2016Annual Drinking Water Quality Report

Drinking Water Report for the Town of Burlington Water System

We're pleased to present to you this year's Annual Quality Water Report. This report is designed to provide you with information about the quality water and services we deliver to you every day. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. The Town of Burlington is committed to supplying you with a safe and dependable source of drinking water.

Our water system supplies approximately 146 households, businesses, churches, and schools with drinking water that is safe and meets federal and state requirements. Our water source consists of two alluvial wells located approximately 1.5 miles southwest of the center of the Town of Burlington. Previously the Town also purchased land adjacent to the well sites and adopted a wellhead protection plan to ensure our wells keep pumping clean drinking water.

We want our customers to be informed about their water utility. If you have any questions about this report or your water utility, please give us a call. The town office is open weekly from 8:00-12:00. You may also contact Lee Allen, Water Superintendent, at City Hall 762-3502. If you need further information, you are welcome to attend regularly scheduled town meetings. They are held on the second Tuesday of each month at 7:30 p.m. in the Burlington Town Hall.

As water travels over the land or underground, it can pick up substances or contaminants such as microbes, inorganic and organic chemicals, and radioactive substances. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It’s important to remember that the presence of these constituents does not necessarily pose 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 at 1-800-426-4791.

The Town of Burlington routinely monitors for constituents in your drinking water according to federal and state law. The following table shows the results of our monitoring for the period of January 1, to December 31, 2016. In this table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

Non-Detects (ND): Laboratory analysis indicates that the constituent is not present.

Parts per million (ppm) or Milligrams per liter (mg/l): One part per million corresponds to one minute in two years or a single penny in $10,000.

Parts per billion (ppb) or Micrograms per liter: One part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.

Parts per trillion (ppt) or Nanograms per liter (nanograms/l): One part per trillion corresponds to one minute in 2,000,000 years, or a single penny in $10,000,000,000.

Parts per quadrillion (ppq) or Picograms per liter (picograms/l): One part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in $10,000,000,000,000.

Picocuries per liter (pCi/L): Picocuries per liter is a measure of the radioactivity in water.

Million Fibers per Liter (MFL): Million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.

Nephelometric Turbidity Unit (NTU: Nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Variances & Exemptions (V&E): State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

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

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

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.

TEST RESULTS						
Contaminant	**Violation Y/N**	**Level Detected**	**Unit Measurement**	**MCLG**	**MCL**	**Likely Source of Contamination**

TEST RESULTS						
Contaminant	**Violation Y/N**	**Level Detected**	**Unit Measurement**	**MCLG**	**MCL**	**Likely Source of Contamination**
Microbiological Contaminants						
1. Total Coliform Bacteria	N	Negative	N/A	0	Presence of coliform bacteria in 5% of monthly samples	Naturally present in the environment
2. Fecal Coliform and *E.coli*	N	ND	CFU/100 ml	0	a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or *E. coli* positive	Human and animal fecal waste
3. Turbidity	N/A	N/A	NTU	N/A	TT	Soil runoff
4. Chlorine	N	1	ppm	MRDLG = 4	MRDL = 4	Water additive used to control microbes
Radioactive Contaminants						
4. Beta/photon emitters	N/A	ND	PCi/l	0	50	Decay of natural and man-made deposits
5. Alpha emitters	N	2.5±1.2	pCi/1	0	15	Erosion of natural deposits
6. Combined radium	N/A	ND	pCi/1	0	5	Erosion of natural deposits
Inorganic Contaminants						
7. Antimony	N	ND	ppb	6	6	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
8. Arsenic	N	ND	ppb	N/A	50	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
9. Asbestos	N/A	N/A	MFL	7	7	Decay of asbestos cement water mains; erosion of natural deposits
10. Barium	N	ND	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
11. Beryllium	N	ND	ppb	4	4	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries
12. Cadmium	N	ND	ppb	5	5	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints
13. Chromium	N	ND	ppb	100	100	Discharge from steel and pulp mills; erosion of natural deposits
14. Copper (Source)	N	0.0	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
14A. Copper (Pb&Cu Rule)	N	1.30	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

