

Annual Drinking Water Quality Report for 2012

The Seneca Nation of Indians

Introduction

The Seneca Nation of Indians (SNI) is pleased to issue this annual report describing the quality of the drinking water delivered to your tap in 2012. The purpose of this report is to help you understand what you are using in your daily lives, and to make you more educated consumers.

We are proud to tell you that last year, the water provided for your use met every United States Environmental Protection Agency (USEPA) standard for safety. In other words, SNI did not have one single violation of drinking water quality standards. This report contains information to help everyone understand more about their drinking water.

If, after reading this report, you have any questions about your drinking water, please contact Steve Tome, Sanitarian, at 716-945-5894.

Sources of Water

Cattaraugus Territory

In 2012, all drinking water for the Cattaraugus Territory was bought from the Erie County Water Authority (ECWA). Both SNI and ECWA had no drinking water quality violations. The Annual Water Quality Report from Erie County is attached at the end of this document. All water purchased from ECWA is disinfected and fluoridated prior to distribution to consumers.

The Seneca Nation of Indians samples the water within its distribution system. Table 1 summarizes the results of detected contaminants.

TABLE 1
DETECTED CONTAMINANTS
CATTARAUGUS TERRITORY

Contaminant	Violation		Date of Sample	Level Detected	Unit of Measurement	MCLG	Regulatory Limit MCL or AL	Likely Source of Contamination
		Y/N						
Barium	N	8/26/2009	184	ug/l	2,000	MCL = 2,000		Natural sources
Nitrate	N	8/26/2009	2.77	mg/l	10	MCL = 10		Agricultural runoff; natural sources
Lead	N	9/11/2012	<1*	ug/l	0	AL = 15		Household plumbing corrosion; natural sources; wood preservatives
Copper	N	9/11/2012	21*	ug/l	1,300	AL = 1,300		Household plumbing corrosion; natural sources
Gross Alpha	N	8/26/2009	2.58 ± 2.21	pCi/l	0	MCL = 15		Natural sources
Radium 228	N	8/26/2009	0.248 ± 0.331	pCi/l	0	MCL = 5		Natural sources
Haloacetic Acids	N	6/27/2012	0.024	mg/l	n/a	MCL = 0.06		Disinfection By-Product
Trihalomethanes	N	6/27/2012	0.04	mg/l	n/a	MCL = 0.08		Disinfection By-Product

*Value at 90th percentile

Allegany Territory

All drinking water produced on the Allegany Territory comes from groundwater. Water delivered within the city limits is produced by the Salamanca Board of Public Utilities (BPU). Their annual water quality report is available online at www.salamancabpu.com

Jimersontown Community Water System

The Seneca Nation of Indians samples the water within its distribution systems according to an approved sampling plan. Table 2 summarizes the results of detected contaminants.

TABLE 2
DETECTED CONTAMINANTS
JIMERSONTOWN COMMUNITY WATER SYSTEM

Contaminant	Violation		Date of Sample	Level Detected	Unit of Measurement	MCLG	Regulatory Limit MCL or AL	Likely Source of Contamination
Trichloroethylene	N	3/7/2012	0.0005	mg/l	0	MCL = 4	Industrial contamination	
4-Chlorobenzotrifluoride	N	3/7/2012	0.00334	mg/l	0	MCL = 4	Industrial contamination	
Trichloroethylene	N	7/30/2012	0.0014	mg/l	0	MCL = 4	Industrial contamination	
4-Chlorobenzotrifluoride	N	8/8/2012	0.000583	mg/l	0	MCL = 4	Industrial contamination	
Trichloroethylene	N	7/30/2012	0.0005	mg/l	0	MCL = 4	Industrial contamination	

Steamburg Community Water System

The Seneca Nation of Indians samples the water within its distribution systems according to an approved sampling plan. No contaminants were detected in the Steamburg Water System in 2012.

On 6/13/2012 there was a positive result for coliform bacteria at 20 colonies per 100 milliliters of water. Coliform is an indicator of possible bacterial contamination. In accordance with USEPA procedures, follow-up samples were collected and analyzed. All result were non-detect, indicating that the water was safe to drink. The cause of this event was likely a low chlorine residual or sampling error.

Sullivan Hollow Community Water System

The Seneca Nation of Indians samples the water within its distribution systems according to an approved sampling plan. No contaminants were detected in the Sullivan Hollow Water System in 2012.

