



# Monitoring/Reporting - Entry Point

City of Castlewood

EPA ID: 0002

## SAMPLING

Entry point: Treat Site - Well #2

	Chemical	Sampling Frequency	Waivers	Taken Last	Due Next	Notes
1	Inorganic Chemicals					
	A. Antimony	Every nine years	Yes	Nov-11		
	B. Arsenic	Every nine years	Yes	Nov-11		
	C. Barium	Every nine years	Yes	Nov-11		
	D. Beryllium	Every nine years	Yes	Nov-11		
	E. Cadmium	Every nine years	Yes	Nov-11		
	F. Chromium	Every nine years	Yes	Nov-11		
	G. Cyanide		Yes			State-wide waiver
	H. Fluoride		No			This system fluoridates
	I. Mercury	Every nine years	Yes	Nov-11		
	J. Nickel	Every nine years	Yes	Nov-11		
	K. Selenium	Every nine years	Yes	Nov-11		
	L. Thallium	Every nine years	Yes	Nov-11		
2	Radiological Chemicals	Triennially	N/A			
3	VOC Chemicals	Quarterly	No	Oct-17	2017	
4	SOC Chemicals					
	A. Method 515.1	Triennially	No	May-17		
	B. Method 524	Triennially	No	May-17		
	C. Method 525	Triennially	No	May-17		
	D. Method 531.1	Triennially	No	May-17		
	E. Method 547	Triennially	No	May-17		
	F. Method 548	Triennially	No	May-17		
	G. Method 549	Triennially	No	May-17		
5	Nitrate	Annually-2nd Qtr	N/A	Jun-17		
6	Nitrite	Triennially	N/A	May-15		

(These values are calculated from available data. Check correspondence for verification.)

# Monitoring/Reporting - Entry Point

City of Castlewood

EPA ID: 0002

## SAMPLING

Entry point: Treat Site - Well #1

	Chemical	Sampling Frequency	Waivers	Taken Last	Due Next	Notes
1	Inorganic Chemicals					
	A. Antimony	Every nine years	Yes	Nov-11		
	B. Arsenic	Every nine years	Yes	Nov-11		
	C. Barium	Every nine years	Yes	Nov-11		
	D. Beryllium	Every nine years	Yes	Nov-11		
	E. Cadmium	Every nine years	Yes	Nov-11		
	F. Chromium	Every nine years	Yes	Nov-11		
	G. Cyanide		Yes			State-wide waiver
	H. Fluoride		No			This system fluoridates
	I. Mercury	Every nine years	Yes	Nov-11		
	J. Nickel	Every nine years	Yes	Nov-11		
	K. Selenium	Every nine years	Yes	Nov-11		
	L. Thallium	Every nine years	Yes	Nov-11		
2	Radiological Chemicals	Every six years	N/A			
3	VOC Chemicals	Quarterly	No	Oct-17	2017	
4	SOC Chemicals					
	A. Method 515.1	Triennially	No	May-17		
	B. Method 524	Triennially	No	May-17		
	C. Method 525	Triennially	No	May-17		
	D. Method 531.1	Triennially	No	May-17		
	E. Method 547	Triennially	No	May-17		
	F. Method 548	Triennially	No	May-17		
	G. Method 549	Triennially	No	May-17		
5	Nitrate	Annually-3rd Qtr	N/A	Sep-17		
6	Nitrite	Triennially	N/A	Aug-15		

(These values are calculated from available data. Check correspondence for verification.)

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### Bacteriological Monitoring

Bacteriological sampling and analysis: January 1, 2017 to January 1, 2018

A	Samples submitted:	<u>12</u>
B	Samples required:	<u>One Sample Each Month.</u>
C	Survey samples:	<u>0</u>
D	Safe samples:	<u>12</u>
E	Unsafe samples:	<u>0</u>
F	Repeat samples:	<u>0</u>
H	Groundwater Samples:	

### Lead and Copper Monitoring

(These values are calculated from available data. Check correspondence for verification.)

