



2017 WATER QUALITY REPORT

WATER QUALITY REPORT FOR THE YEAR 2017

PWSID 6250028

Serving the City of Erie, Lawrence Park, Wesleyville, Harborcreek, Millcreek and portions of Summit, and Greene Townships

Dear Valued Customers of the Erie Water Works:

Since assuming operation of Erie's water system in 1992, the Erie Water Works (EWW) has invested more than \$270 million in its water system infrastructure to assure its customers receive the finest water service possible. 2017 was another banner year of system reinvestment. More than \$12 million was spent on improvements to the water system. A few of the more significant projects included new water mains along East 12th Street and East 38th Street, and renovations at EWW's administrative headquarters at the foot of Chestnut Street.

While the Erie Water Works continued its mission to provide top notch water service to its customers, the event that will be most remembered in 2017 undoubtedly is the Holiday snow storm. Nearly seven feet of snow fell between Christmas Eve and New Year's day. Working in terrible conditions, EWW's Distribution Department crews logged long hours, repairing multiple water main failures caused by the extreme cold weather. Their dedicated service kept the outages to a minimum for EWW's 62,000 customers. The storm caused issues for other departments as well. The large accumulation of snow made it difficult to read customer's water meters, but the EWW Meter Department never missed a beat. Employees from EWW's Maintenance Department worked tirelessly on snow removal to keep facilities accessible for employees and customers. The collective efforts of all EWW personnel contributed to the uninterrupted operation of the water system throughout the year at a level the people of NW PA expect and deserve.

Mother nature gave Erie her best shot in 2017. I think its safe to say, Erie Water Works weathered the storm! EWW continues its efforts to assure "World-Class Water, First-Class Service".

Sincerely,

Paul D. Vojtek
Chief Executive Officer / Chief Financial Officer

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

The EWW water supply is obtained exclusively from Lake Erie. Erie is fortunate to have two water filtration plants where raw water is treated; the Chestnut Street 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 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 infections by *Cryptosporidium* and other microbiological contaminants are available from the *Safe Drinking Water Hotline* (800-426-4791).

Monitoring Your Water

EWW routinely monitors 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, 2017. The State 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 Plant
WP	Wasielewski Plant
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 known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
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)
SUVA	Specific Ultra Violet Absorbance
TT	Treatment Technique: a required process intended to reduce the level of a contaminant in drinking water.

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ERIE DETECTED SAMPLE RESULTS

Public Water System ID: 6250028

Inorganic Contaminants

Contaminant (Unit of measurement)	Location	Violation Y/N	Level Detected	Range	MCLG	MCL	Source of Contamination
Barium (ppm)	WP	N	0.019		2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
	CP	N	0.023				
Copper (ppm)	WP	N	0.0075	0.0052 - 0.0098	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
	CP	N	0.0042				
Fluoride (ppm) (a)	WP	N	0.55	0.50 - 0.60	2	2	Erosion of natural deposits; water additive which promotes stronger teeth; discharge from fertilizer and aluminum factories
	CP	N	0.60				
Nitrate (ppm)	WP	N	0.5	0.4 - 0.6	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

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	22.7	8.0 - 50.2	(na)	60	Byproduct of drinking water disinfection
Total Trihalomethanes (ppb) (Highest Running Average)	Dist	Y	60.2	17.4 - 82.4	(na)	80	Byproduct of drinking water disinfection
Chlorine (ppm) (Highest monthly average)	Dist	N	1.42	0.84 - 1.42	MRDLG = 4	MRDL= 4	Water additive used to control microbes
Total Organic Carbon (ppm)	WP	N	2.1	1.9 - 2.4	(na)	TT	Naturally present in the environment
	CP	N	1.7	1.6 - 1.9			
SUVA (ppm)	WP	N	1.29	0.32 - 1.86			Test to determine TOC reactivity
	CP	N	1.08	0.90 - 1.40			

Volatile Organic Contaminants (VOC)

Contaminant (Unit of measurement)	Location	Violation Y/N	Level Detected	Range	MCLG	MCL	Source of Contamination
trans-1,2-dichloroethylene (ppb)	WP	N	2.4	0.0 - 4.8	100	100	Discharge from industrial chemical factories
Total Trihalomethanes (ppb) (b)	WP	N	26.4	24 - 28.9	(na)	80	Byproduct of drinking water disinfection
	CP	N	18.9				

