

WATER PERMIT NO. 2633-2

Name of Applicant: Southern Black Hills Water System, Inc.

Address: HC 56 Box 53, Oral SD 57766 Phone: 605 424-2066

Amount of Water Claimed: 484 AF Total Acres:

Source of Water Supply: groundwater (Madison Aquifer)

Water to be used for: rural water system use County: Custer

Type of Waste Disposal System:

Location: 5 miles northwest of Buffalo Gap

PRIORITY Date Received: 6-30-08 Application/License Fee: \$350

Corrected Application Received: Period of Annual Use: January 1 – December 31

Remarks: will serve users in Custer, Fall River and Pennington Counties

Diversion Point: SE ¼ SE ¼ Sec 35-T5S-R6E

Land to be Irrigated: NA

Depth of Well: 1850 feet deep

Well Driller:

Remarks:

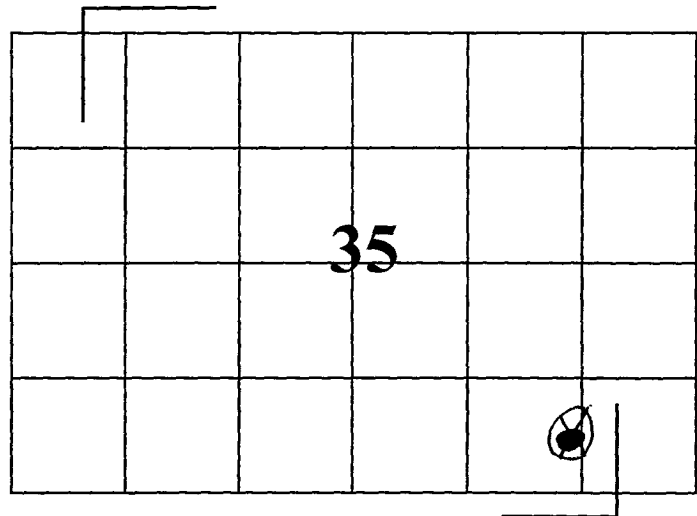
Type of Map: aerial

Prepared by: Mitch Kannenberg, PE

Reviewed and the Number Assigned on: 7-1-08

By: Karen Schlaak

Notice of Hearing - date to intervene: _____



FORM 2: Application for uses other than irrigation
(type or print)

Mail to:
Water Rights Program
Joe Foss Building
523 E. Capitol
Pierre, SD 57501-3181
(605) 773-3352

(office use only)
No. 2633-2 Hydrologic Unit 10120109
Basin Upper Cheyenne
Newspaper (See sheet)

RECEIVED
JUN 30 2008
WATER RIGHTS
PROGRAM

Application For Permit To Appropriate Water Within The State Of South Dakota

Check use(s) of water:

☐ Municipal	☐ Suburban Housing	☐ Recreational	☐ Institutional
☒ Rural Water System	☐ Commercial	☐ Fish & Wildlife	☐ Geothermal Heat
☐ Domestic (over 18 gpm)	☐ Industrial	☐ Other	

Type of Application: (check one)

☒ New ☐ Vested Right (Use predates Mar 2, 1955) ☐ Future Use Reservation
☐ Place to Beneficial Use Water Reserved by Future Use Permit No. _____
☐ Amendment/Correction to Permit No. _____

Description of amendment/correction: (i.e. change diversion point(s), add diversion point(s), change use, etc.)

1. Name of Applicant Southern Black Hills Water System, Inc. Phone (605) 424-2066
(check one) ☒ Owner ☐ Tenant/lessee
Mailing Address HC 56-Box 53 Oral State SD 57766
(Street, RR, or Box and City) (Zip Code)
2. Amount of water claimed 0.67 *CFS or 300 **GPM 484 ***AF
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)
3. Source of water supply Ground Water (Madison Aquifer)
4. Location of point of diversion (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W) County Custer
1 well to be located in the SE1/4 of Section 35, T5S, R6E
5. County or counties where water will be used Custer, Fall River and Pennington
6. Annual period during which water is to be used January 1 through December 31
7. Give a description of the project. When available include any preliminary engineering report or other reports or information that will help explain the project. (Attach sheet if more space is needed)

Well to provide water for Southern Black Hills Water System, Inc., a regional/rural water system. The System Engineering Report has previously been submitted to the SD Department of Environment & Natural Resources.

STATE OF SOUTH DAKOTA)

County of Custer

SS

Attachments: Attach Form 2A if diversion is from a well or dugout, or if storage of water is proposed. Attach map and any other technical information. (see instructions)

I, Robert H. Peplinski, Chairman, the applicant, certify that I have read this application, have examined the attached map and that the matters stated are true and that I intend, and am able to, complete the necessary construction.

Applicant's signature Robert H. Peplinski

Subscribed and sworn to before me this 26 day of JUNE 20 08

Notary Public signature

Custer County

Custer County Chronicle (Wed)

PO Box 551

Custer 57730-0551

605 673-2217

Pennington County

Rapid City Journal

PO Box 450

Rapid City 57709

605 394-8300

Fall River County

Hot Springs Star (Tues)

PO Box 1000

Hot Springs 57747

605 745-4170

SOUTH DAKOTA
WATER PERMIT NO. 2633-2

Date of first receipt of application June 20, 2008.

Date of return to applicant for corrections, amendments or changes July 1, 2008.

Date of receipt of corrected application July 7, 2008.

The Water Management Board approved Water Permit No. 2633-2 on March 11, 2009 for Southern Black Hills Water System, Inc., c/o Robert H. Peplinski, Chairman, HC 56 Box 53, Oral SD 57766 authorizing the construction of the water use system and the placing of water to beneficial use subject to the following limitations, conditions and qualifications:

1. Water Permit No. 2633-2 appropriates 484 acre feet of water annually at a maximum diversion rate 0.67 cubic feet of water per second from one well to be completed into the Madison Aquifer (approximately 1850 feet deep) located in SE 1/4 SE 1/4 Section 35-T5S-R6E, Custer County.
2. The water appropriated shall be used for the purpose of a rural water system to serve users in Custer, Fall River and Pennington Counties and may not exceed the amount of water needed for beneficial use.
3. The water is to be used during the following described annual period: January 1 – December 31.
4. The date from which applicant may claim right is June 20, 2008.
5. One-fifth of the construction is to be completed on or before September 11, 2011.
6. All construction is to be completed on or before March 11, 2014.
7. Water is to be put to beneficial use on or before March 11, 2018.
8. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

1. In accordance with SDCL 46-1-14 and 46-2A-20, Permit No. 2633-2 is issued for a 20-year term. Pursuant to SDCL 46-2A-21, the 20-year term may be deleted at any time during the 20-year period or following its expiration. If the 20-year term is not deleted at the end of the term, the permit may either be cancelled or amended with a new term limitation of up to twenty years. Permit No. 2633-2 may also be cancelled for non-construction, forfeiture, abandonment, or three permit violations pursuant to SDCL 46-1-12, 46-5-37, 46-5-37.1 and ARSD 74:02:01:37.
2. The well approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
3. The well authorized by Permit No. 2633-2 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.

(continued)

4. The Applicant, Water Permit Holder, shall report to the Chief Engineer annually the amount of water withdrawn from the Madison Aquifer.
5. The Applicant, Water Permit Holder, under this permit shall control withdrawals from the well so there is not a significant adverse effect on the water flow from Beaver Creek Springs or a significant adverse effect on the water quality and character in Beaver Creek Springs.

WATER MANAGEMENT BOARD

By: Garland Erbele

Garland Erbele, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

JUN 12 2009

date



(type or print in ink)

1. Well Information - Proposed Construction

- a) Drill Hole Diameter 14 inch Depth 1,850 feet
- b) Casing Type Steel Diameter 10.75 inch Thickness 5/16+ inch
- c) Screen Type likely open hole Diameter 8-5/8 inch Thickness
- d) Gravel Pack Length of Gravel Pack
- e) Depth to Top of Water Bearing Material Estimated 1,750 feet to top of Madison aquifer
- f) Depth to Water (ground surface to water level) Estimated Madison static level is 160 feet
- g) Distance to nearest existing domestic well:
On applicants property 3 miles- Streeter well On property owned by others 0.5 mile - Wilson well

2. Wastewater Disposal System Information

- a) Type of System (i.e. septic tank, drain field)
- b) System Capacity (gallons) Year Constructed
- c) Connected to the City of Sanitary System

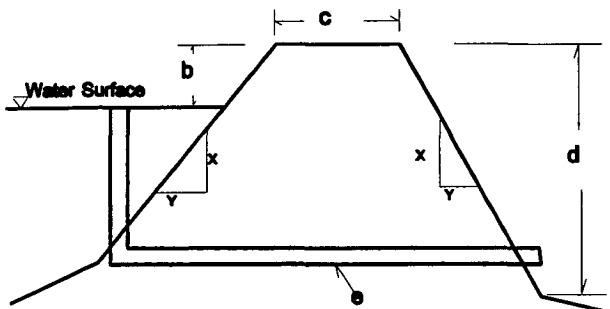
3. Dugout Information

- a) Surface Dimensions Depth
- b) Depth to water (ground surface to water level)

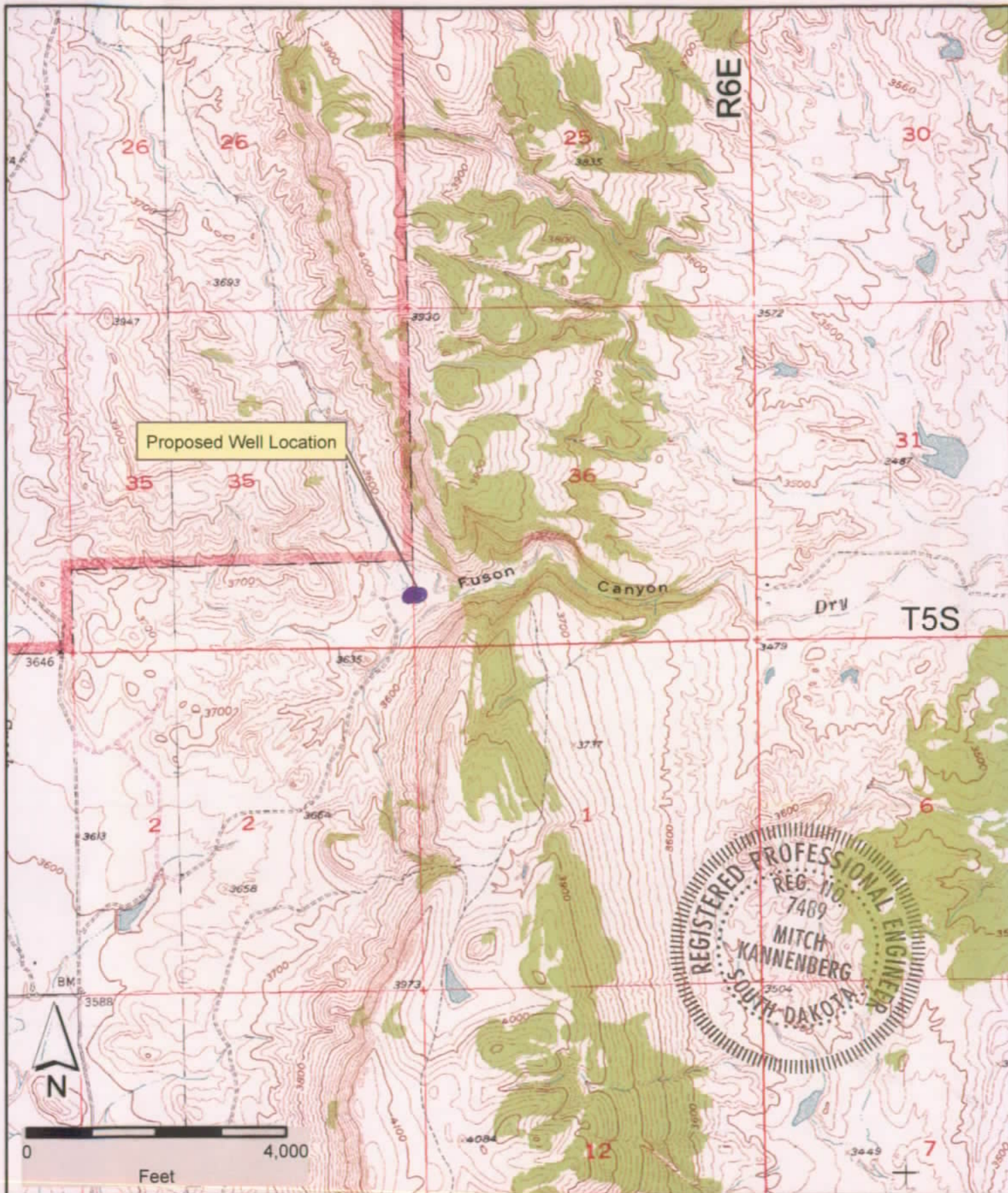
4. Water Storage Dams

If the proposed water use system contains one or more storage dams, please furnish the information requested below for each dam. The locations of the dams need to be shown on the map submitted with the application.

- a) If a private engineering firm or government agency was involved in the design of this dam, please give their name and address:



- b) Freeboard
- c) Crest Width
Crest Length
- d) Height
- e) Primary Outlet Capacity
If pipe, diameter
- f) Secondary Spillway Capacity
Spillway Width
- g) X & Y Slope
Upstream
Downstream
- h) Surface Area of Impoundment
- i) Storage Acre Feet
- j) Drainage Area Above Dam Acres



Prepared By:
LEGGETTE, BRASHEARS & GRAHAM, INC.
 Professional Ground-Water and
 Environmental Engineering Services
 140 East Hinks Lane, Suite 126
 Sioux Falls, SD 57104
 (605) 334-6000

SOUTHERN BLACK HILLS WATER SYSTEM INC.
 ORAL, SD

PROPOSED WELL LOCATION

FILE: drycreek.mxd

DATE: 18jun08

FIGURE: 1

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 6/30, 20 08

RECEIVED OF Southern Black Hills Water System Inc PO Box 124 Hermosa SD 57744

The following amount in fees for services rendered as provided for by law:

Fee for Application for Permit No. <u>2633-2</u> to Appropriate Water, to construct and to put water to beneficial use	300	00
Fee for Application for Permit No. _____ to Appropriate Water for Future use		
Fee to retain Future Use Permit No. _____ after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. <u>2633-2</u>	50	00
Fee for Filing Transfer Form _____		
Fee for _____		
Fee for Issuing New Well Driller's License No. _____ for C.Y. _____		
Fee for Renewal of Well Driller's License No. _____ for C.Y. _____		
Fee for Issuing Well Pump Installer's License No. _____ for C.Y. _____		
Fee for Renewal of Well Pump Installer's License No. _____ for C.Y. _____		
(Any Other Work Provided by Law)	TOTAL	350 00

No.

03690

By

[Signature]
Chief Engineer

GUNDERSON, PALMER, NELSON & ASHMORE, LLP

ATTORNEYS AT LAW

J. CRISMAN PALMER
JAMES S. NELSON
DANIEL E. ASHMORE
DONALD P. KNUDSEN
PATRICK G. GOETZINGER
TALBOT J. WIECZOREK
JENNIFER K. TRUCANO
DAVID E. LUST
THOMAS E. SIMMONS

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RAPID CITY, SOUTH DAKOTA 57709-8045
TELEPHONE (605) 342-1078 • FAX (605) 342-0480
www.gundersonpalmer.com
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JASON M. SMILEY
JONATHAN M. OOSTRA
MATTHEW E. NAASZ
QUENTIN L. RIGGINS
JEFFREY R. CONNOLLY

WYNN A. GUNDERSON
Of Counsel

June 27, 2008

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JUN 30 2008

**WATER RIGHTS
PROGRAM**

NEXT DAY DELIVERY

Garland Erbele, PE
Chief Engineer
Water Rights Program, DENR
Joe Foss Building
Pierre SD 57501-3181

RE: Water Right Permit Application – Southern Black Hills Water System, Inc., Oral,
South Dakota
GPNA File No. 07653.0002

Dear Mr. Eberle:

Enclosed are two completed copies of water permit application prepared by Leggette, Brashears & Graham, Inc. (LBG) and Bartlett & West, Inc., on behalf of Southern Black Hills Water System, Inc. (SBHWS). Mitch Kannenberg of LBG is on vacation and asked me to file the application. The permit application is for the Madison Aquifer. Also enclosed is a check in the amount of \$350.00 for the filing fees and final inspection/licensing fee.

The area where the new water right is being sought is in the southeast quarter of Section 35, Township 5 South, Range 6 East, in Custer County. No test well has been constructed; therefore, copies of well logs from two existing wells are provided with the application. The two well logs provided include a Madison well known as the Streeter Ranch well and a ranch stock well constructed by Mr. Owen Wilson. The Streeter Ranch well is located approximately 3 miles south of the proposed well for which this application has been prepared, and the Wilson stock well is located approximately ½-mile due east of the proposed well.

The Wilson well was originally completed in the Inyan Kara aquifer in 1985 at a depth of 460 feet. It was deepened to 820 feet in 1989 and may be completed in the Inyan Kara and Unkpapa Sandstone. This well is currently utilized as a stock well and flows at approximately 5 gpm.

GUNDERSON, PALMER, NELSON & ASHMORE, LLP

Garland Erbele
June 27, 2008
Page 2

Please contact Mitch Kannenberg at 605-334-6000 or Don Peterson at 605-224-2066 with any questions regarding the information provided in this letter or the water permit application.

Sincerely,

A handwritten signature in black ink, consisting of several fluid, overlapping strokes that form the name Talbot J. Wiecezorek.

Talbot J. Wiecezorek

TJW:klw
Enclosures
c: Client

Gronlund, Eric

From: Gronlund, Eric
Sent: Tuesday, July 01, 2008 11:15 AM
To: 'mitchk@lbgsioux.com'
Cc: 'dptrsn@gwtc.net'
Subject: SBHWS water permit application

Mitch - the water permit application for Southern Black Hills Water System has been received. The map showing the location of the well has your PE stamp affixed but I can not find your signature. Please sign a duplicate with the stamp affixed and resubmit. It is my understanding that a affixed stamp shall be accompanied by a signature.

The application states the well is located in the SE 1/4 Section 35. The map shows the well located right on the section line between Sections 35 and 36. Are we sure the well will be located in the SE 1/4 SE 1/4 of Section 35 and not in the SW 1/4 SW 1/4 Section 36. I just want to make sure at the time of publication notice that we get it right the first time.

Mr. Wieczorek's cover letter indicated you are on vacation. Therefore, I am emailing you in the hope you will submit the signed map upon your return. In the meantime, I will start the processing of the application.

Thanks,

Eric Gronlund
Water Rights Program, DENR
605 773-3352

LEGGETTE, BRASHEARS & GRAHAM, INC.

PROFESSIONAL GROUND-WATER AND ENVIRONMENTAL ENGINEERING SERVICES

140 EAST HINKS LANE, SUITE 126
SIOUX FALLS, SD 57104
605-334-6000
FAX 605-334-1850
www.lbgweb.com

RECEIVED

JUL - 7 2008

**WATER RIGHTS
PROGRAM**

July 2, 2008

Mr. Eric Gronlund
Water Rights Program, DENR
Joe Foss Building
Pierre, SD 57501-3181

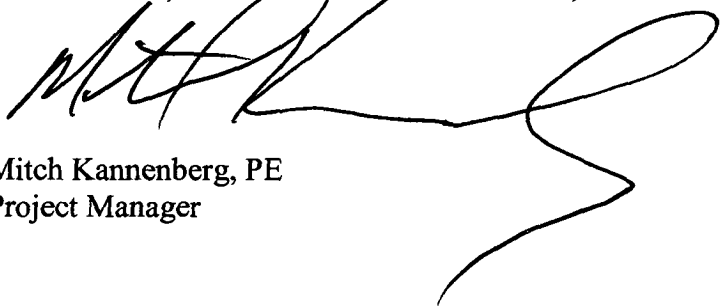
RE: Water Right Permit Application
Southern Black Hills Water System,
Inc.
Oral, SD

Dear Mr. Gronlund:

Enclosed is the corrected map to accompany the water permit application, dated June 28, 2008, submitted by Mr. Talbot Wieczorek of Gunderson, Palmer, Nelson & Ashmore, LLP on behalf of Southern Black Hills Water System, Inc. (SBH). Please contact me at (605) 334-6000 with any questions regarding the enclosed map or for any additional information you may require for the processing of the water permit application. Thank you for your assistance.

Sincerely,

LEGGETTE, BRASHEARS & GRAHAM, INC.