A	Date Last Tested:	<u>September 11, 2017</u>
B	Samples required:	<u>20</u>
C	Sampling Frequency	<u>Every Six Months</u>
D	Date Due Next	
E	Lead - 90% Level	<u>3.4</u> Action Level - 15 ug/l
F	Copper 90% Level	<u>2.29</u> Action Level - 1.3 mg/l

### Disinfectant Residual Monitoring

Residual sampling and analysis: January 1, 2017 to January 1, 2018

A	Samples submitted:	<u>12</u>
B	Samples required:	<u>One Sample Each Month.</u>
C	Last Qtr Cl Residual:	<u>0.54</u> mg/l
D	Running Annual Average:	<u>0.4</u> mg/l
E	Date of last DBP test:	<u>August 2, 2017</u>
F	THM - Qtr Average:	<u>27.6</u> ug/l
G	Haa5 - Qtr Average:	<u>9.84</u> ug/l

### Asbestos

A	Date of last test:	<u>Waiver - Testing Not Required</u>
B	Asbestos Result:	<u></u> million fibers per liter

Comments

# Violations and Significant Deficiencies

City of Castlewood

EPA ID: 0002

Violations From **January 1, 2013** To **January 1, 2018**

Violation Type	Parameter	Date	Status
No Violations			

Significant Deficiency	Date Identified	Date Corrected

**EPA ID#: 0002 System Name: City of Castlewood**

Sampler- Mr Richard Ries      Work Phone-(605)793-2220  
 Title- Utilities Manager  
 Address- PO Box 17  
           Castlewood SD 57223-0017

Location-                      City: Castlewood      County: Hamlin  
 Service Area- Municipality  
 PWS Owner Type- Local Government  
 Water Supply Type- Groundwater Supply

Population Served- 627 Service Connections- 330

**Sources for Castlewood**

Source	Name	Year Built	Depth (feet)	Diameter (inches)	Availability	Type	Vulnerability	Treatment
03	TREAT SITE - WELL #1				Permanent	Treatment Plant	Vulnerable	Aeration Disinfection - Hypochlorites Corrosion Control - Phosphates Fluoridation - H2SiF6
04	TREAT SITE - WELL #2				Permanent	Treatment Plant	Vulnerable	Aeration Disinfection - Hypochlorites Corrosion Control - Phosphates Fluoridation - H2SiF6
07	SIOUX RWS				Emergency	Purchased Groundwater	Non-Vulnerable	Water Treated By Seller - Purchased Surface Only
08	WELL #1	1974	29	18	Permanent	Groundwater	Vulnerable	Treatment At Plant
09	WELL #2	1977	25	18	Permanent	Groundwater	Vulnerable	Treatment At Plant

**EPA ID#: 0002 System Name: City of Castlewood**

**Common Ion Data**

*(All chemical data are reported in milligrams per liter (mg/l) except pH and Langlier Index)*

*Please refer to Private Well Data for more information about these test results.*

Source	Type	Date	TDS	Conductance	pH	Alk-M	Alk-P	Na	K	Ca	Mg	Fe	Mn	Cl	SO4	HCO3	CO3	Hardness	Langlier	NO3	F
03	Treated	11/14/95	698	990	7.58	335	0	25	7.8	128.9	51.0	0.07	0.31	22.0	217	409	0	532	+0.63	2.6	1.71
03	Treated	02/03/99	653	965	7.36	368	0	31	7.4	112.0	44.1	0.10	0.07	43.5	116	449	0	461	+0.39	3.9	0.89
03	Treated	01/31/02	557	892	7.51	367	0	24	6.5	105.0	42.7	0.03	0.06	40.0	68	448	0	438	+0.53	3.7	1.77
03	Treated	03/23/05	571	954	7.10	363	0	24	5.0	105.0	43.1	0.07	0.07	44.0	73	443	0	440	+0.12	5.1	1.20
03	Treated	12/05/07	566	954	7.30	367	0	27	3.1	122.0	42.5	0.03	0.02	50.0	59	448	0	480	+0.38	5.2	1.31
01	Treated	03/03/11	589	979	7.25	360	0	32	5.6	112.0	38.5	0.05	0.09	55.0	87	439	0	438	+0.28	4.4	1.17
03	Treated	03/16/17	619	10407	0.00	347	0	37	5.9	119.0	48.0	0.06	0.00	74.0	92	423	0	495	+0.44	4.3	0.60
Averages			608	2306	6.30	358	0	28	5.9	114.8	44.3	0.06	0.09	46.9	102	437	0	469		4.2	1.24

