

# Brookings Municipal Utilities Drinking Water Information

(System Information, Sampling Requirements, and Compliance Report)



## Secretary Award For Drinking Water Excellence

<b>Population Served:</b>	22,980	<b>System Population:</b>	22,298
<b>Certified Operator:</b>	Mr Eric Witt PO Box 588 Brookings, SD 57006-0588	<b>Work Phone:</b>	(605)692-6325
		<b>Home Phone:</b>	
		<b>Cell Phone:</b>	
		<b>Fax:</b>	(605)697-8570
		<b>Email:</b>	ewitt@swiftel-bmu.com
<b>Financial Contact:</b>	Mr Paul Melby PO Box 588 Brookings, SD 57006-0588	<b>Work Phone:</b>	(605)692-6325
		<b>Home Phone:</b>	
		<b>Cell Phone:</b>	
		<b>Fax:</b>	
		<b>Email:</b>	
<b>Other Contacts:</b>	Mr Steve Meyer PO Box 588 Brookings, SD 57006-0588	<b>Work Phone:</b>	
		<b>Home Phone:</b>	
		<b>Cell Phone:</b>	
		<b>Fax:</b>	
		<b>Email:</b>	
<b>Last Inspection:</b>	March 12, 2015		
<b>Type of System:</b>	Community	<b>Area Served:</b>	Brookings County
<b>Number of Service Connections:</b>	7,340	<b>Contamination Risk:</b>	moderate
<b>Water Sold To:</b>			Aurora, University Estates
<b>PWS Owner Type:</b>	Local Government	<b>Service Area:</b>	Housing Development
<b>Contract Laboratory:</b>			State Health Lab, Pierre

# Monitoring/Reporting - Entry Point

**Brookings Municipal Utilities**

**EPA ID: 0071**

## SAMPLING

Entry point: North Treatment Plt.

	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 nine years	N/A			
3	VOC Chemicals	Quarterly	No	Oct-17	2017	
4	SOC Chemicals					
	A. Method 515.1	Triennially	No	Oct-17		
	B. Method 524	Triennially	No	Oct-17		
	C. Method 525	Triennially	No	Oct-17		
	D. Method 531.1	Triennially	No	Oct-17		
	E. Method 547	Triennially	No	Oct-17		
	F. Method 548	Triennially	No	Oct-17		
	G. Method 549	Triennially	No	Oct-17		
5	Nitrate	Annually-3rd Qtr	N/A	Aug-17		
6	Nitrite	Triennially	N/A	Aug-16		

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

# Monitoring/Reporting - Entry Point

Brookings Municipal Utilities

EPA ID: 0071

## SAMPLING

Entry point: East Treatment Plant

	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 nine years	N/A			
3	VOC Chemicals	Quarterly	No	Oct-17	2017	
4	SOC Chemicals					
	A. Method 515.1	Triennially	No	Oct-17		
	B. Method 524	Triennially	No	Oct-17		
	C. Method 525	Triennially	No	Oct-17		
	D. Method 531.1	Triennially	No	Oct-17		
	E. Method 547	Triennially	No	Oct-17		
	F. Method 548	Triennially	No	Oct-17		
	G. Method 549	Triennially	No	Oct-17		
5	Nitrate	Annually	N/A	Aug-17		
6	Nitrite	Triennially	N/A	Aug-16		

(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>306</u>
B	Samples required:	<u>Twenty-five Samples Each Month.</u>
C	Survey samples:	<u>0</u>
D	Safe samples:	<u>304</u>
E	Unsafe samples:	<u>2</u>
F	Repeat samples:	<u>6</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 25, 2017</u>
B	Samples required:	<u>30</u>
C	Sampling Frequency	<u>Triennially</u>
D	Date Due Next	<u>2017</u>
E	Lead - 90% Level	<u>8.8</u> Action Level - 15 ug/l
F	Copper 90% Level	<u>0.03</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>306</u>
B	Samples required:	<u>Twenty-five Samples Each Month.</u>
C	Last Qtr Cl Residual:	<u>0.7</u> mg/l
D	Running Annual Average:	<u>0.8</u> mg/l
E	Date of last DBP test:	<u>October 3, 2017</u>
F	THM - Qtr Average:	<u>50.08</u> ug/l
G	Haa5 - Qtr Average:	<u>16</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

Brookings Municipal Utilities

EPA ID: 0071

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

Violation Type	Parameter	Date	Status
No Violations			

Significant Deficiency	Date Identified	Date Corrected

# EPA ID#: 0071 System Name: Brookings Municipal Utilities

Sampler- Mr Eric Witt                      Work Phone-(605)692-6325  
 Title- Manager  
 Address- PO Box 588  
           Brookings SD 57006-0588

Location-                      City: Brookings County: Brookings  
 Service Area- Homeowners Association  
 PWS Owner Type- Local Government  
 Water Supply Type- Groundwater Supply

