

2016 ANNUAL DRINKING WATER QUALITY REPORT
SUMMIT TOWNSHIP WATER AUTHORITY
PWSID #6250090

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 the drinking water quality provided by the Summit Township Water Authority and what it means. If you have any questions about this report or concerning your water utility, please contact John Troutman, Authority Manager at 814-864-2323. We want you to be informed about your water supply. If you want to learn more, please attend any of our regularly scheduled Water Authority meetings. They are held the first Tuesday of each month at 6:00 p.m. at the Summit Township Municipal Building at 1230 Townhall Road West; Erie, PA 16509.

Sources of Water:

The Summit Township Water Authority purchases bulk water from the Erie City Water Authority. The Erie City Water Authority has an intake in Lake Erie and provides treatment to meet drinking water standards at two (2) treatment plants. The bulk water purchased from the Erie City Water Authority is served to the northern portion of the Township along Route 19 and adjacent areas.

The Summit Township Water Authority also has well fields in Waterford Township. The well fields serve the southern portion of the Township and the northern area of the Township along Route 97.

The Summit Township Water Authority owns and operates a water distribution system within the Township consisting of pipelines, pump stations and storage tanks.

A Source Water Assessment of the Lake Erie source, treated and supplied by the Erie City Water Authority, was completed by the Pennsylvania Department of Environmental Protection (PADEP). The assessment found that the Lake Erie source is potentially most susceptible to storm water discharges and freighter traffic. Overall, the Lake Erie source has a low risk of significant contamination. A summary report of the assessment is available on the Source Water Assessment & Protection Web page at

<http://www.dep.state.pa.us/dep/deputate/watermgt/wc/Subjects/SrceProt/SourceAssessment/default.htm>.

Copies of the complete report are available for review at the PA DEP Northwestern Regional Office, Records Management Unit at 814-332-6899.

As part of the permitting process, extensive water quality analysis was completed on water from the Authority's well fields. The Water Authority controls a significant area around the well fields to prevent development and potential contamination. The Authority believes the well fields have a low risk of significant contamination.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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, 2016. 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:

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

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 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 entry point to the distribution system.

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

Not Required (NR) - These contaminants were not required to be monitored during this calendar year.

Mrem/year = millirems per year (a measure of radiation absorbed by the body)

pCi/L = picocuries per liter (a measure of radioactivity)

ppb = parts per billion, or micrograms per liter ($\mu\text{g/L}$)

ppm = parts per million, or milligrams per liter (mg/L)

ppq = parts per quadrillion, or picograms per liter

ppt = parts per trillion, or nanograms per liter

SUMMIT TEST RESULTS PWSID 6250090

Inorganic Contaminants								
Contaminants	MCL in CCR units	MCLG	Level Detected	Range of Detection	Units	Sample Date	Violation Y/N	Typical Source(s) of Contamination
Arsenic 103*	10	0	11.6	4.7-11.6	ppb	1/1/16 To 12/31/16	N	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium 101	2	2	0.032	0.032	ppm	4/6/15	N	Erosion of natural deposits. Drilling wastes. Industrial discharges.
Barium 103	2	2	0.377	0.377				
Haloacetic Acids (HAA5)	60	n/a	28.3	5.42-28.3	ppb	1/1/16 To 12/31/16	Y	Byproduct of disinfection.
Trihalomethanes (THMS)	80	n/a	79.3	29.8-79.3	ppb	1/1/16 To 12/31/16	N	Byproduct of disinfection.

* Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.

Disinfectant Residual							
Chlorine Residual at Entry Point	Minimum Disinfectant Residual	Lowest Level Detected	Range of Detections	Units	Sample Date	Violation	Sources of Contamination
Free Chlorine Residual 101 Rube Road	.80	.87	.87-2.40	ppm	1/1/16 To 12/31/16	N	Water additive used to control microbes.
Free Chlorine Residual 103 Moore Road	.95	.95	.95-2.38	ppm	1/1/16 To 12/31/16	N	Water additive used to control microbes.

Lead and Copper							
Contaminant	Action Level (AL)	MCLG	90 th Percentile Vale	Units	# of Sites Above AL of Total Sites	Violation	Sources of Contamination
Lead	15	0	0	ppb	0	N	Corrosion of household plumbing.
Copper	1.3	1.3	0.302	ppm	0	N	Corrosion of household plumbing.

