



# EPHRATA AREA JOINT AUTHORITY

## *2019 Annual Drinking Water Quality Report*

Ephrata Area Joint Authority Water System, PWSID 7360045

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This report contains important information about your drinking water. Translate it, or speak with someone who understands it.  
*(Este informe contiene información importante acerca de su agua potable. Haga que alguien lo traduzca para usted, ó hable con alguien que lo entienda.)*

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**The Ephrata Area Joint Authority (EAJA) Water System had**  
**No Violations**  
**of Maximum Contaminant Levels (MCL's) or Treatment Techniques**

### WHAT'S ON TAP

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EAJA is proud to present you with our 2019 Annual Water Quality Report. As in prior years, the results of our water tests were exceptional, and they meet or exceed every government established standard. Look them over; they will give you the confidence in using EAJA tap water for any purpose. EAJA's goal is to provide its customers with a continuous supply of high quality drinking water for years to come. EAJA believes that the conclusions of this report help confirm our progress toward that goal.

## A NOTE FROM OUR SECRETARY

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Dear Ephrata Area Joint Authority Customers:

We take the responsibility of providing you with safe, clean water very seriously, and want to thank you for that opportunity. Water is essential to life, economic development, and fire protection. The Ephrata Area Joint Authority's dedicated team of professionals work 24 hours a day to provide our community with some of the highest quality drinking water in the state.

This annual water quality report includes water quality information for the 2019 calendar year. As you can see from the Detected Contaminants table on page 5, our staff delivered water that met all EPA and DEP water health standards.

From raindrop to house,

The Ephrata Area Joint Authority  
*D. Robert Thompson, Secretary*

## COMMUNITY INVOLVEMENT

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If you have any questions about this report, please contact EAJA at (717) 738-9208, Monday through Friday, 7:00 am to 3:00 pm. If you are interested in learning more about the Authority water system, you are welcome to attend our regularly scheduled meetings held the second Thursday of each month at the Ephrata Borough office starting at 7:00 pm. If interested, please call the Ephrata Borough office at (717) 738-9232 to verify the meeting time and date. We love to hear from our valued customers!

## OPTIMIZING AND MAINTAINING PERFORMANCE

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EAJA's Filter Plant has been consistently recognized for its high performance. EAJA has received numerous awards in recent years from organizations including the Environmental Protection Agency (EPA), American Water Works Association (AWWA) and the Association of State Drinking Water Administrators (ASDWA).

**Partnership for Safe Water:** The Partnership is an unprecedented alliance of six prestigious drinking water organizations. The Partnership's mission is to improve the quality of water delivered to customers by optimizing water system operations. EAJA was recognized for its efforts in achieving excellence in water quality beyond what is required by federal regulations.



**Directors Award Status** – 2014, 2015, 2016, 2017, 2018, & 2019

**Presidents Award Status** – 2015, 2016, 2017, & 2018

**Area-Wide Optimization Program (AWOP):** AWOP is a national filter plant optimization effort among 21 states, the EPA, the ASDWA and water utilities. AWOP recognizes outstanding efforts toward optimizing filter plant turbidity performance with the prestigious AWOP Award. Last year, only 20 large filter plants (serving >10,000 people) were presented with AWOP. AWOP provides tools and approaches for drinking water systems to meet water quality optimization goals and provide an increased – and sustainable – level of public health protection to their consumers.



**AWOP Award** – 2014, 2015, 2016, 2017, & 2018

# WATER CONSERVATION

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We all know how to save water inside the house: turn off the faucet, take shorter showers, run full loads in the washer, fix leaky faucets. But do you know what you can do to save water outside the house? As springs warms up to summer and we head outdoors to our yards and gardens, see what you can do to help save water and keep things green!

## Tips to Use Less Water Around the Yard



### Use a Broom to Clean Outdoor Areas

Saves 8-18 gal/min



### Use Mulch

Saves 20-30 gal per 1,000 sq. ft. each time



### Set Mower Blade to 3"

Encourages deeper roots  
Saves 16-50 gal per day



### Install Drip Irrigation

Saves 15 gal each time you water

### Add a Smart Controller

Saves 24+ gal per day



### Adjust Sprinkler Heads

Saves 12-15 gal each time you water

### Fix Leaks

A leak about as small as the tip of a ballpoint pen can waste about 6,300 gal of water per month!



### Drought Resistant Trees & Plants

Saves 30-60 gal per 1,000 sq. ft. each time

## IDENTIFYING EAJA WATER OPERATOR - SAFETY NOTICE

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EAJA Water Operators

Remember that all EAJA staff are employed by Ephrata Borough and they must carry a visible proper identification badge. All operators are certified by the state and carry a Certified Water Operator License.

