

# Brookings-Deuel Rural Water System Drinking Water Information

(System Information, Sampling Requirements, and Compliance Report)



## Secretary Award For Drinking Water Excellence

<b>Population Served:</b>	6,500	<b>System Population:</b>	5,300
<b>Certified Operator:</b>	Mr Gene Wilts PO Box 340 Toronto, SD 57268-0340	<b>Work Phone:</b>	(605)794-4201
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<b>Financial Contact:</b>	Mr Gene Wilts PO Box 340 Toronto, SD 57268-0340	<b>Work Phone:</b>	(605)794-4201
		<b>Home Phone:</b>	
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		<b>Email:</b>	bdrws@itctel.com
<b>Other Contacts:</b>	Mr Doug Feten 47485 185th Street Clear Lake, SD 57226	<b>Work Phone:</b>	
		<b>Home Phone:</b>	
		<b>Cell Phone:</b>	
		<b>Fax:</b>	
		<b>Email:</b>	
<b>Last Inspection:</b>	June 2, 2016		
<b>Type of System:</b>	Community	<b>Area Served:</b>	Brookings, Deuel County
<b>Number of Service Connections:</b>	2,500	<b>Contamination Risk:</b>	moderate
<b>Water Sold To:</b>			Clear Lake, Elkton, Gary, Kingbrook I Rural Water System, White
<b>PWS Owner Type:</b>	Private Ownership	<b>Service Area:</b>	Rural Water System/Colonies
<b>Contract Laboratory:</b>			State Health Lab, Pierre

# Monitoring/Reporting - Entry Point

**Brookings-Deuel Rural Water System**

**EPA ID: 0430**

## SAMPLING

Entry point: Clear Lake Plant

	Chemical	Sampling Frequency	Waivers	Taken Last	Due Next	Notes
1	Inorganic Chemicals					
	A. Antimony	Every nine years	Yes	Nov-12		
	B. Arsenic	Every nine years	Yes	Nov-12		
	C. Barium	Every nine years	Yes	Nov-12		
	D. Beryllium	Every nine years	Yes	Nov-12		
	E. Cadmium	Every nine years	Yes	Nov-12		
	F. Chromium	Every nine years	Yes	Nov-12		
	G. Cyanide		Yes			State-wide waiver
	H. Fluoride		No			This system fluoridates
	I. Mercury	Every nine years	Yes	Nov-12		
	J. Nickel	Every nine years	Yes	Nov-12		
	K. Selenium	Every nine years	Yes	Nov-12		
	L. Thallium	Every nine years	Yes	Nov-12		
2	Radiological Chemicals	Every nine years	N/A			
3	VOC Chemicals	Quarterly	No	Jul-15	2018	
4	SOC Chemicals					
	A. Method 515.1	Triennially	No	Nov-15	2018	
	B. Method 524	Not Required	Yes			
	C. Method 525	Triennially	No	Nov-15	2018	
	D. Method 531.1	Not Required	Yes			
	E. Method 547	Triennially	No	Nov-15	2018	
	F. Method 548	Not Required	Yes			
	G. Method 549	Not Required	Yes			
5	Nitrate	Annually-1st Qtr	N/A	Mar-17		
6	Nitrite	Triennially	N/A	Mar-17		