You can contact us by calling  
(605)793-2220 or write us at  
PO Box 17  
Castlewood SD 57223-0017

# City of Castlewood

## 2017 Drinking Water Report

*It's your tap water!*



EPA ID: 0002





# Water Quality

*Last year, the City of Castlewood monitored your drinking water for possible contaminants. This brochure is a snapshot of the quality of the water that we provided last year. Included are details about where your water comes from, what it contains, and how it compares to Environmental Protection Agency (EPA) and state standards. We are committed to providing you with information because informed customers are our best allies.*

## Water Source

We serve more than 627 customers an average of 59,000 gallons of water per day. Our water is groundwater that we produce from local wells. The state has performed an assessment of our source water and they have determined that the relative susceptibility rating for the Castlewood public water supply system is medium.

For more information about your water and information on opportunities to participate in public meetings, call (605)793-2220 and ask for Sheila Gerhold.

## Additional Information

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- *Microbial contaminants*, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- *Inorganic contaminants*, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- *Pesticides and herbicides*, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- *Organic chemical 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 stormwater runoff, and septic systems.
- *Radioactive contaminants*, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

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 poses 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 (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. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants can be obtained by calling the Environment Protection Agency's Safe Drinking Water Hotline (800-426-4791).

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Castlewood public water supply system is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

## Detected Contaminants

The attached table lists all the drinking water contaminants that we detected during the 2017 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done January 1 – December 31, 2017. The state requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old.

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider.

## 2017 Table of Detected Contaminants For Castlewood (EPA ID 0002)

### Terms and abbreviations used in this table:

- \* **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.
- \* **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.
- \* **Action Level(AL):** the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow. For Lead and Copper, 90% of the samples must be below the AL.
- \* **Treatment Technique(TT):** A required process intended to reduce the level of a contaminant in drinking water. For turbidity, 95% of samples must be less than 0.3 NTU
- \* **Running Annual Average(RAA):** Compliance is calculated using the running annual average of samples from designated monitoring locations.

### Units:

- \*MFL: million fibers per liter
- \*mrem/year: millirems per year(a measure of radiation absorbed by the body)
- \*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)
- \*ppt: parts per trillion, or nanograms per liter
- \*ppq: parts per quadrillion, or picograms per liter
- \*pspm: positive samples per month

Substance	90% Level	Test Sites > Action Level	Date Tested	Highest Level Allowed (AL)	Ideal Goal	Units	Major Source of Contaminant
Copper	2.4	6	08/21/17	AL=1.3	0	ppm	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Lead	2	0	09/11/17	AL=15	0	ppb	Corrosion of household plumbing systems; erosion of natural deposits.

Substance	Highest Level Detected	Range	Date Tested	Highest Level Allowed (MCL)	Ideal Goal (MCLG)	Units	Major Source of Contaminant
Alpha emitters	10	ND - 10	12/01/14	15	0	pCi/l	Erosion of natural deposits.
Fluoride	0.67	0.48 - 0.67	05/08/17	4	4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Haloacetic Acids (RAA)	9.84		08/02/17	60	0	ppb	By-product of drinking water chlorination. Results are reported as a running annual average of test results.
Nitrate (as Nitrogen)	5.4		09/11/17	10	10	ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Total trihalomethanes (RAA)	27.6		08/02/17	80	0	ppb	By-product of drinking water chlorination. Results are reported as a running annual average of test results.

Please direct questions regarding this information to Mr Richard Ries with the Castlewood public water system at (605)793-2220.