

Pennfield Charter Township 2017 Water Quality Report

Published in 2018



Municipal Water Quality Statement By Township Supervisor Dave Morgan

Pennfield Township has always diligently protected its groundwater. We are able to report that all necessary precautions have been taken to protect and care for our water system. This statement is reflective of the hard work provided 24 hours per day by the Pennfield Utilities Department.

Pennfield Township is committed to providing updated and accurate information about our current municipal water supply source. If you should have any questions or comments, please do not hesitate to call the Pennfield Township Office at 968-4422.

Current Staff:

| | |
|------------------|----------------------------------|
| Jose Ramirez, Jr | Certified Water Systems Operator |
| Brian Phillips | Certified Water Systems Operator |
| Cheri Ambroso | Utilities Division Clerk |
| Desiree Ramos | Utilities Division Clerk |

Billing Questions (269) 968-4422

Emergencies (269) 209-5860 or (269) 209-5861

Substances Found In Source Water

Microbial contaminants, such as viruses and bacteria, 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 can be naturally occurring or can be the result of oil and gas production and mining or farming.

Organic chemical contaminants, include synthetic and volatile organic chemical. They are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff and septic systems.

Educational Information

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.

Some people may be more vulnerable to contaminants in the drinking water than the general population. Immune-compromised individuals such as individuals undergoing chemotherapy, individuals who have undergone organ transplants, individuals with HIV/AIDS and some elderly and infants may be particularly at risk.

These people should seek advice about drinking water from their healthcare providers. EPA/CDC guidelines on appropriate ways to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline: (800-426-4791) The EPA also has provided a website at www.epa.gov/safewater.

Quality Assurance

Pennfield Township takes great pride in the care of its municipal water program. Our water system has been online and operating efficiently since September 28, 1998. The Utilities Division tests different areas of the system on a daily basis. Biological samples are tested for microorganisms throughout the entire water system on a monthly basis. Results of these tests are provided to the Michigan Department of Environmental Quality (DEQ). If you would like to review these reports, please contact the Utilities Department at 968-4422.

Pennfield Township has compiled two reports for our community on Pages 2 and 3. The 1st Report - Pennfield Water Treatment Plant Location on Capital Avenue, NE. The 2nd Report - The City of Battle Creek, System

The City of Battle Creek report contains information and results from the City of Battle Creek's water system. Approximately three hundred Pennfield Township residents receive water from this system. This area includes all residents located east of the Battle Creek River, west of Capital Avenue, NE along Roosevelt Avenue, Sharon Avenue south of Roosevelt Avenue and the north end of Garrison.

Pennfield Township Water Quality – Water Test Results for 2017

Water Source

- Pennfield Township municipal water is obtained from the Bedrock Aquifer at the wellsite located at 19785 Capital Avenue NE.

Monitoring at the Treatment Plant

| Regulated Contaminant | MCL | MCLG | Our Water | Sample Date | Violation Yes/No | Likely Source of Contaminants |
|-----------------------|-----|------|-----------|-------------|------------------|-------------------------------|
| Fluoride (ppm) | 4 | 4 | .14 | 2017 | No | Erosion of natural deposits |
| Arsenic (ppb) | 10* | N/A | 3 | 2014 | No | Erosion of natural deposits |
| Barium (ppm) | 2 | 2 | 0.24 | 2014 | No | Erosion of natural deposits |
| Selenium (ppb) | 50 | 50 | 0 | 2014 | No | Erosion of natural deposits |

Special Monitoring

| | | | | | | |
|--------------|-----|-----|----|------|----|-----------------------------|
| Sodium (ppm) | N/A | N/A | 11 | 2017 | No | Erosion of natural deposits |
|--------------|-----|-----|----|------|----|-----------------------------|