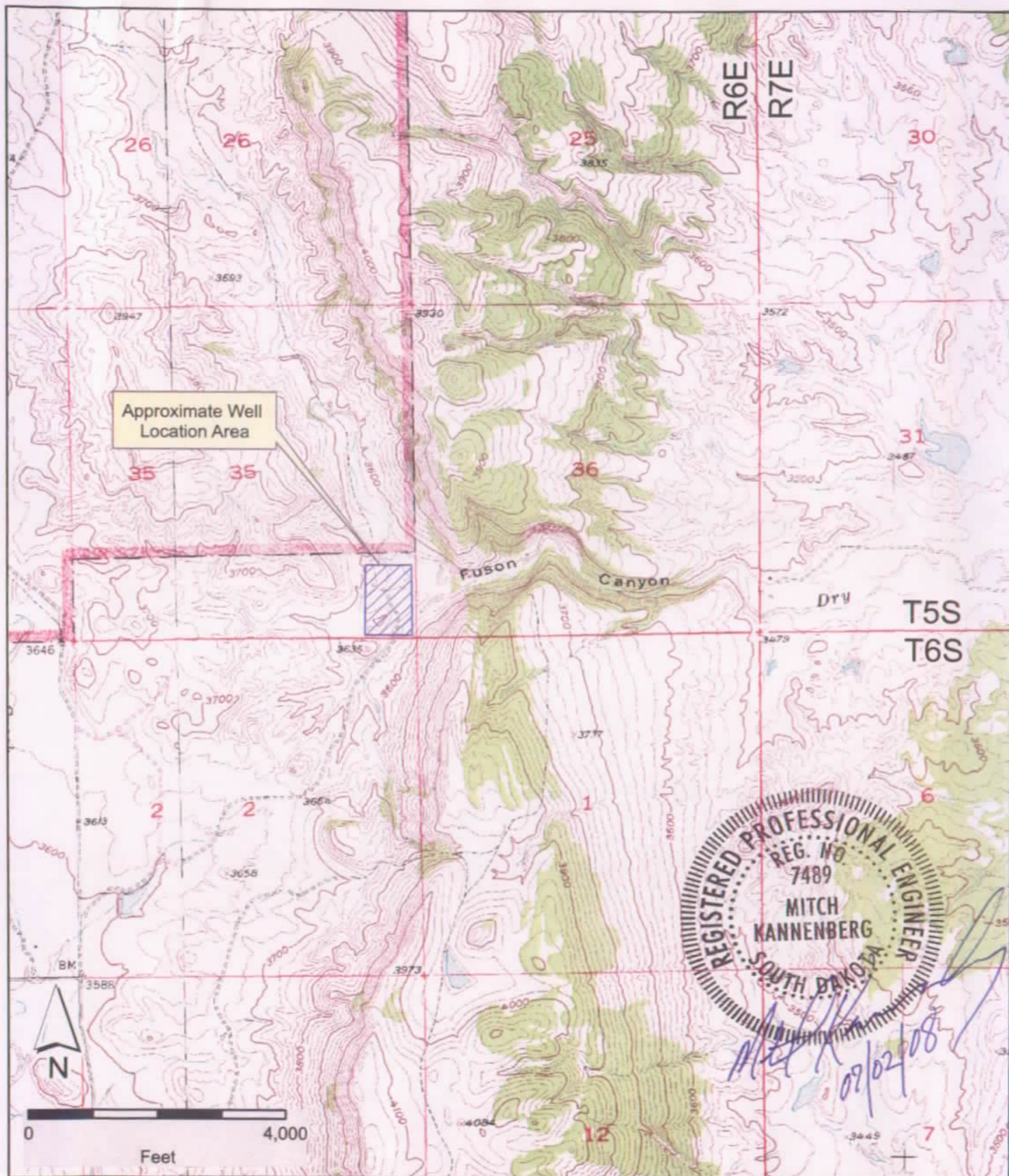


Mitch Kannenberg, PE
Project Manager

G:\...hydro\SBH\SBH Well #1 App Map TRS

Enclosure – Water Permit Application Map - (2 copies)

Pc: Mr. Robert Peplinski, Chairman, SBH
Mr. Ken Royse, Bartlett & West, Inc.
Mr. Talbot Wieczorek, GPNA



Prepared By:
LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water and
Environmental Engineering Services
140 East Hinks Lane, Suite 126
Sioux Falls, SD 57104
(605) 334-6000

SOUTHERN BLACK HILLS WATER SYSTEM INC.
ORAL, SD

PROPOSED WELL LOCATION

FILE: drycreek.mxd

DATE: 18Jun08

FIGURE: 1



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 2633-2, Southern Black Hills Water System**

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Program, Department of Environment and Natural Resources concerning Water Permit Application No. 2633-2, Southern Black Hills Water System, Inc., c/o Robert H. Peplinski, Chairman, HC 56 Box 53, Oral SD 57766

The Chief Engineer is recommending APPROVAL of Application No. 2633-2 for a 20-year term pursuant to SDCL 46-1-14 and 46-2A-20 because 1) although evidence is not available to justify issuing this permit without a 20 year term limitation, there is reasonable probability that there is unappropriated water available, 2) the proposed diversion can be developed with out unlawful impairment of existing rights, 3) the proposed use is a beneficial use and 4) it is in the public interest with the following qualifications:

1. In accordance with SDCL 46-1-14 and 46-2A-20, Permit No. 2633-2 is issued for a 20-year term. Pursuant to SDCL 46-2A-21, the 20-year term may be deleted at any time during the 20-year period or following its expiration. If the 20-year term is not deleted at the end of the term, the permit may either be cancelled or amended with a new term limitation of up to twenty years. Permit No. 2633-2 may also be cancelled for non-construction, forfeiture, abandonment, or three permit violations pursuant to SDCL 46-1-12, 46-5-37, 46-5-37.1 and ARSD 74:02:01:37.
2. The well approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
3. The well authorized by Permit No. 2633-2 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
4. Southern Black Hills Water System shall report to the Chief Engineer annually the amount of water withdrawn from the Madison Aquifer.

See report on application for additional information.

Garland Erbele, Chief Engineer
August 18, 2008

WATER PERMIT APPLICATION NO. 2633-2
SOUTHERN BLACK HILLS WATER SYSTEM
JULY 24, 2008

Water Permit Application No. 2633-2 proposes to appropriate 484 acre-feet of water annually at a maximum diversion rate of 0.67 cubic feet of water per second, from one well to be completed into the Madison aquifer (approximately 1,850 feet deep) located in the SE¼ SE¼ Section. 35, T5S-R6E, Custer County. The water will be used for a rural water system to serve users in Custer, Fall River and Pennington Counties.

AQUIFER: Madison aquifer (MDSN)

GEOLOGY AND AQUIFER CHARACTERISTICS:

The Madison aquifer is a major regional aquifer that underlies parts of Montana, North Dakota, South Dakota, Wyoming and Canada. The aquifer contains an estimated 644,827,200 acre-feet of recoverable water in storage in South Dakota alone (Allen and others, 1985). The well site proposed by this application is approximately 25 miles from the southeastern limit of the Madison Limestone. The Madison aquifer is contained within the Madison Limestone which in general can be described as a massive limestone and dolomite. The upper portion of the Madison Limestone is karstic with caves, solution collapse and enlarged conduits resulting in extensive secondary permeability; and the lower portion and the underlying Englewood Formation form a lower confining zone (Strobel and others, 1999). The Minnelusa Formation unconformably overlies the Madison aquifer and acts as an upper confining layer. The Madison is generally considered an excellent aquifer in terms of its potential to supply good quality water to relatively productive wells, especially near the outcrop (recharge area). The site proposed by this application is about four and one-half miles from the Madison outcrop (see figure 1).

The top of the Madison is expected to be about 1,650 feet below ground surface at the well site proposed by this application (Carter and Redden, 1999a). Estimates of the thickness of the Madison in this area range from approximately 250 feet thick (Allen and others, 1985) to approximately 300 feet thick (Carter and Redden, 1999a) (Carter and Redden, 1999b). This proposed well site is located very near (within one-half mile) the Buffalo Gap Monocline (see figure 1). It is possible that fracturing, assumed to coincide with this fold, could enhance the hydraulic conductivity of the Madison in this area. The monocline and features associated with it may dominate the groundwater flow and result in anisotropic transmissivity in this area.

The Madison is under confined conditions at this proposed well site. The static water level of a well at the proposed site is expected to be around 150 feet below grade (Strobel and others, 2000).

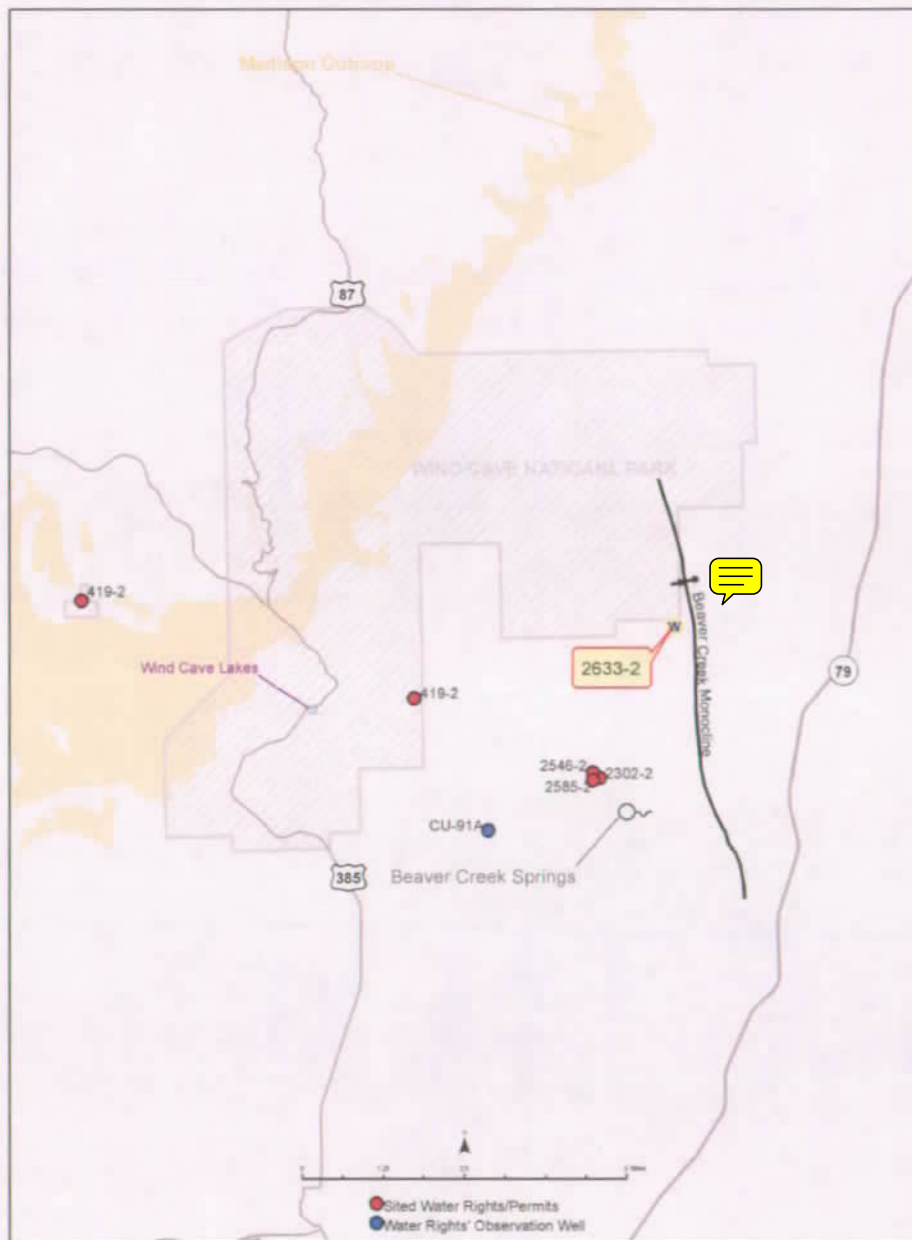


Figure 1. Vicinity Map

SDCL 46-2A-9

Pursuant to SDCL 46-2A-9, a permit to appropriate water may be issued only if there is reasonable probability that there is unappropriated water available for the applicant's proposed use, that the proposed diversion can be developed without unlawful impairment of existing rights and that the proposed use is a beneficial use and in the public interest.

WATER AVAILABILITY

The probability of unappropriated water available for appropriation can be evaluated by considering SDCL 46-6-3.1 which requires that:

“No application to appropriate groundwater may be approved if, according to the best information reasonably available, it is probable that the quantity of water withdrawn annually from a groundwater source will exceed the quantity of the average estimated annual recharge of water to the groundwater source.”

Although this statute contains two exceptions which could apply to this application, namely exceptions for water distribution systems and for groundwater from formations older than or stratigraphically lower than the Greenhorn Formation; the principle of withdrawals not exceeding recharge is a reasonable benchmark to define water availability.

Water Balance:

Recharge to the Madison aquifer occurs through streamflow losses and direct infiltration of precipitation at the outcrop area. Recharge to the Madison aquifer in South Dakota has been estimated to range from 140,000 to 400,000 acre-feet per year (Woodward Clyde, 1981). Woodward-Clyde however, defined the Madison aquifer as everything between the Precambrian and the Cretaceous Shales. As part of the Black Hills Hydrology Study, the average annual recharge to the Madison aquifer from 1931-1998 was estimated to be approximately 137,000 ac-ft/yr (Carter and others, 2001a).

The high cost of Madison wells, except very near the outcrop, and the availability of groundwater from shallower sources, has limited domestic development from the aquifer. Carter and others, (2001b) estimate “Self-supply Domestic” and “Livestock Watering” only account for approximately 2.25% of the water use from the Madison aquifer. In general, well withdrawals from the Madison are for uses which require water rights/permits. The majority of the water rights/permits from the aquifer are from Butte, Lawrence, Meade, Pennington and Fall River Counties. The Madison supplies water for irrigation, geothermal, industrial, and commercial use. However, by far the major use of the aquifer is for common distribution systems (suburban housing development and municipal use). The cities of Spearfish, Belle Fourche, Sturgis, Rapid City, Box Elder, and Edgemont all depend on water from wells completed into the Madison aquifer.

There are currently a total of 162 appropriations plus one deferred application from the Madison aquifer in South Dakota. These appropriations include: seven future use permits that reserve 11,074.8 acre-feet of water per year (ac-ft/yr); 133 water permits/rights for non-irrigation purposes appropriating a total of 99.02 cfs (Water Rights, 2008d); and 22 water permits/rights appropriating 7,713.36 ac-ft/yr for irrigation use (Water Rights, 2008a). If it is assumed that the future use permits can be fully developed; the non-irrigation appropriations will be used at 60 percent of full time usage at their maximum diversion rate; and irrigation appropriations will use their full appropriation, the maximum (worst case scenario) amount of water that could theoretically be used with current appropriations is approximately 61,800 ac-ft/yr. If the deferred permit is approved (1,600 ac-ft/yr), the total maximum (worst case) use would be approximately 63,400 ac-ft/yr.

The actual water usage from the Madison aquifer is expected to be considerably less than this “worst case” estimate. Withdrawals from wells completed into the Madison aquifer were estimated to average 12,309 acre-feet annually from 1987-1996 (Carter and others, 2001b). Well withdrawals from the Madison aquifer for 2008 is estimated to be less than 20,000 ac-ft/yr (Water Rights, 2008c).

This application proposes to appropriate 484 acre-feet of water annually, which represents full time pumping at 0.67 cfs. In reality, actual water use associated with a maximum diversion rate of 0.67 cfs is around 290 acre-feet/yr (60% usage which is reasonable (Water Rights, 2008a)). It is likely that a second water permit application for an increased diversion rate or for an additional well would be necessary to pump the entire volume of water that would be appropriated if this application is approved.

A simple water balance comparing the estimated average annual recharge and the “theoretical maximum” withdrawal by wells shows that unappropriated water is available from the Madison aquifer to satisfy this additional appropriation.

A water budget is not intended to suggest that all of the water that is in storage in the Madison or that all of the recharge to the aquifer is available for this appropriation, merely to demonstrate that in general the Madison aquifer is an immense resource that is relatively untapped.

Localized Hydrologic Budget:

Carter and others (2001b) developed a hydrologic budget for the Madison and Minnelusa aquifers combined for a subarea that includes the well site proposed by this application. The hydrologic budget for this subarea balanced from 1987-1996, by estimating that the outflow from the subarea was through artesian springflow (9.6 cfs average), groundwater outflow (0.9 cfs), or well withdrawals (0.1 cfs average) (Carter and others, 2001b). The estimates used for well withdrawals from the area further demonstrate that the Madison aquifer is relatively untapped in this area even on a fairly localized scale.

Obviously, if a new hydrologic budget is to balance for this subarea (i.e. a new condition of dynamic equilibrium), with an increase of well withdrawals, either natural discharge that occurs as artesian springflow or groundwater outflow must decrease, or more groundwater flow will have to come in from another area. Groundwater enters this subarea from the southwest and exits the area to the east (Carter and others, 2001b). It can be assumed that with a very subtle change in the hydraulic gradient at either the inflow zone or the outflow, a new dynamic equilibrium would be established in this area with unmeasurable impacts to the amount of water in storage or the artesian springflow. The Water Rights’ Observation well (CU-91A) which is located both near the center of this subarea and near the subarea’s major artesian spring (Beaver Creek Spring) would identify if the system was either not in dynamic equilibrium or if the potentiometric surface near the springs has decreased.

Observation Well Data:

The Water Rights Program monitors 26 observation wells completed into the Madison aquifer in the Black Hills area (Water Rights, 2008b). The nearest two observation wells-

CU-91A and CU-93A are located approximately four and one-half miles and eleven miles from the well site proposed by Water Permit Application No. 2633-2. The hydrographs for the observation wells are shown below in figure 2 and figure 3.

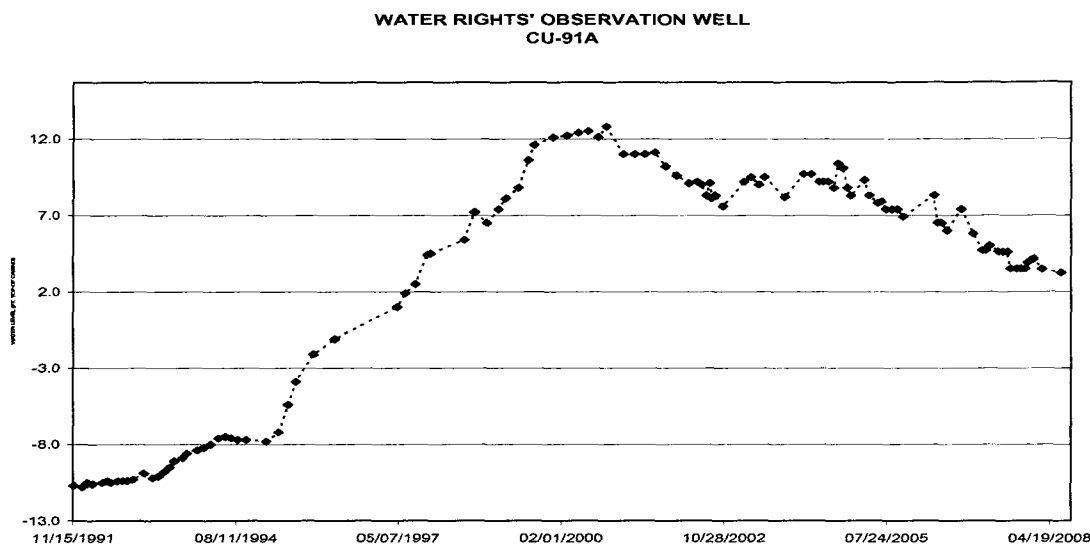


Figure 2. Hydrograph of Water Rights Observation Well CU-91A, located about four and one-half miles southwest of the well site proposed by Application No. 2633-2.

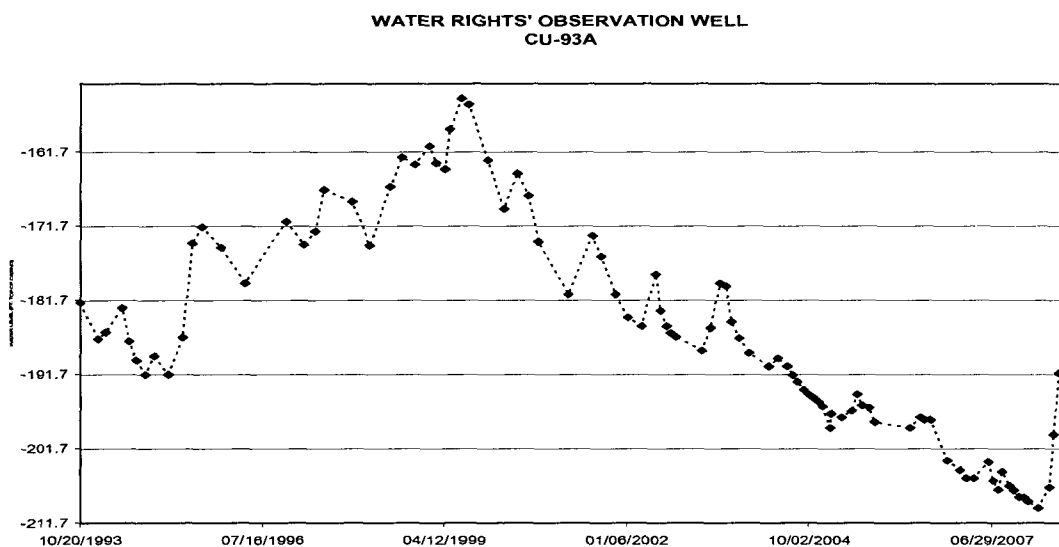


Figure 3. Hydrograph of Water Rights Observation Well CU-93A, located about eleven miles north of the well site proposed by Application No. 2633-2.

The hydrographs show the potentiometric surface measured at these sites rose during the late 1990's in response to wet climatic conditions. The water levels have decreased since about 2000 in response to less recharge. While both wells seemed to have similar response

to the wet periods of the 1990's. The water levels in CU-91A seem to be less responsive to the dry conditions of the early 2000's. Possible explanations for this could be that CU-91A is further from the outcrop (i.e. larger area to draw water from); or because of CU-91A's proximity to Beaver Creek Spring (i.e. the spring may dampen water level responses).