When EAJA staff visit a customer's home, they should travel there in vehicles labeled "Borough of Ephrata".

Please do not hesitate to ask EAJA staff to show you proper identification.

If you are uncertain about anyone claiming to be an Ephrata Borough employee, please don't allow them to enter your home.

Contact our office at 717-738-9208 to confirm the employee's validity.

## SOURCE WATER ASSESSMENT

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A Source Water Assessment of our water supply resources was completed in 2003 by the Pennsylvania Department of Environmental Protection (DEP). The Assessment found that the Cocalico Creek Intake is potentially susceptible to grazing-related agricultures, point source dischargers and urban stormwater runoff. The groundwater supply wells are potentially susceptible to contaminants resulting from nearby residential, commercial, and industrial land uses, and to a lesser extent, from transportation corridors and agriculture. Overall, the assessment concluded that there was low to moderate risk of significant contamination. A summary report of the Assessment is available on the DEP Source Water Assessment & Protection Web page at (<http://www.depgreenport.state.pa.us/elibrary/GetFolder?FolderID=4523>). Complete reports were distributed to municipalities, water suppliers, local planning agencies and DEP offices.

# SOURCE WATER PROTECTION

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EAJA's Source Water Protection (SWP) efforts coupled with Ephrata Borough's Municipal Separate Storm Sewer System (MS4) initiatives strengthen the cooperative partnership for protecting and improving the quality of EAJA's source water and waters of the Commonwealth upstream and downstream of Ephrata. EAJA is committed to maintaining its strong working relationship with the Cocalico Creek regional source water protection group consisting of Clay, Ephrata, East Cocalico and West Cocalico Townships, along with Ephrata, Akron and Denver Boroughs. Ephrata Borough provides public education materials at the Ephrata street fair, schools, Borough Hall, Rec Center, and Pool through a display "Only Rain in the Drain". The display represents how to keep yard waste and trash out of the streets and storm sewers to prevent it from getting into the Borough's local source water (Cocalico Creek).

Another strong SWP partner with EAJA is the Cocalico Creek Watershed Association (CCWA). CCWA is a 501(c)(3) non-profit organization who partnered with the TeamAg utilizing a National Fish and Wildlife Foundation (NFWF) grant to fund outreach in 7 townships of the watershed. Below is a brief summary of the project:

**Project Title:** Cocalico Creek Watershed Farmer Engagement for Conservation (PA)

**Summary:** The overall goal (general approach) of this project is for the seven township governments (Penn, Elizabeth, Clay, West Cocalico, East Cocalico, Ephrata, and West Earl) of Lancaster County within the Cocalico Creek Watershed to build collaborative relationships with its farming community to improve water quality, soil health, and township stormwater management. Coupled with this goal is that participating farms will improve their environmental and economic performance.

**Time Period of Grant:** Begins on November 30, 2019 for 2 years.

**Grant Award:** \$199,350

**Grant Match:** \$909,087 (through TeamAg: PennVest and DEP Agricultural Plan Reimbursement Program, and through Clay Township: Growing Greener Grant)

**Major Activities:**

- Winter Farmers Meetings in each Township
- Baseline and Agricultural Strategy Plans for each Township
- Follow-up Meetings with Farmers
- Soil and Infiltration Testing
- Implementing Soil Health Practices
- Implementing Adaptive Nitrogen Management Practices
- Implementation of other Agricultural Practices to Improve Water Quality
- Progress Monitoring and Reporting and Project Coordination

**Outcomes:**

- 1-mile Livestock Exclusion Fencing Installed
- 4,512 acres with BMPs Installed (2,000 acres Additional No-till, 2,000 acres Cover Crop, 504 acres Adaptive N, and 8 acres from Riparian Forested Buffers)
- 98,592 lbs Nitrogen Reduced
- 8,232 lbs Phosphorus Reduced
- 5,466,100 lbs Sediment Reduced
- 50 New Plans (Manure Management & Conservation/E&S Ag Plans) Developed
- 700 People Reached through Outreach Efforts (50 farmers x 7 townships x 2 meetings)
- 70 Farmers Adopted New Practices
- 1-mile Stream Corridor Restored
- 70 Volunteers Participated

A hard copy of EAJA's Source Water Protection Plan is available for review at the Ephrata Library. It can also be viewed online at the Ephrata Borough Website.

