



2016 Analytical Results Summary for Pueblo's Treated Water

Parameter	Units	Primary Standard	Secondary Standard	MCL	MCLG	Range of Detection in Pueblo Water	Pueblo Treated Water Average Level	Number of Samples Analyzed
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Clarity								
Turbidity	NTU	◆		0.5	0.5	0.04 - 0.15	0.08	251

Microbiological								
Total Coliform Bacteria**	P/A	◆		less than 5% per month positive	0	P - A***	A	2173
E. coli Bacteria**	P/A	◆		0	0	P - A	A	2173
Giardia	Oocysts/100 L			N/A	0	ND	ND	12
Cryptosporidium	Oocysts/100 L			N/A	0	ND	ND	12

Radiologicals°								
Gross Alpha	pCi/L			N/A	N/A	2.5	2.5	1
Gross Alpha (Less Radon and Uranium)	pCi/L	◆		15	0	0.2	0.2	1
Radium-226	pCi/L	◆		5	0	0.1	0.1	1
Radium-228	pCi/L	◆		5	0	0.3	0.3	1
Uranium	pCi/L			N/A	N/A	2.3	2.3	1
Uranium	µg/L	◆		30	0	3.3	3.3	1

Inorganic Chemicals								
Trace Metals								
Aluminum	µg/L		◆	50 - 200	N/A	25.3 - 57.6	41.9	9
Antimony	µg/L	◆		6	6	<1.00	<1.00	10
Arsenic	µg/L	◆		10	0	<1.00	<1.00	10
Barium	µg/L	◆		2000	2000	37.0 - 56.8	49.8	10
Beryllium	µg/L	◆		4	4	<1.00	<1.00	10
Cadmium	µg/L	◆		5	5	<1.00	<1.00	10
Calcium	mg/L			N/A	N/A	32.7 - 52.0	45.4	10
Chromium	µg/L	◆		100	100	<1.00 - 6.46	1.70	10
Cobalt	µg/L			N/A	N/A	<1.00	<1.00	10
Copper	µg/L		◆	1000	N/A	1.24 - 2.32	1.64	10
Iron	mg/L		◆	300	N/A	<0.10	<0.10	10
Lead	µg/L			N/A	N/A	<1.00 - 3.16	<1.00	10
Magnesium	mg/L			N/A	N/A	6.44 - 14.2	11.2	10
Manganese	µg/L		◆	50	N/A	<1.00 - 4.25	1.85	10
Mercury	µg/L	◆		2	2	<0.50	<0.50	10
Molybdenum	µg/L			N/A	N/A	3.18 - 5.06	4.25	10
Nickel	µg/L			N/A	N/A	1.86 - 3.56	2.74	10
Potassium	mg/L			N/A	N/A	1.54 - 2.41	2.15	10
Selenium	µg/L	◆		50	50	2.02 - 6.57	4.66	10
Silver	µg/L		◆	100	N/A	<1.00	<1.00	10
Sodium	mg/L			N/A	N/A	8.12 - 21.2	16.1	10
Thallium	µg/L	◆		2	0.0005	<1.00	<1.00	10
Vanadium	µg/L			N/A	N/A	<1.00 - 2.62	<1.00	10
Zinc	µg/L		◆	5000	N/A	<1.00 - 2.78	1.42	10