ERIE TEST RESULTS PWSID 6250028

Inorganic Contaminants							
Contaminant (Unit of measurement)	Location	Violation Y/N	Level Detected	Range	MCLG	MCLG	Likely Source of Contamination
Aluminum (ppb) (a)	WP	N	ND		50-200	(na)	Erosion of natural deposits; leaching from rocks and soil
	CP	N	84	66-94			
	Dist	N	99	ND-630			
Arsenic (ppb)	WP	N	1.1	ND-4.4	0	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
	CP	N	ND				
	Dist	N	0.2	ND-1.1			
Barium (ppm)	WP	N	0.020	0.017-0.022	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
	CP	N	0.025	(b)			
Calcium (ppm) (c)	WP	N	31		(na)	(na)	Erosion of natural deposits
	Dist	N	32	30-38			
Chloride (ppm) (a)	WP	N	23.8		250	(na)	Wastewater treatment; runoff from road salting; runoff from agriculture
	CP	N	23.7				
Copper (ppm)	WP	N	0.008	0.005-0.010	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
	CP	N	0.001	ND-0.002			
	Dist	N	0.009	ND-0.230			
Fluoride (ppm)	WP	N	0.56	0.19-0.97	2	2	Erosion of natural deposits; water additive which promotes stronger teeth; discharge from fertilizer and aluminum factories
	CP	N	0.63	0.44-0.85			
	Dist	N	0.61	0.38-0.90			
Iron (ppb) (a)	WP	N	ND		300	(na)	Erosion of natural deposits; corrosion of household plumbing
	CP	N	ND				
	Dist	N	30	ND-820			
Lead (ppb)	WP	N	ND		0	15	Corrosion of household plumbing systems; erosion of natural deposits
	CP	N	ND				
	Dist	N	0.1	ND-3.3			
Magnesium (ppm) (c)	Dist	N	8.6	8.2-9	(na)	(na)	Erosion of natural deposits
Manganese (ppb) (a)	WP	N	ND		50	(na)	Erosion of natural deposits; discharge from metal refineries; runoff from agriculture
	CP	N	ND				
	Dist	N	1.8	ND-64			
Nickel (ppb) (a)	WP	N	1.8	ND-3.5	100	(na)	Leaching from pipes and fittings; contained in certain food supplements
	CP	N	ND				
Nitrate (ppm)	WP	N	ND		10	10	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
	CP	N	0.30	(b)			
Orthophosphate (ppm) (c)	WP	N	0.25	0.16-0.49	(na)	(na)	Water additive used for corrosion control
	CP	N	0.29	0.22-0.37			
	Dist	N	0.45	0.15-1.13			
Selenium (ppb)	WP	N	1.70	ND-3.3	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
	CP	N	ND				

Inorganic Contaminants - continued							
Contaminant (Unit of measurement)	Location	Violation Y/N	Level Detected	Range	MCLG	MCL	Likely Source of Contamination
Sodium (ppm) (c)	Dist	N	13	10-15	(na)	(na)	Erosion of natural deposits; wastewater effluent; runoff from road salting
Sulfate (ppm) (a)	WP	N	22.0		250	(na)	Erosion of natural deposits; leaching from rocks and soil
	CP	N	20.5				

Microbiological Contaminants							
Contaminant (Unit of measurement)	Location	Violation Y/N	Level Detected	Range	MCLG	MCL	Likely Source of Contamination
Turbidity (ntu)	CP	N	0.133	0.089-0.243	(na)	TT	Soil Runoff
	WP		0.078	0.049-0.279	(na)		
Giardia (cysts/l)	Lake Erie Influent	N	0.093 Jan	ND in other 35 samples	ppm	Surface Water Treatment =TT	Naturally present in the environment
Cryptosporidium (cysts/l)	Lake Erie Influent		0.091 Nov	ND in other 35 samples			

Radiological Contaminants							
Contaminant (Unit of measurement)	Location	Violation Y/N	Level Detected	Range	MCLG	MCL	Likely Source of Contamination
Combined Radium (pCi/l)	CP/WP	N	0.45	ND – 1.03	0	5	Erosion of Natural deposits

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	CP	0.2	0.36	0.36-1.40	ppm	8/16/2016	N	Water additive used to control microbes
	WP	0.2	0.61	0.61-1.58	ppm	7/21/2016	N	

Synthetic Organic Contaminants (SOC) – None Detected								

Volatile Organic Contaminants (VOC)							
Contaminant (Unit of measurement)	Location	Violation Y/N	Level Detected	Range	MCLG	MCL	Likely Source of Contamination
Bromodichloromethane (ppb)	WP	N	6.6	5.8-7.3	(na)	(na)	Byproduct of drinking water disinfection
	CP		7.4	(b)			
Chloroform (ppb)	WP	N	9.9	7.7-12.0	(na)	(na)	Byproduct of drinking water disinfection
	CP		12.0	(b)			
Dibromochloromethane (ppb)	WP	N	2.9	2.4-3.4	(na)	(na)	Byproduct of drinking water disinfection
	CP		2.9	(b)			
Total Trihalomethanes (ppb) (d)	WP	N	19.3	15.9- 22.7	(na)	80	Byproduct of drinking water disinfection
	CP		22.3	(b)			

