



2022 WATER QUALITY REPORT

WATER QUALITY REPORT FOR THE YEAR 2022

PWSID 6250096

Serving McKean Township and McKean Borough

Dear Valued Customers of the Erie Water Works,

2022 marked the 30th Anniversary of the Erie Water Works (EWW) operation of the City of Erie's water system. During these 30-years, EWW has been able to streamline its operations while rebuilding an aging water system that had been largely neglected for decades. High efficiency pumps, radio-read meters, electronic mapping of water system infrastructure and replacing old, often failing water mains are just a few of the initiatives that help keep operating expenses in check.

These increased efficiencies allow EWW to make significant investments in modernizing the water system. During its 30th Anniversary year alone, EWW established a new record of capital investment, as it re-invested more than \$30M back into the water system. The addition of a state-of-the-art membrane water treatment plant, four new storage tanks, a new underground reservoir, and the full renovation of nearly every major facility in the system over these 30-years serves as a testament to EWW's commitment to its mission: ***"To guarantee a continuous, uninterrupted, reasonably priced supply of quality water to its customers which assures public health while promoting regional stability and future development."***

This type of continued investment will assure EWW is poised to successfully follow its mission for another 30 years!

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, 2022. 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:

EWV	Erie Water Works
PA DEP	Pennsylvania Department of Environmental Protection
PWSID	Public Water Supply ID
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
TOC	Total Organic Carbon
SUVA	Specific Ultraviolet Absorbance
TT	Treatment Technique: a required process intended to reduce the level of a contaminant in drinking water.

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	0.024		2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
	CP	N	0.022				
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	0.51		2	2	Erosion of natural deposits; water additive which promotes stronger teeth; discharge from fertilizer and aluminum factories
	CP	N	0.46				
Manganese (ppb)	WP	N	0.63	ND-2.70	50	50	Erosion of natural deposits; discharge from metal refineries; runoff from agriculture
Nitrate (ppm)	CP	N	0.4		10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
	WP	N	0.62		10	10	
Orthophosphate (ppm)	WP	N	0.58	0.42-0.79	(na)	(na)	Water additive used for corrosion control
	CP	N	0.54	0.34-0.79			
	Dist	N	0.79	0.59-0.96			
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

2022 Water Quality Report

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	26.7	15.1-28.8	(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	45.0	16.7-80.4			
Chlorine (ppm) (Highest monthly average)	Dist	N	1.46	0.73-1.46	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	1.000	12/28/2022	N	Soil runoff	
	TT= 95% of monthly samples < 0.15 NTU (WP)	0	100.0%	December 2022	N	Soil runoff	
	TT= 1 NTU for a single measurement (CP)	0	2.000	9/19/2022	N	Soil runoff	
	TT= 95% of monthly samples < 0.3 NTU (CP)	0	100.0%	September 2022	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	0.02-2.00	(na)		

2022 Water Quality Report

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	0.84	0.84-1.85	ppm	6/6/2022	N	Water additive used to control microbes
	CP	0.2	0.52	0.52-1.80	ppm	9/21/2022	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	0.61	ppb	0 of 11	N	Corrosion of household plumbing systems; erosion of natural deposits
Copper	1.3		1.3	0.208	ppm	0 of 11	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	0.9	0.7-1.2	(na)	(na)	Test to determine TOC reactivity	
	CP	N	0.9	0.8-1.2				
DOC (ppm)	WP	N	1.74	1.38-2.17	(na)	(na)	Test to determine TOC reactivity	
	CP	N	1.86	1.68-2.03				
UV254 (cm ⁻¹)	WP	N	0.029	0.014-0.153	(na)	(na)	Test to determine TOC reactivity	
	CP	N	0.034	0.014-0.134				
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)		21.8 - 26.8%		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 2022 were found to be positive for Total Coliform bacteria and all follow up check samples were negative with no problems identified in the evaluation of the system.

Violations: As demonstrated in the Test Results Tables, EWW did not receive any violations as a result of the water quality in 2022. We did receive six 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 February 2022, the EWW sampled for the Quarterly Compliance Disinfection Byproducts and received acceptable results; however, the contract laboratory submitted the results to the DEP under the wrong PWSID. The results

were reported to the correct PWSID as soon as it was noticed.

Also in February 2022, the EWW took the required samples for the Disinfection Requirement Rule (DRR) however; there was a date typo in the report appearing as though a weekly sample was not submitted.

In March 2022, the EWW sampled for the Monthly Compliance TOC samples to send to a contract laboratory. The corresponding Alkalinity samples that are tested in house were collected minutes apart and therefore had differing sample times on the reports sent to the DEP resulting in a Failure to Monitor Violation because the samples should be taken and reported at the same time.

In November 2022, the individual filter monitoring report was reported but had a typo making the report appear that it was for October (10) instead of November (11). This was corrected as soon as the mistake was noticed.

This summer EWW sampled Lead and Copper samples from applicable customer's homes for the Lead & Copper Rule; however, the contract laboratory failed to report these results to the DEP reporting system therefore resulting in a reporting violation. Results were submitted when the mistake was noticed.

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 start testing in 2023 for this round of sampling.



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

EWW Emergency Notification System
REGISTER TODAY @ <https://ErieWaterWorks.OnTheAlert.com>
Help us help YOU by updating your information today!

The EWW Emergency 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.