A comparison of these hydrographs with data from Water Rights' Observation wells completed into the Madison aquifer that have longer periods of record, suggest the fluctuations shown in figures 2 and 3 are representative of climatic conditions instead of pumping from the aquifer. Long-term water level declines are not apparent from the hydrographs of wells with longer periods of record. The observation well data verifies that unappropriated water is available from the Madison aquifer.

AFFECTS ON EXISTING RIGHTS:

The Water Rights Program has no record of domestic wells completed into the Madison aquifer within approximately five miles of this proposed well site (Water Rights, 2008e). There are three water rights/permits appropriating groundwater within approximately five miles of the well site proposed by this application (Water Rights, 2008d). They are shown on figure 1 and in table 1.

PERMIT NO	NAME	AQUIFER	USE	CFS	DISTANCE FROM 2633-2 (MILES)
419-2	WIND CAVE NATIONAL PARK	MDSN	COM	0.15	4
2302-2*	EBEN W STREETER	MDSN	RWS	0.033	2.75
2546-2*	EBEN STREETER	MDSN	RWS	0.21	2.75
* Water Right 2302-2 and Water Permit No. 2546-2 are supplied from a single well					

Table 1. Groundwater appropriations within approximately five miles of 2633-2

Water Right No. 419-2, Wind Cave National Park, originally appropriated water from a spring and a deep well. The source of the spring is likely the Madison aquifer, and the well was completed into both the Madison and Deadwood aquifers. It is probable that most if not all of the water the well produces is from the Deadwood aquifer. In 1998 the National Park Service received authorization pursuant to SDCL 46-5-13.1 to develop an additional diversion point (well) into the Deadwood aquifer without application or publication of a notice of hearing. The second well was eventually completed into the Madison aquifer.

In addition to the Water Rights/Permits listed in table 1, on March 2007 the Water Management Board deferred consideration of Water Permit Application No.. 2585-2, Southern Black Hills Water System to allow for future study to address the public interest aspect of potential impacts of the appropriation on spring flows at Beaver Creek Springs and the water resources of Wind Cave National Park. The well location proposed by Application No. 2585-2 is approximately two and three-fourths miles southwest of the site proposed by this application (see figure 1).

Since the Madison is under artesian conditions in this area, drawdown from pumping a well may extend over a fairly large area. At this time, it is not practical to attempt to quantify the

specific affect this well may have on area wells since aquifer characteristics have not been determined for this area, and the aquifer characteristics of the Madison can vary considerably within a short distance (Greene, 1993).

Wells supplying existing Water Rights/Permits and domestic uses are protected from adverse impacts per Water Management Board rules 74:02:04 and 74:02:05, which were promulgated pursuant to SDCL 46-6-6.1. These rules provide for the regulation of large capacity wells to the degree necessary to maintain an adequate depth of water for a prior appropriator in wells that have the ability to produce water **independent of artesian pressure**. Simply put, the pump placement in a prior appropriator's well is not necessarily protected.

If the water levels in the Madison aquifer were to decline, owners of existing wells bear the responsibility of lowering the pump inlet in the well to the top of the aquifer, if necessary. Increased lift would decrease the pump discharge; or require a larger pump or a different type of a pump to maintain the same output.

An increase in operating expenses that may result from interference between wells is not necessarily an adverse impact. The Water Management Board considered this situation in the matter of Water Permit Application 2313-2, Coca-Cola Bottling Company of the Black Hills (Water Rights, 1995). The Board adopted findings of fact and conclusions of law that basically state that if the increased cost or decreased production is considered an adverse impact, it could be in conflict with SDCL 46-1-4, which requires South Dakota's water resources to be put to beneficial use to the fullest extent of which they are capable.

It should be noted however, that well interference (drawdown) measured at Water Rights' observation wells located near high capacity municipal wells in Spearfish, Sturgis and Rapid City has never been significant (i.e. drawdown of only a few feet or tens of feet) (Water Rights, 2008b). Given the distance this proposed well site is from existing Madison aquifer wells supplying water rights/permits interference is not expected to be adverse.

BENEFICIAL USE:

The Water Management Board has determined in the past that a rural water system use of water is a beneficial use.

PUBLIC INTEREST ISSUES:

In the past, there have been two local "public interest" issues raised that could potentially be obstacles to developing the Madison aquifer in this area: the possibility of affecting artesian spring discharge; and the possibility of affecting the water resources at Wind Cave National Park.

Artesian Springs:

The water at a number of springs in the southern Black Hills area contains geochemical and isotopic characteristics of the Madison aquifer (Whalen, 1994). These springs are classified as Type 2 springs by Rahn and Gries (1973), meaning "The springs do not dry up and serve as points of permanent discharge from the carbonate aquifer" (Rahn and Gries, 1973). A

decline of the potentiometric surface in the vicinity of the springs could decrease spring discharge.

When considering Future Use Permit No. 2560-2 for Fall River Water User District, the Water Management Board accepted that SD Water Law does not protect artesian head pressure as a means of diversion and determined that well interference resulting in decreased discharge from these “artesian” springs could probably not be considered an adverse impact. The Board did however recognize the “public interest” issues of decreased base flows in area streams that could result from decreased spring discharge as the result of well interference. Approval of Future Use Permit No. 2560-2 included the following qualification:

“At such time as definite plans are made to construct works and put the water reserved by this permit to beneficial use, specific application for all or any part of the reserved water must be submitted and approved prior to construction of facilities pursuant to SDCL 46-5-38.1 with particular attention given to the flows of Beaver Spring, Cascade Springs and Hot Springs.” (Water Rights, 2008d)

Subsequently, when considering the deferral of Water Permit Application No. 2585-2, Southern Black Hills Water System, the Water Management Board adopted a conclusion of law (No. 11) which states in part “The only protection South Dakota law provides when considering an application for an underground water permit for flow from an artesian spring is under the public interest criteria.” (Water Rights, 2008d).

The well site proposed by this application is located approximately three miles north-northeast of Beaver Creek Springs (see figure 1). A fairly large change in the hydraulic gradient in the vicinity of the springs would be necessary to significantly affect the groundwater flow rates and consequently the spring’s discharge. Given the distance involved and the relatively low diversion rate proposed by this application, (300 gpm maximum), it is unlikely that drawdown from this well would have a measurable impact on the spring discharge.

Wind Cave National Park:

The National Park Service (NPS) filed a petition to intervene in the matters of Future Use Water Permit Application No. 2580-2 and Water Permit Application No. 2585-2 that were filed by the Southern Black Hills Water System. The NPS expressed concerns that the proposed appropriations may adversely affect the water rights and water-related resources of Wind Cave National Park. The water-related resources cited by the NPS include “several lakes and pools in the lower reaches of Wind Cave that likely define the ground-water table in this region of the aquifer. Other water resources of high value at Wind Cave NP include three perennial streams (Cold Springs, Beaver, and Highland Creeks), many intermittent and ephemeral stream courses, and over 95 seeps and springs” (Pettee, 2006).

Lakes and Pools:

The lakes and pools in Wind Cave are located about five and three-fourths miles west-southwest of the well site proposed by this application (see figure 1). Hydrographs of the

stage of the lakes (figure 4) show that the water levels have fluctuated in response to the climatic conditions.

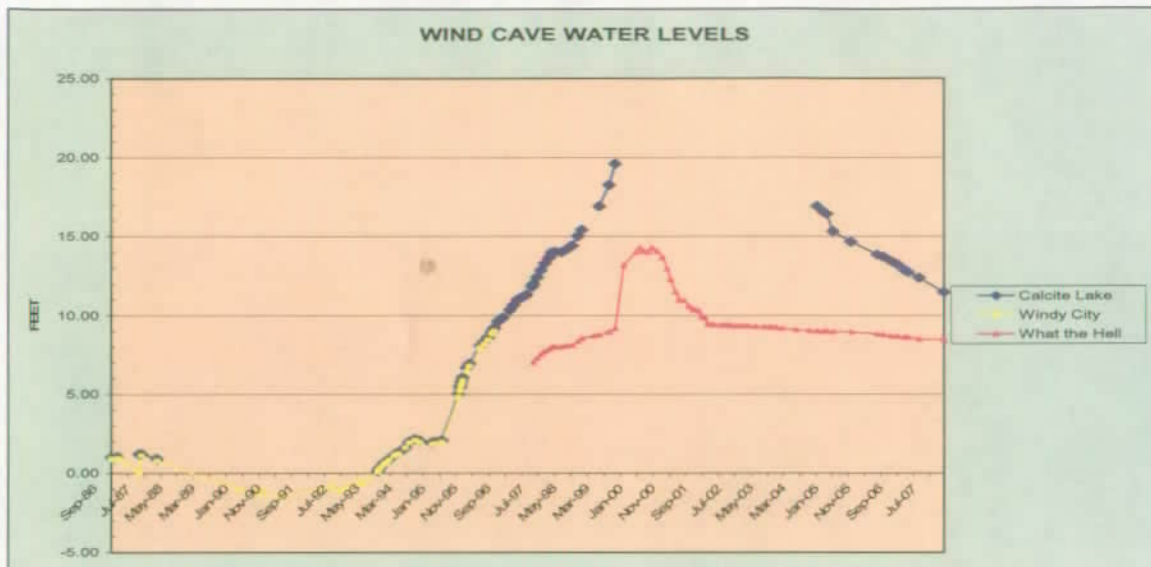


Figure 4. Hydrograph of the water levels of the lakes in Wind Cave (Horrocks)

The Wind Cave lakes are located approximately three and one-quarter miles northwest of Water Rights Observation Well CU-91A. A comparison of the water levels of the lakes with water level data for Water Rights' Observation Well CU-91A (figure 5) shows the similarity of the water levels responses to climatic conditions.

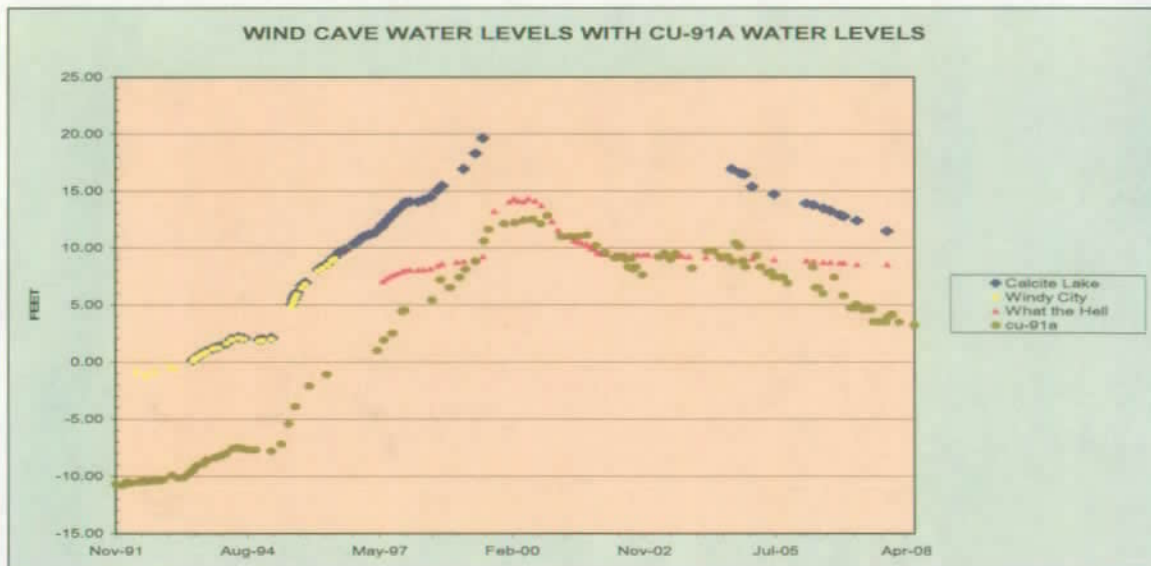


Figure 5. Water levels of the Wind Cave lakes compared with the water levels in Water Rights Observation Well CU-91A (modified from Horrocks)

The impacts of pumping the well proposed by this application is expected to be negligible on the Wind Cave Lakes, especially when compared with the natural fluctuations because of the distances involved (>5miles) and the relatively small diversion rate proposed (300 gpm).

The wells used to supply Water Right No. 419-2 are located between the well site proposed by this application and the Wind Cave lakes (see figure 1). In the highly unlikely event that drawdown from this proposed appropriation were to extend to the lakes, measurable well interference, (not necessarily an “adverse impact” however), would first occur at the NPS wells. Although using the NPS wells as observation wells is not ideal, the wells may aid in documenting potential impacts.

Streams (Perennial and Ephemeral):

The NPS identified three perennial streams (Cold Spring, Beaver and Highland Creeks) as “water resources of high value at Wind Cave NP”. Topographically, Cold Spring Creek lies entirely above (i.e. on formations that are geologically lower than) the Madison outcrop. Well withdrawals from the Madison aquifer are not expected to impact Cold Spring Creek since creek flows should not be related to the Madison aquifer. Beaver and Highland Creeks are typically dry in their reaches downstream from the loss zone (Madison, Minnelusa and Minnekahata aquifer outcrops) except when upstream flow is sufficient to meet or exceed the streams loss threshold. The loss threshold for Beaver Creek is estimated as five cfs (Hortness and Driscoll, 1998). Examination of the hydrograph for Beaver Creek above the loss zone (figure 5) shows that flows above the Madison outcrop are generally below the loss threshold.

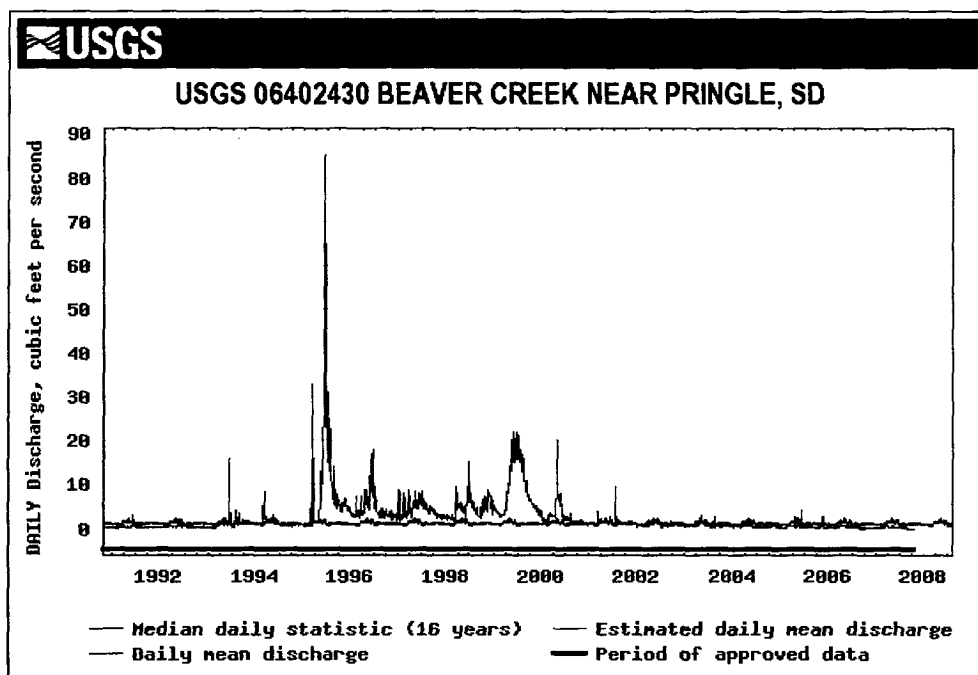


Figure 6. Hydrograph of Beaver Creek above the loss zone.

The loss threshold for Highland Creek is estimated to exceed 10 cfs and estimated flows above the loss zone was estimated to generally be less than 10 cfs creek (Hortness and Driscoll, 1998).

Hortness and Driscoll (1998) indicate that the loss thresholds for Black Hills streams are relatively constant. This in spite of the data that shows the water level in the Madison fluctuates significantly and would therefore affect the surface water to groundwater gradient (i.e. potential for leakage). Since the loss thresholds can be assumed constant, even if groundwater levels were to lower, Madison aquifer withdrawals, including this proposed appropriation will not affect the frequency that the reaches of Beaver Creek and Highland Creek downstream of the loss zones are dry.

Seeps and springs:

The majority of the seeps and springs identified by the NPS (Petee, 2006), are obviously not related to the Madison aquifer. They either surface in geologic formations hydrologically isolated from the Madison at elevations hundreds of feet higher than the water level of the Madison, or in geologic formations older than (below) the Madison. The few seeps or springs identified by the NPS that are actually situated on the Madison outcrop are likely expressions of localized perched conditions that would not be impacted by any changes in water level of the regional system.

TERM LIMITATION:

SDCL 46-2A-20 requires that "... no water permit for construction of works to withdraw water from the Madison formation in Butte, Fall River, Custer, Lawrence, Meade and Pennington counties may be issued for a term of more than twenty years, unless the water management board determines, based upon the evidence presented at the hearing that:

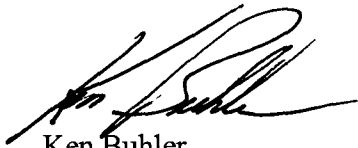
- (1) Sufficient information is available to determine whether any significant adverse hydrologic effects on the supply of water in the Madison formation would result if the proposed withdrawal were approved; and
- (2) The information, whether provided by the applicant or by other means, show that there is a reasonable probability that issuance of the proposed permit would not have a significant adverse effect on nearby Madison formation wells and springs."

Pursuant to SCL 46-2A-21, "at the end of the twenty-year limitation, the board may cancel a permit or amend the permit with a new term limitation of up to twenty years, if the board is unable to make a finding after notice and hearing that sufficient information is available to delete the term."

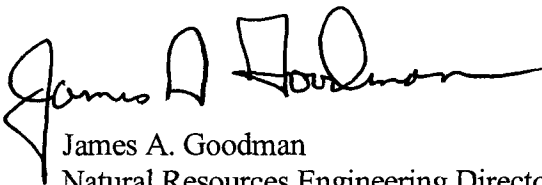
Evidence is not available to justify issuing these permits without a term limitation of 20 years.

CONCLUSIONS:

1. The Madison aquifer is a major regional aquifer and a viable source of water for this proposed appropriation.
2. This application proposes to appropriate 484 acre-feet annually at a maximum diversion rate of 0.67 cfs. Development of this permit would probably result in a withdrawal of no more than 300 acre-feet annually with an average diversion rate of around 0.40 cfs.
3. There is a reasonable probability that unappropriated water is available in the Madison aquifer to supply this appropriation.
4. Exceptions included in SDCL-46-6-3.1 would allow average annual withdrawals from the Madison to exceed average annual recharge for this proposed rural water system use.
5. There is a reasonable probability this appropriation can be made without adversely impacting existing water rights including domestic users.
6. Rural water system use is a beneficial use of water.
7. This appropriation is unlikely to affect the discharge of Beaver Creek Springs or the flows in Beaver Creek.
8. This appropriation is unlikely to affect the water resources of Wind Cave National Park.
9. Information is not available to justify issuing these permits without a term limitation of 20 years.
10. Following notice and a public hearing, the Water Management Board can cancel this permit or amend it with a new term limitation after twenty years.
11. The Water Management Board deferred consideration of Water Permit Application No... 2585-2, Southern Black Hills Water System, for a proposed Madison aquifer well to be located approximately two and three-fourths miles southwest of the site proposed by this application. Since the deferral was for public interest reasons and not water availability issues it should not hinder the board's consideration of this application.



