



2021 WATER QUALITY REPORT

WATER QUALITY REPORT FOR THE YEAR 2021

PWSID 6250096

Serving McKean Township and McKean Borough

Dear Valued Customers of the Erie Water Works,

Like most businesses across the country, 2021 was again dominated by the COVID-19 pandemic. By implementing CDC recommended safety protocols, the Erie Water Works (EWW) was able to operate uninterrupted throughout the year. In addition to our normal day-to-day operations, more than \$20M was reinvested in 43 capital projects and programs throughout the water system in 2021.

Most of the funding for these projects comes through the issuance of revenue bonds, but in order to keep costs as low as possible for our customers, the EWW was one of the first organizations to utilize the new state revolving loan fund through the Pennsylvania Infrastructure Investment Authority (PENNVEST) called Programmatic Financing (Pro Fi). This program allows municipal entities to borrow funds for multiple projects under a single loan. This helps reduce overhead and other closing costs, and carried an interest rate of 1%.

EWW was also fortunate to receive a \$6.5M grant to remove lead “goosenecks” from more than 1,300 service connections to our public water mains. Notification of the grant was issued this past July, with the work beginning in 2022. This grant was a welcome addition to EWW’s strategic renovation of the water system and came with no cost to our customers.

With the pandemic appearing to slow down, 2022 is expected to be another banner year for EWW and our continued efforts to make the water system world-class by providing safe, reliable and affordable drinking water to more than 200,000 people in Northwest Pennsylvania.

Sincerely,

Paul D. Vojtek
Chief Executive Officer / Chief Financial Officer
“World-Class Water, First-Class Service”

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.)

Source of Water

Our water source is exclusively surface water from Lake Erie. We are fortunate to operate two water filtration plants where raw water is treated; the Chestnut Water Treatment Plant and the Richard S. Wasielewski Water Treatment Plant. A Source Water Assessment and Protection (SWAP) program was completed and documented by the Erie Water Works in 2003. This program is a way to identify

any sources of potential contamination that could affect the quality of our drinking water. The report indicated that there are no major potential sources of contamination to our source supply from accidental releases into the environment. The summary SWAP report is available online at www.eriewater.org/what-we-do/reports/ or at the offices of the Erie County Health Department.

Special Information for Immuno-Compromised Individuals

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 for infections. These people should seek advice about drinking water from their health care providers. The Environmental Protection Agency (EPA) and Centers for Disease Control and Prevention (CDC) guidelines on appropriate means to lessen the risk of infections by *Cryptosporidium* and other microbiological 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, 2021. The Commonwealth allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Although not required by regulation, the Erie Water Works has chosen to continue testing for these contaminants on an annual basis.

Abbreviations and Definitions

Throughout this document you may find some abbreviations that are not familiar to you. To help you understand these terms we've provided the following definitions:

EWW	Erie Water Works
PA DEP	Pennsylvania Department of Environmental Protection
CP	Chestnut Water Treatment Plant
WP	Wasielewski Water Treatment Plant
Dist	Distribution Sample
ACC	Alternative Compliance Criteria
AL	Action Level: the concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
MCL	Maximum Contaminant Level: the highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG as feasible using the best available treatment technology.
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.
MRDL	Maximum Residual Disinfection 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 Disinfection 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.
cm⁻¹	Reciprocal centimeter or wave number; a unit of energy
ntu	Nephelometric turbidity unit: a measure of the clarity of water
ppb	Parts per billion, or micrograms per liter (µg/L)
pCi/L	Picocuries per liter: a measure of radioactivity in water
ppm	Parts per million, or milligrams per liter (mg/L)
ND	Not Detected
SUVA	Specific Ultraviolet Absorbance
TT	Treatment Technique: a required process intended to reduce the level of a contaminant in drinking water.