# DETECTED CONTAMINANTS

Chemical Contaminants	Highest Result	Range of Detections	MCL	MCLG	Violation	Typical Source of Contaminant
Nitrate (ppm)	6.43	ND – 6.43	10	10	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Lead and Copper	90 <sup>th</sup> Percentile Value	Number of Sites above the AL	AL	MCLG	Violation	Typical Source of Contaminant
Copper (ppm)	0.107	0	1.3	1.3	No	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb)	ND	0	15	0	No	Corrosion of household plumbing systems; erosion of natural deposits
Microbiological Contaminants	Highest Result		MCL	MCLG	Violation	Typical Source of Contaminant
Total Coliform Bacteria	0		1 positive monthly sample	0	No	Naturally present in the environment
Fecal Coliform Bacteria of <i>E. coli</i>	N/A		0	0	No	Human and animal fecal waste
Disinfectants / Disinfection Byproducts	Result	Range of Detections	MRDL or MCL	MRDLG	Violation	Typical Source of Contaminant
Entry Point Chlorine Residual (ppm)	0.61 <sup>(2)</sup>	0.61 – 2.91 <sup>(2)</sup>	0.2 <sup>(4)</sup> – 4	4	No	Water additive used to control microbes
Distribution Disinfectant Chlorine Residual (ppm)	2.14 <sup>(3)</sup>	1.52 – 2.14 <sup>(3)</sup>	4	4		
Haloacetic Acids (ppb)	10.6 <sup>(5)</sup>	ND – 27.5 <sup>(6)</sup>	60	N/A	No	Byproduct of drinking water disinfection
Total Trihalomethanes (ppb)	19.07 <sup>(5)</sup>	3.31 – 48.0 <sup>(6)</sup>	80	N/A	No	Byproduct of drinking water chlorination
TOC	Range of % Removal Required	Range of % Removal Achieved	No. of Samples out of Compliance	MCL	Violation	Typical Source of Contaminant
Total Organic Carbon (ppm)	15 – 25	23.8 – 37.5	0	TT	No	Naturally present in the environment
Secondary Contaminants	Highest Result	Range of Detections	MCL	MCLG	Violation	Typical Source of Contaminant
Alkalinity (ppm CaCO <sub>3</sub> )	216	107 – 216	N/A	N/A	No	Naturally present in the environment
Clarity Characteristics	Level Found		MCL	MCLG	Violation	Typical Source of Contaminant
Turbidity (NTU) <sup>(7)</sup>	0.071		TT=0.3 NTU for a single sample	0	No	Soil runoff, river sediment
	100 % average of monthly samples ≤ 0.3 NTU		TT=95% of samples must be ≤ 0.3 NTU	0	No	
Radionuclides	Highest Result	Range of Detections	MCL	MCLG	Violation	Typical Source of Contaminant
Combined Uranium (ug/l) (2017)	ND	-	30 ug/l	0	No	Erosion of natural deposits

- (1) Unregulated Contaminant.
- (2) Lowest value and range for entry point residuals.
- (3) Highest monthly average and the range of the monthly average results for distribution disinfectant.
- (4) Minimum Residual Disinfectant Level (MinRDL) at the entry point to the distribution system.
- (5) Highest Running Annual Average (RAA).
- (6) Range represents sampling at individual sample points.
- (7) Turbidity is monitored because it is a good indicator of the effectiveness of our filtration system; it is a measure of the cloudiness of the water.

As you can see from the Detected Contaminants table, our system had NO water quality violations in 2019.

## Other Violations:

EAJA had two monitoring/reporting violations in 2019. After review, it was noted all required samples were taken for total organic carbon and total alkalinity monitoring in February 2019; however, the results were not entered into the Drinking Water Electronic Lab Reporting (DWELR) system by the laboratory who analyzes our samples for submittal to DEP. All reporting violations were corrected, and the samples were in compliance.

## POTENTIAL CONTAMINANTS

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To ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (EPA) prescribes regulations that limit the level of certain contaminants in water provided by public water systems. Food & Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. DEP enforces these regulations. We are happy to report that your drinking water is safe and meets Federal and State requirements.

All sources of drinking water are subject to potential contamination by constituents that are naturally occurring or manmade. Drinking water, including bottled water, may 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 Safe Drinking Water Hotline at (800) 426-4791 or by visiting the EPA's drinking water website [www.epa.gov/safewater](http://www.epa.gov/safewater).

The raw water 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 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, urban storm water runoff, and residential uses.
- **Organic Chemical Contaminants**, including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, and can also come from industrial sites, gas stations, urban storm water runoff, and septic systems.
- **Radioactive Contaminants**, which can be naturally-occurring or be the result of oil and gas production and mining activities.