Ken Buhler
Natural Resources Engineering Specialist
Approved by



James A. Goodman
Natural Resources Engineering Director

REFERENCES:

- Allen, J.C., Iles, D.L., and Petres, A.K., 1985, Analysis of Groundwater and Streamflow Data Western Dakotas Region of South Dakota, Tasks 3A.B.C. and 4A.B.: Groundwater Resource Inventory: South Dakota Department of Water and Natural Resources
- Carter, J.M., Redden, J.A., 1999a, Altitude of the Top of the Madison Limestone in the Black Hills Area, South Dakota: U.S. Geological Survey Hydrologic Investigations Atlas HA-744-D, 2 sheets, scale 1:100,000
- Carter, J.M., Redden, J.A., 1999b, Altitude of the Top of the Deadwood Formation in the Black Hills Area, South Dakota: U.S. Geological Survey Hydrologic Investigations Atlas HA-744-E, 2 sheets, scale 1:100,000
- Carter, J.M., Driscoll, D.G., and Hamade, G.R., 2001a, Estimated Recharge to the Madison and Minnelusa Aquifers in the Black Hills Area, South Dakota and Wyoming, Water Years 1931-98: U.S. Geological Survey Water-Resources Investigations Report 00-4278, 66 p
- Carter, J.M., Driscoll, D.G., Hamade, G.R., and Jarrell, G.J., 2001b, Hydrologic Budgets for the Madison and Minnelusa Aquifers, Black Hills of South Dakota and Wyoming, Water Years 1987-1996, Water-Resources Investigations Report 01-4119, U.S. Department of the Interior, U.S. Geological Survey, Rapid City, SD
- Greene, E.A., 1993, Hydraulic Properties of the Madison Aquifer System in the Western Rapid City Area, South Dakota: U.S. Geological Survey Water-Resources Investigations Report 93-4008, 56 p.
- Horrocks, Rod. "Re. Wind Cave Lakes data." E-mail to Ken Buhler. 23 Jul. 2008
- Hortness, J.E. and Driscoll, D.G., 1998, Streamflow Losses in the Black Hills of Western South Dakota: U.S. Geological Survey Water-Resources Investigations Report 98-4116
- Pette, C.W., 2006, June 30, 2006 Petition to Intervene with regard to Applications 2680-2 and 2585-2 filed by the Southern Black Hills Water System: U.S. Department of the Interior, National Park Service, Water Resources Division; in Water Permit Application 2585-2 file, SD DENR-Water Rights Program
- Rahn, P.H., and Gries, J.P., 1973, Large Springs in the Black Hills, South Dakota and Wyoming: SD Geological Survey Report of Investigations No. 107, 46 p.
- Strobel, M.L., Jarrell, G.J., Sawyer, J.F., Schleicher, J.R., and Fahrenbach, M.D., 1999, Distribution of Hydrogeologic Units in the Black Hills Area, South Dakota: U.S. Geological Survey Hydrologic Investigations Atlas HA-743, 3 sheets, scale 1:100,000

- Strobel, M.L., Galloway, J.M., Hamade, G.R., Jarrell, G.J., 2000a, Potentiometric Surface of the Madison Aquifer in the Black Hills Area, South Dakota: U.S. Geological Survey Hydrologic Investigations Atlas HA-745-D, 2 sheets, scale 1:100,000
- Water Rights Program, 1995, Findings of Fact, Conclusions of Law and Final Decision in the Matter of Water Permit Application No. 2313-2, Coca-Cola Bottling Company of The Black Hills , SD DENR-Water Rights Program, Joe Foss Building, Pierre, SD 57501
- Water Rights Program, 2008a, Irrigation Use Summary, DENR-Water Rights Program, Joe Foss Building, Pierre, SD 57501
- Water Rights Program, 2008b, Observation Well Files, DENR-Water Rights Program, Joe Foss Building, Pierre, SD 57501
- Water Rights Program, 2008c, "Report for Water Permit Application No. 2631-2", Unpublished Report in Water Permit No. 2631-2, SD DENR-Water Rights Program, Joe Foss Building, Pierre, SD 57501
- Water Rights Program, 2008d, Water Permit/Right Files, DENR-Water Rights Program, Joe Foss Building, Pierre, SD 57501
- Water Rights Program, 2008e6c, Well Completion Report Files, DENR-Water Rights Program, Joe Foss Building, Pierre, SD 57501
- Whalen, P.J., 1994, Source Aquifers for Cascade Springs, Hot Springs and Beaver Creek Springs in the Southern Black Hills of South Dakota: South Dakota School of Mines and Technology Master of Science Thesis, Rapid City, SD, 299 p.
- Woodward Clyde Consultants, 1981, Well Field Hydrology Technical Report, for the ETSI Coal Slurry Pipeline Project, U.S. Dept. of the Interior, Bureau of Land Management

Form 8

RECEIVED

SEP 11 2008

WATER RIGHTS
PROGRAM

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
) SS
County of Pennington)

I, Patricia K Van Patten

certify that the attached printed Notice was
taken

from the Rapid City Journal

printed and published in Rapid City

County of Pennington and

state of South Dakota. The notice was
published

in the newspaper on the following two dates:

September 3, 2008

September 10, 2008

Cost of Printing One hundred seventy-

eight dollars and sixty-four cents
(\$178.64)

(Signature)

(Title)

(Date Signed)

Sept. 3, 10 L20260968

NOTICE OF HEARING ON APPLICATION NO. 2633-2 TO

APPROPRIATE WATER

Notice is given that the Southern Black Hills Water System, Inc., c/o Robert H. Peplinski, Chairman, HC 56, Box 53, Oral SD 57766, has filed an application for a water permit to appropriate 484 acre feet of water annually at a maximum diversion rate 0.67 cubic feet of water per second from one well to be completed into the Madison Aquifer (approximately 1850 feet deep) located in SE 1/4, Section 35, T5S-R6E, Custer County. The water will be used for a rural water system to serve users in Custer, Fall River and Pennington Counties.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2633-2 for a 20-year term because 1) the proposed diversion can be developed without unlawful impairment of existing rights, 2) the proposed use is a beneficial use and 3) it is in the public interest.

Any person interested in opposing or supporting this application must file a written petition with BOTH the applicant and Chief Engineer. The applicant must also file a petition if opposed to the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E. Capitol, Pierre, SD 57501, (605-773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by September 22, 2008. The petition may be informal, but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

The Water Management Board will consider this application at 10:00 a.m. on October 2, 2008, at the Matthew Training Center, Joe Foss Building, 523 E. Capitol Ave., Pierre, SD. The Chief Engineer's recommendation is not final or binding upon the Board. The Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny this application based on the facts presented at the public hearing. The October 2, 2008, hearing date will be automatically delayed for at least 20 days upon written request to the Chief Engineer from the applicant or any interested person opposing the application. The request for an automatic delay must be filed by September 22, 2008.

Any hearing will be an adversary proceeding. Any person filing a petition and/or the applicant have the right to be represented by a lawyer and may present evidence or cross-examine witnesses according to SDCL 1-26. These and other due process rights will be forfeited if not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law. Contact Eric Gronlund by September 22, 2008, at the above Water Rights Program address to request copies of information pertaining to this application. In addition, please notify the Department of Environment and Natural Resources at least 48 hours before the public hearing if you have a dis-

ability for which special arrangements must be made at the hearing.

Since this application does not involve a monetary controversy in excess of \$2,500.00 or termination of a property right in accordance with SDCL 1-26-18.3, the Chief Engineer has determined this contested case may not be referred to the Office of Hearing Examiners. If any party disagrees with this determination, the Chief Engineer shall be notified by September 22, 2008.

This application is made pursuant to SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-16; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 46-2A-1 thru 46-2A-10, 46-2A-12, 46-2A-14, 46-2A-15, 46-2A-20, 46-2A-21; 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-30.2, 46-5-30.4, 46-5-31; 46-6-3, 46-6-3.1, 46-6-6.1, 46-6-10, 46-6-13, 46-6-14, 46-6-26; and Board Rules ARSD 74:02:01:01 thru 74:02:01:15.

Steven M. Pirner, Secretary
Department of Environment
and Natural Resources

RECEIVED

SEP 11 2008

Form 8

WATER RIGHTS
PROGRAM

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)

County of Fall River) SS

I, Brett Nachtigall

certify that the attached printed Notice was taken

from the Hot Springs Star

printed and published in Hot Springs

County of Fall River and

state of South Dakota. The notice was published

in the newspaper on the following two dates:

September 2, 2008

September 9, 2008

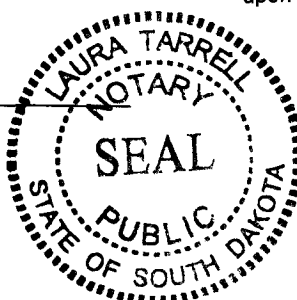
Cost of Printing \$ 80.10

[Signature]
(Signature)

[Signature]
(Title)

9-9-08
(Date Signed)

Laura Tarrell
Notary Public
My Commission Expires
December 3, 2013



352 NOTICE OF HEARING on Application No. 2633-2 to Appropriate Water

Notice is given that the Southern Black Hills Water System, Inc., c/o Robert H. Peplinski, Chairman, HC 56, Box 53, Oral SD 57766 has filed an application for a water permit to appropriate 484 acre feet of water annually at a maximum diversion rate 0.67 cubic feet of water per second from one well to be completed into the Madison Aquifer (approximately 1850 feet deep) located in SE 1/4 SE 1/4 Section 35-T5S-R6E, Custer County. The water will be used for a rural water system to serve users in Custer, Fall River and Pennington Counties.

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Any person interested in opposing or supporting this application must file a written petition with BOTH the applicant and Chief Engineer. The applicant must also file a petition if opposed to the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by September 22, 2008. The petition may be informal, but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

The Water Management Board will consider this application at 10:00 A.M. on October 2, 2008 at the Matthew Training Center, Joe Foss Building, 523 E. Capitol Ave., Pierre SD. The Chief Engineer's recommendation is not final or binding upon the Board. The Board is

authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny this application based on the facts presented at the public hearing. The October 2, 2008 hearing date will be automatically delayed for at least 20 days upon written request to the Chief Engineer from the applicant or any interested person opposing the application. The request for an automatic delay must be filed by September 22, 2008.

Any hearing will be an adversary proceeding. Any person filing a petition and/or the applicant have the right to be represented by a lawyer and may present evidence or cross-examine witnesses according to SDCL 1-26. These and other due process rights will be forfeited if not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law. Contact Eric Gronlund by September 22, 2008, at the above Water Rights Program address to request copies of information pertaining to this application. In addition, please notify the Department of Environment and Natural Resources at least 48 hours before the public hearing if you have a disability for which special arrangements must be made at the hearing.

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This application is made pursuant to SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-16; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 46-2A-1 thru 46-2A-10, 46-2A-12, 46-2A-14, 46-2A-15, 46-2A-20, 46-2A-21; 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-30.2, 46-5-30.4, 46-5-31; 46-6-3, 46-6-3.1, 46-6-6.1, 46-6-10, 46-6-13, 46-6-14, 46-6-26; and Board Rules ARSD 74:02:01:01 thru 74:02:01:15. Steven M. Pirner, Secretary, Department of Environment and Natural Resources.

Sept. 2, 9

Affidavit of Publication

State of South Dakota

County of Custer

Charles W. Najacht of said county, being duly sworn, on oath says that he is publisher of the Custer County Chronicle, a weekly newspaper printed and published in Custer City, said County of Custer and has full and personal knowledge of all the facts herein stated; that said newspaper is a legal newspaper and has a bona-fide circulation of at least two hundred copies weekly, and has been published within said County for fifty-two successive weeks next prior to the publication of the notice herein, mentioned, and was and is printed wholly or in part in an office maintained at said place of publication: that the

Southern Hills Water System
Notice of Hearing

a printed copy of which, taken from the paper in which the same was published, is attached to this sheet, and is made a part of this Affidavit, was published in said newspaper at least once each week for 2 successive week(s), on which said newspaper was regularly published, to wit:

Sept. 3, 2008; Sept. 10, 2008;

_____;

_____;

_____;

the full amount of the fees for the publication of the annexed notice is \$ 43.32.

Charles W. Najacht

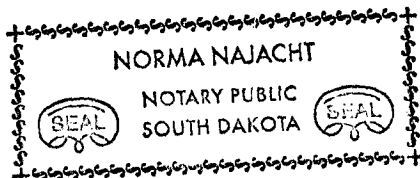
Subscribed and sworn to me before this 10

of September, 2008;

Norma Najacht

NOTARY PUBLIC

MY COMMISSION EXPIRES: May 5, 2012



Notice is given that the Southern Black Hills Water System, Inc., c/o Robert H Peplinski, Chairman, HC 56, Box 53, Oral SD 57766 has filed an application for a water permit to appropriate 484 acre feet of water annually at a maximum diversion rate 0.67 cubic feet of water per second from one well to be completed into the Madison Aquifer (approximately 1850 feet deep) located in SE 1/4 SE 1/4 Section 35-T5S-R6E, Custer County. The water will be used for a rural water system to serve users in Custer, Fall River and Pennington Counties.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2633-2 for a 20-year term because 1) the proposed diversion can be developed with out unlawful impairment of existing rights, 2) the proposed use is a beneficial use and 3) it is in the public interest.

Any person interested in opposing or supporting this application must file a written petition with BOTH the applicant and Chief Engineer. The applicant must also file a petition if opposed to the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by September 22, 2008. The petition may be informal, but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

The Water Management Board will consider this application at 10:00 A.M. on October 2, 2008 at the Matthew Training Center, Joe Foss Building, 523 E. Capitol Ave., Pierre SD. The Chief Engineer's recommendation is not final or binding upon the Board. The Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny this application based on the facts presented at the public hearing. The October 2, 2008 hearing date will be automatically delayed for at least 20 days upon written request to the Chief Engineer from the applicant or any interested person opposing the application. The request for an automatic delay must be filed by September 22, 2008.

Any hearing will be an adversary proceeding. Any person filing a petition and/or the applicant have the right to be represented by a lawyer and may present evidence or cross-examine witnesses according to SDCL 1-26. These and other due process rights will be forfeited if not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law. Contact Eric Gronlund by September 22, 2008, at the above Water Rights Program address to request copies of information pertaining to this application. In addition, please notify the Department of Environment and Natural Resources at least 48 hours before the public hearing if you have a disability for which special arrangements must be made at the hearing.

Since this application does not involve a monetary controversy in excess of \$2,500.00 or termination of a property right in accordance with SDCL 1-26-18.3, the Chief Engineer has determined this contested case may not be referred to the Office of Hearing Examiners. If any party disagrees with this determination, the Chief Engineer shall be notified by September 22, 2008

This application is made pursuant to SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-16; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 46-2A-1 thru 46-2A-10, 46-2A-12, 46-2A-14, 46-2A-15, 46-2A-20, 46-2A-21; 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-30.2, 46-5-30.4, 46-5-31; 46-6-3, 46-6-3.1, 46-6-6.1, 46-6-10, 46-6-13, 46-6-14, 46-6-26; and Board Rules ARSD 74:02:01:01 thru 74:02:01:15.

Steven M. Pirner, Secretary,
Department of Environment and Natural Resources.



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

August 27, 2008

Rapid City Journal
PO Box 450
Rapid City SD 57709

ATTENTION: Legal Public Notice

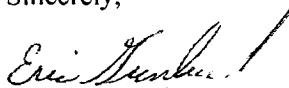
Enclosed is a Notice on Application No. 2633-2 to Appropriate Water to be published twice. Please publish the first notice on September 3, 2008 with the second publication 7 days later. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352.

The applicant must verify to you that the notice is to be published, before you make the first publication. **Please BILL the APPLICANT for the cost of publication.** The APPLICANT is Southern Black Hills Water System Inc., c/o Robert Peplinski, HC 56 Box 53, Oral SD 57766 (Ph # 605-424-2066).

Please send the Water Rights Program the first publication immediately. The publication is checked for accuracy so any corrections can be made in the second publication. You may use the form below or fax a copy of the first publication. Any fax should be sent to the attention of Karen Schlaak at (605) 773-4068. Publication errors can invalidate the public notice.

After the second publication, **please send us an affidavit or use the enclosed Proof of Publication form.** The applicant pays the cost of publication, but the Water Rights Program records require an affidavit or Proof of Publication. Delays in receiving the affidavit can be costly to the applicant.

Sincerely,


Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures

-----CUT HERE-----

No. 2633-2

TO: Eric Gronlund
Water Rights Program
Joe Foss Building
Pierre SD 57501-3181

Date _____

We are in receipt of your letter of August 27, 2008 enclosing Notice to Appropriate Water by Application No. 2633-2 which was first published in our issue of _____. ENCLOSED IS A COPY OF THIS FIRST PUBLICATION.

Name

Newspaper



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

August 27, 2008

Hot Springs Star
PO Box 1000
Hot Springs SD 57747

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 2633-2 to Appropriate Water to be published twice. Please publish the first notice on September 2, 2008 with the second publication 7 days later. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352.

The applicant must verify to you that the notice is to be published, before you make the first publication. **Please BILL the APPLICANT for the cost of publication.** The APPLICANT is Southern Black Hills Water System Inc., c/o Robert Peplinski, HC 56 Box 53, Oral SD 57766 (Ph # 605-424-2066).

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Sincerely,

Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures

-----CUT HERE-----

No. 2633-2

TO: Eric Gronlund
Water Rights Program
Joe Foss Building
Pierre SD 57501-3181

Date _____

We are in receipt of your letter of August 27, 2008 enclosing Notice to Appropriate Water by Application No. 2633-2 which was first published in our issue of _____. ENCLOSED IS A COPY OF THIS FIRST PUBLICATION.

Name

Newspaper



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

August 27, 2008

Custer County Chronicle
PO Box 551
Custer SD 57730

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 2633-2 to Appropriate Water to be published twice. Please publish the first notice on September 3, 2008 with the second publication 7 days later. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352.

The applicant must verify to you that the notice is to be published, before you make the first publication. **Please BILL the APPLICANT for the cost of publication.** The APPLICANT is Southern Black Hills Water System Inc., c/o Robert Peplinski, HC 56 Box 53, Oral SD 57766 (Ph # 605-424-2066).

Please send the Water Rights Program the first publication immediately. The publication is checked for accuracy so any corrections can be made in the second publication. You may use the form below or fax a copy of the first publication. Any fax should be sent to the attention of Karen Schlaak at (605) 773-4068. Publication errors can invalidate the public notice.

After the second publication, **please send us an affidavit or use the enclosed Proof of Publication form.** The applicant pays the cost of publication, but the Water Rights Program records require an affidavit or Proof of Publication. Delays in receiving the affidavit can be costly to the applicant.

Sincerely,

Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures

-----CUT HERE-----

No. 2633-2

TO: Eric Gronlund
Water Rights Program
Joe Foss Building
Pierre SD 57501-3181

Date _____

We are in receipt of your letter of August 27, 2008 enclosing Notice to Appropriate Water by Application No. 2633-2 which was first published in our issue of _____. ENCLOSED IS A COPY OF THIS FIRST PUBLICATION.

Name

Newspaper



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

NOTE: TO BE SURE OF PUBLICATION ON
THE CORRECT DATES, CONTACT
THE NEWSPAPER RIGHT AWAY.

August 27, 2008

Southern Black Hills Water System Inc
c/o Robert Peplinski
HC 56 Box 53
Oral SD 57766

Dear Mr. Peplinski:

Water Permit Application No. 2633-2 for rural water system use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Publisher of the following papers:

Rapid City Journal, Rapid City SD (PH: 605-394-8300)
Hot Springs Star, Hot Springs SD (PH: 605-745-4170)
Custer County Chronicle, Custer SD (PH: 605-673-2217)

You will need to contact the newspapers and authorize publication of this notice. For your information, a copy of the notice, the recommendation of the Chief Engineer and report on the application are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

Be sure to contact the above newspaper to authorize publication of your Notice and to arrange for payment. Early contact with the paper can eliminate delays. Upon receiving authorization, the publisher has been instructed to publish your notice once each week for two consecutive weeks. The newspaper has also been instructed to send us the Proof of Publication. We must receive Proof of Publication before action can be taken on the application.

Sincerely,

Eric Gronlund

Natural Resources Engineer

(605) 773-3352

c: Talbot Wieczorek, PO Box 8045, Rapid City SD 57709

Ken Royce, Bartlett & West, 3456 E Century Ave, Bismarck ND 58503-0737

enclosures:

NOTE: If you plan to contest any part of the Chief Engineer's recommendation, you must file a petition pursuant to the procedures outlined in the attached notice of hearing. The Water Management Board will then consider your concerns during a hearing on the application.

Instruction to Newspaper - Publish first Notice on September 3, 2008 with the second publication 7 days later. The applicant is responsible for payment.

NOTICE OF HEARING on Application No. 2633-2 to Appropriate Water

Notice is given that the Southern Black Hills Water System, Inc., c/o Robert H Peplinski, Chairman, HC 56, Box 53, Oral SD 57766 has filed an application for a water permit to appropriate 484 acre feet of water annually at a maximum diversion rate 0.67 cubic feet of water per second from one well to be completed into the Madison Aquifer (approximately 1850 feet deep) located in SE ¼ SE ¼ Section 35-T5S-R6E, Custer County. The water will be used for a rural water system to serve users in Custer, Fall River and Pennington Counties.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2633-2 for a 20-year term because 1) the proposed diversion can be developed with out unlawful impairment of existing rights, 2) the proposed use is a beneficial use and 3) it is in the public interest.

Any person interested in opposing or supporting this application must file a written petition with BOTH the applicant and Chief Engineer. The applicant must also file a petition if opposed to the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by September 22, 2008. The petition may be informal, but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

The Water Management Board will consider this application at 10:00 A.M. on October 2, 2008 at the Matthew Training Center, Joe Foss Building, 523 E. Capitol Ave., Pierre SD. The Chief Engineer's recommendation is not final or binding upon the Board. The Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny this application based on the facts presented at the public hearing. The October 2, 2008 hearing date will be automatically delayed for at least 20 days upon written request to the Chief Engineer from the applicant or any interested person opposing the application. The request for an automatic delay must be filed by September 22, 2008.

Any hearing will be an adversary proceeding. Any person filing a petition and/or the applicant have the right to be represented by a lawyer and may present evidence or cross-examine witnesses according to SDCL 1-26. These and other due process rights will be forfeited if not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law. Contact Eric Gronlund by September 22, 2008, at the above Water Rights Program address to request copies of information pertaining to this application. In addition, please notify the Department of Environment and Natural Resources at least 48 hours before the public hearing if you have a disability for which special arrangements must be made at the hearing.