ERIE DETECTED SAMPLE RESULTS

Public Water System ID: 6250096

Inorganic Contaminants

Contaminant (Unit of measurement)	Location	Violation Y/N	Level Detected	Range	MCLG	MCL	Source of Contamination
Aluminum (ppb)	WP	Y (2019)	92	ND-290	50-200	200	Erosion of natural deposits; Leaching from rocks and soil
	CP	N	34				
	Dist	Y (2019)	177	64-290			
Barium (ppm)	WP	N	0.021		2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
	CP	N	0.020				
Copper (ppm)	WP	N	0.0071	0.0032 - 0.0110	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
	CP	N	0.0015				
Fluoride (ppm) (a)	WP	N	0.46		2	2	Erosion of natural deposits; water additive which promotes stronger teeth; discharge from fertilizer and aluminum factories
	CP	N	0.48				
Manganese (ppb)	WP	N	0.63	ND-2.70	50	50	Erosion of natural deposits; discharge from metal refineries; runoff from agriculture
Nitrate (ppm)	WP	N	0.48		10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Orthophosphate (ppm)	WP	N	0.64	0.34-0.82	(na)	(na)	Water additive used for corrosion control
	CP	N	0.66	0.55-0.83			
	Dist	N	0.87	0.59-1.23			
Sodium (ppm)	WP	N	13	10-15	(na)	(na)	Erosion of natural deposits; wastewater effluent; runoff from road salting
	CP	N	12				
	Dist	N	13	13-14			
Sulfate (ppm)	WP	N	20	19-20	250	(na)	Erosion of natural deposits; Leaching from rocks and soil
	CP	N	20				
Zinc (ppb)	Dist	N	19.0		(na)	(na)	Erosion of natural deposits; Discharge of mining wastes; discharge from metal refineries

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Synthetic Organic Compound (SOC)							
Contaminant (Unit of measurement)	Location	Violation Y/N	Level Detected	Range	MCLG	MCL	Source of Contamination
2,4- D (ppb)	CP	N	0.05	ND-0.139	70	70	Runoff from herbicide used on row crops
Disinfection and Disinfection By Products							
Contaminant (Unit of measurement)	Location	Violation Y/N	Level Detected	Range	MCLG	MCL	Source of Contamination
Haloacetic Acids (ppb) (Highest Running Average)	Dist	N	24.8	14-37.9	(na)	60	Byproduct of drinking water disinfection
Total Trihalomethanes (ppb) (Highest Running Average)	WP	N	15.6	8.4-23.4	(na)	80	Byproduct of drinking water disinfection
	CP	N	9.4				
	Dist	N	51.6	23.2-68.8			
Chlorine (ppm) (Highest monthly average)	Dist	N	1.64	0.79-1.64	MRDLG = 4	MRDL= 4	Water additive used to control microbes
Radiological Contaminants							
Contaminant (Unit of measurement)	Location	Violation Y/N	Level Detected	Range	MCLG	MCL	Source of Contamination
Gross Beta (pCi/L) (b)	WP	N	5.8		0	50	Decay of natural and man-made deposits
Microbiological Contaminants							
Turbidity							
Contaminant	MCL	MCLG	Level Detected	Sample Date	Violation Y/N	Sources of Contamination	
Turbidity (CFE) (ntu)	TT= 1 NTU for a single measurement (WP)	0	1.0000	10/21/2021	N	Soil runoff	
	TT= 95% of monthly samples < 0.15 NTU (WP)	0	100.0%	October 2021	N	Soil runoff	
	TT= 1 NTU for a single measurement (CP)	0	0.821	3/17/2021	N	Soil runoff	
	TT= 95% of monthly samples < 0.3 NTU (CP)	0	100.0%	March 2021	N	Soil runoff	
Contaminant (Unit of measurement)	Location	Violation Y/N	Level Detected	Range	MCLG	MCL	Source of Contamination
Turbidity (CFE) (ntu)	WP	N	0.020	0.001- 1.000	(na)	TT	Soil runoff
	CP	N	0.040	0.014- 0.821	(na)		

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Entry Point Disinfectant Residual								
Contaminant	Location	Minimum Disinfectant	Lowest Level	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Chlorine	WP	0.2	0.06	0.06-1.83	ppm	4/15/2021	N	Water additive used to control microbes
	CP	0.2	0.21	0.21-1.70	ppm	9/13/2021	N	
Lead and Copper Study								
Contaminant	Action Level (AL)		MCLG	90th Percentile Value	Units	# of Sites Above AL of Total Sites	Violation Y/N	Sources of Contamination
Lead	15		0	0.484	ppb	0 of 12	N	Corrosion of household plumbing systems; erosion of natural deposits
Copper	1.3		1.3	0.176	ppm	0 of 12	N	
Microbial								
Contaminant	TT			MCLG	Assessments/ Corrective Actions		Violation Y/N	Sources of Contamination
Total Coliform Bacteria	Any system that has failed to complete all the required assessments or correct all identified sanitary defects, is in violation of the treatment technique requirement			(na)	See detailed description under "Detected Contaminants Health Effects Language and Corrective Actions" section		N	Naturally present in the environment
Total Organic Carbon (TOC)								
Contaminant (Unit of measurement)	Location	Violation Y/N	Level Detected	Range	MCLG	MCL	Source of Contamination	
SUVA (ppm)	WP	N	0.8	0.7-1.0	(na)	(na)	Test to determine TOC reactivity	
	CP	N	0.8	0.7-0.9				
DOC (ppm)	WP	N	1.60	1.41-1.89	(na)	(na)	Test to determine TOC reactivity	
	CP	N	1.77	1.64-1.88				
UV254 (cm ⁻¹)	WP	N	0.013	0.010-0.016	(na)	(na)	Test to determine TOC reactivity	
	CP	N	0.015	0.014-0.015				
Contaminant	Range of % Removal Required		Range of Percent Removal achieved		Number of quarters out of compliance		Violation Y/N	Sources of Contamination
TOC	25% (CP only)		18.7 - 36.2%		0		N	Naturally present in the environment
			ACC used when below 25%		SUVA			

