Erie County Water Authority

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March 8, 2017

DPW@OrchardParkVillage.org
Michael Murphy, Director of Public Works
Village of Orchard Park
4295 South Buffalo Rd.
Orchard Park, NY 14127

Dear Bulk Water System Customer:

Attached please find the Erie County Water Authority's (ECWA) 2016 Annual Water Quality Report (AWQR) supplement. We are forwarding this supplement to you for your use in preparing your system's report.

This report is prepared in accordance with the requirements of both the United States Environmental Protection Agency and the New York State Department of Health.

We are pleased to report that the ECWA's water system operated under "NO VARIANCE OR EXEMPTION" from any federal or state regulatory requirements.

The ECWA is proud of these results and will continue its proactive efforts to provide customers with high quality water at a very affordable rate.

If you have any questions regarding the content of this report or prefer a paper copy, please contact Paul Whittam, Director of Water Quality at 716-685-8571 or pwhittam@ecwa.org.

Sincerely,

ERIE COUNTY WATER AUTHORITY

Earl L. Jann, Chairman

Jerome D. Schad, Vice-Chairman

Robert Anderson, Treasurer

ELJ:JDS:RA:slz
Attachment

ERIE COUNTY WATER AUTHORITY

2016 ANNUAL WATER QUALITY REPORT SUPPLEMENT

DETECTED CONTAMINANTS						
Metals, Inorganics, Physical Tests	**Violation Yes/No**	**Sample Date (or date of highest detected)**	**MCL**	**MCLG**	**Level Detected**	**Sources in Drinking Water**
Barium	No	8/16	2 mg/liter	2 mg/liter	0.021 - 0.022 mg/liter ; Average = 0.0215	Erosion of natural deposits; drilling and metal wastes
Chloride	No	1/16	250 mg/liter	NE	17 - 28 mg/liter ; Average = 21	Naturally occurring in source water
Chlorine	No	2/16	MRDL = 4.0 mg/liter	NA	<0.2 - 2.0 mg/liter; Average = 0.8	Added for disinfection
Copper	No	8/16	1300 ug/liter (AL)	1300 ug/liter (AL)	ND - 88 ug/liter, 90th percentile 40 ug/liter, 0 of 52 above AL	Home plumbing corrosion; natural erosion
Fluoride[1]	No	8/16	2.2 mg/liter	NA	<0.2 - 1.01 mg/liter; Average = 0.67	Added to water to prevent tooth decay
Lead[2]	No	8/16	15 ug/liter (AL)	0 ug/liter (AL)	ND - 29 ug/liter, 90th percentile = 7.8 ug/liter, 2 of 52 above AL	Home plumbing corrosion; natural erosion
Nitrate	No	11/16	10 mg/liter	10 mg/liter	0.13 - 0.17 mg/liter; Average = 0.15	Runoff from fertilizer use
pH	No	5/16	NR	NE	7.62 - 8.17; Average 7.94 SU	Naturally occurring; adjusted for corrosion control
Distribution System Turbidity[3]	No	7/16	TT- 5 NTU	NE	0.01 - 2.62; Average = 0.19 NTU	Soil runoff
Entry Point Turbidity[3]	No	9/16	TT - 0.3	NE	0.19 NTU highest detected; Lowest monthly % < 0.30 NTU = 100%	Soil runoff

[1] Our system is one of the many water systems in New York State that provides drinking water with a controlled, low level of fluoride for consumer dental health protection. According to the United States Centers for Disease Control, the addition of fluoride is a very effective in preventing cavities when present in drinking water at a properly controlled level. To ensure that the fluoride supplement in your water provides optimal dental protection, we monitor fluoride levels on a daily basis to make sure fluoride is maintained at a target level of 0.7 mg/l.
During 2016, monitoring showed fluoride levels in your water were within 0.2 mg/l of the target level 99% of the time. None of the monitoring results showed fluoride at levels above the 2.2 mg/l MCL for fluoride.

[2] Lead is not present in the drinking water that is treated and delivered to your home. 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. The Erie County Water Authority 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 (800-426-4791) or at *www.epa.gov/safewater/lead*.
The level presented represents the 90th percentile of the 52 sites tested. A percentile is a value on a scale of 100 that indicates a percent of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the lead or copper values detected in the water system. In this case, 52 samples were collected in the water system and the 90th percentile value for lead was the eighth highest value (7.8 ug/L).