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

# Monitoring/Reporting - Entry Point

**Brookings-Deuel Rural Water System**

**EPA ID: 0430**

## SAMPLING

Entry point: Bruce Plant/joint

	Chemical	Sampling Frequency	Waivers	Taken Last	Due Next	Notes
1	Inorganic Chemicals					
	A. Antimony	Every nine years	Yes	Nov-12		
	B. Arsenic	Every nine years	Yes	Nov-12		
	C. Barium	Every nine years	Yes	Nov-12		
	D. Beryllium	Every nine years	Yes	Nov-12		
	E. Cadmium	Every nine years	Yes	Nov-12		
	F. Chromium	Every nine years	Yes	Nov-12		
	G. Cyanide		Yes			State-wide waiver
	H. Fluoride		No			This system fluoridates
	I. Mercury	Every nine years	Yes	Nov-12		
	J. Nickel	Every nine years	Yes	Nov-12		
	K. Selenium	Every nine years	Yes	Nov-12		
	L. Thallium	Every nine years	Yes	Nov-12		
2	Radiological Chemicals	Every nine years	N/A			
3	VOC Chemicals	Quarterly	No	Jul-15	2018	
4	SOC Chemicals					
	A. Method 515.1	Triennially	No	Nov-15	2018	
	B. Method 524	Not Required	Yes			
	C. Method 525	Triennially	No	Nov-15	2018	
	D. Method 531.1	Not Required	Yes			
	E. Method 547	Triennially	No	Nov-15	2018	
	F. Method 548	Not Required	Yes			
	G. Method 549	Not Required	Yes			
5	Nitrate	Annually	N/A	Apr-17		
6	Nitrite	Triennially	N/A	Apr-17		

(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>84</u>
B Samples required:	<u>Six Samples Each Month.</u>
C Survey samples:	<u>0</u>
D Safe samples:	<u>84</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 3, 2015</u>
B Samples required:	<u>20</u>
C Sampling Frequency	<u>Triennially</u>
D Date Due Next	<u>2018</u>
E Lead - 90% Level	<u>6.5</u> Action Level - 15 ug/l
F Copper 90% Level	<u>0.35</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>84</u>
B Samples required:	<u>Six Samples Each Month.</u>
C Last Qtr Cl Residual:	<u>1.38</u> mg/l
D Running Annual Average:	<u>1.37</u> mg/l
E Date of last DBP test:	<u>August 8, 2017</u>
F THM - Qtr Average:	<u>27.9</u> ug/l
G Haa5 - Qtr Average:	<u>4.94</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-Deuel Rural Water System

EPA ID: 0430

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

Violation Type	Parameter	Date	Status
No Violations			

Significant Deficiency	Date Identified	Date Corrected

# EPA ID#: 0430 System Name: Brookings-Deuel Rural Water System

Sampler- Mr Gene Wilts                      Work Phone-(605)794-4201  
 Title- Manager  
 Address- PO Box 340  
           Toronto SD 57268-0340

Location-                      City: Bruce And Clear Lake                      County: Brookings, Deuel  
 Service Area- Other residential areas  
 PWS Owner Type- Private Ownership  
 Water Supply Type- Groundwater Supply

Population Served- 5,300                      Service Connections- 2,500

## Sources for Brookings-Deuel Rural Water System

Source	Name	Year Built	Depth (feet)	Diameter (inches)	Availability	Type	Vulnerability	Treatment
01	BRUCE-1	1976	60	12	Permanent	Groundwater	Vulnerable	Treatment At Plant
02	BRUCE-2	1976	60	12	Permanent	Groundwater	Vulnerable	Treatment At Plant
03	BRUCE 3	1981	60	12	Permanent	Groundwater	Vulnerable	Treatment At Plant
04	CLEAR LAKE-1	1976	60	14	Permanent	Groundwater	Vulnerable	Treatment At Plant
05	CLEAR LAKE-2	1976	60	14	Permanent	Groundwater	Vulnerable	Treatment At Plant
06	CLEAR LAKE-3	1981	60	12	Permanent	Groundwater	Vulnerable	Treatment At Plant
07	BRUCE-4	1989	60	12	Permanent	Groundwater	Vulnerable	Treatment At Plant
08	CLEAR LAKE-4	1989	240	12	Permanent	Groundwater	Vulnerable	Treatment At Plant
09	ELKTON-1	1984	30	12	Emergency	Groundwater	Vulnerable	Treatment At Plant
10	ELKTON-2	1984	30	12	Emergency	Groundwater	Vulnerable	Treatment At Plant
11	BRUCE PLANT/JOINT				Permanent	Treatment Plant	Non-Vulnerable	Aeration Coagulation, Softening - KMnO4 Disinfection - Gas Chlorine Filtration - Green Sand Corrosion Control - Mixing Device Sedimentation Fluoridation - H2SiF6
12	ELKTON PLANT				Emergency	Treatment Plant	Non-Vulnerable	Aeration Coagulation, Softening - KMnO4 Disinfection - Gas Chlorine Filtration - Zeolite Corrosion Control - Fluoridation - H2SiF6
13	CLEAR LAKE-5	1991	240	12	Permanent	Groundwater	Vulnerable	Treatment At Plant
14	CLEAR LAKE PLANT				Permanent	Treatment Plant	Non-Vulnerable	Aeration Coagulation, Softening - KMnO4 Disinfection - Gas Chlorine Filtration - Pressure Sand Corrosion Control - Fluoridation - H2SiF6
15	BRUCE-5	1998	50	12	Permanent	Groundwater	Vulnerable	Treatment At Plant
16	BRUCE-6	1994	50	12	Permanent	Groundwater	Vulnerable	Treatment At Plant
17	ELKTON-3	1990	30	12	Emergency	Groundwater	Vulnerable	Treatment At Plant
18	BRUCE-7	1999	45	12	Permanent	Groundwater	Non-Vulnerable	Treatment At Plant

