



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

June 27, 2017

Re: Colonial Pires Hills Sanitary District (EPA ID# 0263)

MIKE RIKER
8545 KINGS COURT
RAPID CITY SD 57702

Chemical analyses to follow.

Dear Mike:

I performed an on-site evaluation of this drinking water system May 17, 2017. The final report is attached.

*** I wish to compliment CPHSD for being an exceptionally a well-managed and well-operated water system. ***

REQUIREMENTS:

1. Please be aware that IOC and nitrate samples are due from the Croyle/Nonanna entry point and a nitrate from the Conifer entry point during 2017.
2. Mike, you hold the required water treatment and distribution certifications required by Colonial Pine Hills. With your certification levels, you must attend classes/training to achieve 15 contact hours every three years to maintain certifications. The classes put on by the South Dakota Association of Rural Water Systems (sdarws.com) are an opportunity for operators to learn new rules written by EPA, ask questions, learn necessary skills and attain needed contact hours. Contact the SDARWS at PO Box 287 (203 Center Street West), Madison, SD 57042, 605-556-7219 for information on training classes. For information on the operator certification program contact Rob Kittay with the Drinking Water Program, 523 E. Capitol Avenue, Pierre, SD 57501, 605-773-4208.
3. During the sanitary survey, I noted that Colonial Pine Hills has added new treatment processes, that being a polymer and ultrafiltration. Because of these significant additions to the treatment process, lead/copper monitoring must be modified. You will need to do two rounds of 6-month monitoring at the routine number of sites. After the completion of those two rounds, CPH may be eligible to return to annual or triennial monitoring, depending on 90th percentile sampling levels. Your first round of 6 month monitoring will begin July 1, 2017–December

31, 2017 and the routine number of sites is 20. Erin Dreis mailed the sites to you on June 5.

4. The State Fluoridation Law requires that the fluoride level be adjusted within a range of 0.5-0.9 mg/L with 0.7 mg/L being the optimum level for South Dakota. A constant fluoride concentration at the optimum level of 0.7 mg/L can provide a 60 to 65% reduction in dental caries. Three samples in the last year have been outside of the recommended range. Adjust the feed rate so the level in the distribution system falls to within the recommended level.

Your fluoride analysis record for 6/2016 through 5/2017 is as follows:

Samples required: 1/month
Samples submitted: 12

Analyses within required range 0.5-0.9 mg/L: 9
Analyses below 0.5 mg/L: 0 Lowest result: 0.56
Analyses above 0.9 mg/L: 3 Highest result: 1.54

The common ion sample collected from the Croyle 2/Nonanna pumphouse was 13.2 mg/L. Mike did three field samples 5/18/17 as followup action. A sample at the same pumphouse was 1.29 mg/L and two more samples were 1.26 and 1.27 mg/L.

For technical assistance contact the Department of Environment and Natural Resources' Drinking Water Program at 523 East Capitol, Pierre, SD 57501, (605) 773-3754 or the South Dakota Rural Water Association at PO Box 287 (203 Center Street West), Madison, SD. 57042. (605) 556-7219. The West River office for the South Dakota Rural Water Association is at PO Box 815 (301 Seaton Circle), Spearfish, SD 57783, 605-642-4031.

Representatives of your water system are invited to attend seminars and training courses sponsored by the DENR and the South Dakota Association of Rural Water Systems (SDARWS). Contact the SDARWS at 556-7219 or write them at PO Box 287 (203 Center Street West), Madison, SD. 57042.

Please acknowledge that you have received this report by indicating corrective actions taken. If you have questions or comments concerning the on-site evaluation, please call the Drinking Water Program in Pierre at 773-3754 or 1-800-438-3367.

Sincerely,

Barbara Friedeman

Barbara Friedeman
Drinking Water Program

cc: ✓ Jim Martin

South Dakota Department of Environment and Natural Resources
Drinking Water Program
Public Water System On-Site Evaluation Report

System Name: Colonial Pine Hills Sanitary District EPA ID #: 0263
 Address: 8251 Dunsmore Road
Rapid City, SD 57702-8950

County: Pennington

Person Contacted: Mike Riker and Jim Martin Work phone: (605)341-7800
 Address: 8251 Dunsmore Road Home phone: _____
Rapid City, SD 57702 Cell phone: (605)209-2811
 Fax: _____
 E-mail: mike.riker@ae2s.com

