



2019 Annual Water Quality Report

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**Analyzed and reported by Beaver Water District. All other analyses in this report by ADH.*

Unregulated Constituents

Physical and Chemical Parameters	Units	BWD
Alkalinity (Phenolphthalein) *	ppm as CaCO3	0
Alkalinity (Total) *	ppm as CaCO3	46 (avg)
Calcium *	ppm as Ca	24 (avg)
Range of Results	ppm as Ca	17-30
Conductivity *	µS/cm	182 (avg)
Hardness (Total) *	ppm as CaCO3	64 (avg)
Range of Results	ppm as CaCO3	49 - 80
Magnesium	ppm as Mg	2.04
Nickel	ppm	ND
Potassium	ppm	1.70
Silica *	ppm as SiO2	4
Sodium	ppm	7.35

PRIMARY STANDARDS - Health Related and Mandated by U.S. EPA & ADH

Disinfectant	Units	MRDLG	MRDL	BWD
Total Residual Chlorine* (Average)	ppm	4.0	4.0	1.51
Range of Results	ppm			1.24-1.82
Chlorine Dioxide*	ppm	0.8	0.8	0.04 (avg)
Clarity	Units	MCLG	MCL	BWD
Turbidity * (Treated Finished Water)			>0.3 NTU in	
Highest yearly sample result	NTU	n/a	>5% of samples	0.18
Average NTU	NTU		or any 1	0.08
Lowest % of samples meeting limit	%		sample >1 NTU	100
Microbiological	Units	MCLG	MCL	BWD
Total Coliform Bacteria	P/A	0	5%/month	0
Fecal Coliform or <i>Escherichia coli</i>	P/A	0	0	0
Inorganic Chemicals	Units	MCLG	MCL	BWD
Antimony	ppb	6	6	ND
Arsenic	ppb	0	10	ND
Asbestos	MFL	7	7	Waiver
Barium	ppm	2	2	0.019
Beryllium	ppb	4	4	ND
Cadmium	ppb	5	5	ND
Chlorite*	ppm	0.8	1.0	0.23 (avg)
Chromium	ppb	100	100	ND
Copper	ppm	1.3	AL=1.3	ND
Cyanide	ppb	200	200	ND
Fluoride (Average)	ppm	4.0	4.0	0.73
Range of Results	ppm			0.64-0.84
Lead	ppb	0	AL=15	ND
Mercury	ppb	2	2	ND
Nitrate (NO3-N) *	ppm	10	10	0.64
Selenium	ppb	50	50	ND

There were no EPA Safe Drinking Water Act (SDWA) monitoring or compliance violations in 2019 for Beaver Water District.

Definitions

Maximum Contaminant Level Goal or 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 Contaminant Level or 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, BAT.

Maximum Residual Disinfectant Goal or MRDLG : The level of a drinking disinfectant below which there is no known or expected risk to health.

Maximum Residual Disinfectant Level or MRDL : The highest level of a disinfectant allowed in drinking water.

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

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

mrem/yr : millirems per year (a unit of absorbed radiation dose)

ND : Non-detected, constituent not present at detection limit

NTU : Nephelometric Turbidity Units

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

ppm : parts per million, or milligrams per liter (mg/l)

ppb : parts per billion, or micrograms per liter (ug/l)

RAA : Running Annual Average

µS/cm : microSiemens per centimeter

Waiver : an exemption to perform monitoring issued by the ADH based on system evaluations

Radionuclides	Units	MCLG	MCL	BWD	Violation
Gross Alpha	pCi/L	0	15 pCi/L	ND	No
Tritium	pCi/L	NA	NA	520.1	No
Uranium	ppb	0	30 ppb	ND	No

SECONDARY STANDARDS - Aesthetic Standards Recommended by EPA & ADH

Physical Parameters	Units	MCLG	BWD
Apparent Color	units	15	5
pH * (Average)	units	6.5 - 8.5	8.4
Inorganic Chemicals	Units	MCLG	BWD
Aluminum	ppm	0.05 - 0.2	ND
Chloride	ppm	250	6.3
Corrosivity * (Average)	SI	Non-corrosive	-0.04
Langelier Saturation Index			
Iron	ppm	0.3	ND
Manganese	ppm	0.05	ND
Silver	ppm	0.1	ND
Sulfate	ppm	250	23.8
Total Dissolved Solids *	ppm	500	105 (avg)