Monitoring in Distribution System

| | | | | | | |
|------------------------------------|----|-----|-------|------|----|------------------------------------|
| Total Trihalomethanes (TTHM) (ppm) | 80 | N/A | .0041 | 2017 | No | By-product of disinfection process |
|------------------------------------|----|-----|-------|------|----|------------------------------------|

| Regulated Contaminant | Action Level | MCLG | 90th Percentile Value* | Sample Date | Number of Samples above action level | Likely Source of Contaminants |
|-----------------------|--------------|------|------------------------|-------------|--------------------------------------|---------------------------------|
| Copper (ppb) | 1300 | 1300 | 580 | 2015 | 0 | Corrosion of household plumbing |
| Lead (ppb) | 15 | 0 | 6 | 2015 | 0 | Corrosion of household plumbing |

Chlorine Residual Data

| MRDL | MRDLG | Sampling Date | Highest Running Annual Average | Range (Lowest to Highest) |
|---------|---------|----------------|--------------------------------|----------------------------|
| 4 (ppm) | 4 (ppm) | Jan.-Dec. 2017 | .79 (ppm) | .39 – 1.2 (ppm) |

Definitions

Note: The EPA requires monitoring of over 80 drinking water contaminants. Those listed above are the only contaminants detected in your drinking water. For a complete list, contact the Pennfield Charter Township Water Department. The above table lists all the drinking water contaminants that we detected during the 2014-2017 calendar years. 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, 2017. The State allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants can either be below or above the State/Federal Safe Drinking Water Standards – (also known as Maximum Contamination Level). If the detected concentration is above the safe drinking water standard, a violation has occurred and a “yes” in bold will be in the violation column.

***Arsenic:** These arsenic values were effective January 23, 2006. Until then, the MCL 50ppb, and there is no MCLG.

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.

Action Level: The concentration of a contaminant in drinking water below that there is known or expected risk to health. **MCLG’s** as feasible using the best available treatment technology. **Maximum Contaminant Level Goal: (MCLG):** The level of a contaminant in drinking water with no known or expected risk to health. MCLG’s allow for a margin of safety.

Maximum Contaminant Level (MCL): 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.

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

MRDLG: Maximum Residual Disinfectant Level Goal. **MRDL:** Maximum Residual Disinfectant Level. Please contact the Pennfield Utilities Department at (269) 968-4422 should you have questions regarding the water system.

City of Battle Creek – Water Test Results for 2017

Water Source

- Ground water from the Marshall Sandstone Aquifer at the Verona Well Field located in the Northeast section of the City of Battle Creek.

Microbial Contaminants

- In 2017 the City of Battle Creek collected representative samples for coliform testing from the Battle Creek water system that supplies several Pennfield Township residents, one (1) of these samples tested positive for total coliform, repeat sampling showed no positive results and the water system maintains compliance with this rule. Forty-eight (48) were taken in the City of Springfield with no positive test results and forty-eight (48) were taken in Emmett Township with no positive test results.

Inorganic Contaminants

- Regulated Substances

| Substance (Unit of Measure) | Year Sampled | MCL [MRDL] | MCLG [MRDLG] | Amount Detected | Range Low-High | Violation | Typical Source |
|--|--------------|------------|--------------|-----------------|----------------|-----------|--|
| Chlorine (ppm) | 2017 | [4] | [4] | .55 | 0.10-1.12 | NO | Water additive used to control microbes. |
| Fluoride (ppm) | 2017 | 4 | 4 | .77 | .67-.88 | NO | Erosion of natural deposits; Water additive to promote strong teeth; Discharge from fertilizer and aluminum factories. |
| TTHMs (ppm) | 2017 | 80 | 0 | 51.5 | 41.3-51.5 | NO | By-product of drinking water chlorination. |
| HAAs (ppm) | 2017 | 60 | NA | 6.8 | 6.0-9.8 | NO | By-product of drinking water disinfection. |
| Total Coliform Bacteria (% positive samples) | 2017 | 5% | 0 | 1 | NA | NO | Naturally present in the environment |

- Tap water samples were collected for lead and copper analyses from sample sites throughout the community.