Inspected By: Barbara Friedeman Date of Inspection: 5/17/17 (mm/dd/yy)

Type of System: (check one) Community Water System
 Non-Transient Non-Community

Population: Total Population Served: 1,200 System Population: 1,200

Number of Service Connections: 431 Susceptibility to contamination of water source: moderate

Sources of Water: Water data from year: 2016
 Own Source(s): Croyle 2, Nonanna, Conifer wells Total produced: 47,390,418 % of total: 100.0%
 Bulk Supplier: NA Total purchased: NA % of total: #VALUE!
 Contracted flow rate?: NA
 Total Annual Use: 47,390,418 100.0%

Water Sold to: NA
 (bulk connections only) _____

How much water can this system supply? 691,200 gpd (maximum flow rate, gpm)
 What major factor limits system's ability to supply water? No limiting factors.

- | yes | no | n/a | unk | note | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1 Is there an up-to-date map or schematic of system? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 2 Is the system capable of meeting demand at all times (excluding fire flow)? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3 Is good housekeeping evident throughout the system? |

Comments: _____

Water Usage

yes no n/a unk note

4 Are all customers metered?

5 If not, what entities are not metered?

6 Total gallons billed: 43599185

7 Calculated water loss: 8.0%

yes no n/a unk note

8 Peak month and amount used 8/2016 9,127,578 gallons

9 Does the system track unaccounted-for water?

Comments:

Water Sources

Colonial Pine Hills

EPA ID: 0263

Name	Year Built	Diameter (in)	Depth (ft)	GPM	Status	ID
WP MAIN WELL	1978	7	1109	93	Emergency	6
NAYLOR WELL	1976	4	825	30	Abandoned	7
CROYLE 1 WELL	1964	6	725	18	Abandoned	8
NONANNA WELL	2002	7	1055	147	Permanent	10
CLARKSON WELL	1972	8	720	15	Abandoned	12
CONIFER WELL	1997	7	1020	140	Permanent	14
CS MAIN WELL	1994	7	945	44	Emergency	17
CROYLE 2 WELL	2010	13	1010	180	Permanent	19

Name	Water Right #	Aquifer	Location Description	ID
WP MAIN WELL	1726-2	DEADWOOD	End of Dunsmore near concrete tanks.	6
NAYLOR WELL	1726-2	MADISON AQ.	Abandoned	7
CROYLE 1 WELL	1726-2	MADISON AQ.	Abandoned	8
NONANNA WELL	2461-2	MADISON	Dunsmore Road and Nonanna Street and Croyle Court.	10
CLARKSON WELL	2108-2	MADISON	Abandoned	12
CONIFER WELL	2295-2	DEADWOOD	Near Currant Court and Conifer Lane.	14
CS MAIN WELL	2295-2	DEADWOOD	Near Clarkson Road and Clarkson Lane.	17
CROYLE 2 WELL	2607A-2	MADISON	Near Croyle Avenue and Sheridan Lake Road	19

yes no n/a unk note

- 1 Has a Source Water Protection Plan been developed?
Date: 2006
- 2 Is the wellhead/pumphouse protected from unauthorized personnel?
- 3 Are there any sources of contamination with 1/4 mile?
- 4 Are pesticides, herbicides, fertilizers applied in the area of the well(s)?
- 5 Is a pressure gauge provided at each source?
- 6 Is a sample tap provided at each well? Please list location of taps below.
- 7 Can flow be measured from each well?
- 8 Is the well house(s) kept clean, in good repair and not used to store hazardous material?

Comments:

CSMain and WPMain wells valved off and not in use because of elevated rads. 4)Assume use of chemicals on nearby lawns. 6)Conifer-5322 Conifer Lane, Croyle 2-7804 Croyle Aveune, Nonanna-8251 Dunsmore Road.