## DEFINITIONS

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The following definitions will help you understand the key terms and abbreviations contained in the Detected Contaminants table:

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

**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.

**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 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 contamination.

**Minimum Residual Disinfectant Level (MinRDL)** – The minimum level of a residual disinfectant required at the entry point to the distribution system.

**Not Applicable (N/A)** – Does not apply.

**Nephelometric Turbidity Unit (NTU)** – A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

**Non-Detects (ND)** – Laboratory analysis indicates that the constituent is not present at detection limit concentration.

**Parts per Million (ppm) or Milligrams per Liter (mg/l)** – One part per million corresponds to 1 minute in 2 years or a single penny in \$10,000. 1 ppm = 1,000 ppb.

**Parts per Billion (ppb) or Micrograms per Liter (µg/l)** – One part per billion corresponds to 1 minute in 2,000 years, or a single penny in \$10,000,000. 1,000 ppb = 1 ppm.

**Pico Curies per Liter (pCi/L)** – A measure of radioactivity.

**Treatment Technique (TT)** – A required process intended to reduce the level of a contaminant in drinking water.

**Calcium Carbonate (CaCO<sub>3</sub>)** – A chemical expression/term used to define water alkalinity and hardness levels.



## WATER SYSTEM INFORMATION

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Our water sources produce 1.5 to 2.5 million gallons per day (mgd). Average water production for the EAJA system in 2019 was 1.932 mgd. EAJA's sources include a surface water supply (Cocalico Creek) and three well supplies. The water treatment plant can produce over one million gallons per day from the surface water supply. Three (3) groundwater supplies can produce from one to two million gallons per day combined. State-certified operators under the direction of Ephrata Borough management operate the water supply and distribution system.

The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of the data shown in the Detected Contaminants table on page 5, though representative, are more than one year old.

We're proud that your drinking water meets Safe Drinking Water Act requirements. Although our monitoring and testing indicates that some constituents have been detected, the EPA has determined that your water has met all State and Federal requirements. The following pages provide additional educational information including a further explanation of the health effects of nitrates, information for certain people who may be more vulnerable to drinking water contaminants, and a commentary about additional monitoring requirements. More information about contaminants and potential health risks can be obtained by calling the EPA Safe Drinking Water Hotline at (800) 426-4791 or by visiting the EPA's drinking water website [www.epa.gov/safewater](http://www.epa.gov/safewater).

## VULNERABILITY

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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. EPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the EPA Safe Drinking Water Hotline at (800) 426-4791 or on-line at <http://www.epa.gov/safewater>.

## WHAT YOU NEED TO KNOW ABOUT LEAD

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Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. If you are concerned about lead in drinking water and want to perform individual testing for your home, testing methods and steps you can take to minimize exposure are available from the Safe Drinking Water Hotline or by visiting <http://www.epa.gov/safewater/lead>.

**It is recommended that customers who have lead service lines hire a licensed and qualified plumber for replacement options.**

## NITRATE

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Nitrate in drinking water at levels above 10 ppm are a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider. (As a precaution, we notify physicians and health care providers in this area if there is a higher than normal level of nitrates in the water supply.)

## CRYPTOSPORIDIUM

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Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes Cryptosporidium, the most commonly-used filtration methods cannot guarantee 100 percent removal. Our monitoring indicates the presence of these organisms in our source water but not our finished water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of Cryptosporidium may cause an abdominal infection, causing nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, we encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

## UNREGULATED CONTAMINANT MONITORING RULE 4 (UCMR4)

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To ensure the highest level of water quality for our customers, in 2019 we performed monitoring of non-regulated contaminants in the finished water as required by EPA. There were no detections of these non-regulated contaminants in 2019. Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in the drinking water and whether future regulation is warranted. For more information concerning UCMR visit these websites: <http://water.epa.gov/lawsregs/rulesregs/sdwa/ucmr>.

## PUBLIC NOTIFICATION

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Beginning in 2010, EAJA was required by the DEP (Public Notification Rule of the Safe Drinking Water Act) to notify its customers of certain water quality concerns through a direct delivery method (hand delivery, electronic mail or automated telephone dialing system). EAJA has partnered with Swiftreach Networks, an automated telephone dialing system to meet this requirement. Customers will be notified by telephone of important news about your drinking water. The EAJA staff is verifying customer contact information and some customers may be contacted to provide additional information.

Please update your emergency notification contact information for inclusion in the notification database: <http://swift911.swiftreach.com/public/200576>

We look forward to delivering you high quality water again in 2020!