Population Served- 22,298      Service Connections- 7,340

## Sources for Brookings Municipal Utilities

Source	Name	Year Built	Depth (feet)	Diameter (inches)	Availability	Type	Vulnerability	Treatment
01	#1E	1971	65	26	Permanent	Groundwater	Vulnerable	Treatment At Plant
02	#2E	1971	59	26	Permanent	Groundwater	Vulnerable	Treatment At Plant
03	#3E	1971	63	26	Permanent	Groundwater	Vulnerable	Treatment At Plant
04	#3N	1946	60	17	Permanent	Groundwater	Vulnerable	Treatment At Plant
05	#4N	1941	60	20	Permanent	Groundwater	Vulnerable	Treatment At Plant
06	#5N	1951	65	25		Groundwater	Vulnerable	No Treatment
07	#6N	1956	60	36		Groundwater	Vulnerable	Treatment At Plant
08	#7N	1960	60	17	Permanent	Groundwater	Vulnerable	Treatment At Plant
09	#8N	1964	65	24	Permanent	Groundwater	Vulnerable	Treatment At Plant
10	#9N	1966	65	24	Permanent	Groundwater	Vulnerable	Treatment At Plant
11	EAST TREATMENT PLANT				Permanent	Treatment Plant	Non-Vulnerable	Aeration Coagulation, Softening - Lime Disinfection - Gas Chlorine Filtration - Gravity Corrosion Control - Phosphates Mixing Device Recarbonation Sedimentation Fluoridation - H2SiF6
12	NORTH TREATMENT PLT.				Permanent	Treatment Plant	Non-Vulnerable	Aeration Coagulation, Softening - Lime Disinfection - Gas Chlorine Filtration - Gravity Corrosion Control - Phosphates Mixing Device Sedimentation Fluoridation - H2SiF6
20	#4E	1998	61	26	Permanent	Groundwater	Non-Vulnerable	Treatment At Plant

# EPA ID#: 0071 System Name: Brookings Municipal Utilities

## 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
11	Raw	03/26/91	578	851	7.10	288	0	12	3.0	116.0	37.7	3.05	0.51	14.8	191	351	0	444	-0.25	0.0	0.21

Source	Type	Date	TDS	Conductance	pH	Alk-M	Alk-P	Na	K	Ca	Mg	Fe	Mn	Cl	SO4	HCO3	CO3	Hardness	Langlier	NO3	F
01	Treated	06/19/86	536	768	7.22	304	0	9	2.7	103.0	40.3	2.83	0.46	12.0	125	371	0	423	-0.11	0.0	0.23
02	Treated	11/20/89	508	676	8.18	156	0	15	0.1	76.5	40.8	0.01	0.65	15.8	206	190	0	359	0.43	0.1	1.05
04	Treated	06/23/86	642	816	8.12	98	0	19	2.8	78.2	51.3	0.83	0.04	14.9	320	120	0	406	+0.17	0.1	1.16
11	Treated	07/12/94	597	848	7.19	284	0	13	2.8	123.3	39.9	0.15	0.52	12.2	189	346	0	472	+0.26	0.1	0.25
11	Treated	02/02/00	431	632	8.03	157	0	11	2.7	58.0	37.3	0.02	0.03	11.0	159	192	0	298	+0.45	0.2	1.25
11	Treated	03/06/03	343	514	8.48	91	2	11	3.2	34.8	35.3	0.03	0.02	15.0	162	106	2	232	+0.47	0.1	1.03
11	Treated	01/25/06	335	500	8.56	60	4	13	2.9	42.0	28.7	0.03	0.03	14.0	183	63	5	223	+0.45	0.1	1.17
12	Treated	03/05/09	462	666	9.19	82	15	20	3.3	56.4	45.5	0.03	0.02	24.0	256	63	18	328	+1.31	0.4	1.03
11	Treated	05/23/12	246	376	8.59	65	0	15	3.0	21.4	23.3	0.16	0.18	13.0	102	72	4	149	+0.25	0.2	1.09
11	Treated	03/12/15	234	375	8.34	64	1	13	3.2	25.9	22.1	0.00	0.00	13.0	103	76	1	156	+0.08	0.0	1.07
Averages			433	617	8.19	136	2	14	2.7	62.0	36.5	0.41	0.20	14.5	181	160	3	305		0.1	0.93

You can contact us by calling  
(605)692-6325 or write us at  
PO Box 588  
Brookings SD 57006-0588

# Brookings Municipal Utilities

## 2017 Drinking Water Report

*It's your tap water!*



EPA ID: 0071





# Water Quality



## *Secretary's Award*

*The Brookings Municipal Utilities has supplied seventeen consecutive years of safe drinking water to the public it serves and has been awarded the Secretary's Award for Drinking Water Excellence by the South Dakota Department of Environment and Natural Resources. 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 22,298 customers an average of 2,424,000 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 Brookings Municipal Utilities public water supply system is medium.

For more information about your water and information on opportunities to participate in public meetings, call (605)692-6325 and ask for Paul Melby.

### **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 Brookings Municipal Utilities 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.

## 2017 Table of Detected Contaminants For Brookings Municipal Utilities (EPA ID 0071)

### 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
- \*pCi/l: picocuries per liter(a measure of radioactivity)
- \*ppt: parts per trillion, or nanograms per liter
- \*mrem/year: millirems per year(a measure of radiation absorbed by the body)
- \*ppm: parts per million, or milligrams per liter(mg/l)
- \*ppq: parts per quadrillion, or picograms per liter
- \*NTU: Nephelometric Turbidity Units
- \*ppb: parts per billion, or micrograms per liter(ug/l)
- \*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	0.0	0	09/22/17	AL=1.3	0	ppm	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Lead	9	1	09/19/17	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
Fluoride	1.00	0.57 - 1.00	11/15/17	4	4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Haloacetic Acids (RAA)	15.70		10/03/17	60	0	ppb	By-product of drinking water chlorination. Results are reported as a running annual average of test results.
Nitrate (as Nitrogen)	1.0		08/02/17	10	10	ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Total Coliform Bacteria	1	positive samples		5%	0	pspm	Naturally present in the environment.
Total trihalomethanes (RAA)	51.88		10/03/17	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 Eric Witt with the Brookings Municipal Utilities public water system at (605)692-6325.