<u>Volatile Organic Contaminants (VOCs) - Regulated</u>	<u>Units</u>	<u>MCLG</u>	<u>MCL</u>	<u>BWD</u>
Total Trihalomethanes (TTHMs)				
Highest Running 12 Month Average	ppb	N/A	80	50
Range of quarterly samples				16.3-62.2
Haloacetic Acids 5 (HAA5)				
Highest Running 12 Month Average	ppb	N/A	60	46
Range of quarterly samples				13.8-67.7
Benzene	ppb	0	5	ND
Carbon Tetrachloride	ppb	0	5	ND
Chlorobenzene	ppb	100	100	ND
o-Dichlorobenzene (1,2-Dichlorobenzene)	ppb	600	600	ND
p-Dichlorobenzene (1,4-Dichlorobenzene)	ppb	75	75	ND
1,2-Dichloroethane	ppb	0	5	ND
1,1-Dichloroethene (1,1-Dichloroethylene)	ppb	7	7	ND
cis-1,2-Dichloroethene (c-1,2-Dichloroethylene)	ppb	70	70	ND
trans-1,2-Dichloroethene (t 1,2-Dichloroethylene)	ppb	100	100	ND
Dichloromethane (Methylene Chloride)	ppb	0	5	ND
1,2-Dichloropropane	ppb	0	5	ND
Ethylbenzene	ppb	700	700	ND
Styrene	ppb	100	100	ND
Tetrachloroethene (Tetrachloroethylene)	ppb	0	5	ND
Toluene	ppm	1	1	ND
1,2,4-Trichlorobenzene	ppb	70	70	ND
1,1,1-Trichloroethane	ppb	200	200	ND
1,1,2-Trichloroethane	ppb	3	5	ND
Trichloroethene (Trichloroethylene)	ppb	0	5	ND
Vinyl Chloride	ppb	0	2	ND
Xylenes, Total	ppm	10	10	ND

Disinfection By-Product Precursors - Monitored by ADH

<u>Parameter</u>	<u>Removal Ratio Required</u>	<u>BWD</u>
Total Organic Carbon (TOC)	≥1.00	1.56

<u>Volatile Organic Contaminants (VOCs) - Unregulated</u>	<u>Units</u>	<u>BWD</u>
Bromobenzene	ppb	ND
Bromochloromethane (Chlorobromomethane)	ppb	ND
Bromodichloromethane	ppb	3.10
Bromoform	ppb	ND
Bromomethane	ppb	ND
n-Butylbenzene	ppb	ND
sec-Butylbenzene	ppb	ND
tert-Butylbenzene	ppb	ND
Chloroethane (Ethyl Chloride)	ppb	ND
Chloroform	ppb	9.25
Chloromethane	ppb	ND
2-Chlorotoluene	ppb	ND
4-Chlorotoluene	ppb	ND
Dibromochloromethane	ppb	ND
1,2-Dibromo-3-chloropropane (DBCP)	ppb	ND
1,2-Dibromoethane	ppb	ND
Dibromomethane (Methylene Bromide)	ppb	ND
1,3-Dichlorobenzene	ppb	ND
Dichlorodifluoromethane	ppb	ND
1,1-Dichloroethane	ppb	ND
1,3-Dichloropropane	ppb	ND
2,2-Dichloropropane	ppb	ND
1,1-Dichloropropene	ppb	ND
cis-1,3-Dichloropropene	ppb	ND
trans-1,3-Dichloropropene	ppb	ND
Hexachlorobutadiene	ppb	ND
Isopropylbenzene	ppb	ND
p-Isopropyltoluene	ppb	ND
Methyl tert-Butyl Ether (MTBE)	ppb	ND
Naphthalene	ppb	ND
p-Propylbenzene	ppb	ND
1,1,1,2-Tetrachloroethane	ppb	ND
1,1,2,2-Tetrachloroethane	ppb	ND
1,2,3-Trichlorobenzene	ppb	ND
Trichlorofluoromethane	ppb	ND
1,2,3-Trichloropropane	ppb	ND
1,2,4-Trimethylbenzene	ppb	ND
1,3,5-Trimethylbenzene	ppb	ND