



City of Charlottesville

2019 Annual Water Quality Report Data



Contaminants Detected	MCLG	MCL	City Water Result	# of Samples > AL	Range of Detections	Violation?	Typical Source of Contaminant
Primary Standards- Potential Health Risks							
<i>Microbiological Compounds</i>							
Fecal Coliform Bacteria (as <i>E. coli</i>) ¹	0	² See footnote	0	n/a	0 per month	No	Human and animal fecal waste
Turbidity (maximum single value)	n/a	1 ³	0.25 NTU	n/a	n/a	No	Soil runoff
Turbidity (% of monthly samples below 0.3 NTU)	n/a	95%	100%	n/a	100%	No	Soil runoff
<i>Radioactive Contaminants</i>							
Combined Radium ⁴	0 pCi/l	5 pCi/l	0.7 pCi/l	n/a	ND—0.7 pCi/l	No	Erosion of natural deposits
Gross Beta ^{4,5}	0 pCi/l	50 pCi/l	1.7 pCi/l	n/a	1.1—1.7 pCi/l	No	Decay of natural and man-made deposits
<i>Inorganic Compounds</i>							
Copper ⁶	1.3 ppm	1.3 ppm (AL)	0.068 ppm ⁷	0	0 exceeded Action Level	No	Corrosion of household plumbing systems, erosion of natural deposits
Lead ⁶	0 ppb	15 ppb (AL)	< 2.00 ppb ⁷	0	0 exceeded Action Level	No	Corrosion of household plumbing systems, erosion of natural deposits
Fluoride ⁸	4 ppm	4 ppm	0.80 ppm	n/a	.44—0.84 ppm	No	Water additive that promotes strong teeth
Barium	2 ppm	2 ppm	0.02 ppm	n/a	ND—0.02 ppm	No	Discharge from drilling wastes; discharge from metal refineries; erosion of natural deposits
Nitrate	10 ppm	10 ppm	0.40 ppm	n/a	.09—0.40 ppm	No	Runoff from fertilizer use, leaching from septic tanks, sewage
<i>Disinfectants and Disinfection By-Products</i>							
Total Trihalomethanes (TTHMs)	n/a	80 ppb	42 ppb ⁹	n/a	14—39 ppb	No	Byproduct from disinfection
Haloacetic Acid (HAAs)	n/a	60 ppb	39 ppb ⁹	n/a	5—38 ppb	No	Byproduct from disinfection
Free Residual Chlorine	MRDL = 4 ppm	MRDLG = 4 ppm	1.27 ppm	n/a	0.40—1.99 ppm	No	Water additive to control microbes (disinfectant)
Secondary Standards- Aesthetic Factors							
Chloride	n/a	250 ppm	10—13.7 ppm	-	-	No	Runoff/leaching of natural deposits
Iron	n/a	0.3 ppm	<0.05 ppm	-	-	No	Runoff/leaching of natural deposits
Manganese	n/a	0.05 ppm	<0.01 ppm	-	-	No	Runoff/leaching of natural deposits
pH	n/a	6.5—8.5	7.5—7.6 (monthly averages)	-	-	No	Runoff/leaching of natural deposits
Sulfate	n/a	250 ppm	<5.0—27.4 ppm	-	-	No	Runoff/leaching of natural deposits
Total Dissolved Solids	n/a	500 ppm	65—92 ppm	-	-	No	Runoff/leaching of natural deposits
Other Parameters of Interest							
Alkalinity	n/a	n/a	17—25ppm (monthly averages)	-	-	n/a	Runoff/leaching of limestone minerals from soil and rock
Conductivity	n/a	n/a	96—144 µmhos/cm	-	-	n/a	Runoff/leaching of natural deposits
Hardness	n/a	n/a	25—41 ppm	-	-	n/a	Runoff/leaching of limestone minerals from soil and rock
Sodium	n/a	n/a	6.83—6.92 ppm	-	-	n/a	Runoff/leaching of natural deposits

¹ Unit of measurement for *E. coli* is the presence or absence of bacteria in a 100 mL sample.

² *E. coli* MCL: A routine sample and a repeat sample are total coliform positive, and at least one is also *E. coli* positive. RWSA collected 672 samples in 2018.

³ The MCL for turbidity is for no single measurement to exceed 1 NTU, and for 95% of all measurements to be below 0.3 NTU.

⁴ Sampled at all urban treatment plants in 2017, and sampling not required annually.

⁵ EPA considers 50 pCi/L to be the level of concern for beta particles.

⁶ Sampled in August and September 2016 from select, relatively high-risk residences.

⁷ The value reported is the 90th percentile of all data (34 samples) collected.

⁸ Compliance results for fluoride are from the annual inorganics sample. Range of results includes monthly split sample lab results.

⁹ TTHM and HAA results are averaged over four quarters at each sampling location to determine compliance with the MCL.