Water Treatment

Colonial Pine Hills

EPA ID: 0263

General Items

- | yes | no | n/a | unk | note | |
|-------------------------------------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|--|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1 Is there continuous online water quality measurements taken?
If so, what? (pH, turbidity, chlorine, etc.)
<u>Cl residual and turbidity at Croyle 2 after contact loops for Croyle 2 and Nonanna well blend. Hach CL17 chlorine analyzer and Hach 1720E turbidimeter.</u> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 2 Can the treatment process be interrupted by power outages? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 3 Is backup electrical power available? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4 Are treatment units designed to be taken out of service without interruption to operations? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 5 Is routine maintenance and good housekeeping evident? |

Chlorination

- | yes | no | n/a | unk | note | |
|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|---|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1 Is continuous disinfection provided? |
| | | | | | 2 Type of chemical used: <u>Azone</u> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3 Is there an anti-siphon valve on the feed pump? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4 Is there adequate spill containment? |
| | | | | | 5 Gas chlorination features: |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 6 Separate room? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 7 Positive mechanical ventilation? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 8 Restraints for all cylinders? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 9 Self-contained air pack present? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 10 Scale present? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 11 Observation window? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 12 Automatic leak detectors? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 13 Chlorine safety plan? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 14 Other chemicals stored in room? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 15 Is ammonia used to form chloramines? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 16 Is an alternate method of disinfection used? |

Describe: NA

Comments: _____

Presedimentation

yes no n/a unk note

- 1 Does the water require presedimentation?
- 2 Is there a minimum detention time of three hours (Ten States Standards)?
If not, what is approximate detention time? _____
- 3 Is any treatment/conditioning done to water prior to presedimentation?
Describe: _____

- 4 Can the basin be bypassed?
- 5 Is there continuous sludge removal?
- 6 Is short circuiting a problem?

Comments: _____

Aeration

yes no n/a unk note

- 1 Is aeration provided?
- 2 What type of aeration is provided? _____

Comments: _____

Coagulation

yes no n/a unk note

- 1 Does the treatment process include coagulation?
- 2 List chemicals added: _____

- 3 Is the basin equipped with mechanical mixing devices?
- 4 Is the detention period more than 30 seconds (Ten States Standards)?

Comments: _____

Flocculation

yes no n/a unk note

- 1 Does the treatment process include flocculation?
- 2 Is there at least 30 minutes of detention time for floc formation?
If not, what is approximate detention time? _____
- 3 Does the inlet and outlet design prevent short-circuiting and destruction? _____

Comments: _____

Sedimentation

yes no n/a unk note

- 1 Is sedimentation part of this treatment process?
- 2 Is there a detention time of at least 4 hours (Ten States Standards)?
If not, what is approximate detention time? _____
- 3 Is there continuous sludge removal? _____
- 4 Is sludge dewatered?
- 5 Where does recycled water reenter system? _____
- 6 Where is the sludge discharged? _____
- 7 Does the facility have the appropriate waste water permits? _____

Comments: _____

Filtration

yes no n/a unk note

- 1 Is filtration provided?
- 2 What type: WesTech brand 0.01 micron ultrafiltration for Nonanna well. 12 filters present but only 10 are in use. 50 micron Tekleen screen at Conifer.
- 3 Do records indicate that adequate filtration is being done?
- 4 Filtration area: 7750 square feet with 10 filters in use
- 5 Maximum flow rate: 150-200 gpm
- 6 Backwash frequency: Every 30 minutes
- 7 How determined? Schedule and water quality

Comments: Each filter is 775 square feet. Sodium hydroxide, sodium bisulfate & citric acid use to clean filter fibers. Tekleen screen at Conifer for particulate removal and is not in use at Croyle 2 or Nonanna.

Fluoridation

yes no n/a unk note

- 1 Is fluoridation provided?
2 Type of chemical used? Acid
- 3 Is there an anti-siphon valve on the feed pump?
 4 Is there adequate spill containment?
 5 Do records indicate consistent, acceptable levels are maintained?

Comments: 5)4/20/17, 5/18/17 and 10/19/16 were above 0.9 recommended range.

Stabilization (pH adjustment, polymers, softening, etc.)

yes no n/a unk note

- 1 Does the water require stabilization?
 2 Are pH and alkalinity adjusted? (via soda ash, lime, caustic soda, carbon dioxide, sulfuric acid, etc.) How? _____
- 3 Is the water softened as part of this treatment process? Describe: _____
- 4 Are corrosion inhibitors or sequestering agents used? Describe: Calgon LPC at Conifer well to sequester iron.
- 5 Are polymers used for something other than described previously? Aquahawk 627 added at Nonanna to build floc and improve particle removal.

Comments: _____

Corrosion Control

yes no n/a unk note

- 1 Does this system require a corrosion control program?
2 What chemical is being used? Dosage? _____
- 3 Is the corrosion control equipment working properly?
 4 Do records show WQP's are tested every two weeks?
 5 What test kits are used for WQP's and are reagents up to date?