[3] Turbidity is a measure of the cloudiness of water. ECWA monitors turbidity because it is a good indicator of the effectiveness of our filtration system. Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for bacterial growth. State regulations require that the delivered water turbidity must always be below 1 NTU in the combined filter effluent. The regulations also require that 95% of the turbidity samples collected from that point have measurements below 0.3 NTU. The maximum allowed in the distribution system is 5 NTU.

Organic Compounds	**Violation Yes/No**	**Sample Date (or date of highest detected)**	**MCL (ug/liter)**	**MCLG (ug/liter)**	**Level Detected (ug/liter)**	**Sources in Drinking Water**
Total Trihalomethanes[4]	No	8/16	LRAA = 80	NE	13 - 108 ug/liter; LRAA = 65	By-product of water disinfection (chlorination)
Total Haloacetic Acids[5]	No	8/16	LRAA = 60	NE	7 - 69 ug/liter; LRAA = 49	By-product of water disinfection (chlorination)

[4] Trihalomethanes are byproducts of the water disinfection process that occur when natural organic compounds react with the chlorine required to kill harmful organisms in the water. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer. The levels detected represent the highest single location's running annual average (65 ug/L).

[5] Haloacetic acids are byproducts of the water disinfection process required to kill harmful organisms. Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer. The level detected represents the highest single location's running annual average (49 ug/L).

Radiological Parameters	**Violation Yes/No**	**Sample Date (or date of highest detected)**	**MCL (pCi/liter)**	**MCLG (pCi/liter)**	**Level Detected (pCi/liter)**	**Sources in Drinking Water**
Radium 228	No	4/13	NE	NE	0.99 - 1.10 pCi/liter, Average = 1.05	Erosion of Natural Deposits
Combined Radium 226/228	No	4/13	5.0	0	1.15 - 1.25 pCi/liter, Average = 1.2	Erosion of Natural Deposits

Microbiological Parameters	**Violation Yes/No**	**Sample Date (or date of highest detected)**	**MCL**	**MCLG**	**Level Detected**	**Sources in Drinking Water**
Total Coliform Bacteria	No[6]	10/16[7]	5% of samples positive	0	0.44% = highest percentage of monthly positives	Naturally present in the environment

[6] A violation occurs when more than 5% of the total coliform samples collected per month are positive. No MCL violation occurred.

[7] During October 2016, one sample in the distribution system tested positive for total coliform but negative for E.coli. Follow-up sampling, testing and reporting were performed as required by regulation, and results were negative for both total coliform and E.coli.

CRYPTOSPORIDIUM AND GIARDIA	Violation Yes/No	Sample Date (or date of highest detected)	Number of Samples Testing Positive		Number of Samples Tested
			Giardia	Cryptosporidium	
Source Water	No	ND	0	0	24

Cryptosporidium is a microscopic pathogen found in surface waters throughout the United States, as a result of animal waste runoff. It can cause abdominal infection, diarrhea, nausea, and abdominal cramps if ingested.
Our filtration process effectively removes *Cryptosporidium*. No *Cryptosporidium* was detected in any samples taken in 2016.

Giardia is a microbial pathogen present in varying concentrations in many surface waters. Giardia is removed/inactivated through a combination of filtration and disinfection or by disinfection alone. No Giardia was detected in any samples taken in 2016

DETECTED UNREGULATED CONTAMINANTS				
Parameter	MCL	MCLG	Average Level Detected	Range
Calcium Hardness (mg/l CaCO3)	NR	NE	93	88 - 99
Conductivity (uS/cm)	NR	NE	294	282 -318
Alkalinity (mg/l CaCO3)	NR	NE	91	86 - 95

ABBREVIATIONS AND TERMS

AL = Action Level: the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.

LRAA= Locational Running Annual Average

MCL = Maximum Contaminant Level: the highest level of a contaminant that is allowed in drinking water. MCL's are set as close to MCLG's as feasible.

