



## 2022 ZELIENOPLE BOROUGH ANNUAL DRINKING WATER QUALITY REPORT

PWSID #: 5100093 NAME: BOROUGH OF ZELIENOPLE

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

### **WATER SYSTEM INFORMATION:**

This report shows our water quality and what it means. If you have any questions about this report or concerning your water utility, please contact the Public Works Director at 724-452-6610 ext 242 or [cgarland@zeliboro.org](mailto:cgarland@zeliboro.org). We want you to be informed about your water supply. If you want to learn more, please attend any of our regularly scheduled meetings. They are held the 2<sup>nd</sup> and last Monday of the Month at 7:30 p.m. at the Municipal Building.

### **PROVIDER AND SOURCE OF WATER:**

The Borough of Zelienople is consecutive water system which purchases its water from Beaver Falls Municipal Authority (BFMA) for its customers. The source of water for BFMA is the Beaver River, which is formed by the confluence of the Mahoning and Shenango Rivers near New Castle. There are also several smaller tributaries, including the Connoquenessing Creek, Pymatuning Creek and Brush Creek, that feed into the watershed that supplies the water treatment plant.

A 'Source Water Assessment' of our source water was completed in May 2002. The assessment has found that the Beaver River is potentially susceptible to accidental spills along roads and railways that border the river for almost its entire length. Overall, our source water has a high risk of significant contamination. Summary reports of the assessment can be viewed over the internet by going to this address:

<http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-59389/RS5040012001%20Beaver%20Falls.pdf> or by contacting the Beaver Falls Municipal Authority. Copies of the complete report are available for review at the PA DEP Pittsburgh Regional Office, Records Management Unit which can be contacted at 412-442-4000.

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/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the *Safe Drinking Water Hotline* (800-426-4791).

## **MONITORING YOUR WATER:**

We routinely monitor for contaminants in your drinking water according to federal and state laws. The following tables show the results of our monitoring for the period of January 1 to December 31, 2022. 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 our data is from prior years in accordance with the Safe Drinking Water Act. The date has been noted on the sampling results table.

### **DEFINITIONS:**

***Parts per million (ppm) or Milligrams per liter (mg/l)*** - one part per million corresponds to one minute in two years, or a single penny in \$10,000.

***Parts per billion (ppb) or Micrograms per liter ( $\mu\text{g}/\text{l}$ )*** - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

***Parts per trillion (ppt) or Nanograms per liter (ng/l)*** - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

***Running Annual Average (RAA)*** - mathematical average of analytical data in which four quarterly or twelve-monthly results are continuously averaged.

***Nephelometric Turbidity Unit (NTU)*** - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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

***Treatment Technique (IT)*** - a required process intended to reduce the level of a contaminant in drinking water.

***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 that is 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.

***Minimum Residual Disinfectant Level (MinRDL)*** - The minimum level of residual disinfectant required at the treatment plant entry point and in the distribution system.

***Disinfectant*** - the chemical additive or process that is used to kill or inactivate pathogens that may be present in the water.

**DETECTED SAMPLE RESULTS: Borough of Zelenople**

<b>Chemical Contaminants - Borough Zelenople 2022</b>								
Contaminant	MCL in CCR Units	MCLG	Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Chlorine	4	4	2.23	1.04 – 1.86	ppm	12/22	N	Water additive used to control microbes
TTHMs (Total trihalomethanes)	80	0.0	52.6	27.0 – 93.6	ppb	Quarterly	N	By-product of drinking water disinfection
Haloacetic Acids (HAA)	60	0.0	23.9	16.5 – 36.8	ppb	Quarterly	N	By-product of drinking water disinfection

<b>Lead and Copper - Borough of Zelenople 9/2022</b>							
Contaminant	Action Level (AL)	MCLG	90 <sup>th</sup> Percentile Value	Units	# of Sites Above AL of Total Sites	Violation Y/N	Sources of Contamination
Lead	15	0	5.63	ppb	1	N	Corrosion of household plumbing.
Copper	1.3	1.3	0.304	ppb	0	N	Corrosion of household plumbing.