On 6/13/2012 there was a positive result for coliform bacteria at 2 colonies per 100 milliliters of water. Coliform is an indicator of possible bacterial contamination. In accordance with USEPA procedures, follow-up samples were collected and analyzed. All result were non-detect, indicating that the water was safe to drink. The cause of this event was likely a low chlorine residual or sampling error.

Shelton Park Water System

The Seneca Nation of Indians samples the water within its distribution systems according to an approved sampling plan. No contaminants were detected in the Shelton Park Water System in 2012.

Contaminants in Drinking Water

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 possesses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (1-800-426-4791).

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.

On a monthly basis, all Nation water facilities are sampled and tested for microbiological quality and chlorine residual. Our drinking water was in complete compliance with the associated standards, as no microorganisms were ever detected, and a chlorine residual was always detected (a chlorine residual is important in the distribution system to prevent the growth of any microorganisms).

Other analyses were performed on a less frequent basis, including organic chemicals, radioactivity, and lead and copper. There were no violations of these standards.

What Does All of This Mean?

Aside from being required by the USEPA, the information presented in this report is meant to make you aware of the importance that is placed on providing water that is safe to drink. This quality water is not produced by accident. New York State Department of Health and United South and Eastern Tribes (USET) certified operators are responsible for operating the equipment that produces your water. Samples are taken by trained professionals, and are analyzed by contract laboratories certified by the EPA. It is up to you, the consumer, to help us continue to provide water of excellent quality by informing us if you are experiencing problems with taste, odor, color, or lack of pressure in your homes or businesses.

Definitions

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.

mg/l: milligrams per liter, which corresponds to one part of contaminant in one million parts of water.

ug/l: micrograms per liter, which corresponds to one part of contaminant in one billion parts of water.

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

pCi/l: picocuries per liter, which is a measurement of radioactivity in water.

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DETECTED CONTAMINANTS

Sources in Drinking Water						
Level Detected			MCLG			
Metals, Inorganics, Physical Tests	Violation Yes/No	Sample Date (or date of highest detection)	MCL		MCLG	
Barium	No	11/12	2 mg/liter	NE	0.020 - 0.020 mg/liter; Average = 0.020	Erosion of natural deposits, drilling and metal wastes
Chloride	No	3/12	250 mg/liter	NE	16 - 30 mg/liter; Average = 20	Naturally occurring in source water
Chlorine	No	3/12	NRDL = 4.0 mg/liter	NRDL = 4 mg/liter	<0.20 - 2.20 mg/liter; Average = 0.73	Added for disinfection
Copper	No	8/10	1.3 mg/liter (AL)	0 mg/liter (AL)	0.0005 - 0.04 mg/liter; 90th percentile 0.03 mg/liter; O of 79 above AL	Home plumbing corrosion natural erosion
Fluoride ⁴	No	4/12	2.2 mg/liter	0.2 mg/liter	0.64 - 1.26 mg/liter; Average = 0.86; 95% in optimum range 0.5 - 1.2	Added to water to prevent tooth decay
Lead ⁵	No	8/10	15 ug/liter (AL)	0 ug/liter (AL)	0.8 ug/liter; 90th percentile 3 ug/liter; O of 79 above AL	Home plumbing corrosion; natural erosion
Nitrate	No	12/12	10 mg/liter	10.0 mg/liter	0.17 - 0.18 mg/liter; Average = 0.18	Runoff from fertilizer use
pH	No	4/12	7.0 mg/liter	NE	7.42 - 8.13; Average = 7.90 SU	Naturally occurring; adjusted for corrosion control
Turbidity ⁶	No	1/12	TT	NE	0.47 NTU highest detected; 98.8% was lowest monthly % <0.30 NTU	Soil runoff

¹Our system is one of the many drinking 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 means of 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 value of 1.0 mg/L. During 2012, 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 during fluoride addition presented represents the 90th percentile of the 79 sites tested. A percentile is a value on a scale of 0 to 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, 79 samples were collected in the water system, and the 90th percentile value for lead was the eighth highest value (3 ug/L). The action level for lead was not exceeded in any of the samples tested.

The action level for copper was also not exceeded by any of the samples tested.

²Turbidity is a measure of the cloudiness of water. Erie County Water Authority 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 effluent, because of plan improvements construction projects that started to affect the treatment plant filtered water have measurements below 0.3 NTU. The Van de Water Treatment Plant was shut down for a period of time from 7/1/01 to 11/02/12, because of plan improvements construction projects that started to affect the treatment plant. There was no interruption of service in the water system, and the distribution system water quality was not affected.