(a) EPA's MCL for fluoride is 4 ppm. However, Pennsylvania has set a lower MCL to better protect human health.

(b) EPA considers 50 pCi/L to be the level of concern for beta particles

(na) Not Applicable

Detected Contaminants Health Effects Language and Corrective Actions

Total Coliform: Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other potentially harmful bacteria may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. If coliforms are found, this indicates the need to look for potential problems in water treatment or distribution. When this occurs, EWW is required to conduct an evaluation to identify and correct any problems that were found. None of the 36 samples collected throughout 2021 were found to be positive for Total Coliform bacteria.

Violations: As demonstrated in the Test Results Tables, EWW did not receive any violations as a result of the water quality in 2021. We did receive two minor reporting violations issued by the Pennsylvania Department of Environmental Protection. It is important to note that

the quality and safety of the drinking water was never in question.

In March 2021, the EWW took its quarterly sample for the SOC 2, 4-D and submitted it to a contract laboratory for testing. However, the contract laboratory was not able to produce results with qualifying standards within the sample's hold time. By the time EWW was notified to resample, the first quarter was over. Therefore, the EWW received a violation for not sampling the contaminant.

Also in March 2021, the EWW failed to submit March's Alkalinity results to the PA DEP before the deadline of March 10, 2021. The report was completed but not submitted; the report was filed when the mistake was realized.

Help Keep an Eye on YOUR Water System

Fire Hydrants are to be used by emergency personnel or EWW staff, and in certain cases permitted contractors (with an EWW meter & backflow preventer). If you suspect suspicious activity or notice damage to a hydrant please call 870-8087, 24 hours a day!



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 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 run-off, 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 run-off, 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 PA DEP prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA and PA 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 the 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).

Educational Information: Continued

Information about Lead

Exposure to lead in drinking water can cause serious health effects in all age groups. Infants and children can have decreases in IQ and attention span. Lead exposure can lead to new learning and behavior problems or exacerbate existing learning and behavior problems. The children of women who are exposed to lead before or during pregnancy can have increased risk of these adverse health effects. Adults can have increased risks of heart disease, high blood pressure, kidney or nervous system problems.

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 Erie Water Works 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>.

Information about Nitrate

Nitrate in drinking water at levels above 10 ppm is 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.

Unregulated Contaminant Monitoring Rule 5 (UCMR5)

The Environmental Protection Agency (EPA) requires many water systems throughout the country to test for a list of potential contaminants that the federal government may regulate in future years. The Erie Water Works will be starting testing in 2023 for this round of sampling.

Pharmaceuticals and Personal Care Products

There is not an official list of pharmaceuticals or personal care products that are required to be tested for by regulation in the drinking water. The Erie Water Works tested for 57 of the most common potential contaminants in 2021. Like most drinking water systems in the country, we found a few present at very low concentrations (parts per trillion, or nanograms per liter) that the EPA and PA DEP do not consider to be of concern to human health. The list of contaminants that were found in low concentration include: acesulfame-K (artificial sweetener), cotinine (metabolite of nicotine), DEET (insect repellent), sulfamethoxazole (antibiotic), sucralose (artificial sweetener), and TCPP (flame retardant).

Have Questions?

If you have any questions about this report, please contact Ron Costantini, EWW Manager of Administration, at rcostantini@eriewaterworks.org. Due to the complex nature of water treatment, sometimes it is very difficult to provide an accurate response without first gathering factual information. For that reason, we prefer questions be in writing so they can be directed to the proper individuals to provide the most complete and accurate information about our product and services.

EWW 24 Hour Emergency Phone: 814-870-8087
Personnel are on duty 24/7

Customer Notification System

REGISTER TODAY @ <https://ErieWaterWorks.OnTheAlert.com>

Help us help YOU by updating your information today!

****If you registered prior to 2020 please re-register to ensure your information is up to date.**

The EWW Customer Notification System can deliver important messages to every landline in Erie County, PA, however, cell phones, TTY/TDD, and Internet phone service require registration. Please register today to make sure our records include your most accurate information.