TEST RESULTS						
Contaminant	**Violation Y/N**	**Level Detected**	**Unit Measurement**	**MCLG**	**MCL**	**Likely Source of Contamination**
15. Cyanide	N	ND	ppb	200	200	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
16. Fluoride	N	0.4	ppm	4.0	4.0	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
17. Lead (Source)	N	0.00	ppm	0	AL=0.015	Corrosion of household plumbing systems, erosion of natural deposits
17. Lead (Pb&Cu Rule)	N	ND	Ppm	0	AL=0.015	Corrosion of household plumbing systems, erosion of natural deposits
18. Mercury (inorganic)	N	ND	ppb	2	2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
19. Nitrate (as Nitrogen)	N	7	ppm	10.0	10.0	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
20. Nitrite (as Nitrogen)	N	ND	ppm	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
21. Selenium	N	ND	ppb	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
22. Thallium	N	ND	ppb	0.5	2	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories
Synthetic Organic Contaminants including Pesticides and Herbicides						
23. 2,4-D	N	ND	ppb	70	70	Runoff from herbicide used on row crops
24. 2,4,5-TP (Silvex)	N	ND	ppb	50	50	Residue of banned herbicide
25. Acrylamide	N	ND	ppb	0	TT	Added to water during sewage/wastewater treatment
26. Alachlor	N	ND	ppb	0	2	Runoff from herbicide used on row crops
27. Atrazine	N	ND	ppb	3	3	Runoff from herbicide used on row crops
28. Benzo(a)pyrene (PAH)	N	ND	Nanograms/l	0	200	Leaching from linings of water storage tanks and distribution lines
29. Carbofuran	N	ND	ppb	40	40	Leaching of soil fumigant used on rice and alfalfa
30. Chlordane	N	ND	ppb	0	2	Residue of banned termiticide
31. Dalapon	N	ND	ppb	200	200	Runoff from herbicide used on rights of way
32. Di(2-ethylhexyl) adipate	N	ND	ppb	400	400	Discharge from chemical factories
33. Di(2-ethylhexyl) phthalate	N	.89	ppb	0	6	Discharge from rubber and chemical factories
34. Dibromochloropropane	N	ND	Nanograms/1	0	200	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards
35. Dinoseb	N	ND	ppb	7	7	Runoff from herbicide used on soybeans and vegetables
36. Diquat	N	ND	ppb	20	20	Runoff from herbicide use
37. Dioxin [2,3,7,8-TCDD]	N/A	N/A	Picograms/l	0	30	Emissions from waste incineration and other combustion; discharge from chemical factories

TEST RESULTS						
Contaminant	**Violation Y/N**	**Level Detected**	**Unit Measurement**	**MCLG**	**MCL**	**Likely Source of Contamination**
38. Endothall	N	ND	ppb	100	100	Runoff from herbicide use
39. Endrin	N	ND	ppb	2	2	Residue of banned insecticide
40. Epichlorohydrin	N	ND	ppb	0	TT	Discharge from industrial chemical factories; an impurity of some water treatment chemicals
41. Ethylene dibromide	N	ND	Nanograms/1	0	50	Discharge from petroleum refineries
42. Glyphosate	N	ND	ppb	700	700	Runoff from herbicide use
43. Heptachlor	N	ND	Nanograms/1	0	400	Residue of banned termiticide
44. Heptachlor epoxide	N	ND	Nanograms/1	0	200	Breakdown of heptachlor
45. Hexachlorobenzene	N	ND	ppb	0	1	Discharge from metal refineries and agricultural chemical factories
46. Hexachlorocyclo- pentadiene	N	ND	ppb	50	50	Discharge from chemical factories
47. Lindane	N	ND	Nanograms/l	200	200	Runoff/leaching from insecticide used on cattle, lumber, gardens
48. Methoxychlor	N	ND	ppb	40	40	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock
49. Oxamyl [Vydate]	N	ND	ppb	200	200	Runoff/leaching from insecticide used on apples, potatoes and tomatoes
50. PCBs [Polychlorinated biphenyls]	N	ND	Nanograms/1	0	500	Runoff from landfills; discharge of waste chemicals
51. Pentachlorophenol	N	ND	ppb	0	1	Discharge from wood preserving factories
52. Picloram	N	ND	ppb	500	500	Herbicide runoff
53. Simazine	N	ND	ppb	4	4	Herbicide runoff
54. Toxaphene	N	ND	ppb	0	3	Runoff/leaching from insecticide used on cotton and cattle
Volatile Organic Contaminants						
55. Benzene	N	ND	ppb	0	5	Discharge from factories; leaching from gas storage tanks and landfills
56. Carbon tetrachloride	N	ND	ppb	0	5	Discharge from chemical plants and other industrial activities
57. Chlorobenzene	N	ND	ppb	100	100	Discharge from chemical and agricultural chemical factories
58. o-Dichlorobenzene	N	ND	ppb	600	600	Discharge from industrial chemical factories
59. p-Dichlorobenzene	N	ND	ppb	75	75	Discharge from industrial chemical factories
60. 1,2 - Dichloroethane	N	ND	ppb	0	5	Discharge from industrial chemical factories
61. 1,1 – Dichloroethylene	N	ND	ppb	7	7	Discharge from industrial chemical factories
62. cis-1,2-Dichloroethylene	N	ND	ppb	70	70	Discharge from industrial chemical factories
63. trans - 1,2 –Dichloroethylene	N	ND	ppb	100	100	Discharge from industrial chemical factories
64. Dichloromethane	N	ND	ppb	0	5	Discharge from pharmaceutical and chemical factories

