health Goal (MCLG)	90% of Samples Were Less Than This Level	Sample Dates	No. of Samples Above AL	Major Sources of Contaminants If Present in Drinking Water
Lead (ppb)	15	0	6	10/1/11-9/30/14	0	<ul style="list-style-type: none"> <li>Corrosion of household plumbing systems</li> <li>Erosion of natural deposits</li> </ul>
Copper (ppb)	1,300	1,300	370	10/1/11-9/30/14	0	<ul style="list-style-type: none"> <li>Corrosion of household plumbing systems</li> <li>Erosion of natural deposits</li> <li>Leaching from wood preservatives</li> </ul>

## HELPFUL DEFINITIONS OF WATER TESTING TERMS

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

**Coliform (total)** - The total Coliform rule requires water systems to meet a stricter limit for Coliform bacteria. Coliform bacteria are usually harmless, but their presence in water can be an indication of disease causing bacteria. When Coliform bacteria are found, special follow-up tests are done to determine if harmful bacteria are present in the water supply. If this limit is exceeded, the water supplier must notify the public by newspaper, television or radio. The number of monthly samples taken for testing is determined by a city's population.

**Copper** - Copper is an essential nutrient, but some people who drink water containing copper in excess of the Action Level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the Action Level over many years could suffer liver or kidney damage. People with Wilson's disease should consult their personal physician.

**Fluoride** - Sources: erosion of natural deposits; discharge from fertilizer/aluminum factories; & is a water additive that promotes strong teeth. Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones, and children may get mottled teeth. Fremont has added fluoride to its water since the early 1970's; we are the only community in Newaygo County to do so. The MDEQ has set 1.1 ppm (or mg/l) as an ideal level of fluoride for teeth. We try to achieve this level, although natural fluoride present in our groundwater may vary.

**Nitrates** - Are caused by run-off from fertilizer use; leaking from septic tanks; sewage; or erosion of natural deposits. Infants below the age of six months, who drink water containing nitrates in excess of the MCL could become seriously ill and if untreated may die. Symptoms include shortness of breath and blue baby syndrome. The level of nitrates in this table should not cause concern.

**Lead** - Lead in drinking water is rarely the sole cause of lead poisoning, but it can add to a person's total lead exposure. Major sources of lead in water are the corrosion of household plumbing systems (materials & components associated with service lines & home plumbing) and the erosion of natural deposits. All potential sources of lead in the household should be identified and removed, replaced or reduced. It is possible that lead levels in the water in your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. Lead levels in drinking water are likely to be highest in homes:

- With lead service lines connecting the watermain to the house
- With lead indoor plumbing
- That have copper plumbing with lead solder
- That have brass fixtures.

Pregnant women, Infants and young children are typically more vulnerable to lead in drinking water than the general population. Infants and children who drink water containing lead in excess of the Action Level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested. Consider flushing your tap for 30 seconds to 2 minutes before using tap water, or until it runs as cold as it will get. Use water from only the cold-water tap for drinking, cooking and especially for making baby formula. Hot water is likely to contain higher levels of lead. Additional information concerning lead in your water, or if you wish to have your water tested and steps you can take to minimize exposure is available from the EPA's Safe Drinking Water Hotline 800-426-4791 or at <http://www.epa.gov/safewater/lead>.

**Maximum Contaminant Level (MCL's)** - The highest level of a substance that is allowed in drinking water. MCL's are set as close to the MCLG (see below) as feasible using the best available treatment technology.

**Maximum Contaminant Level Goal (MCLG)** - The level of a substance in drinking water below which there is no known or expected risk to human health. MCLG's 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 (such as chlorine) 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 human health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

**Non-Detects (ND)** - Laboratory analysis indicates that the substance is not present.

**Parts per million (ppm)** or Milligrams per liter (mg/l) - The equivalent of one ounce in 7,813 gallons or one minute in two years or one penny in \$10,000.

**Parts per billion (ppb)** or Micrograms per liter (ug/l) - The equivalent of one ounce in 7,813,000 gallons or one second in 32 years or one penny in \$10,000,000.

**Pico curies per liter (pCi/L)** - A measure of radioactivity in water.

**RAA** - Running Annual Average - Is the average of free chlorine in the distribution system over a one year period.

**Total Trihalomethanes (TTHM)** - A by-product of chlorine, which is a water disinfection additive used to control microbes.

**Treatment Technique (TT)** - A required process intended to reduce the level of a substance in water below Maximum Contaminant Levels (MCL's).

**CERTIFICATION:**

**WSSN: 2490**

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

**Signature:** \_\_\_\_\_

**Date Distributed:**

\_\_\_\_\_  
**Rusty Boeskool, Water Supervisor**