Since this application does not involve a monetary controversy in excess of \$2,500.00 or termination of a property right in accordance with SDCL 1-26-18.3, the Chief Engineer has determined this contested case may not be referred to the Office of Hearing Examiners. If any party disagrees with this determination, the Chief Engineer shall be notified by September 22, 2008

This application is made pursuant to SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-16; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 46-2A-1 thru 46-2A-10, 46-2A-12, 46-2A-14, 46-2A-15, 46-2A-20, 46-2A-21; 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-30.2, 46-5-30.4, 46-5-31; 46-6-3, 46-6-3. 1, 46-6-6.1, 46-6-10, 46-6-13, 46-6-14, 46-6-26; and Board Rules ARSD 74:02:01:01 thru 74:02:01:15. Steven M. Pirner, Secretary, Department of Environment and Natural Resources.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

September 3, 2008

Faye Streyer
Bureau of Reclamation
515 9th Street, Room 101
Rapid City SD 57701

Dear Mr. Streyer:

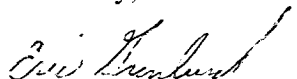
Enclosed are the reports, recommendations and public notices for two water permit applications in Custer County, South Dakota.

Water Permit Application No. 2633-2 is filed by the Southern Black Hills Water System to appropriate water from the Madison Aquifer. This well site is located northeast of the proposed well location that is the subject of the deferred Application No. 2585-2 at the Streeter location. The public notice is scheduled to be published September 2 and 9, 2008 in the Hot Springs Star and September 3 and 10, 2008 in the Rapid City Journal and Custer County Chronicle.

Water Permit Application No. 2634-2 is filed by Eben Streeter to connect the Southern Black Hills Water System to his common distribution system pursuant to ARSD 74:02:01:03.01. Mr. Streeter holds Water Right No. 2302-2 and Water Permit No. 2546-2 from one well completed in to the Madison Aquifer. The public notice for this application will be published in the Hot Springs Star and Custer County Chronicle.

This information is being sent to you based on the Bureau of Reclamation interest in keeping apprised of water right permitting issues in this area.

Sincerely,


Eric Gronlund
Water Rights Program
(605) 773-3352

enclosures



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

September 3, 2008

Michael Hickey
Bangs McCullen Law Firm
PO Box 2670
Rapid City SD 57709

Dear Mr. Hickey:

Enclosed are the reports, recommendations and public notices for two water permit applications in Custer County.

Water Permit Application No. 2633-2 is filed by the Southern Black Hills Water System to appropriate water from the Madison Aquifer. This well site is located northeast of the proposed well location that is the subject of the deferred Application No. 2585-2 to which Trout Haven Ranch is a party of record. The public notice is scheduled to be published September 2 and 9, 2008 in the Hot Springs Star and September 3 and 10, 2008 in the Rapid City Journal and Custer County Chronicle.

Water Permit Application No. 2634-2 is filed by Eben Streeter to connect the Southern Black Hills Water System to his common distribution system pursuant to ARSD 74:02:01:03.01. Mr. Streeter holds Water Right No. 2302-2 and Water Permit No. 2546-2 from one well completed in to the Madison Aquifer. The public notice for this application will be published in the Hot Springs Star and Custer County Chronicle.

This information is being sent to you as counsel for Trout Haven Ranch based on your intervention and participation in the hearing on the deferred application in this area.

Sincerely,

Eric Gronlund
Water Rights Program
(605) 773-3352

enclosures



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

September 3, 2008

Shawn Fugier
27094 Beaver Valley Road
Buffalo Gap SD 57722

Dear Mr. Fugier:

Enclosed are the reports, recommendations and public notices for two water permit applications in Custer County, South Dakota.

Water Permit Application No. 2633-2 is filed by the Southern Black Hills Water System to appropriate water from the Madison Aquifer. This well site is located northeast of the proposed well location that is the subject of the deferred Application No. 2585-2 to which you are a party of record. The public notice is scheduled to be published September 2 and 9, 2008 in the Hot Springs Star and September 3 and 10, 2008 in the Rapid City Journal and Custer County Chronicle.

Water Permit Application No. 2634-2 is filed by Eben Streeter to connect the Southern Black Hills Water System to his common distribution system pursuant to ARSD 74:02:01:03.01. Mr. Streeter holds Water Right No. 2302-2 and Water Permit No. 2546-2 from one well completed in to the Madison Aquifer. The public notice for this application will be published in the Hot Springs Star and Custer County Chronicle.

This information is being sent to you based on your intervention and participation in the hearing on the deferred application in this area.

Sincerely,

Eric Gronlund
Water Rights Program
(605) 773-3352

enclosures



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

September 3, 2008

Marla Peters
Fall River Water User District
PO Box 321
Oral SD 57766

Dear Ms. Peters:

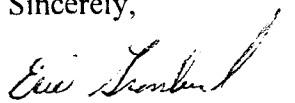
Enclosed are the reports, recommendations and public notices for two water permit applications in Custer County, South Dakota.

Water Permit Application No. 2633-2 is filed by the Southern Black Hills Water System to appropriate water from the Madison Aquifer. This well site is located northeast of the proposed well location that is the subject of the deferred Application No. 2585-2 to which the Fall River Water User District is a party of record. The public notice is scheduled to be published September 2 and 9, 2008 in the Hot Springs Star and September 3 and 10, 2008 in the Rapid City Journal and Custer County Chronicle.

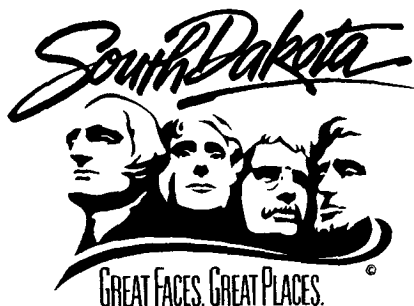
Water Permit Application No. 2634-2 is filed by Eben Streeter to connect the Southern Black Hills Water System to his common distribution system pursuant to ARSD 74:02:01:03.01. Mr. Streeter holds Water Right No. 2302-2 and Water Permit No. 2546-2 from one well completed in to the Madison Aquifer. The public notice for this application will be published in the Hot Springs Star and Custer County Chronicle.

This information is being sent to the Fall River Water User District based on the District's intervention and participation in the hearing on the deferred application in this area.

Sincerely,


Eric Gronlund
Water Rights Program
(605) 773-3352

enclosures



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

September 3, 2008

John Beard:
3420 Corral Drive #109
Rapid City SD 57702

Dear Mr. Beard:

Enclosed are the reports, recommendations and public notices for two water permit applications in Custer County, South Dakota.

Water Permit Application No. 2633-2 is filed by the Southern Black Hills Water System to appropriate water from the Madison Aquifer. This well site is located northeast of the proposed well location that is the subject of the deferred Application No. 2585-2 to which you are a party of record. The public notice is scheduled to be published September 2 and 9, 2008 in the Hot Springs Star and September 3 and 10, 2008 in the Rapid City Journal and Custer County Chronicle.

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This information is being sent to you based on your intervention and participation in the hearing on the deferred application in this area.

Sincerely,

Eric Gronlund
Water Rights Program
(605) 773-3352

enclosures



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

September 3, 2008

Randy Scroth
PO Box 1
Buffalo Gap SD 57722

Dear Mr. Scroth:

Enclosed are the reports, recommendations and public notices for two water permit applications in Custer County, South Dakota.

Water Permit Application No. 2633-2 is filed by the Southern Black Hills Water System to appropriate water from the Madison Aquifer. This well site is located northeast of the proposed well location that is the subject of the deferred Application No. 2585-2 to which you are a party of record. The public notice is scheduled to be published September 2 and 9, 2008 in the Hot Springs Star and September 3 and 10, 2008 in the Rapid City Journal and Custer County Chronicle.

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This information is being sent to you based on your intervention and participation in the hearing on the deferred application in this area.

Sincerely,

Eric Gronlund
Water Rights Program
(605) 773-3352

enclosures



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

September 3, 2008

Charles W Pettee, Chief
Water Rights Branch
National Park Service
1201 Oakridge Drive Suite 250
Fort Collins CO 80525-5596

Peter Fahmy
Water Rights Branch
National Park Service
1201 Oakridge Drive Suite 250
Fort Collins CO 80525-5596

Dear Mr. Pettee and Mr. Fahmy:

Enclosed are the reports, recommendations and public notices for two water permit applications in Custer County, South Dakota.

Water Permit Application No. 2633-2 is filed by the Southern Black Hills Water System to appropriate water from the Madison Aquifer. This well site is located northeast of the proposed well location that is the subject of the deferred Application No. 2585-2 to which the National Park Service is a party of record. The public notice is scheduled to be published September 2 and 9, 2008 in the Hot Springs Star and September 3 and 10, 2008 in the Rapid City Journal and Custer County Chronicle.

Water Permit Application No. 2634-2 is filed by Eben Streeter to connect the Southern Black Hills Water System to his common distribution system pursuant to ARSD 74:02:01:03.01. Mr. Streeter holds Water Right No. 2302-2 and Water Permit No. 2546-2 from one well completed in to the Madison Aquifer. The public notice for this application will be published in the Hot Springs Star and Custer County Chronicle.

This information is being sent to the National Park Service based on the Service's intervention and participation in the hearing on the deferred application in this area.

Sincerely,

Eric Gronlund
Water Rights Program
(605) 773-3352

enclosures

Gronlund, Eric

From: Oliver, Jeff [Jeff.Oliver@gs.com]

Sent: Monday, September 08, 2008 1:48 PM

To: Gronlund, Eric

Subject: For your consideration regarding;Water Applications Review on 10/02/08: Permits #2633-2 and 2634-2

Dear Sir,

It has come to my attention that a meeting is to be held on October 2 of this year to review Water Permit Applications 2633-2 & 2634-2 for approval. As a landowner and future resident of the Pine Butte sub-division southwest of Custer, I believe these are very important applications and would like to ask for your support in approving them as an expression of belief in the future of the area. I have visited the Dakota area often and fell in love with the landscape and way of life, so I purchased land to build and live in my retirement home someday soon. I see this project as the best way to support both the reasonable growth and continued natural beauty that so enriches your country and community. Thank you for your consideration of my letter. Good luck, God bless.

Jeff Oliver
708-269-6871

09/09/2008

Gronlund, Eric

From: Steve Reecy [twobarr@gwtc.net]
Sent: Tuesday, September 09, 2008 7:52 AM
To: Ken.Royse@bartwest.com
Cc: Gronlund, Eric
Subject: Southern Black Hills Water Project
Importance: High

Gentelmen:

I am sending this in support of the Southern Black hills Water Project. We ranch north of Edgemont, SD. We have signed up to recieve water if this project is approved. We would be using this water for both cattle and home, as you know with well water you never know how long you we have it. It also can be very expensive if you run out. This project is good for the southern hills and has been approved by the State.

Thanks you

Steve & Sandie Reecy

09/09/2008

Gronlund, Eric

From: Pat John Muilenburg [muilenjd@msn.com]

Sent: Tuesday, September 09, 2008 10:19 AM

To: Gronlund, Eric

Cc: Ken.Royse@bartwest.com

Sir,

As a landowner in the Pringle,S.D. area, I support the efforts to deliver safe and clean water to this area and the Southern Black Hills.

I appreciate your efforts and encourage you even to do more to provide this vital commodity for use by the taxpayers in this area.

thank you!!

John Muilenburg

09/09/2008

Gronlund, Eric

From: Robson [robson@mt-rushmore.net]
Sent: Tuesday, September 09, 2008 11:59 AM
To: Gronlund, Eric
Subject: Water Permits

Dear Sir,

We have an interest in the development of water resources in the area of the Black Hills which might well serve us as a potential customer of rural water.

We are therefore asking you to approve the following permits:

Water Permit Application No. 2633-2.

Water Permit Application No. 2634-2.

Thank you for your consideration of these matters.

Sincerely,

Robert and Sonja Shannon
24705 Timber Ridge Road
Hermosa, SD 57744

09/09/2008

Gronlund, Eric

From: Toni Devereux [toni@allamericanrealtygroup.com]
Sent: Tuesday, September 09, 2008 1:07 PM
To: Gronlund, Eric
Subject: SBH Water Project

Im very much in favor of both permits being issued. The need for domestic water is great and will enhance the Hot Springs area economy.

**Thanks You,
Toni Devereux**

**All American Realty Group, LLC - Hot Springs
Toni Devereux Owner/Broker
209 N. River Street
Hot Springs, SD 57747
toni@allamericanrealtygroup.com
www.allamericanrealtygroup.com
Phone 605-745-8700
Fax 605-745-8701
Cell 605-673-1941**

09/09/2008

Gronlund, Eric

From: Ed Nesselhuf [pastored@prisoncongregations.org]
Sent: Wednesday, September 10, 2008 11:21 AM
To: Gronlund, Eric
Cc: Ken.Royse@bartwest.com
Subject: Water permit applications

Dear Mr. Gronlund,

My family owns land in Southern Custer County, off of West Argyle Road, which is part of the proposed So. Black Hills Rural Water development. As you probably know, it is quite arid land, in need of a rural water system. I am writing to encourage the passage of Water permit application no. 2633-2 and no. 2634-2 which would allow progress on this needed development. It is my understanding that an independent state review on each permit has yielded a recommendation for approval, for both permits.

Thank you for your consideration of this request.

Sincerely,
Ed Nesselhuf
31612 471st Ave.
Burbank, SD 57010

09/10/2008

Gronlund, Eric

From: Arnold Osmundson [absfsd@msn.com]
Sent: Thursday, September 11, 2008 8:34 AM
To: Gronlund, Eric
Cc: Ken.Royse@bartwest.com
Subject: Water hearing

Dear Mr. Gronlund:

My wife and I own property near West Argyle Road and are part of the Southern Black Hills Water System project.

On Oct. 2 we understand there will be a hearing with the State Water Management Board regarding a request to distribute water. I wish to make known our complete support for the project and encourage a positive ruling after the hearing. We need this project and have no other viable options.

We are counting on your support and will be watching the outcome. Thanks for your interest and work.

Sincerely,

Becky and Arnie Osmundson

09/11/2008

Gronlund, Eric

From: Lisa Scheinost [scheinost@goldenwest.net]
Sent: Friday, September 12, 2008 11:44 PM
To: Gronlund, Eric
Cc: Ken.Royse@bartwest.com; Jeff Scheinost
Subject: SBH Water System

Water Rights Program
Foss Building
523 E Capital Ave
Pierre, SD 57501

Mr. Gronlund,

I am in favor of the SBH Project and support Water Permit Application No.s 2633-2 and 2634-2. These applications will go before the State Water Management Board October 2, 2008. I am a landowner in the project area and need water from the proposed System. I am in agreement with the Chief Engineer's independent review and recommendation for approval.

Thank you for your consideration in approving these permits.

Sincerely,

Lisa Scheinost
710 Taft Avenue
Edgemont, SD 57735
605-662-7048

09/15/2008

Trudy D. Jara
11897 Sundance Drive
Hot Springs, SD 57747-6009

RECEIVED

SEP 12 2008

WATER RIGHTS
PROGRAM

September 10, 2008

Chief Engineer,

After reading the Hot Springs Star yesterday, I wish to file an objection to both Application No. 2633-2 and 2634-2 to Appropriate Water. I noted that our Custer County neighbor, Robert H. Peplinski, Chairman of Black Hills Water System, Inc. filed the first application and an Eben W. Streeter with P.O. Box 36, Buffalo Gap, SD filed the second application. I was unaware that Black Hills Water System, Inc. is based out of Oral or Buffalo Gap, SD.

The Madison Aquifer is not an unlimited resource at 1850 feet deep. There are multiple properties already dependent on the Madison. The sited locations for both requests were written as SE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 35-T5S-R6E Custer County and NW $\frac{1}{4}$ NE $\frac{1}{4}$ Section 15-T6S-R6E Custer County.

My primary objection is that this new water company is not in the public interest. When the project was started some years ago projected costs to the public were verbalized and connection availabilities were discussed. The costs have doubled and the plans are now unclear. And whom will it benefit? The Contractors? The Developers?

We need to save the Great Resources of the Black Hills and surrounding areas. This was our first wet year in the past eight to nine years. We need to treasure what the Black Hills provides South Dakota residence and not open up the area to future development with five-acre ranchettes and a gigantic need for water from the Madison Aquifer at each individual site.

Please say no to these applications. Our Black Hills are the only hills in South Dakota. We need to treasure them for future generations. Also remember that the tourist's dollars support our state economy. Besides, we need to keep the Black Hills open and welcoming to the many animals that call them home.

From the bottom of my heart,


Trudy D. Jara

CC: R.H. Peplinski and E.W. Streeter

Gronlund, Eric

From: Harry and Marilyn Swain [daisyssd@gwtc.net]
Sent: Saturday, September 13, 2008 10:26 PM
To: Gronlund, Eric
Subject: Support for Southern Black Hills Water System

We fully support the SBH Project and are extremely interested in seeing it to fruition. We have relied on having water hauled at 2000 gallons per delivery as the well that we had drilled approximately 30 years went haywire. We have had to watch our water usage very carefully and the cistern we have only holds about 3000 gallons. There have been too many times when our cistern level became critically low and have had to wait patiently for our water delivered according to the water hauler; many times because the water hauler is so pressed for time because he covers at least two counties we have nearly run out of water. We are excited about the possibility of the SBH water system coming closer to reality. We are pleased that the independent State review on each of the water permit applications (No. 2633-2 and 2634-2) has yielded a recommendation on each for approval.

Thank you for the promising update information and we hope the public hearings go favorably as there are many, many ranchers and others who really need this water system urgently.

Harry and Marilyn Swain
12694 Argyle Rd.
Hot Springs, SD 57747-6031

Gronlund, Eric

From: tcdtd@comcast.net
Sent: Saturday, September 13, 2008 2:43 PM
To: Gronlund, Eric
Cc: Ken.Royse@bartwest.com
Subject: SBH Water System

Water Rights Program
Foss Building
523 E Capital Ave
Pierre, SD 57501

Mr. Gronlund,

I am in favor of the SBH Project and support Water Permit Application No.s 2633-2 and 2634-2. These applications will go before the State Water Management Board October 2, 2008. I am a landowner in the project area and need water from the proposed System. I am in agreement with the Chief Engineer's independent review and recommendation for approval.

Thank you for your consideration in approving these permits.

Sincerely,

Thomas and Suann Carbone
109 Cherry Dr.
Egg Harbor Twp. NJ 08234
609-646-5859

09/15/2008

Gronlund, Eric

From: M Hay [hayloft@goldenwest.net]
Sent: Saturday, September 13, 2008 12:13 PM
To: Gronlund, Eric
Cc: Ken.Royse@bartwest.com
Subject: Southern Black Hills Water Project

To Whom It May Concern

Please note that my wife and I are in full support of both water permit applications No 2633-2 and No 2634-2. Our residence is located at 12573 Pine Shadows Rd. Hot Springs SD 57747. Our mail address is PO Box 667 Hot Springs SD 57747.

We presently haul water for domestic use and would greatly benefit from water being piped to our property. This would cut down on fuel costs and would not increase the amount of water being taken from the well in Hot Springs.

Sincerely;
David and Marita Hay

09/15/2008

Gronlund, Eric

From: Lois Howard [lehwr@dio.midco.net]
Sent: Saturday, September 13, 2008 11:24 AM
To: Gronlund, Eric
Cc: Ken.Royse@bartwest.com
Subject: SBH Water system

Sept 13, 2008

Water Rights Program
Foss Building
523 E Capital Ave
Pierre, SD 57501

Mr. Gronlund,

I am in favor of the SBH Project and support Water Permit Application No.s 2633-2 and 2634-2. These applications will go before the State Water Management Board October 2, 2008. I am a landowner in the project area and need water from the proposed System. I am in agreement with the Chief Engineer's independent review and recommendation for approval.

Thank you for your consideration in approving these permits.

Sincerely,

Richard & Lois Howard
215 E 27th St
Sioux Falls, SD 57105

09/15/2008

Gronlund, Eric

From: Becky and Bob Baer [baerb@brookings.net]
Sent: Saturday, September 13, 2008 10:18 AM
To: Gronlund, Eric
Cc: Ken.Royse@bartwest.com
Subject: SBH Water Project

Water Rights Program
Foss Building
523 E. Capital Ave.
Pierre, SD 57501

Dear Mr. Gronlund,

We are in favor of the SBH Project and support Water Permit Application No.s2633-2 and 2634-2. These applications will go before the State Water Management Board on October 2, 2008. We are a landowners in the project area and need water from the proposed system. We are in agreement with the Chief Engineer's independent review and recommendation for approval.

Thank you for your consideration in approving these permits.

Sincerely,

Robert J. and Rebecca K. Baer
26866 Elk Run Road
Hot Springs, SD 57747

605-745-7662
605-697-6461

09/15/2008

Gronlund, Eric

From: Cheryl Fitzgarrauld [cherylfitz@gmail.com]
Sent: Saturday, September 13, 2008 7:49 AM
To: Gronlund, Eric
Cc: Ken.Royse@bartwest.com
Subject: SBH Water System

Water Rights Program
Foss Building
523 E Capital Ave
Pierre, SD 57501

Mr. Gronlund,

I am in favor of the SBH Project and support Water Permit Application No.s 2633-2 and 2634-2. These applications will go before the State Water Management Board October 2, 2008. I am a landowner in the project area and need water from the proposed System. I am in agreement with the Chief Engineer's independent review and recommendation for approval.

Thank you for your consideration in approving these permits.