<b>Microbial- Borough of Zelenople 2022</b>					
Contaminants	MCL	MCLG	Highest # or % of Positive Samples	Violation Y/N	Sources of Contamination
Total Coliform Bacteria	For systems that collect <40 samples/month: <ul style="list-style-type: none"> <li>More than 1 positive monthly sample</li> </ul>	0	0	N	Naturally present in the environment.

**DETECTED SAMPLE RESULTS: Beaver Falls Municipal Authority (BFMA)**

<b>Turbidity Data</b>						
Contaminant (Units)	Sample Date	Violation (Y/N)	Level Detected	MCLG	MCL	Likely Source of Contamination
Turbidity (NTU)	Continuous Monitoring	N	100% (a)	0	TT = At least 95% of samples below 0.3	Soil Runoff
		Highest single measurement and date	0.184 (1/29/22)	N/A	TT = 1 NTU for a single measurement	

(a) The lowest monthly percentage of samples meeting the turbidity limits specified by DEP regulations

<b><i>Inorganic, Synthetic, and Volatile Organic Contaminants</i></b>							
<b><i>Contaminant (Units)</i></b>	<b><i>Sample Date</i></b>	<b><i>Violation (Y/N)</i></b>	<b><i>Level Detected</i></b>	<b><i>Range</i></b>	<b><i>MCLG</i></b>	<b><i>MCL</i></b>	<b><i>Likely Source of Contamination</i></b>
Copper (ppm)	June 2022	N	0.297 (b)	0.0105 – 1.3	1.3	AL = 1.3	Corrosion of household plumbing, erosion of natural deposits
Lead (ppb)	June 2022	N	2.36 (b)	0.00-9.8	0.0	AL = 15.0	Corrosion of household plumbing, erosion of natural deposits
Nickel (ppm)	Aug 2022	N	0.00251	0.00251	0.1	0.1	Leaching from metals in contact with drinking water pipe such as pipes and fittings, erosion of natural deposits
Fluoride (ppm)	Aug 2022	N	0.58	0.58	2.0	2.0	Erosion of natural deposits; water additive, discharge from fertilizer/aluminum factories
Nitrate (ppm)	Aug 2022	N	1.25	1.25	10.0	10.0	Runoff from fertilizer use, Leaching from septic tanks and sewage, erosion of natural deposits
Barium (ppm)	Aug 2022	N	.0337	.0337	2.0	2.0	Discharge of drilling wastes; metal refineries; erosion of natural deposits

<b><i>Distribution Disinfectant &amp; Disinfection By-Products</i></b>							
<b><i>Contaminant (Units)</i></b>	<b><i>Sample Date</i></b>	<b><i>Violation (Y/N)</i></b>	<b><i>Level Detected</i></b>	<b><i>Range</i></b>	<b><i>MCLG</i></b>	<b><i>MCL</i></b>	<b><i>Likely Source of Contamination</i></b>
Chlorine (ppm)	Sampled Monthly	N	3.97 (c)	0.34-3.97	4.0 = MRDLG	4.0 = MRDL	Water additive to control microbes
Chloramines (ppm)	Sampled Monthly	N	3.07 (c)	0.58-3.07	4.0 = MRDLG	4.0 = MRDL	Water additive to control microbes
Haloacetic Acids (ppb)	Sampled Quarterly	N	27.8 (d)	14.4 -35.7	N/A	60	By-product of disinfection
Total Trihalomethanes (ppb)	Sampled Quarterly	N	58.15 (d)	14.4 -94.0	N/A	80	By-product of disinfection

(a) These are 90<sup>th</sup> percentile results. None of the thirty-four samples for lead or copper exceeded the action level

(b) As of April 29, 2019 DEP regulations require a minimum disinfectant level of 0.2 mg/L be maintained in the distribution system at all times.

(c) Highest calculated locational RAA.