Comments: _____

Storage

Colonial Pine Hills

EPA ID: 0263

Description	Service Date	Location	ID
1 Steel Standpipe 504000	2014	Spring Canyon Trail and Mountain Pine Lane	18

yes no n/a unk note

- | | | | | | |
|-------------------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|--|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1 Is the area surrounding the ground-level storage structures graded in a manner that will prevent surface water from standing within 50 feet? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 2 Do overflows and drains have free fall discharges which are screened? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3 Are the discharges between 12 and 24 inches above the ground? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4 Do the overflows and/or drains discharge to a splash pad or drainage inlet structure that is not connected to a storm or sanitary sewer? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 5 Do the storage reservoirs have a watertight roof or cover and are they sloped so that water will drain? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 6 Are storage structures designed so that they can be isolated from the distribution system without necessitating loss of pressure in the distribution system? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 7 Is leakage evident at the time of inspection? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 8 Are the storage structures vented? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 9 Are vents properly protected/screened? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 10 Are covers and hatches locked? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 11 Are there any weather related problems (freezing, etc.)? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 12 Is there a control system to maintain level? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 13 Are there high and low level alarms? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 14 Are tanks filled automatically, manually or both? <u>Automatically</u> |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 15 Is there a service contract for cleaning/inspecting the tanks? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 16 Are the tanks disinfected after being cleaned or inspected? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 17 Are the storage structures secure from unauthorized access? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 18 Is the area fenced? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 19 What other steps have been taken to address security?
<u>Pumphouses and tank are fenced, hatch on tank is alarmed.</u> |

Comments: The ground concrete tanks are empty now. They were used when the Whispering Pines well was in use.

Distribution System

Colonial Pine Hills

EPA ID: 0263

Main sizes and types: 4", 6", 8" 10" and 12" PVC

yes no n/a unk note

- | | | | | | | |
|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|---|--------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1 Is the water system capable of providing sufficient water during maximum demand conditions (excluding fire flow) to maintain a minimum pressure of 20 psi within the system measured at the consumer's tap? | |
| | | | | | 2 What is normal operating pressure? _____ | 50-80 psi |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3 Are there areas with chronic low pressure problems? | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4 Is an adequate map (shows valve locations, line sizes, etc) of the distribution system maintained? | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 5 Is there a main flushing program? If yes, how often? _____ | once/year |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 6 Are all dead-end water mains equipped with a means to flush? | |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 7 Any plans to eliminate dead-ends (via looping of mains, etc.)? | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 8 Are valves exercised regularly? If yes, how often? _____ | once/year |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 9 Are there fire hydrants on mains less than 6 inches in diameter? | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 10 Does the system disinfect after pipe repairs or new pipe installation? | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 11 Is the location and nature of each repair documented? | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 12 Does the system utilize a conservation program at any time? | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 13 Is the system adequately protected from freezing? | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 14 Are water and sewer mains separated by a horizontal distance of 10 feet or greater? | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 15 Is there a cross connection control program? | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 16 Are audits conducted to check for cross connections in the system? | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 17 Are backflow preventers installed on all consumer connections? | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 18 Is the bulk water loading station designed with back flow prevention and appropriate air gap device to prevent contamination? | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 19 Does the system contain any pressure reducing valves? | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 20 For systems using chloramines, can you measure a total chlorine residual level of at least 0.5 mg/l in your distribution system at all times? | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 21 For systems using chlorine, can you measure a free chlorine residual level of at least 0.3 mg/l in your distribution system at all times? | |
| | | | | | 22 How often do you take chlorine readings in the distribution system?
_____ | |

Comments (please indicate the question number): 12)Limit irrigation 10:00 am - 5:00 pm during June through September. 9)Hydrants on 4" mains are marked for the fire dept.

Facilities Equipment

Colonial Pine Hills

EPA ID: 0263

yes	no	n/a	unk	note	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1 Are any pumps used in the system? If so, describe: <u>The need to boost to a high level has been eliminated.</u> <u>WP booster, well and storage are on standby.</u>
					<u>A 30 hp high lift pump present at Croyle 2 treatment plant to push water to the distribution system.</u>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2 Are backup pumps available?
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3 Is any equipment located in a pit?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4 Do you use a qualified pump contractor to inspect pump equipment?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5 Is food grade lubrication used in all water facilities equipment?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	6 Is backup power available in the event of a power loss?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7 Is equipment protected from unauthorized entry or vandalism?
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8 Are the facilities and equipment subject to weather related problems?
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9 Is there a floor drain? Where does it drain to? <u>Daylights</u>

Comments (please indicate the question number): 6)Generator capable at Conifer and Croyle 2 wells.