Sincerely,

Cheryl Fitzgarrauld
Vista Meadows 6 - Canyon Rim Ranch
879 S 156 Ave.
Omaha, NE 68118

09/15/2008

Gronlund, Eric

From: Ken Stach [kenstach@santel.net]
Sent: Saturday, September 13, 2008 7:06 AM
To: Gronlund, Eric
Cc: ken.royse@bartwest.com
Subject: Southern Black Hills Rural Water System

Water Rights Program
Foss Building
523 E Capital Ave
Pierre, SD 57501

Mr. Gronlund,

I am in favor of the SBH Project and support Water Permit Application No.s 2633-2 and 2634-2. These applications will go before the State Water Management Board October 2, 2008. I am a landowner in the project area (Canyon Rim Ranch, near Pringle) and need water from the proposed System. I am in agreement with the Chief Engineer's independent review and recommendation for approval.

Thank you for your consideration in approving these permits.

Sincerely,

Ken Stach
24175 405th Avenue
Letcher, SD 57359

Phone 605-248-2620

09/15/2008

Gronlund, Eric

From: Steve Buttress [sbuttress@kearney.net]
Sent: Saturday, September 13, 2008 6:53 AM
To: Gronlund, Eric
Cc: Ken.Royse@bartwest.com
Subject: SBH Water System

Water Rights Program
Foss Building
523 E Capital Ave
Pierre, SD 57501

Mr. Gronlund,

I am in favor of the SBH Project and support Water Permit Application No.s 2633-2 and 2634-2. These applications will go before the State Water Management Board October 2, 2008. I am a homeowner in the project area and need water from the proposed System. I am in agreement with the Chief Engineer's independent review and recommendation for approval.

Thank you for your consideration in approving these permits.

Sincerely,

Steve Buttress and Jan Weber
26835 Elk Run Road
Hot Springs, SD 57747

09/15/2008

Gronlund, Eric

From: Skip Kronemeyer [s_kronemeyer@hotmail.com]
Sent: Saturday, September 13, 2008 12:06 AM
To: Gronlund, Eric
Cc: Ken.Royse@bartwest.com
Subject: Southern Black Hills Water

Mr. Gronlund,

I am in favor of the SBH Project and support Water Permit Application No.s 2633-2 and 2634-2. These applications will go before the State Water Management Board October 2, 2008. I am a landowner in the project area and need water from the proposed System.

I am in agreement with the Chief Engineer's independent review and recommendation for approval.

Thank you for your consideration in approving these permits.

Sincerely,

Stuart Kronemeyer
26789 Elk Run Rd.
Hot Springs, SD 57747

09/15/2008

Gronlund, Eric

From: KATHY FLEMING [mikatfleming@msn.com]
Sent: Sunday, September 14, 2008 12:53 PM
To: Gronlund, Eric
Cc: ken.royse@bartwest.com
Subject: SBH Water Project

Water Rights Program
Foss Building
523 E Capital Ave
Pierre, SD 57501

Mr. Gronlund,

I am in favor of the SBH Project and support Water Permit Application No.s 2633-2 and 2634-2. These applications will go before the State Water Management Board October 2, 2008. I am a landowner in the project area. I am in agreement with the Chief Engineer's independent review and recommendation for approval.

Thank you for your consideration in approving these permits.

Sincerely,

Mike Fleming
26850 Stage Stop Road
PO Box 65
Pringle, SD 57773
605-745-3284

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09/15/2008

Gronlund, Eric

From: Bill Kalm [billkalm@cox.net]
Sent: Sunday, September 14, 2008 3:31 PM
To: Gronlund, Eric
Cc: Ken.Royse@bartwest.com
Subject: SBH Project and Water Permit Applications

Water Rights Program
Foss Building
523 E. Capital Ave.
Pierre, SD 57501

Mr. Gronlund:

We are in favor of the SBH Project and support Water Permit Application No.s 2633-2 and 2634-2. These applications will go before the State Water Management Board October 2, 2008. We are landowners in the project area (Canyon Rim Ranch, Orion's Ridge #3 and Big Sky #11) and need water from the proposed System. We are in agreement with the Chief Engineer's independent review and recommendation for approval.

Thank you for your consideration in approving these permits.

Sincerely,

William Kalm and Raedene Keeton
4702 E. Berneil Dr.
Phoenix, AZ 85028
602-538-1790

--

William D. "Bill" Kalm
Phone: 602-538-1790
Fax: 480-315-9707

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09/15/2008

Gronlund, Eric

From: Paul VanBockern [pvanbockern@wrrestaurants.com]
Sent: Sunday, September 14, 2008 7:59 PM
To: Gronlund, Eric
Cc: Ken.Royse@bartwest.com
Subject: FW: SBH Water System

Water Rights Program
Foss Building
523 E Capital Ave
Pierre, SD 57501

Mr. Gronlund,

I am in favor of the SBH Water Project and support Water Permit Application No.s 2633-2 and 2634-2. These applications will go before the State Water Management Board October 2, 2008. I am a landowner in the project area and need water from the proposed System. I am in agreement with the Chief Engineer's independent review and recommendation for approval.

Thank you for your consideration in approving these permits.

Sincerely,

Paul Van Bockern
3209 Riversedge Way
Sioux Falls SD 57105
605-339-3611

09/15/2008

Gronlund, Eric

From: Scheinost, Jeff [Jeff.Scheinost@bsci.com]
Sent: Monday, September 15, 2008 8:15 AM
To: Gronlund, Eric
Cc: Ken.Royse@bartwest.com; Lisa Scheinost
Subject: Southern Black Hills Water System

Water Rights Program
Foss Building
523 E Capital Ave
Pierre, SD 57501

Mr. Gronlund,

I am in favor of the SBH Project and support Water Permit Application No.s 2633-2 and 2634-2. These applications will go before the State Water Management Board October 2, 2008. I am a landowner in the project area and need water from the proposed System. I am in agreement with the Chief Engineer's independent review and recommendation for approval.

Thank you for your consideration in approving these permits.

Sincerely,

Jeff Scheinost
2639 Cardinal Way
Buffalo, MN 55313
763-684-1992

09/15/2008

KUTAK ROCK LLP

**THE OMAHA BUILDING
1650 FARNAM STREET
OMAHA, NEBRASKA 68102-2186
402-346-6000
FACSIMILE 402-346-1148
www.kutakrock.com**

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JO BASS
jo.bass@kutakrock.com
(402) 346-6000

PERSONAL

September 15, 2008

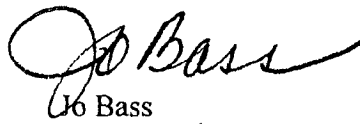
Water Rights Program
Foss Building
523 E. Capital Avenue
Pierre, SD 57501

Dear Mr. Gronlund:

I am in favor of the SBH Project and support Water Permit Applications #2633-2 and #2634-2. These applications will go before the State Water Management Board on October 2, 2008. I am a landowner in the project area, plan to build a home there in 2009 and need water from the proposed System. I am in agreement with the Chief Engineer's independent review and recommendation for approval.

Thank you for your consideration in approving these permits.

Sincerely,



Jo Bass
1439 S. 87th St
Omaha, NE 68124
(402) 390-0121

Gronlund, Eric

From: Dwight Rabuse [Dwight@livgard.com]
Sent: Monday, September 15, 2008 2:13 PM
To: Gronlund, Eric
Cc: ken.royse@bartwest.com; scheinost@bwig.net; sandysabo@comcast.net
Subject: Southern Black Hills Water

Dear Mr. Gronlund,

My wife Sandy and I own a home at the Canyon Rim Ranch development near Pringle. We are strongly in favor of the SBH water project and support granting permit application nos. 2633-2 and 2634-2, which we understand are going before the Board on October 2nd.

Thank you for your attention.

Dwight Rabuse
Attorney at Law
Livgard & Rabuse, P.L.L.P.
2520 University Avenue SE, Suite 202
Minneapolis, MN 55414
612.825.7777 - phone
612.825.3977 - fax
Dwight@livgard.com
www.livgard.com

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09/15/2008

Gronlund, Eric

From: Dave Patee [dave.patee@consumers-supply.com]
Sent: Monday, September 15, 2008 4:51 PM
To: Gronlund, Eric
Cc: Ken.Royse@bartwest.com
Subject: SBH Water System

Water Rights Program
Foss Building
523 E Capital Street
Pierre, SD 57501

Mr. Gronlund,

I am in favor of the SBH Project and support Water Application No's. 2633-2 and 2634-2. These applications will go before the State Water Management Board; October 2, 2008. I am a landowner in the project and need water from the proposed system. I am in agreement with the Chief Engineers independent review and recommendation for approval.

Thank You for your consideration in approving these permits.

Sincerely,

David Patee
11507 Red Canyon Road
Not Springs, South Dakota
57747

09/16/2008

Gronlund, Eric

From: Rabuse [krabuse@earthlink.net]
Sent: Tuesday, September 16, 2008 4:50 PM
To: Gronlund, Eric; ken.royse@bartwest.com
Cc: keith
Subject: Southern Black Hills Water System

Water Rights Program
Foss Building
523 E Capital Ave
Pierre, SD 57501

Mr. Gronlund,

We are in favor of the SBH Project and support Water Permit Application No.s 2633-2 and 2634-2. These applications will go before the State Water Management Board October 2, 2008. We are a landowner in the project area and have applied for water service from the proposed System. We support the Chief Engineer's independent review and recommendation for approval.

Thank you for your consideration in approving these permits.

Sincerely,

Keith and Kathryn Rabuse
(Canyon Rim Ranch, Big Sky 7)
10207 Best Drive
Dallas, Texas 75229

214-350-0206

Rabuse

09/17/2008

Gronlund, Eric

From: Oxley, J. Jeffery [jjoxley@integratelecom.com]
Sent: Tuesday, September 16, 2008 12:23 PM
To: Gronlund, Eric
Cc: 'Ken.Royse@bartwest.com'; 'Jeane DeLaney'
Subject: Water Permit Applications No.s 2633-2 and 2634-2

Water Rights Program
Foss Building
523 E. Capitol Avenue
Pierre, SD 57501

Dear Mr. Gronlund:

At the suggestion of Lisa Scheinhost, we are writing you to tell you that we in favor of the SBH Project and support Water Permit Application No.s 2633-2 and 2634-2. These applications will go before the State Water Management Board October 2, 2008. We own land in the project area and plan on building our retirement home there. We certainly value a secure water supply. We agree with the Chief Engineer's independent review and recommendation for approval and urge you to support approval of the applications.

Sincerely,

John J. Oxley and Jeane H. DeLaney
1974 NW Lovejoy # 5
Portland OR 97209

09/16/2008

Gronlund, Eric

From: embr4u@aol.com
Sent: Wednesday, September 17, 2008 2:27 PM
To: Gronlund, Eric
Subject: Water Rights Program

Sir

As a potential land owner who will benefit from the approval of water permit applications 2633-2 & 2634-2, we are asking you approve these permits. We are at an age where hauling water for our needs becomes a major issue and the older we get the harder this will be for us. Rural water will eliminate that need, be a substantial benefit to existing landowners as well as potential new landowners.

We hope this will be approved soon and the project can begin
Thank you very much

 Kathy & Glenn Gardner

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09/17/2008

September 17, 2008

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SEP 18 2008

WATER RIGHTS
PROGRAM

Randy Schroth
P. O. Box 1
Buffalo Gap, SD 57722
(605)833-6447

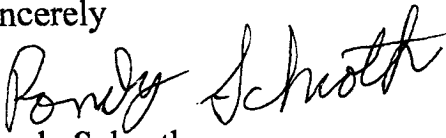
Graland Eberle, Chief Engineer
Water Rights Program
Foss Building
523 E. Capitol
Pierre, SD 57501

Dear Garland,

In regards to Water Permit Application No. 2633-2, I would to express that I am opposed to this application due to the location and the threat it poses on Beaver Creek Springs. I would like to testify at the hearing and I would also like to listen to more input on the proposed location. I was also curious about any of the testing that was to be done on Application No. 2585-2.

I would like to request an automatic delay on the hearing set for October 2nd, as we are working cattle that week.
Please consider my request, I'll be looking forward to hearing from you.

Sincerely


Randy Schroth

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SEP 19 2008

WATER RIGHTS
PROGRAM

LYDA BOWKER TRUST

Lois Emery, Trustee,
13344 Bunny Drive
Hot Springs, SD
57747

Water Rights Program
Foss Building
523 E. Capitol
Pierre, SD 57501

As a holder of a down-stream irrigation water right on Beaver Creek, I would like to express concern about the implications of the bill proposed by Representative Timmerman (R-SD) which would allow a landowner to complete a water right application without the need for a water right study. I am concerned that this bill would allow a landowner to complete a water right application without the need for a water right study, which is a requirement of the current law. I am concerned that this bill would allow a landowner to complete a water right application without the need for a water right study, which is a requirement of the current law.

I would like to request information regarding the bill proposed by Representative Timmerman (R-SD) which would allow a landowner to complete a water right application without the need for a water right study. I am concerned that this bill would allow a landowner to complete a water right application without the need for a water right study, which is a requirement of the current law. I am concerned that this bill would allow a landowner to complete a water right application without the need for a water right study, which is a requirement of the current law.

Thank you.

Lois Emery

Lois Emery, Trustee,
Lyda Bowker Trust
13344 Bunny Drive
Hot Springs, SD 57747

cc: Southern Black Hills Water Users Association
13344 Bunny Drive
Hot Springs, SD 57747
Oral, SD 57747

Gronlund, Eric

From: Barb Kegel [barbk@isodisc.com]
Sent: Friday, September 19, 2008 11:35 AM
To: Gronlund, Eric
Cc: Ken.Royse@bartwest.com; Bernie.Sailer@BARTWEST.COM; Alan Kegel
Subject: Southern Black Hills Water Project

Mr. Gronlund,

I am in favor of the SBH Project and support Water Permit Application No.s 2633-2 and 2634-2. These applications will go before the State Water Management Board October 2, 2008. I am a landowner in the project area and need water from the proposed System. I am in agreement with the Chief Engineer's independent review and recommendation for approval.

Thank you for your consideration in approving these permits.

Sincerely,

Barb Kegel
4109 North 138th Ave Circle
Omaha, NE 68164
Office: 402-453-1699 x101
Fax: 402-453-1799
Cell: 402-578-2719
barbk@isodisc.com
<http://www.isodisc.com>

Gronlund, Eric

From: alank@isodisc.com
Sent: Friday, September 19, 2008 7:06 AM
To: Gronlund, Eric; Ken.Royse@bartwest.com; Bernie.Sailer@BARTWEST.COM
Subject: Southern Black Hills Water System

Water Rights Program
Foss Building
523 E Capital Ave
Pierre, SD 57501

Mr. Gronlund,

I am in favor of the SBH Water Project and support Water Permit Application No.s 2633-2 and 2634-2. To ensure a high quality source of potable domestic water, it is essential these projects advance. These applications will go before the State Water Management Board October 2, 2008. I am a landowner in the project area and need water from the proposed System. I am in agreement with the Chief Engineer's independent review and recommendation for approval.

Thank you for your consideration in approving these permits.

Sincerely,

Alan Kegel
14737 Himebaugh Plaza
Omaha, NE 68116
402-201-5990

RECEIVED

SEP 19 2008

WATER RIGHTS
PROGRAM

9-17-08

DENR Water Rights Program and Chief Engineer,

Once again we are writing to you with our concern and opposition of application #2633-2 for Southern Black Hills Water Systems and #2634-2 for Eben Streeter.

Our greatest fear is that by drilling these wells + pumping the water elsewhere, Beaver Creek will surely be depleted. This is the source of water for Trout Haven, and the ranches that irrigate from it. All of these ranches need the water to grow enough feed for Cattle in the winter, + to water livestock. It has a tremendous effect on our livelihoods.

Several years ago, the Beaver Creek irrigators installed a pipeline carry + conserve water for irrigation. Shallow wells regenerate from the irrigation, + Wild life benefit from the crops + extra cover. We have tried to be good Stewards of the land + to Conserve water.

It seems to be an unnecessary drain on the wells + creeks in this area, to benefit cities that might seek water closer to them.

Please take our concerns seriously + keep us advised.

Sincerely,
Paul + Carol Fugiet

Sept. 18th 2008

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SEP 19 2008

WATER RIGHTS
PROGRAM

DENR - Water Rights Program and Chief Engineer,

I'm writing to you in opposition of application numbers #2633-2 for Southern Black Hills Water System, and #2634-2 for Eben Streeter.

I am very concerned and fearful that these two wells will have a negative impact on Beaver Creek Spring, because of their close proximity to it and a well that is being drilled by Fall River Water Users District, that is also within 3 miles of the Spring.

There are 13 of us, who have water rights / permits from Beaver Creek, down stream from the Spring. I have an irrigation water right, from the State, dating back to the 1800's. This water right has always been in my family, and is still in use today to irrigate alfalfa fields for hay production, for our ranch. A few years ago, an extensive underground pipe was buried by several neighboring ranches, and our ranch, from a diversion point along Beaver Creek to supply irrigation water.

The installation of this System was very costly, but was also a great conservation measure, by eliminating evaporation and seepage losses from above ground ditches.

Our livelihoods depend greatly on Beaver Creek. If Beaver Creek is allowed to be diminished to the point of the loss of irrigation,

it would have many negative impacts including the loss of hay production, wildlife, ground water and the source water for many shallow wells in the area.

I hope you will take into consideration the damage these two applicants would have on us.

Please keep me informed of any further developments.

Thank You,
Shawn Fugier

Gronlund, Eric

From: Barton and Lois Adrian [paradox8@cox.net]
Sent: Saturday, September 20, 2008 4:01 PM
To: Gronlund, Eric
Cc: Ken.Royse@bartwest.com
Subject: Southern Black Hills Water System

Water Rights Program
Foss Building
523 E Capital Ave
Pierre, SD 57501

Mr. Gronlund,

I am in favor of the SBH Project and support Water Permit Application No.s 2633-2 and 2634-2. These applications will go before the State Water Management Board October 2, 2008. I am a landowner in the project area and need water from the proposed System. We plan to build within the next 12 months. I am in agreement with the Chief Engineer's independent review and recommendation for approval.

Thank you for your consideration in approving these permits.

Sincerely,

Barton and Lois Adrian

Gronlund, Eric

From: Steve Buttress [sbuttress@frontiernet.net]
Sent: Sunday, September 21, 2008 9:48 AM
To: Gronlund, Eric
Cc: Ken.Royse@bartwest.com
Subject: SBH Water Project

Water Rights Program
Foss Building
523 E. Capitol Ave.
Pierre, SD 57501

Mr. Gronlund,

I am in favor of the SBH Project and support Water Permit Application No.s 2633-2 and 2634-2. These applications will go before the State Water Management Board October 2, 2008. I have recently constructed a home in the project area and need water from the proposed System. I am in agreement with the Chief Engineer's independent review and recommendation for approval.

Thank you for your consideration in approving these permits.

Steve Buttress
26835 Elk Run Road
Hot Springs, SD 57747
308 236-9967
308 708-0113 cell
www.stevebuttress.com

09/22/2008



IN REPLY REFER TO:

United States Department of the Interior

NATIONAL PARK SERVICE
Water Resources Division
1201 Oakridge Drive, Suite 250
Fort Collins, Colorado 80525-5596



September 19, 2008

L54(2380)
WICA/Water Rights

Mr. Garland Erbele, Chief Engineer
Water Rights Program
Foss Building
523 E. Capitol
Pierre, SD 57501

RECEIVED
SEP 22 2008
WATER RIGHTS
PROGRAM

The Southern Black Hills Water System, Inc.
c/o Mr. Robert H. Peplinski, Chairman
HC 56, Box 53
Oral, SD 57766

Re: Petition to Intervene in the Matter of Water Right Permit Application 2633-2 by
the Southern Black Hills Water System, Inc.

Dear Sirs,

The National Park Service (NPS) petitions to intervene in the matter of Application 2633-2, submitted by the Southern Black Hills Water System. This application requests to withdraw water at a maximum rate of 0.67 cubic feet per second and 484 acre-feet per year from the Madison aquifer at a location near Wind Cave National Park (Wind Cave NP). The water is to be used for a rural water supply system in Custer, Fall River, and Pennington counties. The NPS believes this withdrawal, if permitted, may adversely affect the water rights and water-related resources of Wind Cave NP over time.

The NPS is concerned about the Chief Engineer's recommendation to approve Application No. 2633-2 with no conditions or qualifications other than the term limitation of twenty years. The applicant has not produced information in support of its application that demonstrates the proposed use from this site will not have significant adverse effect on Wind Cave NP water rights and water-related resources over a long period of pumping. This deficiency is acknowledged by the Chief Engineer's statement that "Evidence is not available to justify issuing these permits without a term limitation of 20 years." Therefore, the NPS believes that any approval of Application 2633-2 should be conditioned on the collection of scientific data to allow such a determination to be made. Furthermore, there was also no analysis of cumulative impacts from the proposed withdrawal and from permitted and senior applications in the area. Any adverse impacts

to Wind Cave NP water rights and water-related resources would not be in the public interest.

The NPS also requests a delay of the hearing scheduled for October 2, 2008. The parties are in the process of negotiating, and if an acceptable agreement can be reached, the NPS would not oppose permitting the application as long as the permit granted reflected the agreement between the parties.

The NPS previously submitted background information on Wind Cave NP and its water rights in the Petition to Intervene in the matter of Applications 2580-2 and 2585-2 by the applicant. As you are aware, the NPS is primarily concerned with the potential for the proposed withdrawal to impact several lakes and pools in the lower reaches of Wind Cave that likely define the ground-water table in this region of the Madison aquifer. Some of the larger lakes are Calcite, What the Hell, and Windy City. Park staff has been monitoring the water level of Calcite Lake since 1986. As pointed out in the Chief Engineer's recommendation, the water level fluctuations in Calcite Lake seem to respond similarly to fluctuations recorded in State Monitoring Well CU-91a, located about four miles from the cave.