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Organic Chemicals								
Trihalomethanes □ (Disinfection Byproduct)	µg/L	◆						
Bromodichloromethane	µg/L				0	1.2 - 2.6	2	16
Bromoform	µg/L				0	<0.5	<0.5	16
Chloroform	µg/L				N/A	2.8 - 14.7	6.6	16
Dibromochloromethane	µg/L				6	<0.5 - 0.57	<0.5	16
Total Trihalomethanes	µg/L	◆		80	N/A	4.2 - 17.3	8.7	16
Haloacetic Acids □ (Disinfection Byproduct)	µg/L	◆						
Bromoacetic acid	µg/L				N/A	<1.00	<1.00	16
Dibromoacetic acid	µg/L				N/A	<1.00 - 2.82	<1.00	16
Dichloroacetic acid	µg/L				0	4.04 - 22.3	10.2	16
Monochloroacetic acid	µg/L				N/A	<1.00 - 2.71	<1.00	16
Trichloroacetic acid	µg/L				300	<1.00 - 7.79	2.56	16
Total Haloacetic Acid	µg/L	◆		60	N/A	6.30 - 31.5	13.9	16
Total Volatile Organic Compounds (VOC's)		◆						
Benzene	µg/L	◆		5	0	<0.50	<0.50	1
Bromobenzene	µg/L			N/A	N/A	<0.50	<0.50	1
Bromochloromethane	µg/L			N/A	N/A	<0.50	<0.50	1
Bromodichloromethane	µg/L			N/A	N/A	1.7	1.7	1
Bromomethane	µg/L			N/A	N/A	<0.50	<0.50	1
n-Butylbenzene	µg/L			N/A	N/A	<0.50	<0.50	1
sec-Butylbenzene	µg/L			N/A	N/A	<0.50	<0.50	1
tert-Butylbenzene	µg/L			N/A	N/A	<0.50	<0.50	1
Carbon tetrachloride	µg/L	◆		5	0	<0.50	<0.50	1
Chlorobenzene	µg/L	◆		100	100	<0.50	<0.50	1
Chloroethane	µg/L			N/A	N/A	<0.50	<0.50	1
Chloroform	µg/L			N/A	N/A	5.8	5.8	1
Chloromethane	µg/L			N/A	N/A	<0.50	<0.50	1
o-Chlorotoluene	µg/L			N/A	N/A	<0.50	<0.50	1
p-Chlorotoluene	µg/L			N/A	N/A	<0.50	<0.50	1
Dibromochloromethane	µg/L			N/A	N/A	<0.50	<0.50	1
Dibromomethane	µg/L			N/A	N/A	<0.50	<0.50	1
m- Dichlorobenzene	µg/L	◆		N/A	N/A	<0.50	<0.50	1
o- Dichlorobenzene	µg/L			600	600	<0.50	<0.50	1
p- Dichlorobenzene	µg/L	◆		75	75	<0.50	<0.50	1
Dichlorodifluoromethane	µg/L			N/A	N/A	<0.50	<0.50	1
1,1- Dichloroethane	µg/L			N/A	N/A	<0.50	<0.50	1
1,2- Dichloroethane	µg/L	◆		5	0	<0.50	<0.50	1
1,1- Dichloroethylene	µg/L	◆		7	7	<0.50	<0.50	1
cis-1,2- Dichloroethylene	µg/L	◆		70	70	<0.50	<0.50	1
trans-1,2- Dichloroethylene	µg/L	◆		100	100	<0.50	<0.50	1
1,2- Dichloropropane	µg/L	◆		5	5	<0.50	<0.50	1
1,3- Dichloropropane	µg/L			N/A	N/A	<0.50	<0.50	1
2,2- Dichloropropane	µg/L			N/A	N/A	<0.50	<0.50	1
1,1- Dichloropropene	µg/L			N/A	N/A	<0.50	<0.50	1
cis-1,3- Dichloropropene	µg/L			N/A	N/A	<0.50	<0.50	1
trans-1,3- Dichloropropene	µg/L			N/A	N/A	<0.50	<0.50	1
1,3- Dichloropropene	µg/L			N/A	N/A	<0.50	<0.50	1
Ethylbenzene	µg/L	◆		700	700	<0.50	<0.50	1
Hexachlorobutadiene	µg/L			N/A	N/A	<0.50	<0.50	1
Isopropylbenzene	µg/L			N/A	N/A	<0.50	<0.50	1
p-Isopropyltoluene	µg/L			N/A	N/A	<0.50	<0.50	1
Methylene chloride	µg/L	◆		5	0	<0.50	<0.50	1
Naphthalene	µg/L			N/A	N/A	<0.50	<0.50	1
n-Propylbenzene	µg/L			N/A	N/A	<0.50	<0.50	1
Styrene	µg/L	◆		100	100	<0.50	<0.50	1
Tetrachloroethylene	µg/L			5	5	<0.50	<0.50	1
1,1,1- Trichloroethane	µg/L	◆		200	200	<0.50	<0.50	1
1,1,1,2- Tetrachloroethane	µg/L			N/A	N/A	<0.50	<0.50	1
1,1,2,2- Tetrachloroethane	µg/L			N/A	N/A	<0.50	<0.50	1
Toluene	µg/L	◆		1000	1000	<0.50	<0.50	1
1,2,3- Trichlorobenzene	µg/L			N/A	N/A	<0.50	<0.50	1
1,2,4- Trichlorobenzene	µg/L	◆		70	70	<0.50	<0.50	1
1,1,2- Trichloroethane	µg/L	◆		5	3	<0.50	<0.50	1
Trichloroethylene	µg/L	◆		5	0	<0.50	<0.50	1
Trichlorofluoromethane	µg/L			N/A	N/A	<0.50	<0.50	1
1,2,3- Trichloropropane	µg/L			N/A	N/A	<0.50	<0.50	1
1,2,4- Trimethylbenzene	µg/L			N/A	N/A	<0.50	<0.50	1
1,3,5- Trimethylbenzene	µg/L			N/A	N/A	<0.50	<0.50	1
Vinyl chloride	µg/L	◆		2	0	<0.50	<0.50	1
m,p- Xylene	µg/L			N/A	N/A	<0.50	<0.50	1
o-Xylene	µg/L			N/A	N/A	<0.50	<0.50	1
Xylenes, Total	µg/L	◆		10000	10000	<0.50	<0.50	1
Total Trihalomethane	µg/L	◆		80	80	7.5	7.5	1