Sources in Drinking Water						
Level Detected (ug/liter)			MCLG (ug/liter)			
Organic Compounds	Violation Yes/No	Sample Date (or date of highest detection)	MCL		MCLG	
Total Trichloromethanes ⁷	No	8/12	RAA = 80; LRAA = 80	NE	14 - 82 ug/liter; RAA = 42; LRAA = 63	By-product of water disinfection (chlorination)
Total Haloacetic Acids ⁸	No	6/12	RAA = 60; LRAA = 60	NE	11 - 48 ug/liter; RAA = 24; LRAA = 30	By-product of water disinfection (chlorination)
1,2-Dichloroethane ⁹	No	6/12/2012	5	0	0.9 - 1.2 ug/liter; Average = 1.0	Industrial discharge from chemical factories

⁴Trihalomethanes 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 and 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 location's running annual average (30 ug/L). Both are below the MCL.

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 concentration over many years may have an increased risk of getting cancer. The concentrations did not exceed the EPA's MCL for this compound.

Sources in Drinking Water						
Level Detected (ug/liter)			MCLG (ug/liter)			
Microbiological Parameters	Violation Yes/No	Sample Date (or date of highest detection)	MCL		MCLG	
Total Coliform Bacteria	No	7/12 ^a	5% of samples positive	NE	1.3% = highest percentage of monthly positives	Naturally present in environment

⁷A violation occurs when more than 5% of the total coliform samples collected per month are positive. No MCL violation occurred.

⁸A violation occurs when two or more samples at the treated RT tank and one sample at ECWA Water Quality Lab tested positive for total coliform. We were negative for both total coliform and E. coli.

UNREGULATED SUBSTANCES

Parameter	MCL	MCLG	Average Level Detected (mg/liter)	Range (mg/liter)
Alkalinity	NR	NE	91	83 - 97
Calcium Hardness	NR	NE	91	83 - 98
Conductivity	NR	NE	305 uS/cm	295 - 329 uS/cm
Magnesium	NR	NE	9	9.0 - 9.1
MIB and Geosmin	NR	NE	ND	ND - 6.0 ng/liter
Potassium	NR	NE	16	15 - 16
Sodium	NR	NE	13.0	12.9 - 13.0
Sulfate	NR	NE	20.8	20.6 - 21.0
Total Dissolved Solids	NR	NE	164	155 - 170
Total Organic Carbon	NR	NE	2.1	1.6 - 5.6

As you can see by the tables, our system had no violations. We have learned through our testing that some contaminants have been detected; however, these contaminants were detected below the level allowed by the state.

ABBREVIATIONS AND TERMS

AL = Action Level: the concentration of a contaminant which, when exceeded, triggers treatment or other actions which a water system must follow.	uS/cm = Microsiemens per centimeter (a unit of conductivity measurement)
ND = Not Detected; absent or present at less than test method detection limit.	NR = Not Established
mg/liter = nanograms per liter = parts per trillion	NR = Not Regulated
CFU/100 ml = Colony Forming Units per 100 milliliters	NTU = Nephelometric Turbidity Units
CFU = Maximum Contaminant Level: The highest level of contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible.	NTU = Running Annual Average
MCL = Maximum Contaminant Level Goal: The level of contaminant in drinking water below which there is no known or expected risk to health. MRLGs allow for a margin of safety	NTU = Standard Units (pH measurement intended to reduce the level of a contaminant in drinking water.)
MRLG = Maximum Residual Limit: 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.	NTU = Treatment Technique
MRDL = Maximum Residual Disinfectant Level: 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.	NTU = Treatment technique under certain conditions.
NRDL = 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.	NTU = Treatment technique under certain conditions.
NRD = Denotes Less Than	NTU = Denotes Less Than or Equal To
S = Denotes Less Than or Equal To	

TYPES OF CONTAMINANTS

Contaminants that may be present in source water before we treat it include:	Microbial Contaminants, such as salts and metals, which can be naturally occurring, or result from urban storm water runoff, industrial waste water discharges, oil and gas production, mining or farming.
Industrial 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.
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.	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.
COMPOUNDS TESTED FOR BUT NOT DETECTED	
Acetone	Acidic Sulfoxide
Benzene	Dicamba
Bis(2-Ethylhexyl) Phthalate	Dihydrofluoromethane
Butadiene	Dinitro
Chloroform	Dimethyl Phthalate
Chloroethylene	Dimethyl Terephthalate
Chloroethane	Dimethylbenzene
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