The recommendation of the Chief Engineer to approve the application does not include any conditions other than to limit the permit to twenty years. There is no quantitative analysis of the impacts of the withdrawal over time. The NPS realizes this is due to the lack of information on the specific geology and aquifer properties in the area. The NPS has recently conducted a single-well aquifer test of the park's Madison well and has obtained more information on aquifer properties in the park.

The NPS recommends that the applicant be required to perform an aquifer test similar to that required under deferred application 2585-2. This would involve installing a monitoring well near the proposed pumping well and submitting the aquifer test and water level information to the State and the NPS.

The analysis by DENR staff of the Water Permit Application 2633-2 did not include any analysis of the cumulative impacts of the effects of pumping proposed in this application in addition to currently permitted water rights 2302-2 and 2546-2 by Mr. Eben Streeter. Mr. Streeter has recently filed Application 2634-2 to permit the Southern Black Hills Water System, Inc. to connect to his existing common distribution system. These rights are permitted for a combined 0.243 cfs (109 gpm) and up to 176 acre-feet per year. The applicant also still has deferred application 2585-2 on the record that requests a withdrawal of 1,200 gpm up to 1,600 afy. The NPS is also aware of applications and permits by the Fall River Water Users District (2560A-2 and 2615-2) and United Land Management (2610-2). Any combination of these withdrawals could impact Wind Cave NP water rights and water-related resources sooner and by a greater degree than by the withdrawal proposed by this application alone.

In summary:

- The NPS is concerned about the Chief Engineer's recommendation to approve Application No. 2633-2. The NPS believes the applicant has not demonstrated that their proposed withdrawal will not have a significant adverse effect on the water rights and water-related resources of Wind Cave NP. It would not be in the public interest if adverse effects occur.
- The NPS believes that the withdrawal proposed by this application, in combination with senior permitted rights and applications, if granted, has the potential to adversely affect the water-related resources and water rights of Wind Cave NP.
- The NPS requests a delay of the hearing on these applications in order to assemble more information about aquifer characteristics.
- The NPS and Southern Black Hills Water System, Inc. are attempting to find common ground with an agreement that will give adequate protection to the park while allowing the applicant to withdraw water. If an acceptable agreement can be reached, the NPS would not oppose permitting the application as long as the permit granted reflected the agreement between the parties.

If you have any questions or concerns related to this matter, please contact me at (970) 225-3505 or Jeff Hughes of my staff at (970) 225-3527.

Sincerely,



for Charles W. Pettee
Chief, Water Rights Branch

BANGS, MCCULLEN, BUTLER, FOYE & SIMMONS, L.L.P.

333 WEST BOULEVARD, SUITE 400

PO BOX 2670

605-343-1040(PHONE)

605-343-1503 (FAX)

RAPID CITY SD 57709

MHICKEY@BANGSMCCULLEN.COM

FACSIMILE TRANSMITTAL SHEET

TO:	FROM:
Garland Erbele	Michael M. Hickey
COMPANY:	DATE:
DENR	September 22, 2008
FAX NUMBER:	TOTAL NO. OF PAGES INCLUDING COVER:
(605) 773-4068	6
PHONE NUMBER:	SENDER'S REFERENCE NUMBER:
RE:	
Southern Black Hills Water System Application 2633-2	

☐ URGENT ☐ FOR REVIEW ☐ PLEASE COMMENT ☐ PLEASE REPLY ☐ PLEASE RECYCLE

NOTES/COMMENTS:

Please see attached correspondence and filings. Thank you.

**IF YOU DO NOT RECEIVE ALL PAGES, PLEASE CALL AND ASK TO SPEAK
TO BETH ANN HALVORSON OR MIKE HICKEY AS SOON AS POSSIBLE.**

The information contained in this facsimile message is privileged information under the attorney-client privilege; therefore it is confidential information intended only for the use of the individual or entity named above. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this communication is strictly prohibited. If you have received this communication in error, please immediately notify us by telephone, and return the original message to us at the above address via the U.S. Postal Service. Thank you.

RAPID CITY

Thomas H. Foye
Thomas E. Simmons
Charles L. Riter
Allen G. Nelson
James P. Hurley
Michael M. Hickey
Terry L. Hofer
Rod Schlauger
Daniel F. Duffy
Jeffrey G. Hurd
John H. Raforth
Terry G. Westergaard
Steven R. Nolan
Gregory J. Erlandson
Eric J. Pickar
Riley J. Wilson
Sarah E. Baron Houy
Chad A. Williams
Kirsten M. Taggart

SIOUX FALLS

John P. Mullen
Brian K. Kirby
Victoria M. Duehr
Patrick J. Knecht
Thomas J. Von Wald
Brian R. Schumacher

*Attorneys also admitted in
Nebraska, North Dakota,
Iowa, Minnesota and Missouri*



Reply to Rapid City Office

Writer's e-mail address: mhickey@bangsmccullen.com

September 22, 2008

Sent Via U.S. Mail and Facsimile

Mr. Garland Erbele, Chief Engineer
Department of Environment and National Resources
Water Rights Program
Joe Foss Building
523 East Capitol
Pierre, SD 57501-3182

Re: *In the Matter of the Application of Southern Black Hills Water
Systems No. 2633-2*

Dear Mr. Erbele:

In accordance with the published notice, please find enclosed the Motion for Continuance and Objection filed on behalf of Trout Haven Ranch in the above-referenced matter. A copy has been sent to Southern Black Hills Water System, which is intended as service by U.S. Mail.

If you have any questions or comments, please advise. Thank you.

Sincerely,

RAPID CITY

First Western Gateway
333 West Boulevard
Suite 400
P.O. Box 2670
Rapid City, South Dakota
57709-2670
P. (605) 343-1040
F. (605) 343-1503

SIOUX FALLS

Doral Centre Building
101 W. 69th Street
Suite 200
P.O. Box 88208
Sioux Falls, South Dakota
57109-8208
P. (605) 339-6800
F. (605) 339-6801

BANG, McCULLEN, BUTLER,
FOYE & SIMMONS, L.L.P.



Michael M. Hickey

mmh:bah:sbh

Enclosures

cc: Client

Mr. Robert H. Peplinski

STATE OF SOUTH DAKOTA

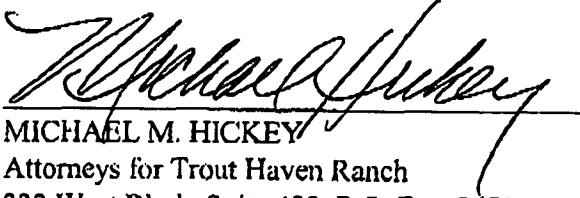
BEFORE THE WATER MANAGEMENT BOARD

IN THE MATTER OF THE)
APPLICATION OF SOUTHERN BLACK) **MOTION FOR CONTINUANCE**
HILLS WATER SYSTEM,)
APPLICATION NO. 2633-2)

Comes now Trout Haven Ranch, an interested party in the above proceeding, and hereby moves the Chief Engineer to continue the hearing set for October 2, 2008, before the Water Management Board. This request is made on the grounds and for the reasons that Trout Haven Ranch needs additional time to review the application and reports prepared in this matter so that it can present evidence and testimony in opposition to the application filed by Southern Black Hills Water System.

Dated this 22nd day of September, 2008.

BANGS, McCULLEN, BUTLER,
FOYE & SIMMONS, L.L.P.

BY: 
MICHAEL M. HICKEY
Attorneys for Trout Haven Ranch
333 West Blvd., Suite 400; P.O. Box 2670
Rapid City, SD 57709
Phone: (605) 343-1040

CERTIFICATE OF SERVICE

The undersigned hereby certifies that he served a copy of this legal document upon the persons herein next designated, all on the date below shown, by facsimile and by depositing copies thereof in the United States mail at Rapid City, South Dakota, postage prepaid, in an envelope addressed to said addressee, to wit:

**Garland Erbele, Chief Engineer
Water Rights Program
Joe Foss Building
523 East Capitol
Pierre, SD 57501**

Facsimile: (605) 773-4068

and by depositing copies thereof in the United States mail at Rapid City, South Dakota, postage prepaid, in an envelope addressed to said addressee, to wit:

**Southern Black Hills Water System
c/o Robert H. Peplinski
HC 56, Bo 53
Oral, SD 57766**

which are the last addresses of the addressees known to the subscriber.

Dated this 22nd day of September, 2008.


MICHAEL M. HICKEY

STATE OF SOUTH DAKOTA

BEFORE THE WATER MANAGEMENT BOARD

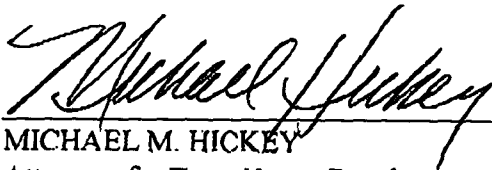
IN THE MATTER OF THE)
APPLICATION OF SOUTHERN BLACK) **OBJECTION**
HILLS WATER SYSTEM,)
APPLICATION NO. 2633-2)

Comes now Trout Haven Ranch, by and through its undersigned counsel, and hereby objects to the above-described application to appropriate water filed on behalf of Southern Black Hills Water System. This application is not in the public interest as the same will impact and diminish the flow at Beaver Creek Springs.

In addition, this objection is based upon the grounds and for the reasons that Trout Haven Ranch uses the waters from Beaver Creek and Beaver Creek Springs in the operation of its commercial trout raising business. If the application is granted, Trout Haven Ranch will be injured and damaged and its operations adversely affected in that the quantity, quality and temperature of water used by Trout Haven Ranch will be detrimentally altered and diminished by the usage envisioned by the application of Southern Black Hills Water System if approved.

Dated this 22nd day of September, 2008.

BANGS, McCULLEN, BUTLER,
FOYE & SIMMONS, L.L.P.

BY: 
MICHAEL M. HICKEY
Attorneys for Trout Haven Ranch
333 West Blvd., Suite 400; P.O. Box 2670
Rapid City, SD 57709
Phone: (605) 343-1040

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Water Rights Program
Joe Foss Building
523 East Capitol
Pierre, SD 57501**

Facsimile: (605) 773-4068

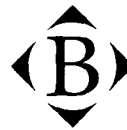
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c/o Robert H. Peplinski
HC 56, Bo 53
Oral, SD 57766**

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Dated this 22nd day of September, 2008.


MICHAEL M. HICKEY



BANGSMcCULLEN

— LAW FIRM —

RAPID CITY

Thomas H. Foye
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Patrick J. Knecht
Thomas J. Von Wald
Brian R. Schumacher

*Attorneys also admitted in
Nebraska, North Dakota,
Iowa, Minnesota and Missouri*

Reply to Rapid City Office

Writer's e-mail address: mhipkey@bangsmccullen.com

RECEIVED

SEP 24 2008

WATER RIGHTS
PROGRAM

September 22, 2008

Sent Via U.S. Mail and Facsimile

Mr. Garland Erbele, Chief Engineer
Department of Environment and National Resources
Water Rights Program
Joe Foss Building
523 East Capitol
Pierre, SD 57501-3182

Re: *In the Matter of the Application of Southern Black Hills Water
Systems No. 2633-2*

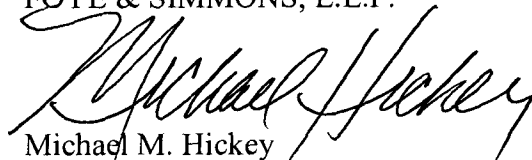
Dear Mr. Erbele:

In accordance with the published notice, please find enclosed the Motion for Continuance and Objection filed on behalf of Trout Haven Ranch in the above-referenced matter. A copy has been sent to Southern Black Hills Water System, which is intended as service by U.S. Mail.

If you have any questions or comments, please advise. Thank you.

Sincerely,

BANG, McCULLEN, BUTLER,
FOYE & SIMMONS, L.L.P.



Michael M. Hickey

RAPID CITY

First Western Gateway
333 West Boulevard
Suite 400
P.O. Box 2670
Rapid City, South Dakota
57709-2670
P. (605) 343-1040
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57109-8208
P. (605) 339-6800
F. (605) 339-6801

mmh:bah:sbh

Enclosures

cc: Client

Mr. Robert H. Peplinski

STATE OF SOUTH DAKOTA
BEFORE THE WATER MANAGEMENT BOARD

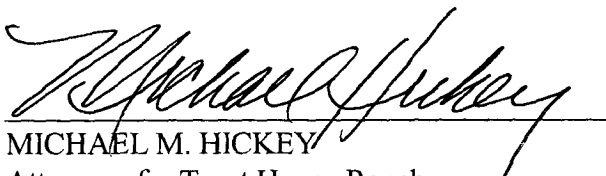
RECEIVED
SEP 24 2008
WATER RIGHTS
DIVISION

IN THE MATTER OF THE	)	
APPLICATION OF SOUTHERN BLACK	)	MOTION FOR CONTINUANCE
HILLS WATER SYSTEM,	)	
APPLICATION NO. 2633-2	)	

Comes now Trout Haven Ranch, an interested party in the above proceeding, and hereby moves the Chief Engineer to continue the hearing set for October 2, 2008, before the Water Management Board. This request is made on the grounds and for the reasons that Trout Haven Ranch needs additional time to review the application and reports prepared in this matter so that it can present evidence and testimony in opposition to the application filed by Southern Black Hills Water System.

Dated this 22nd day of September, 2008.

BANGS, McCULLEN, BUTLER,
FOYE & SIMMONS, L.L.P.

BY: 
MICHAEL M. HICKEY
Attorneys for Trout Haven Ranch
333 West Blvd., Suite 400; P.O. Box 2670
Rapid City, SD 57709
Phone: (605) 343-1040

CERTIFICATE OF SERVICE

The undersigned hereby certifies that he served a copy of this legal document upon the persons herein next designated, all on the date below shown, by facsimile and by depositing copies thereof in the United States mail at Rapid City, South Dakota, postage prepaid, in an envelope addressed to said addressee, to wit:

**Garland Erbele, Chief Engineer
Water Rights Program
Joe Foss Building
523 East Capitol
Pierre, SD 57501**

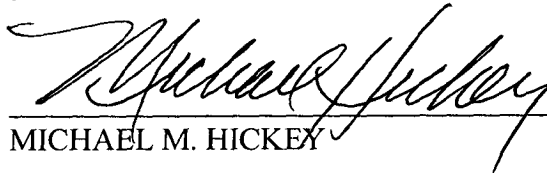
Facsimile: (605) 773-4068

and by depositing copies thereof in the United States mail at Rapid City, South Dakota, postage prepaid, in an envelope addressed to said addressee, to wit:

**Southern Black Hills Water System
c/o Robert H. Peplinski
HC 56, Bo 53
Oral, SD 57766**

which are the last addresses of the addressees known to the subscriber.

Dated this 22nd day of September, 2008.



MICHAEL M. HICKEY



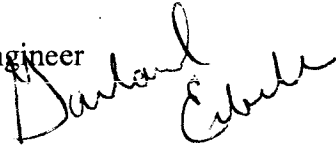
**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

September 23, 2008

NOTICE

TO: Southern Black Hills Water System, Inc.
c/o Robert Peplinski
HC 56 Box 53
Oral SD 57766
and Parties of Record (see attached list)

FROM: Garland Erbele, Chief Engineer
Water Rights Program 

SUBJECT: Automatic Delay of Hearing on Water Permit Application No. 2633-2, Southern Black Hills Water System

Petitions have been submitted in response to the public notice for Water Permit Application No. 2633-2 filed by Southern Black Hills Water System. In addition, numerous letters of support for the application were submitted via email. Three of the filed petitions made a formal request for postponement of the October 2nd hearing date on the application. Therefore, the hearing on Application No. 2633-2 is automatically delayed pursuant to SDCL 46-2A-4 and 46-2A-5 and will not be held on October 2, 2008.

The hearing to consider Application Nos. 2633-2 will now be scheduled for the December 10 - 11, 2008, Water Management Board meeting tentatively to be held in Pierre. Future notice of the time and place of the hearing for Application No. 2633-2 will be provided to all parties of record.

The letters of support for this application were submitted via email and did not provide a signature. In addition, many of the letters did not include an address. There is a question whether these submittals constitute a petition to intervene in the hearing process. However, this is for the Water Management Board to decide. At this time, the Water Rights Program will provide this notice by US Postal Service to those who provided an address and also provide this notice via email to all who electronically submitted letters of support.

Please contact Eric Gronlund at (605) 773-3352, if you have any questions.

enclosure

c: Diane Best, Assistant Attorney General

PARTIES OF RECORD
Water Permit Application No. 2633-2, Southern Black Hills Water System

Applicant

Southern Black Hills Water System, Inc.
c/o Robert Peplinski
HC 56 Box 53
Oral SD 57766

Attorney: Talbot Wieczorek
PO Box 8045
Rapid City SD 57709

Petitions

Trudy D. Jara
11897 Sundance Drive
Hot Springs SD 57747-6009

Randy Scroth
PO Box 1
Buffalo Gap SD 57722

Shawn Fugier
27094 Beaver Valley Rd
Buffalo Gap SD 57720

Paul and Carol Fugier
27032 Beaver Valley Rd
Buffalo Gap SD 57720

Lois Emery, Trustee
Lyda Bowker Trust
13344 Bunny Drive
Hot Springs SD 57747

Charles W. Pettee, Chief
Water Rights Branch
National Park Service
1201 Oakridge Drive, Suite 250
Fort Collins CO 80525-5596

Michael M. Hickey
Counsel for Trout Haven Ranch
Bangs McCullen Law Firm
PO Box 2670
Rapid City SD 57709-2670

John Beard
3420 Corral Drive, Apt. 109
Rapid City SD 57702

Merle Semmler
26895 148th Avenue
Buffalo Gap SD 57722

Letters in Support (received via email)

Glenn & Kathy Gardner
4412 E Harwood Circle
Sioux Falls, SD 57103

John J. Oxley and Jeane H. DeLaney
1974 NW Lovejoy #5
Portland OR 97209

Keith and Kathryn Rabuse
10207 Best Drive
Dallas TX 75229

David Patee
11507 Red Canyon Road
Hot Springs SD 57747

Dwight Rabuse
Livgard & Rabuse PLLP
2520 University Avenue SE, Suite 202
Minneapolis MN 55414

Jo Bass
1439 S 87th Street
Omaha NE 68124

Becky and Arnie Osmundson
(address not provided)

Toni Devereux
209 N. River Street
Hot Springs SD 57747

John Muilenburg
(address not provided)

Steve and Sandie Reecy
(address not provided)

Stuart Kronemeyer
26789 Elk Run Road
Hot Springs SD 57747

Ken Stach
24175 405th Avenue
Letcher SD 57359

Robert and Rebecca Baer
26866 Elk Run Road
Hot Springs SD 57747

David and Marita Hay
(address not provided)

Harry and Marily Swain
12694 Argyle Road
Hot Springs SD 57747-6031

William Kalm and Raedene Keeton
4702 E. Berneil Drive
Phoenix AZ 85028

Steve Buttress
26835 Elk Run Road
Hot Springs SD 57747

Barb Kegel
4109 North 138th Avenue Circle
Omaha NE 68164

Ed Nesselhuf
31612 471st Avenue
Burbank SD 57010

Robert and Sonja Shannon
24705 Timber Ridge Road
Hermosa SD 57744

Jeff and JeanMarie Oliver
836 Maple Lane
Peotone, Illinois, 60468

Lisa Scheinost
710 Taft Avenue
Edgemont SD 57735

Steve Buttress and Jan Weber
26835 Elk Run Road
Hot Springs SD 57747

Cheryl Fitzgarrald
879 S 156th Avenue
Omaha NE 68118

Richard and Lois Howard
215 E 27th Street
Sioux Falls SD 57105

Thomas and Suann Carbone
109 Cherry Drive
Egg Harbor Twp NJ 08234

Mike Fleming
26850 Stage Stop Road
PO Box 65
Pringle SD 57773

Paul Van Bockern
3209 Riversedge Way
Sioux Falls SD 57105

Barton and Lois Adrian
(address not provided)

Alan Kegel
14737 Himebaugh Plaza
Omaha NE 68116

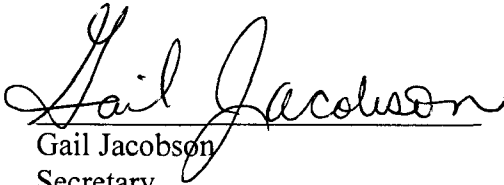
CERTIFICATION

I hereby certify that on September 24, 2008, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated September 23, 2008 regarding Southern Black Hills Water System 2633-2 addressed as stated below:

Merle Semmler, 26895 148th Ave., Buffalo Gap SD 57722

A copy of the above described Notice was sent Inter-office to:

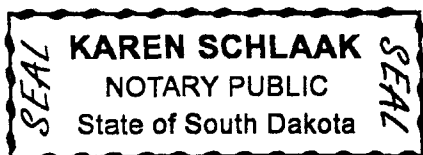
Diane Best, Assistant Attorney General, Mickelson Building, 1302 E Hwy 14, Suite 1, Pierre SD 57501-8501


Gail Jacobson
Secretary
Water Rights

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 24th day of September, 2008.