MCLG = Maximum Contaminant Level Goal: the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

MFL = Million fibers/liter (Asbestos)

mg/liter = milligrams per liter or parts per million

MRDL = Maximum Residual Disinfectant 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 Disinfectant 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 contamination

ND = Not Detected: absent or present at less than testing method detection limit.
NE = Not Established
NR = Not Regulated

NTU = Nephelometric Turbidity Units
pCi/liter = picocuries per liter

SU = Standard Units (pH measurement)
TT = Treatment Technique: a required process intended to reduce the level of a contaminant in drinking water.

ug/liter (ug/L) = micrograms per liter = parts per billion

uS/cm = Microsiemens per centimeter (a measure of conductivity)

Variances and Exemptions = State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
< = Less Than
≤ = Less Than or Equal To

TYPES OF CONTAMINANTS

Contaminants that may be present in source water <u>before</u> we treat it 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 urban storm water runoff, agricultural 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 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.

The presence of contaminants does not necessarily indicate that the water poses a health risk. Water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants.

Results presented here are from 2016 analyses or from the most recent year that tests were conducted in accordance with regulatory requirements. Some tests are not required to be performed on an annual basis. Information can be obtained upon request from the ECWA Water Quality Laboratory (716) 685-8580 or on the Internet at *www.ecwa.org*.

COMPOUNDS TESTED FOR BUT NOT DETECTED			
4-Androstene-3,17-dione	1,3,5-Trimethylbenzene	Di(2-ethylhexyl) adipate	Metribuzin
2-Chlorotoluene	Alachlor	Di(2-ethylhexyl) phthalate	Nickel
4-Chlorotoluene	Aldicarb	Dibromochloropropane	Oxamyl (Vydate)
17beta-Estradiol	Aldicarb Sulfone	Dibromomethane	PCB 1016
17alpha-Ethynyl estradiol	Aldicarb Sulfoxide	Dicamba	PCB 1221
2,4-D	Aldrin	Dichlorodifluoromethane	PCB 1232
1,3 Butadiene	Antimony	Dieldrin	PCB 1242
1,2-Dichlorobenzene	Arsenic	Dinoseb	PCB 1248
1,3-Dichlorobenzene	Asbestos	Diquat	PCB 1254
1,4-Dichlorobenzene	Atrazine	Endothall	PCB 1260
1,1-Dichloroethane	Benzene	Endrin	Pentachlorophenol
1,2-Dichloroethane	Benzo(a)pyrene	Equillin	Perfluorobutanesulfonic acid
1,1-Dichloroethylene	Beryllium	Estriol	Perfluoroheptanoic acid
cis-1,2-Dichloroethylene	Bromobenzene	Estrone	Perfluorohexanesulfonic acid
trans-1,2-Dichloroethylene	Bromochloromethane	Ethylbenzene	Perfluoronanoic acid
1,2-Dichloropropane	Bromomethane	Ethylene Dibromide (EDB)	Perfluorooctane sulfonate
1,3-Dichloropropane	Butachlor	Glyphosate	Perfluorooctanoic acid
2,2-Dichloropropane	n-Butylbenzene	Gross Alpha Particles	Pichloram
1,1-Dichloropropene	sec-Butylbenzene	Gross Beta Particles	Propachlor
cis-1,3-Dichloropropene	t-Butylbenzene	Heptachlor	n-Propylbenzene
trans-1,3-Dichloropropene	Cadmium	Heptachlor Epoxide	Radium 226
1,4-Dioxane	Carbaryl	Hexachlorobenzene	Selenium
3-Hydroxycarbofuran	Carbofuran	Hexachlorobutadiene	Simazine
2,3,7,8-TCDD (Dioxin)	Carbon Tetrachloride	Hexachlorocyclopentadiene	Styrene
2,4,5-TP (Silvex)	Chlordane	Isopropylbenzene	Tetrachloroethylene
1,1,1,2-Tetrachloroethane	Chlorobenzene	p-Isopropyltoluene	Thallium
1,1,2,2-Tetrachloroethane	Chlorodifluoromethane	Lindane	Toluene
1,2,3-Trichlorobenzene	Chloroethane	Mercury	Toxaphene
1,2,4-Trichlorobenzene	Chloromethane	Methomyl	Trichloroethylene
1,1,1-Trichloroethane	Chromium, Total	Methoxychlor	Trichlorofluoromethane
1,1,2-Trichloroethane	Cobalt	Methyl t-butyl ether (MTBE)	Vinyl Chloride
1,2,3-Trichloropropane	Cyanide	Methylene Chloride	Xylenes (o,m and p)
1,2,4-Trimethylbenzene	Dalapon	Metolachlor	