Radiological Contaminants

Contaminant (Unit of measurement)	Location	Violation Y/N	Level Detected	Range	MCLG	MCL	Source of Contamination
Gross Alpha (pCi/L)	CP	N	4.4		0	15	Erosion of natural deposits
Gross Beta (pCi/L) (c)	WP	N	2.5	2.3 - 2.7	0	50	Decay of natural and man-made deposits
	CP	N	7.0				

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ERIE DETECTED SAMPLE RESULTS- Continued

Public Water System ID: 6250028

Microbiological Contaminants

Contaminant (Unit of measurement)	Location	Violation Y/N	Level Detected	Range	MCLG	MCL	Source of Contamination
Turbidity (ntu)	WP	N	0.069	0.049 - 0.240	(na)	TT	Soil runoff
	CP	N	0.097	0.059 - 0.864	(na)		

Entry Point Disinfectant Residual

Contaminant	Location	Minimum Disinfectant Residual	Lowest Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Chlorine	WP	0.2	0.64	0.64 - 1.54	ppm	5/14/2017	N	Water additive used to control microbes
	CP	0.2	0.79	0.79 - 1.47	ppm	9/16/2017	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 (2017)	15	0	1.2	ppb	0 of 55	N	Corrosion of household plumbing systems; erosion of natural deposits
Copper (2017)	1.3	1.3	0.094	ppm	0 of 55	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

Turbidity

Contaminant	MCL	MCLG	Level Detected	Sample Date	Violation Y/N	Sources of Contamination
Turbidity	TT= 1 NTU for a single measurement	0	4.60	9/13/2017	Y	Soil runoff
	TT= 95% of monthly samples < 0.3 NTU	0	97.8%	September 2017	N	Soil runoff

Total Organic Carbon (TOC)

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)	20.9 - 26.9%	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) This result is the summation of the three VOCs present in detectable quantities

(c) 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. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct an assessment to identify the problems and to correct any problems that were found during these assessments. During the past year we were required to conduct one Level 1 Assessment, which we completed. In addition, we were required to take zero corrective actions. Only one of the 1,892 samples collected throughout 2017 was found to be positive for Total Coliform bacteria. This sample was collected in March 2017 from a restroom, and all check samples came back as negative for Total Coliform indicating that the positive result was likely caused by the sampling location rather than the water itself.

Trihalomethanes: Some people who drink water containing Trihalomethanes (TTHM) in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer. The Erie Water Works routinely monitors for these drinking water contaminants. Test results received on March 17, 2017 showed that the Depot District of the system exceeded the maximum contaminant level (MCL), for Total Triha-

lomethanes. The standard for Total Trihalomethanes is 80 ppb and our Total Trihalomethanes were found at 82 ppb. We notified the affected residents on April 7, 2017 and immediately took action to install a mixer in the tank where these compounds were found to be at a high concentration. The problem was resolved and the level for Total Trihalomethanes returned to an expected range within the second quarter of 2017.

Turbidity: Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. The Erie Water Works experienced high turbidity values upon starting up the Chestnut Street Water Treatment Plant after it had been offline for a period for maintenance. These results were highest as soon as the plant was turned on, as the stagnant, older water was being flushed out of the plant and associated meters. The turbidity steadily declined as the plant continued to run and returned to a level of compliance that day.

Other Violations: EWW failed to submit February's completed Chlorine Summary Report to the PA DEP before the deadline of March 10, 2017. The report was filed as soon as the mistake was realized on March 24, 2017 and returned to full compliance.

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 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 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

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 4 (UCMR4)

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 sampling for the new list of potential contaminants from October 2018 through July 2019.

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 2017. 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), atenolol (beta blocker), carbamazepine (anticonvulsant), cotinine (metabolite of nicotine), DEET (insect repellent), gemfibrozil (cholesterol medication), meprobamate (drug to treat anxiety), 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 814-870-8000, ext. 306. 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. We also encourage you to attend any of our regularly scheduled board meetings. They are open to the public and are held on the third Thursday of every month at 3:00 PM at the John J. McCormick Jr. Administration Building.

Erie Water Works

340 West Bayfront Parkway
Erie, PA 16507-2004
Monday through Friday,
8:00 a.m. to 5:00 p.m.
Phone: 814-870-8000



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

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The Emergency Notification Call-Out System can deliver emergency messages to every landline in Erie County, PA, however, cell phones, TTY/TDD, and Internet phone service require registration. Please visit our website at www.eriewater.org today to make sure our records include your most accurate information. Our website also offers easy-to-use instructions on how to update your information so you can be notified of a water related emergency, water disruption or other emergency that may impact your home.