Monitoring/Reporting - Entry Point

Colonial Pine Hills

EPA ID: 0263

SAMPLING

Entry point: Treat Site - Croyle 2/Nonanna (20)

	Chemical	Sampling Frequency	Waivers	Taken Last	Due Next	Notes
1	Inorganic Chemicals					
	A. Antimony	Triennially	No	Dec-14	2017	
	B. Arsenic	Triennially	No	Dec-14	2017	
	C. Barium	Triennially	No	Dec-14	2017	
	D. Beryllium	Triennially	No	Dec-14	2017	
	E. Cadmium	Triennially	No	Dec-14	2017	
	F. Chromium	Triennially	No	Dec-14	2017	
	G. Cyanide		Yes			State-wide waiver
	H. Fluoride		No			This system fluoridates
	I. Mercury	Triennially	No	Dec-14	2017	
	J. Nickel	Triennially	No	Dec-14	2017	
	K. Selenium	Triennially	No	Dec-14	2017	
	L. Thallium	Triennially	No	Dec-14	2017	
2	Radiological Chemicals	Every nine years	N/A	Oct-15	2024	
3	VOC Chemicals	Triennially	No	Oct-15	2018	
4	SOC Chemicals					
	A. Method 515.1	Triennially	No	Jul-15	2018	
	B. Method 524	Triennially	No	Jul-15	2018	
	C. Method 525	Triennially	No	Jul-15	2018	
	D. Method 531.1	Triennially	No	Jul-15	2018	
	E. Method 547	Triennially	No	Jul-15	2018	
	F. Method 548	Triennially	No	Jul-15	2018	
	G. Method 549	Triennially	No	Jul-15	2018	
5	Nitrate	Annually	N/A	Sep-16	2017	
6	Nitrite	Triennially	N/A	Sep-16	2019	

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

Monitoring/Reporting - Entry Point

Colonial Pine Hills

EPA ID: 0263

SAMPLING

Entry point: Treat Site - Conifer Well (13)

	Chemical	Sampling Frequency	Waivers	Taken Last	Due Next	Notes
1	Inorganic Chemicals					
	A. Antimony	Every nine years	Yes	Nov-12		Waiver expires 12/31/2019
	B. Arsenic	Every nine years	Yes	Nov-12		Waiver expires 12/31/2019
	C. Barium	Every nine years	Yes	Nov-12		Waiver expires 12/31/2019
	D. Beryllium	Every nine years	Yes	Nov-12		Waiver expires 12/31/2019
	E. Cadmium	Every nine years	Yes	Nov-12		Waiver expires 12/31/2019
	F. Chromium	Every nine years	Yes	Nov-12		Waiver expires 12/31/2019
	G. Cyanide		Yes			State-wide waiver
	H. Fluoride		No			This system fluoridates
	I. Mercury	Every nine years	Yes	Nov-12		Waiver expires 12/31/2019
	J. Nickel	Every nine years	Yes	Nov-12		Waiver expires 12/31/2019
	K. Selenium	Every nine years	Yes	Nov-12		Waiver expires 12/31/2019
	L. Thallium	Every nine years	Yes	Nov-12		Waiver expires 12/31/2019
2	Radiological Chemicals	Triennially	N/A	Oct-15	2018	
3	VOC Chemicals	Triennially	No	Oct-15	2018	
4	SOC Chemicals					
	A. Method 515.1	Triennially	No	Jul-15	2018	
	B. Method 524	Triennially	No	Jul-15	2018	
	C. Method 525	Triennially	No	Jul-15	2018	
	D. Method 531.1	Triennially	No	Jul-15	2018	
	E. Method 547	Triennially	No	Jul-15	2018	
	F. Method 548	Triennially	No	Jul-15	2018	
	G. Method 549	Triennially	No	Jul-15	2018	
5	Nitrate	Annually	N/A	Sep-16	2017	
6	Nitrite	Triennially	N/A	Sep-16	2019	