Disinfection and Disinfection By Products

Contaminant (Unit of measurement)	Location	Violation Y/N	Level Detected	Range	MCLG	MCL	Likely Source of Contamination
Chlorine (Highest Monthly average)(ppm)	WP	N	1.77 (Dec)	1.36- 1.77	MRDLG = 4	MRDLG = 4	Water additive used to control microbes
	CP	N	1.63 (Oct)	1.38- 1.63			
	Dist	N	1.33 (Dec)	0.76- 1.33			
Total Trihalomethanes (Highest Running Average) (ppb)	Dist	N	76.5 (Nov)	22-120	(na)	80	Byproduct of drinking water disinfection
Haloacetic Acids (Highest Running Average) (ppb)	Dist	N	26.3 (May)	8.6-39	(na)	60	Byproduct of drinking water disinfection
Total Organic Carbon (ppm)	CP/WP	N	1.85	1.3-2.3	(na)	TT	Naturally present in the environment
SUVA (ppm)	CP/WP	N	1.17	0.62- 1.53			Test to determine TOC reactivity

- (a) Secondary contaminants: guidelines provided for cosmetic reasons. There are no known health risks at the levels provided.
- (b) Only one sample is required.
- (c) Non-contaminants: these ions are present in all water systems and pose no health risk. Rather they contribute to water hardness and taste.
- (d) This result is the summation of the three VOCs present in detectable quantity.
- (na) Not Applicable

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 (June)	15	0	0.75	ppb	1 of 189	N	Corrosion of household plumbing; erosion of natural deposits.
Copper (June)	1.3	1.3	0.082	ppm	0 of 189	N	Corrosion of household plumbing; erosion of natural deposits.

Microbial					
Contaminant	MCL	MCLG	Highest # or % of Positive Samples	Violation Y/N	Sources of Contamination
Total Coliform Bacteria	For systems collecting >40 samples per month: 5% of monthly samples are found to be positive for total coliform	0	0.8% in October 2016 ND in other 1506 samples	N	Naturally present in the environment
Fecal Coliform Bacteria or E. Coli	Routine and repeat samples are total coliform positive and either is E. Coli positive, OR system fails to take repeat samples following E. Coli positive routine sample, OR system fails to analyze total coliform-positive repeat sample for E. Coli	0	1 sample in October 2016 ND in other 1506 samples	N	Human and animal fecal waste

Turbidity						
Contaminant	MCL	MCLG	Level Detected	Sample Date	Violation Y/N	Sources of Contamination
Turbidity	TT=1 NTU for a single measurement	0	2	Nov 14 th (WP)	Y	Soil runoff
	TT= 95% of monthly samples < 0.3 NTU	0	98.9%	Nov (WP)	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)	19.0 to 44.1%	0	N	Naturally present in the environment
		Alternative Compliance Criteria used when below 25%	SUVA		

Violations:

In 2016, there was a violation of PA DEP Drinking Water Standards. In the monitoring year of 2016, Summit Township Water Authority failed to monitor for Trihalomethanes (TTHM's) and Halo-acetic Acids Five (HAA5's) at all of the required sites during the 2nd and 3rd quarter of 2016. The Water Authority did monitor for TTHM's and HAA5's at two (2) sites as required in the past but was not unaware that an additional two sites had been mandated by DEP when our population increased. The additional samples were collected and reported to DEP and compliance was met.

Also in 2016, the Water Authority's lab was late in reporting some chlorine results and Stage 2 Disinfection By-Products to DEP during the second quarter of 2016. All samples were taken on time and passed; however, results were reported late.

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 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 agriculture, urban stormwater runoff and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts 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 PA DEP prescribe regulations which limit the amount of certain contaminants in water provided by public water systems.

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 Summit Township 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 or at <http://www.epa.gov/safewater/lead>.

Other Information:

Fluoride - The northern portion of the Township (generally north of Robison Road) is served by water purchased from the Erie City Water Authority. The water supplied by the Erie City Water Authority contains fluoride, which is an additive to promote strong teeth. The southern portion of the Township and the Oliver Road area is served by well water, which does not contain fluoride. If you require additional information, Please contact John Troutman at 814-864-2323 for specific service areas in the Township which have fluoride in the water supply.