| Substance (Unit of Measure) | Year Sampled | AL | MCLG | Amount Detected (90 th %) | Sites Above AL | Violation | Typical Source |
|-----------------------------|--------------|------|------|--------------------------------------|-------------------|-----------|---|
| Copper (ppb) | 2017 | 1300 | 1300 | 600 | Non Detected 0/61 | NO | Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives. |
| Lead (ppb) | 2017 | 15 | 0 | 1.0 | Non Detected 0/61 | NO | Corrosion of household plumbing systems; Erosion of natural deposits. |

- Unregulated Substances

| Substance (Unit of Measure) | Year Sampled | Amount Detected | Range Low-High | Typical Source |
|-----------------------------|--------------|-----------------|----------------|--|
| Sodium (ppm) | 2017 | 16 | 14-19 | Naturally present in the environment; road salting; septic system. |
| Sulfate (ppm) | 2017 | 46 | 37-55 | Runoff / leaching from natural deposits; Industrial wastes. |
| Chloride (ppm) | 2017 | 40 | 37-45 | Runoff / leaching from natural deposits. |
| Gross Alpha (pCi/L) | 2015 | 2.1-4.4 | NA | Erosion of natural deposits. |
| Gross Beta (pCi/L) | 2015 | 2.0-5.3 | NA | Decay of natural and Man-made deposits. |
| Combined Radium (pCi/L) | 2015 | 0.68-1.62 | NA | Erosion of natural deposits. |

Definitions

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

LRAA (Locational Running Annual Average): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters. Amount Detected values for TTHMs and HAAs are reported as LRAAs.

MCL (Maximum Contaminant Level): 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.

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 control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal): 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.

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.

NA: Not applicable. **pCi/L (picocuries per liter):** A measure of radioactivity. **ppb (parts per billion):** One part substance per billion parts water (or micrograms per liter). **ppm (parts per million):** One part substance per million parts water (or milligrams per liter).

SMCL (Secondary Maximum Contaminant Level): SMCLs are established to regulate the aesthetics of drinking water like appearance, taste and odor. **TT (Treatment Technique):** A required process intended to reduce the level of a contaminant in drinking water.

The Columbia and Verona Well Fields possess a “moderately high” and “high” susceptibility respectively. This determination is based on the geologic sensitivity analysis, listed potential contaminant sources within the WHPA, and on the following:

- No maximum contaminant level (MCL) violations have occurred
- The well construction meets standards
- There are no potential contamination sources within the standard isolation area
- Your community has an active WHPP that supports management of existing or potential sources of contamination in the WHPA
- Known sources of contamination within the WHPA are being remediated to prevent movement of contamination to the municipal wells

Lead in Home Plumbing

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. We are 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 www.epa.gov/lead.

Safe Water

To ensure tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations that limit the amount of certain contaminants in drinking water provided by a public water system. The Food and Drug Administration (FDA) establishes limits for contaminants within bottled water.

To further ensure the safety of your drinking water, a well-head protection program was incorporated by Pennfield Township. This program, which was approved by the State of Michigan, protects our water supply from potential contamination. The program identifies the size of the ground water recharge area based upon a ten year travel time it takes ground water to reach the township wells. The well-head protection plan is specifically designed to minimize the potential threat to our existing and future water supply.

Summarization of Source Water Assessment Report

Pennfield Township municipal water is obtained from the Bedrock Aquifer that supplies two (2) groundwater wells located at 19785 Capital Avenue NE. The State of Michigan performed an assessment of our source water in 2015 to determine the susceptibility or the relative potential for contamination. The susceptibility rating is based upon a six-tier scale which begins at "very-low" and ends with "high" and is based primarily on geologic sensitivity, water chemistry and contaminant sources. The susceptibility for our water source is "moderate."

Pennfield Charter Township
20260 Capital Avenue NE
Battle Creek MI 49017
Website – www.pennfieldtwp.com

Board Meetings are 6:00 pm
On the 2nd Tuesday of every month

Dave Morgan - Supervisor
Kathy Case - Clerk
Deb Jackson - Treasurer
Tammi Damerow - Trustee
Tony Goodman - Trustee
Ryan Herbstreith – Trustee
Larry Skelding – Trustee