**EPA ID#: 0430 System Name: Brookings-Deuel Rural Water System**

<b>Source</b>	<b>Name</b>	<b>Year Built</b>	<b>Depth (feet)</b>	<b>Diameter (inches)</b>	<b>Availability</b>	<b>Type</b>	<b>Vulnerability</b>	<b>Treatment</b>
33	CLEAR LAKE-6	2003	60	12	Permanent	Groundwater	Non-Vulnerable	Treatment At Plant
34	BRUCE-8	2008	45	12	Permanent	Groundwater	Non-Vulnerable	Treatment At Plant

# EPA ID#: 0430 System Name: Brookings-Deuel Rural Water System

## 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
01	Raw	05/09/89	425	680	7.62	224	0	8	2.5	87.2	32.1	0.14	0.54	14.1	121	273	0	350	+0.09	1.4	0.26
14	Raw	02/02/95	434	709	7.14	242	0	3	2.2	104.2	31.4	0.01	0.02	14.5	116	295	0	389	+0.01	5.9	0.16
05	Raw	06/11/91	466	673	7.34	248	0	4	2.4	94.7	29.5	0.02	0.02	9.4	85	303	0	358	-0.17	2.7	0.14
09	Raw	10/28/92	436	666	7.66	278	0	9	1.9	80.3	35.7	0.13	0.04	1.1	44	339	0	347	+0.14	6.3	0.23
12	Raw	02/02/95	536	709	7.31	262	0	9	2.2	93.2	37.6	0.01	0.02	11.0	109	320	0	387	+0.14	6.9	0.70
11	Raw	02/02/95	442	709	7.18	263	0	10	2.5	96.1	36.0	0.04	0.49	19.0	126	321	0	388	+0.04	3.0	0.32
07	Raw	04/20/10	568	850	7.82	340	0	33	8.3	104.0	36.0	0.70	0.51	6.0	147	415	0	408	+0.80	0.2	0.41
06	Raw	04/20/10	531	827	7.59	335	0	32	6.4	96.7	34.4	0.53	0.36	6.0	129	409	0	383	+0.54	0.2	0.43
Averages			480	728	7.46	274	0	13	3.6	94.6	34.1	0.20	0.25	10.1	110	334	0	376		3.3	0.33