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Organic Chemicals (cont'd)								
Pesticides*		◆						
Aldrin	µg/L			N/A	N/A	<0.0095	<0.0095	2
alpha-Chlordane	µg/L			2	2	<0.0095	<0.0095	2
gamma-Chlordane	µg/L			2	0	<0.0095	<0.0095	2
Chlordane	µg/L			2	2	<0.19	<0.19	2
Dieldrin	µg/L			N/A	N/A	<0.0095	<0.0095	2
Endrin	µg/L			2	2	<0.0095	<0.0095	2
Hexachlorocyclopentadiene	µg/L			50	50	<0.095	<0.095	2
Heptachlor	µg/L			0.4	0.4	<0.0095	<0.0095	2
Heptachlor epoxide	µg/L			0.2	0.2	<0.0095	<0.0095	2
Hexachlorobenzene	µg/L			1	0	<0.0095	<0.0095	2
Methoxychlor	µg/L			40	40	<0.047	<0.047	2
Toxaphene	µg/L			3	0	<0.71	<0.71	2
gamma-BHC	µg/L			0.2	0.2	<0.0095	<0.0095	2
Aroclor 1016	µg/L			0.5	0	<0.076	<0.076	2
Aroclor 1221	µg/L			0.5	0	<0.24	<0.24	2
Aroclor 1232	µg/L			0.5	0	<0.095	<0.095	2
Aroclor 1242	µg/L			0.5	0	<0.095	<0.095	2
Aroclor 1248	µg/L			0.5	0	<0.095	<0.095	2
Aroclor 1254	µg/L			0.5	0	<0.095	<0.095	2
Aroclor 1260	µg/L			0.5	0	<0.095	<0.095	2
PCB-Total	µg/L			0.5	0	<0.24	<0.24	2
1,2-Dibromo-3-chloropropane	µg/L			0.2	0.2	<0.0097	<0.0097	2
1,2-Dibromoethane	µg/L			0.05	0.05	<0.0097	<0.0097	2
Alachlor	µg/L			2	0	<0.1	<0.1	2
Atrazine	µg/L			3	3	<0.1	<0.1	2
Simazine	µg/L			4	4	<0.07	<0.07	2
Herbicides*		◆						
2,4,-D	µg/L			70	70	<0.10	<0.10	2
2,4,5-TP	µg/L			50	50	<0.20	<0.20	2
Dicamba	µg/L			N/A	N/A	<0.30	<0.30	2
Dalapon	µg/L			200	200	<1.0	<1.0	2
Dinoseb	µg/L			7	7	<0.20	<0.20	2
Pentachlorophenol	µg/L			1	0	<0.040	<0.040	2
Picloram	µg/L			500	500	<0.10	<0.10	2
Butachlor	µg/L			N/A	N/A	<0.1	<0.1	2
Metolachlor	µg/L			N/A	N/A	<0.1	<0.1	2
Metribuzin	µg/L			N/A	N/A	<0.1	<0.1	2
Propachlor	µg/L			N/A	N/A	<0.1	<0.1	2
Diquat	µg/L			20	20	<0.40	<0.40	2
Endothall	µg/L			100	100	<9.0	<9.0	2
Carbamate Pesticides*		◆						
3-Hydroxycarbofuran	µg/L			N/A	N/A	<0.5	<0.5	2
Aldicarb	µg/L			3	1	<0.5	<0.5	2
Aldicarb sulfone	µg/L			2	1	<0.5	<0.5	2
Aldicarb sulfoxide	µg/L			4	1	<0.5	<0.5	2
Carbaryl	µg/L			N/A	N/A	<0.5	<0.5	2
Carbofuran	µg/L			40	40	<0.5	<0.5	2
Methiocarb	µg/L			N/A	N/A	<0.5	<0.5	2
Methomyl	µg/L			N/A	N/A	<0.5	<0.5	2
Oxamyl (Vydate)	µg/L			200	200	<0.5	<0.5	2
Propoxur	µg/L			N/A	N/A	<0.5	<0.5	2
Other Organic Chemicals*		◆						
Benzo(a)pyrene	µg/L			0.2	0	<0.02	<0.02	2
Bis(2-ethylhexyl)adipate	µg/L			400	0	<0.57	<0.57	2
Bis(2-ethylhexyl)phthalate	µg/L			6	0	<0.57	<0.57	2