<b>Entry Point Disinfection Residual</b>						
<b>Contaminant (Units)</b>	<b>Sample Date</b>	<b>Violation (Y/N)</b>	<b>Lowest Level Detected</b>	<b>Range of Detections</b>	<b>MinRDL</b>	<b>Likely Source of Contamination</b>
Chlorine (ppm)	Continuous Monitoring	N	2.08 (on 11/24/22)	2.08-3.00	0.2	Water additive to control microbes

<b>Total Organic Carbon</b>						
<b>Contaminant</b>	<b>Sample Date</b>	<b>Violation (Y/N)</b>	<b>Range of % Removal Required</b>	<b>Range of % Removal Achieved</b>	<b>No. of Quarters out of Compliance</b>	<b>Likely Source of Contamination</b>
Total Organic Carbon	Sampled Monthly	N	25-45	33.3 - 49.3	0	Naturally decaying organic matter

### **UNREGULATED CONTAMINANT MONITORING**

**Availability of Monitoring Data for Unregulated Contaminants for the Beaver Falls Municipal Authority.** Our water system has sampled for a series of unregulated contaminants. Unregulated contaminants are those that don't yet have a drinking water standard set by EPA. The purpose of monitoring for these contaminants is to help EPA decide whether the contaminants should have a standard. As our customers, you have a right to know that this data is available. If you any further questions, please contact us at the phone number listed at the bottom of the last page.

## UNREGULATED CONTAMINANT MONITORING

*Finished water (sampled in March, June, September, December 2018)*

<i>Contaminant</i>	<i>Reporting Limit (ug/L)</i>	<i>Range Detected (ug/L)</i>	<i>Health Advisory Level (ug/L)</i>	<i>Likely Source of Contamination</i>
Germanium	0.300	<0.300	N/A	
Alpha – hexachlorocyclohexane	0.010	<0.010	N/A	Pesticide
Chlorpyrifos	0.029	<0.029	N/A	Organophosphate insecticide
Dimethipin	0.192	<0.192	7.3	Runoff from herbicide use
Ethoprop	0.029	<0.029	N/A	Pesticide
Oxyfluorfen	0.048	<0.048	N/A	Runoff from herbicide use
Profenofos	0.288	<0.288	N/A	Pesticide for cotton crops
Tebuconazole	0.192	<0.192	N/A	Agricultural Fungicide
Permethrin	0.038	<0.038	N/A	Residential/Industrial pesticide
Tribufos	0.067	<0.067	N/A	Pesticide for cotton crops
1-Butanol	2.00	<2.00	N/A	Solvent, fuel additive, plasticizer
2 - Methoxyethanol	0.400	<0.400	N/A	Jet fuel anti-icing additive; solvent for resins, coatings, dyes
2-Propen-1-ol	0.500	<0.500	N/A	Herbicide
BHA	0.0297	<0.0297	N/A	Antioxidant and preservative in food, animal feed, cosmetics, rubber, petroleum products; also used in medicines
o-Toluidine	0.00693	<0.00693	N/A	Manufacture of dyes
Quinoline	0.0198	<0.0198	N/A	Discharges from petroleum, coal