TEST RESULTS						
Contaminant	**Violation Y/N**	**Level Detected**	**Unit Measurement**	**MCLG**	**MCL**	**Likely Source of Contamination**
65. 1,2-Dichloropropane	N	ND	ppb	0	5	Discharge from industrial chemical factories
66. Ethylbenzene	N	ND	ppb	700	700	Discharge from petroleum refineries
67. Styrene	N	ND	ppb	100	100	Discharge from rubber and plastic factories; leaching from landfills
68. Tetrachloroethylene	N	ND	ppb	0	5	Leaching from PVC pipes; discharge from factories and dry cleaners
69. 1,2,4 –Trichlorobenzene	N	ND	ppb	70	70	Discharge from textile-finishing factories
70. 1,1,1 - Trichloroethane	N	ND	ppb	200	200	Discharge from metal degreasing sites and other factories
71. 1,1,2 –Trichloroethane	N	ND	ppb	3	5	Discharge from industrial chemical factories
72. Trichloroethylene	N	ND	ppb	0	5	Discharge from metal degreasing sites and other factories
73. TTHM [Total trihalomethanes]	N	28	ppb	0	80	By-product of drinking water chlorination
74. Toluene	N	ND	ppm	1	1	Discharge from petroleum factories
75. Vinyl Chloride	N	ND	ppb	0	2	Leaching from PVC piping; discharge from plastics factories
76. Xylenes	N	ND	ppm	10	10	Discharge from petroleum factories; discharge from chemical factories
Parameters						
78. Sulfate	N	134	ppm	NA	NA	
79. Sodium	N	52	ppm	None	None	Natural occurring
80. Bromodicholoromethane	N	10	ppb	NA	NA	By-product of drinking water chlorination
81. Chloroform	N	14	ppb	NA	NA	By-product of drinking water chlorination
82. Dibromochloromethane	N	4.1	ppb	NA	NA	By-product of drinking water chlorination
83. Dichloroacetic acid	N	6.6	ppb	NA	NA	By-product of drinking water chlorination
84. Trichloroacetic acid	N	6.1	ppb	NA	NA	By-product of drinking water chlorination
85.Dibromoacetic acid	N	ND	ppb	NA	NA	By-product of drinking water chlorination
86. Monobromoacetic acid	N	ND	ppb	NA	NA	By-product of drinking water chlorination
87. Monochloroacetic acid	N	ND	ppb	NA	NA	By-product of drinking water chlorination
88. Total Haloacetic Acids	N	13	ppb	NA	60	By-product of drinking water chlorination

Some of our data in the tables are more than one year old, since certain chemical contaminants are monitored less than once a year. Our sampling frequency complies with EPA drinking water regulations.

The sources of drinking water include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it can dissolve naturally occurring minerals and, in some cases, radioactive materials. The water can also pick up substances such as:

1) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural operations and wildlife.
2) Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic waste water discharges, oil and gas production, mining or farming.
3) Pesticides and Herbicides, which may come from agriculture, urban storm water runoff, and residential uses.
4) Organic chemical contaminants, which can come from industrial processes, gas stations, urban storm water runoff and septic systems.
5) Radioactive contaminants, which can be naturally occurring or the result of oil and gas production and mining activities.

In order to insure that tap water is safe to drink, EPA establishes regulations, which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration establishes limits for contaminants in bottled water.

MCL's are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink a half gallon of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

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 infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791) or EPA (800-227-8917)

Thank you for allowing us to continue providing your family with clean, quality water this year. We are excited about the improvement to our system and are confident they will benefit all our customers. Please help us to maintain and protect our water supply. Water is at the heart of our community, our way of life and our children's future.