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Additional Parameters								
Alkalinity (as CaCO ₃)	mg/L			N/A	N/A	67 - 112	97	69
Ammonia (as Nitrogen)	mg/L			N/A	N/A	0.07 - 0.34	0.16	104
Calcium Hardness (as CaCO ₃)	mg/L			N/A	N/A	91 - 171	137	52
Chlorine (Total Chloramine)	mg/L	◆		4	4	3.09 - 4.10	3.62	251
Chloride	mg/L		◆	250	N/A	8.42 - 13.7	11.60	39
Conductivity	µmho/cm		◆	N/A	N/A	281 - 524	445	251
Fluoride	mg/L	◆		4, 2*	4	0.38 - 0.77	0.70	363
Total Hardness (as CaCO ₃)	mg/L			N/A	N/A	111 - 207	179	52
Nitrate (as Nitrogen)	mg/L	◆		10	10	0.22 - 0.37	0.31	4
Nitrite (as Nitrogen)	mg/L	◆		1	1	<0.05	<0.05	4
Total Nitrate and Nitrite (as Nitrogen)	mg/L	◆		10	10	0.22 - 0.37	0.31	4
Ortho-Phosphate (as Phosphorous)	mg/L			N/A	N/A	<0.50	<0.50	4
pH	units		◆	6.5-8.5	N/A	6.86 - 7.95	7.49	251
Total Dissolved Solids	mg/L		◆	500	N/A	185 - 403	300	52
Sulfate	mg/L		◆	250	N/A	51.7 - 125	102	47
Total Organic Carbon	mg/L	◆		Removal	N/A	1.8 - 2.4	2.0	12

Listed above are regulated and unregulated contaminants detected in Pueblo's drinking water in 2016.

All are below regulated levels.

Drinking water produced by the Whitlock Treatment Facility meets all Health and Safety Standards as mandated by the Safe Drinking Water Act and the State of Colorado.

Terms and Definitions Used in the Above Data Table

P/A - Presence/Absence - The determination of whether or not there is coliform bacteria present in a water sample.

Primary Standards - Mandatory Health Related Standards

Secondary Standards - Aesthetic Standards

MCL - Maximum Contaminant Level - The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.

MCLG - Maximum Contaminant Level Goal - The level of a contaminant in drinking water below which there is no known or expected risk to health.

MRDL - Maximum Residual Disinfection Level - The maximum level of disinfectant residual allowed in a distribution system. Total chlorine (chloramine) in the table was measured at the Treatment Plant. Distribution chlorine levels are lower.

Turbidity - Turbidity is a measure of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our plant's filtration system.

NTU - Nephelometric Turbidity Unit - A unit of measurement of turbidity in water.

Oocysts - A life cycle stage of a parasitic organism.

µg/L - microgram per liter or one part per billion

mg/L - milligram per liter or one part per million

AL - Action Level - Results over the action level require changes in water treatment technique.

µmho/cm - a unit of measurement of the conductivity of the water

< - Less Than

☐ - THM and HAA values are an average of all DBP collection points in the distribution system.

* Public notification is required if fluoride concentration exceeds 2.0 mg/L.

** Total coliform and E. coli bacteriological samples are collected at designated locations throughout the distribution system each month.

*** There were 2 positive Total Coliform samples in 2016.

° Radiologicals analyzed in 2012. Pesticides, herbicides, carbamate pesticides and other organic chemicals analyzed in 2014.