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

Monitoring/Reporting - Distribution

Colonial Pine Hills

EPA ID: 0263

yes no n/a unk note

- | | | | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1 Are the following sampling site plans up to date? |
| | | | | | - Bacteriological |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | - Lead and copper |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | - Disinfection By Products (DBP) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 2 Are microbiological sampling sites (as approved by DENR) being rotated on a monthly basis for routine sampling? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3 Does the system have a waiver for asbestos sampling? |
| | | | | | 4 Which of the following records are kept regarding the system? |

yes no n/a unk note

- | | | | | | |
|-------------------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Operational Data: |
| | | | | | Flow meter readings: |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Electrical usage: |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Chemical usage: |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Hour meter readings: |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Storage or reservoir levels: |
| | | | | | Sampling data: |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | - Chlorine residual testing |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | - Bacteriological sampling |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | - Fluoride levels |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | - Asbestos sampling results |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | - Lead and Copper sampling results |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | - DBP Monitoring |
| | | | | | Other: _____ |
| | | | | | Maintenance Data: |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Water main repairs: |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Main flushing dates: |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Valve exercising dates: |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Equipment service: |
| | | | | | Other: _____ |

Testing and Testing Equipment

Test kits present at system: Hach digital kits for chlorine, fluoride and turbidity.

yes no n/a unk note

- | | | | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 5 Are up to date reagents present? |
| | | | | | Tests and frequency performed by operator: <u>Chlorine and turbidity measured continuously at the Croyle 2 pumphouse. Chlorine also measured when bacteria sample collected. Fluoride measured weekly.</u> |
| | | | | | Survey test results: <u>Not tested during my visit.</u> |

Bacteriological Monitoring

Bacteriological sampling and analysis: April 1, 2016 to April 1, 2017

A Samples submitted: 24
 B Samples required: Two Samples Each Month.
 C Survey samples: 0
 D Safe samples: 24
 E Unsafe samples: 0
 F Repeat samples: 0

Lead and Copper Monitoring

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

A Date Last Tested: September 16, 2015
 B Samples required: 20
 C Sampling Frequency: Every Six Months
 D Date Due Next: Between 7/1/17 and 12/31/17
 E Lead - 90% Level: 4 Action Level - 15 ug/l
 F Copper 90% Level: 0.31 Action Level - 1.3 mg/l

Disinfectant Residual Monitoring

Residual sampling and analysis: April 1, 2016 to April 1, 2017

A Samples submitted: 24
 B Samples required: Two Samples Each Month.
 C Last Qtr Cl Residual: 1.09 mg/l
 D Running Annual Average: 1.07 mg/l
 E Date of last DBP test: December 28, 2016
 F THM - Qtr Average: 7.57 ug/l
 G Haa5 - Qtr Average: 0 ug/l

Asbestos

A Date of last test: Waiver - Testing Not Required
 B Asbestos Result: NA million fibers per liter

Comments 3)Asbestos waiver good through 2019.

22 Have any changes been made since the last survey in the management, operations, personnel, budget, etc?
If so, what? _____

23 Have the recommendations from the previous survey been addressed?

Comments (please indicate the question number): _____

Financial Capacity

Colonial Pine Hills

EPA ID: 0263

- | yes | no | n/a | unk | note | |
|-------------------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|--|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1 Does the public water system have an annual budget? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 2 Does the water system income exceed operating expenses (including debt service)? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3 Does the water system track budget performance? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4 Does the water system have audited financial statements? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 5 Are water revenues kept in a separate account? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 6 Is some of the water revenue set aside in reserve funds for future capital improvement projects? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 7 Is there a capital improvement long range plan (up to 5 years)? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 8 Are the water system rates reviewed on at least an annual basis? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 9 Is there a plan for rate increases? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 10 Is the rate structure based on metered water use? |

List rates: **

(example: \$22 minimum plus \$1.75/1000 gallons)

- | | | | | | |
|-------------------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|---|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 11 Are there procedures in place to handle delinquent accounts? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 12 Are more than 5% of your customer accounts delinquent? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 13 Are controls available to limit over-expenditures? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 14 Are there purchasing procedures? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 15 Does the system utilize computer software (accounting or otherwise) to maintain its financial records? |

Comments (please indicate the question number): **\$47 minimum plus a 30 cents septic charge plus a \$6 surcharge. Cost increases per 100 cubic feet of usage.