<i>Finished water (sampled in November 2022)</i>				
<i>Contaminant</i>	<i>Reporting Limit (ng/L)</i>	<i>Range Detected (ng/L)</i>	<i>Health Advisory Level (ng/L)</i>	<i>Likely Source of Contamination</i>
PFBS (perfluorobutane sulfonic acid)	3.7	4.0	N/A	Leachate from landfills, waste streams from a number of industrial processes, runoff from areas using certain firefighting foams.  They have been used to make cookware, carpets, clothing, fabrics for furniture, paper packaging for food, and other materials that are resistant to water, grease, or stains. They are also used in firefighting foams and in a number of industrial processes.
PFHxA (perfluorohexanoic acid)	3.7	2.8	N/A	
PFOS (perfluorooctane sulfonic acid)	3.7	2.1	* HA is for combined PFOS & PFOA	
PFOA (perfluorooctanoic acid)	2.0	2.2	* HA is for combined PFOA & PFOS	
Total Combined PFOA & PFOS	N/A	* 4.3	70	
<i>Untreated water (sampled in March, June, September, December 2018)</i>				
<i>Contaminant</i>	<i>Reporting Limit</i>	<i>Range Detected (ug/L)</i>	<i>Health Advisory Level</i>	<i>Likely Source of Contamination</i>
Bromide	20.0 (ug/L)	<20.0 - 265	N/A	Naturally occurring
Total Organic Carbon	0.500 (mg/L)	4.12 – 6.38	N/A	Naturally decaying organic matter
<i>Untreated water (sampled bi-weekly, June thru Sept 2018)</i>				
<i>Contaminant</i>	<i>Reporting Limit (ug/L)</i>	<i>Range Detected (ug/L)</i>	<i>Health Advisory Level (10-day)(ug/L)</i>	<i>Likely Source of Contamination</i>
Total Microcystin	0.300	<0.300	0.3 children, 1.6 adults	Produced by certain species cyanobacteria
Anatoxin-a	0.0300	<0.0300	N/A	Produced by certain species cyanobacteria
Cylindrosperopsin	0.0900	<0.0900	0.7 children, 3 adults	Produced by certain species cyanobacteria

<i>Distribution System (sampled in March, June, September, December 2018)</i>				
<i>Contaminant</i>	<i>Reporting Limit (ug/L)</i>	<i>Range Detected (ug/L)</i>	<i>MCL (ug/L)</i>	<i>Likely Source of Contamination</i>
Bromochloroacetic Acid	0.300	1.94 – 4.95	N/A	By-product of disinfection
Bromodichloroacetic Acid	0.500	2.53 – 7.41	N/A	By-product of disinfection
Chlorodibromoacetic Acid	0.300	<0.300 – 2.35	N/A	By-product of disinfection
Tribromoacetic Acid	2.00	<2.00	N/A	By-product of disinfection

## **LT2 – LONG TERM ENHANCED SURFACE WATER TREATMENT RULE**

In 2019, the Beaver Falls Municipal Authority completed the raw water monthly monitoring of our source water (Beaver River) for Cryptosporidium. Twenty-four (24) monthly samples were taken and there were six detections with a 12-arithmetic mean of 0.074 Oocysts per liter which complies with a Bin 1 Classification.

**Cryptosporidium** is a microbial pathogen found in surface waters throughout the U.S. Although filtration removes Cryptosporidium, the most commonly used filtration methods cannot guarantee 100% removal. This monitoring will indicate the presence of these organisms in our source water. Current test methods do not allow us to determine if the organisms are dead or capable of causing disease. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of the infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immune-compromised people are at a greater risk of developing life-threatening illness. We encourage immune-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.

**First Quarter 2022**, the Beaver Falls Municipal Authority experienced a source water contamination event. Orsanco (Ohio River Valley Water Sanitation Commission) reported detections of Benzene and Toluene on the Ohio River. At that same time, CWM lab contacted BFMA to report a detection on a set of in-house samples. The appropriate authorities were immediately notified of the detections. Orsanco graciously started sampling upstream of our intake eventually pinpointing the origin of the contamination to be on the Mahoning River across the state line in Ohio. During that event and continuing through the weekly monitoring our treatment process has been able to remove these contaminants to a level below the regulated MCL.

### **EDUCATIONAL INFORMATION:**

The 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



stormwater run-off, 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 stormwater runoff, and residential uses.
- 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 stormwater runoff, and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA and DEP prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA and DEP regulations establish limits for contaminants 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 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 Environmental Protection Agency's *Safe Drinking Water Hotline* (800-426-4791).

### **Information about Lead**

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. The Borough of Zelienople 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://www.epa.gov/safewater/lead>

### **Violations: Borough of Zelienople**

Our system had one violation for late reporting of a Chlorine sample in March 2022. Samples for chlorine had been taken and were within reporting limits.

**A paper copy of this report can be picked up at the Zelienople Municipal Building or you may request a copy by calling the Borough office at 724-452-6610.**