Source	Type	Date	TDS	Conductance	pH	Alk-M	Alk-P	Na	K	Ca	Mg	Fe	Mn	Cl	SO4	HCO3	CO3	Hardness	Langlier	NO3	F
02	Treated	02/25/87	0	0	0.00	0	0	0	2.7	82.3	32.7	0.02	0.06	0.0	0	0	0	340	0.00	0.0	1.63
11	Treated	02/02/95	0	0	0.00	0	0	0	0.0	0.0	0.0	0.03	0.06	0.0	0	0	0	0	0.00	0.0	0.00
14	Treated	02/04/98	428	637	7.65	240	0	4	2.4	93.1	29.2	0.06	0.02	11.0	95	293	0	353	+0.46	3.8	1.19
11	Treated	02/04/98	447	700	0.00	249	0	10	3.1	86.9	35.2	0.06	0.04	14.0	109	304	0	362	+0.19	2.5	1.20
12	Treated	03/17/98	457	708	7.39	241	0	9	2.8	85.1	34.7	0.06	0.03	14.0	116	294	0	355	+0.16	2.2	1.00
11	Treated	05/23/01	475	753	7.38	265	0	11	2.4	89.4	35.7	0.02	0.02	13.0	119	323	0	370	+0.21	1.0	1.04
14	Treated	05/23/01	438	678	7.56	244	0	3	2.3	91.5	28.9	0.02	0.02	13.0	97	298	0	347	+1.24	2.8	1.05
14	Treated	04/27/04	422	649	7.45	240	0	4	2.9	90.8	28.2	0.03	0.02	9.0	90	293	0	343	+0.25	2.8	1.06
11	Treated	04/27/04	479	730	7.50	220	0	10	3.1	95.2	35.5	0.03	0.02	59.0	125	268	0	384	+0.27	0.7	1.09
11	Treated	05/30/07	444	665	7.44	258	0	5	2.7	97.1	28.5	0.03	0.02	11.0	113	315	0	360	+0.30	2.3	1.27
14	Treated	04/08/10	454	699	7.64	258	0	5	2.9	102.0	29.5	0.03	0.03	10.0	104	315	0	376	+0.52	4.0	1.02
11	Treated	04/08/10	482	762	7.89	286	0	13	3.0	97.8	35.5	0.03	0.04	19.0	122	349	0	390	+0.79	1.0	1.32
14	Treated	05/21/13	0	463	7.61	256	0	5	2.7	101.0	31.3	0.06	0.09	11.0	105	312	0	381	+0.48	3.3	1.28
11	Treated	05/21/13	484	742	7.78	265	0	12	2.9	101.0	34.7	0.06	0.13	17.0	124	323	0	395	+0.66	1.1	1.27
11	Treated	06/02/16	493	726	7.95	269	0	12	3.1	93.7	34.4	0.00	0.06	13.0	128	328	0	376	+0.80	0.8	0.68
14	Treated	06/02/16	481	729	7.50	268	0	5	2.9	99.1	32.1	0.00	0.00	9.0	113	327	0	380	+0.38	3.2	0.68
Averages			374	603	6.17	222	0	7	2.6	87.9	30.4	0.03	0.04	13.9	97	271	0	345		2.0	1.05



You can contact us by calling  
(605)794-4201 or write us at  
PO Box 340  
Toronto SD 57268-0340

# Brookings-Deuel Rural Water System

## 2017 Drinking Water Report

*It's your tap water!*



EPA ID: 0430



# Water Quality



## *Secretary's Award*

*The Brookings-Deuel Rural Water System has supplied twelve 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 5,300 customers an average of 2,357,000 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-Deuel Rural Water System public water supply system is medium.

For more information about your water and information on opportunities to participate in public meetings, call (605)794-4201 and ask for Gene Wilts.

### **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-Deuel Rural Water System 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-Deuel Rural Water System (EPA ID 0430)

### 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	0.4	0	07/22/15	AL=1.3	0	ppm	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Lead	7	1	07/22/15	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	0.79	0.61 - 0.79	01/17/17	4	4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Haloacetic Acids (RAA)	4.94		08/08/17	60	0	ppb	By-product of drinking water chlorination. Results are reported as a running annual average of test results.
Total trihalomethanes (RAA)	27.9		08/08/17	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 Gene Wilts with the Brookings-Deuel Rural Water System public water system at (605)794-4201.