Violations and Significant Deficiencies

Colonial Pine Hills

EPA ID: 0263

Violations From April 1, 2012 To April 1, 2017

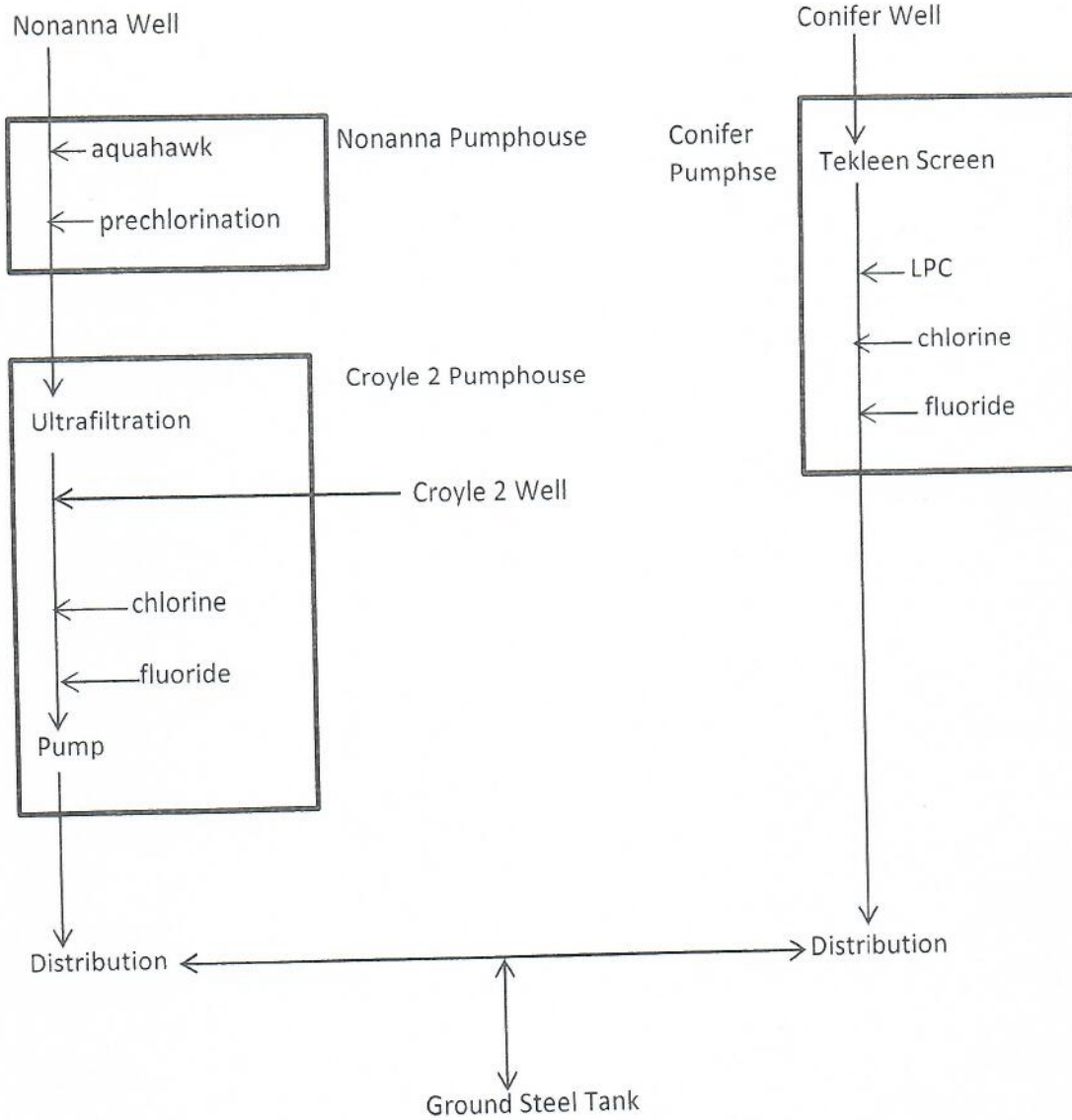
Violation Type	Parameter	Date	Status
No Violations			

Significant Deficiency	Date Identified	Date Corrected
NA		

Drawing/Flow Schematic

Colonial Pine Hills

EPA ID: 0263





**DIVISION OF
ADMINISTRATION**
Public Health Laboratory

615 East Fourth Street
Pierre, South Dakota 57501-1700
605/773-3368 FAX: 605/773-6129
www.state.sd.us/doh/lab/index.htm

* Page 1 of 2*

Submitter copy to:

** DUPLICATE REPORT ** Date: 5/25/2017

DENR-ODW/PWSS-5112
FOSS BUILDING
523 E CAPITOL
PIERRE, SD 57501

0203

Spec #: E17EC002174
Subm #:
Lab: ENV CHEMISTRY
Tel #: (605)773-3368

Source

COLONIAL PINE HILLS

Date Rcvd: 5/17/2017
Time Rcvd: 1519
Date Coll: 5/17/2017
Time Coll: 1110
Spec Type: WATER
Coll By: FRIEDEMANN
Date Built: 2010/2002
Location CROYLE PMPHSE

Source Name CROYLE 2 & NONANNA
WELLS

Tap Location: CROYLE PMPHSE
Treatment: CL, F, UF
Type of Sample: TREATED/COMPOSITE/E
NTRY POINT
Well Depth: 1010'/1055'
medium water

30
10 19

Final Results

Nitrate	Nitrate-N	0.7 mg/L	Limit: 10.0
EPA 353.2		13.2 mg/L	
Fluoride		15 mg/L	
Chloride		0.09 mg/L	
Iron, Total		<0.05 mg/L	
Manganese		18.1 mg/L	
Sulfate		230 mg/L	
SOLIDS, TOTAL DISS. Standard Method 2540C			
PH		7.33 pH UNITS	
EPA Method 150.1		131 mg/L	
Alkalinity-M		0 mg/L	
Alkalinity-P		160 mg/L	
Bicarbonate		0 mg/L	
Carbonate		399 umho/cm	
Conductivity		42.0 mg/L	
Calcium		17.2 mg/L	
Magnesium			
SM3111B		176 mg/L	
Hardness (calc)		-0.41	
Langlier Index		9.8 mg/L	
Sodium			

(continued)



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** DUPLICATE REPORT ** Date: 5/25/2017

DENR-ODW/PWSS-5112
FOSS BUILDING
523 E CAPITOL
PIERRE, SD 57501

Spec #: E17EC002174
Subm #:
Lab: ENV CHEMISTRY
Tel #: (605) 773-3368

Source
COLONIAL PINE HILLS

Potassium

3.4 mg/L

Specimen Comments:
%error = 1.7/4.8



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** DUPLICATE REPORT ** Date: 5/25/2017

DENR-ODW/PWSS-5112
FOSS BUILDING
523 E CAPITOL
PIERRE, SD 57501

0063

Spec #: E17EC002175
Subm #:
Lab: ENV CHEMISTRY
Tel #: (605)773-3368

Source
COLONIAL PINE HILLS

Date Rcvd: 5/17/2017
Time Rcvd: 1519
Date Coll: 5/17/2017
Time Coll: 1100
Spec Type: WATER
Coll By: FRIEDEMAN
Date Built: 1997
Location PUMPHOUSE

Source Name CONIFER WELL / 3
Source Sampled: WELL
Source: WELL
Tap Location: PUMPHOUSE
Treatment: CL, F, LPC
Type of Sample: TREATED/ENTRY POINT
Well Depth: 1020
medium water

Final Results

Nitrate	Nitrate-N	<0.2 mg/L	Limit: 10.0
EPA 353.2		1.66 mg/L	
Fluoride		4 mg/L	
Chloride		0.16 mg/L	
Iron, Total		<0.05 mg/L	
Manganese		36.6 mg/L	
Sulfate		228 mg/L	
SOLIDS, TOTAL DISS.			
Standard Method 2540C			
PH		7.88 pH UNITS	
EPA Method 150.1			
Alkalinity-M		163 mg/L	
Alkalinity-P		0 mg/L	
Bicarbonate		199 mg/L	
Carbonate		0 mg/L	
Conductivity		388 umho/cm	
Calcium		38.0 mg/L	
Magnesium		18.4 mg/L	
SM3111B			
Hardness (calc)		171 mg/L	
Langlier Index		0.19	
Sodium		17.6 mg/L	

(continued)



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DENR-ODW/PWSS-5112
FOSS BUILDING
523 E CAPITOL
PIERRE, SD 57501

Spec #: E17EC002175
Subm #:
Lab: ENV CHEMISTRY
Tel #: (605)773-3368

Source
COLONIAL PINE HILLS

Potassium

3.1 mg/L

Specimen Comments:
%error = 0.2/4.8