Karen Schlaak
Notary Public
My Commission expires April 1, 2013



Gronlund, Eric**From:** Gronlund, Eric**Sent:** Tuesday, September 23, 2008 1:35 PM**To:** 'embr4u@aol.com'; 'Rabuse'; 'Oxley, J. Jeffery'; 'Dave Patee'; 'Dwight Rabuse'; 'Bass, Jo'; 'Scheinost, Jeff'; 'Paul VanBockern'; 'Bill Kalm'; 'KATHY FLEMING'; 'Harry and Marilyn Swain'; 'tcdtd@comcast.net'; 'M Hay'; 'Lois Howard'; 'Becky and Bob Baer'; 'Cheryl Fitzgarrahd'; 'Ken Stach'; 'Steve Buttress'; 'Skip Kronemeyer'; 'Lisa Scheinost'; 'Arnold Osmundson'; 'Ed Nesselhuf'; 'Toni Devereux'; 'Robson'; 'Pat John Muilenburg'; 'Steve Reecy'; 'Oliver, Jeff'; 'Steve Buttress'; 'Barton and Lois Adrian'; 'Barb Kegel'; 'alank@isodisc.com'**Subject:** Notice of an automatic delay on Water Permit Application No. 2633-2, Southern Black Hills Water System & No. 2634-2, Eben Streeter

In the past few weeks, those listed on this distribution list submitted email correspondence supporting the pending water permit applications for Southern Black Hills Water System and Eben Streeter in southwestern South Dakota. Some included a mailing address while others did not.

This transmittal is to inform you that a least one petitioner opposing each water permit application filed for an continuance of the scheduled October 2, 2008 hearing before the Water Management Board. In South Dakota, there is a statutory provision that allows for a one time request for postponement of the date set for hearing. The Chief Engineer is then required to cancel the original hearing and reschedule the application for hearing at a future Board meeting. Attached are the notices for each application canceling the October 2nd hearing. I anticipate the hearing will now be scheduled for the Water Management Board's December 10 - 11, 2008 meeting.

Those individuals that provided an address will also be receiving service of these notices by US Postal Service.

Please let me know if you have any questions.

Eric Gronlund
Water Rights Program, DENR
605 773-3352
eric.gronlund@state.sd.us

To: DENR Water Management Board
Ref. Water Permit App. #2633-2

I fully support Southern Black Hills
Water System in drilling a new well to
provide water to the residents of Custer
and Fall River Counties.

Please support Permit App. #2633-2

RECEIVED

SEP 23 2008

WATER RIGHTS
PROGRAM

Thank you

John Beard

RECEIVED

SEP 24 2008

WATER RIGHTS
PROGRAM

STATE OF SOUTH DAKOTA

BEFORE THE WATER MANAGEMENT BOARD

IN THE MATTER OF THE)
APPLICATION OF SOUTHERN BLACK)
HILLS WATER SYSTEM,)
APPLICATION NO. 2633-2)

OBJECTION

Comes now Trout Haven Ranch, by and through its undersigned counsel, and hereby objects to the above-described application to appropriate water filed on behalf of Southern Black Hills Water System. This application is not in the public interest as the same will impact and diminish the flow at Beaver Creek Springs.

In addition, this objection is based upon the grounds and for the reasons that Trout Haven Ranch uses the waters from Beaver Creek and Beaver Creek Springs in the operation of its commercial trout raising business. If the application is granted, Trout Haven Ranch will be injured and damaged and its operations adversely affected in that the quantity, quality and temperature of water used by Trout Haven Ranch will be detrimentally altered and diminished by the usage envisioned by the application of Southern Black Hills Water System if approved.

Dated this 22nd day of September, 2008.

BANGS, McCULLEN, BUTLER,
FOYE & SIMMONS, L.L.P.

BY:



MICHAEL M. HICKEY

Attorneys for Trout Haven Ranch

333 West Blvd., Suite 400; P.O. Box 2670

Rapid City, SD 57709

Phone: (605) 343-1040

CERTIFICATE OF SERVICE

The undersigned hereby certifies that he served a copy of this legal document upon the persons herein next designated, all on the date below shown, by facsimile and by depositing copies thereof in the United States mail at Rapid City, South Dakota, postage prepaid, in an envelope addressed to said addressee, to wit:

**Garland Erbele, Chief Engineer
Water Rights Program
Joe Foss Building
523 East Capitol
Pierre, SD 57501**

Facsimile: (605) 773-4068

and by depositing copies thereof in the United States mail at Rapid City, South Dakota, postage prepaid, in an envelope addressed to said addressee, to wit:

**Southern Black Hills Water System
c/o Robert H. Peplinski
HC 56, Bo 53
Oral, SD 57766**

which are the last addresses of the addressees known to the subscriber.

Dated this 22nd day of September, 2008.



MICHAEL M. HICKEY

late filed

Gronlund, Eric

From: Ursula R. Gaertner [ugaertner@gwtc.net]
Sent: Wednesday, September 24, 2008 9:04 AM
To: Gronlund, Eric
Cc: Ken.Royse@bartwest.com
Subject: Water Permits

Dear Sirs,

Please note that we support water permits #2633-2 and #2634-2. We are very interested that these projects go forward since we have property south of Hot Springs and this property has no access to water. Since the recommendation has been positive for these projects, we hope that they will be approved.

Sincerely,

Ursula R. Gaertner
ugaertner@gwtc.net
Steven Potter
spotter@gwtc.net

09/24/2008

Gronlund, Eric

From: Terry Johnson [terryjohnson@goldenwest.net]
Sent: Monday, September 29, 2008 2:59 PM
To: Gronlund, Eric
Cc: Ken.Royse@bartwest.com
Subject: SBJ Project & Water Permit Application #'s 2633-2 & 2634-2
Importance: High

Eric Gronlund
Water Rights Program
Foss Building
523 E Capital AV
Pierre SD 577501

Dear Mr. Gronlund

We are in favor of the SBH Project and support Water Permit Application #'s 2633-2 and 2634-2. These applications will go before the State Water Management Board October 2, 2008. We are landowners in the project area and need water from the proposed System. We are in agreement with the Chief Engineer's independent review and recommendation for approval.

Thank you for your consideration in approving these permits.

Sincerely

Terry & Scott Johnson
26680 Buffalo Butte DR
Hot Springs SD 57747
605-745-3826

09/29/2008

Gronlund, Eric

From: Gronlund, Eric
Sent: Tuesday, September 30, 2008 9:09 AM
To: 'Terry Johnson'
Subject: FW: Southern Black Hills Water System

Mr. Johnson:

I received your email message indicating support for the Southern Black Hills Water System.

The water permit application was public noticed and the time to intervene in the hearing process concluded September 23rd. There were a number of petitions and letters received regarding the application. Some opposed the application while other were supportive. A number of residents filed letters of support via email. There is a question whether these are properly filed petitions since there was no signature and many did not provide an address. In your case, the email was also submitted after the time to petition to intervene had past. Ultimately, the Water Management Board, which is a citizen board for hearing contested water permit application, will need to rule on this matter. This is now a legal process that must follow procedures set forth in water rights law.

Finally, some petitions that were filed requested postponement of the October 2nd hearing. There is a statutory provision that allows petitioners to request a one-time postponement of the hearing. I have attached a pdf file with two notices that were sent to parties postponing the October 2nd hearing on the application before the Water Management Board.

Eric Gronlund
Water Rights Program, DENR
605 773-3352
eric.gronlund@state.sd.us

09/30/2008

RECEIVED

OCT - 1 2008

WATER RIGHTS
PROGRAM

Dear Sirs;

I am writing in support of the
Southern Black Hills Water system.

I would like you to consider your
support of the Water Permit number
2633-2 and # 2634-2

Thank you
Lyle Hartshorn
Wanna Hartshorn

October 2, 2008

Deliver via e-mail to: Eric.Gronlund@state.sd.us

Eric Gronlund/Chief Engineer
Water Rights Program
Foss Building
523 E. Capitol Ave
Pierre, SD 57501

RE: Southern Black Hills Water Permit Applications No.s 2633-2 and 2634-2

Dear Mr. Gronlund

I am writing in support of your recommendation to approve the above named water permits for Southern Hills Water. As founder of Red Canyon Company, a company which has pioneered environmentally-friendly land development in the Black Hills, we represent over seventy five land owners in multiple communities (Canyon Rim Ranch, Tatanka Spirit) which are located in the proposed SBH service area.

Our "wilderness preservation communities" have established a new, more sensitive development model which results in low impact, low density living options for second homes or retirement living. Because of these unique communities, more and more South Dakotans are returning home for retirement or recreational living. Moreover, even we're attracting people from as far as the U.K and Singapore. The benefit to the Black Hills is a higher tax base (without virtually no increased use of established county or municipal services), superior land-stewardship and clean-commerce throughout the Black Hills region.

Mr. Gronlund, historically rural households have had a tough-time getting access to good, affordable water. Municipalities and county governments are increasingly protective of their water sources and or without funding to provide it more broadly. Individual households have experienced "hit and miss" wells in these parts. With SBH, more U.S. citizens will finally have affordable water access allowing, distributed more fairly and equitably.

So by this letter, I wish to convey the full support of both our company and the growing numbers of new land owners we represent in the Southern Black Hills (planned to exceed 100 households before the end of 2010). Specifically, we support the approval of the permits required to facilitate the SBH water system and will urge all of those who have purchased land in our communities to go on record with their individual support.

Kindest Regards

Jim Farmer/CEO
Red Canyon Company

CC Ken Royce Ken.Royse@bartwest.com
Please forward to SBH BOD and Don Peterson



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

October 22, 2008

NOTICE

TO: Robert Peplinski, Chairman
Southern Black Hills Water System, Inc.
HC 56 Box 53
Oral SD 57766
and Parties of Record (see attached list)

FROM: Garland Erbele, Chief Engineer
Water Rights Program *Garland Erbele*

SUBJECT: Scheduling of Hearing on Water Permit Application No. 2633-2, Southern Black Hills Water System

Petitions were submitted in support and opposition to Water Permit Application No. 2633-2 filed by Southern Black Hills Water System. The petitions were filed in response to the Notice of Hearing to appropriate water published in the Custer, Fall River and Pennington Counties. The October 2, 2008 scheduled hearing before the Water Management Board was postponed by three of the petitioners request filed pursuant to SDCL 46-2A-5. This notice schedules a hearing before the Water Management Board to consider this application.

Application No. 2633-2 proposes to appropriate 484 acre feet of water annually at a maximum diversion rate 0.67 cubic feet of water per second from one well to be completed into the Madison Aquifer (approximately 1850 feet deep) located in SE 1/4 SE 1/4 Section 35-T5S-R6E, Custer County. The water will be used for a rural water system to serve users in Custer, Fall River and Pennington Counties.

The Water Management Board will conduct a hearing to consider Application No. 2633-2 at 10:00 AM (Central Time) on Wednesday, December 10, 2008 at the Pierre Chamber of Commerce, 800 West Dakota Avenue, Pierre SD. The agenda time is an estimate and may be delayed due to the prior agenda item. Future notice will be provided to all parties if there are changes to the hearing time. Pursuant to SDCL 46-2-9, 46-2-11, and 46-2A-23, the Board has legal authority and jurisdiction to conduct this hearing.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2633-2 for a 20-year term pursuant to SDCL 46-1-14 and 46-2A-20 because 1) although evidence is not available to justify issuing this permit without a 20 year term limitation, there is reasonable probability

that there is unappropriated water available, 2) the proposed diversion can be developed with out unlawful impairment of existing rights, 3) the proposed use is a beneficial use and 4) it is in the public interest. The Chief Engineer's recommendation is not final or binding upon the Board. The Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny the application based on the evidence presented at the public hearing.

This hearing may be an adversarial proceeding. Any party of record and/or the applicant have the right to be represented by a lawyer and may present evidence or cross-examine witnesses according to SDCL 1-26. These and other due process rights will be forfeited if not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law.

Enclosed is a copy of the report, recommendation and petitions in the matter of Water Permit Application No. 2633-2. In addition to written petitions that were submitted, the enclosure includes the emails of support and the late filed petitions that were received. State law directs the Chief Engineer to provide Water Management Board members with a copy of all pleadings including petitions for each proceeding. This same information will be sent to the Board members in advance of the hearing. In addition, enclosed are two documents intended to acquaint parties with the hearing process entitled "Procedure for Hearings before the Water Management Board" and "Summary of South Dakota Water Laws and Rules". You are encouraged to review these documents prior to the hearing.

The application is made pursuant to SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-16; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 46-2A-1 thru 46-2A-10, 46-2A-12, 46-2A-14, 46-2A-15, 46-2A-23; 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-30.2, 46-5-30.4, 46-5-31, 46-6-3, 46-6-3.1; and Board Rules ARSD 74:02:01:01 thru 74:02:01:15.

Questions regarding the hearing process may be directed to Eric Gronlund, Water Rights Program at (605) 773-3352. In addition, please notify the Department of Environment and Natural Resources at least 48 hours before the hearing if you have a disability for which special arrangements must be made at the hearing.

c: Diane Best, Assistant Attorney General

NOTE: Since this matter does not involve a monetary controversy in excess of \$2,500.00 or termination of a property right in accordance with SDCL 1-26-18.3, the Chief Engineer has determined this contested case need not be referred to the Office of Hearing Examiners. If any party disagrees with this determination, the Chief Engineer shall be notified by November 28, 2008.

CERTIFICATION

I hereby certify that on October 22, 2008, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated October 22, 2008, regarding hearing for Water Right Permit Application No. 2629-2, as addressed below and on the attached parties of record list:

Robert Peplinski, Chairman
Southern Black Hills Water System, Inc.
HC 56 Box 53
Oral SD 57766

A copy of the above described Notice was sent Inter-office to:

Diane Best, Assistant Attorney General, 1302 E. Hwy 14, Suite 1, Pierre SD 57501-8501



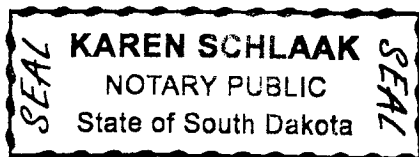
Gail Jacobson
Water Rights Program, DENR

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 23rd day of October 2008.



Karen Schlaak
Notary Public
My Commission expires April 1, 2013



Gronlund, Eric

From: Gronlund, Eric
Sent: Monday, December 01, 2008 10:37 AM
To: 'embr4u@aol.com'; 'Rabuse'; 'Oxley, J. Jeffery'; 'Dave Patee'; 'Dwight Rabuse'; 'Bass, Jo'; 'Scheinost, Jeff'; 'Paul VanBockern'; 'Bill Kalm'; 'KATHY FLEMING'; 'Harry and Marilyn Swain'; 'tcdtd@comcast.net'; 'M Hay'; 'Lois Howard'; 'Becky and Bob Baer'; 'Cheryl Fitzgarrald'; 'Ken Stach'; 'Steve Buttress'; 'Skip Kronemeyer'; 'Lisa Scheinost'; 'Arnold Osmundson'; 'Ed Nesselhuf'; 'Toni Devereux'; 'Robson'; 'Pat John Muilenburg'; 'Steve Reecy'; 'Oliver, Jeff'; 'Steve Buttress'; 'Barton and Lois Adrian'; 'Barb Kegel'; 'alank@isodisc.com'; 'Len Weimer'; 'Terry Johnson'; 'synhorst@gwtc.net'; 'ugaertner@gwtc.net'
Subject: Change in hearing time for consideration of Southern Black Hills Water System's Water Permit Application No. 2633-2

The hearing time before the Water Management Board for Water Permit Application No. 2633-2 has been moved up one hour on the agenda. This is being done because the prior agenda item has been continued and there will be only a brief motion hearing on that matter.

Application No. 2633-2 will now be heard beginning at 9:00 AM on December 10th at the Pierre Chamber of Commerce, 800 West Dakota Avenue, Pierre SD. The attached notice is being sent to individuals submitting formal written and signed petitions. In addition, DENR is providing the notice to individuals that corresponded via email. In those cases that I have a mailing address you may also be receiving the notice with enclosures via US Postal Service.

Eric Gronlund
Water Rights Program, DENR
605 773-3352
eric.gronlund@state.sd.us



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

December 1, 2008

NOTICE

TO: Robert Peplinski, Chairman
Southern Black Hills Water System, Inc.
HC 56 Box 53
Oral SD 57766
and Parties of Record (see attached list)

FROM: *for* Garland Erbele, Chief Engineer
Water Rights Program

SUBJECT: Change in Hearing Time on Water Permit Application No. 2633-2, Southern Black Hills Water System

There has been a change in the Water Management Board's agenda on December 10, 2008. This change results in the hearing time for Southern Black Hills Water System's Water Permit Application No. 2633-2 being moved to 9:00 AM.

The Water Management Board will now conduct a hearing to consider Application No. 2633-2 at 9:00 AM (Central Time) on Wednesday, December 10, 2008 at the Pierre Chamber of Commerce, 800 West Dakota Avenue, Pierre SD.

Applicable provisions of the public notice published the first two weeks of September, 2008 in the Custer County Chronicle, Rapid City Journal and Hot Springs Star and notice dated October 22, 2008 will still apply. This hearing may be an adversarial proceeding. Any party of record has the right to be present and to be represented by a lawyer. These and other due process rights will be forfeited if they are not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law.

If you have any questions on the change in the hearing time, please contact Eric Gronlund at (605) 773-3352.

c: Diane Best, Assistant Attorney General

PARTIES OF RECORD
Water Permit Application No. 2633-2, Southern Black Hills Water System

Applicant

Southern Black Hills Water System, Inc.
c/o Robert Peplinski
HC 56 Box 53
Oral SD 57766

Attorney: Talbot Wieczorek
PO Box 8045
Rapid City SD 57709

Petitions

Trudy D. Jara
11897 Sundance Drive
Hot Springs SD 57747-6009

Randy Scroth
PO Box 1
Buffalo Gap SD 57722

Shawn Fugier
27094 Beaver Valley Rd
Buffalo Gap SD 57720

Paul and Carol Fugier
27032 Beaver Valley Rd
Buffalo Gap SD 57720

Lois Emery, Trustee
Lyda Bowker Trust
13344 Bunny Drive
Hot Springs SD 57747

Charles W. Pettee, Chief
Water Rights Branch
National Park Service
1201 Oakridge Drive, Suite 250
Fort Collins CO 80525-5596

Michael M. Hickey
Counsel for Trout Haven Ranch
Bangs McCullen Law Firm
PO Box 2670
Rapid City SD 57709-2670

John Beard
3420 Corral Drive, Apt. 109
Rapid City SD 57702

Merle Semmler
26895 148th Avenue
Buffalo Gap SD 57722

Late Filed Petition

Lyle and Donna Hartshorn
13670 LH Road
Hermosa SD 57744

Letters in Support (received via email)

✓ Glenn & Kathy Gardner
4412 E Harwood Circle
Sioux Falls, SD 57103

John J. Oxley and Jeane H. DeLaney
1974 NW Lovejoy #5
Portland OR 97209

Keith and Kathryn Rabuse
10207 Best Drive
Dallas TX 75229

Dwight Rabuse
Livgard & Rabuse PLLP
2520 University Avenue SE, Suite 202
Minneapolis MN 55414

Becky and Arnie Osmundson
(address not provided)

Toni Devereux
209 N. River Street
Hot Springs SD 57747

John Muilenburg
(address not provided)

Steve and Sandie Reecy
(address not provided)

Stuart Kronemeyer
26789 Elk Run Road
Hot Springs SD 57747

Ken Stach
24175 405th Avenue
Letcher SD 57359

Robert and Rebecca Baer
26866 Elk Run Road
Hot Springs SD 57747

David and Marita Hay
(address not provided)

Harry and Marily Swain
12694 Argyle Road
Hot Springs SD 57747-6031

William Kalm and Raedene Keeton
4702 E. Berneil Drive
Phoenix AZ 85028

David Patee
11507 Red Canyon Road
Hot Springs SD 57747

Jo Bass
1439 S 87th Street
Omaha NE 68124

Ed Nesselhuf
31612 471st Avenue
Burbank SD 57010

Robert and Sonja Shannon
24705 Timber Ridge Road
Hermosa SD 57744

Jeff and JeanMarie Oliver
836 Maple Lane
Peotone, Illinois, 60468

Lisa Scheinost
710 Taft Avenue
Edgemont SD 57735

Steve Buttress and Jan Weber
26835 Elk Run Road
Hot Springs SD 57747

Cheryl Fitzgarrald
879 S 156th Avenue
Omaha NE 68118

Richard and Lois Howard
215 E 27th Street
Sioux Falls SD 57105

Thomas and Suann Carbone
109 Cherry Drive
Egg Harbor Twp NJ 08234

Mike Fleming
26850 Stage Stop Road
PO Box 65
Pringle SD 57773

Paul Van Bockern
3209 Riversedge Way
Sioux Falls SD 57105

Steve Buttress
26835 Elk Run Road
Hot Springs SD 57747

Barton and Lois Adrian
(address not provided)

✓ Barb Kegel
4109 North 138th Avenue Circle
Omaha NE 68164

Alan Kegel
14737 Himebaugh Plaza
Omaha NE 68116

Late Filed Email

Jim Farmer, CEO
Red Canyon Company

Terry and Scott Johnson
26680 Buffalo Butte Drive
Hot Spring SD 57747

Ursula R. Gaertner
(address not available)

Steve Potter
(address not available)

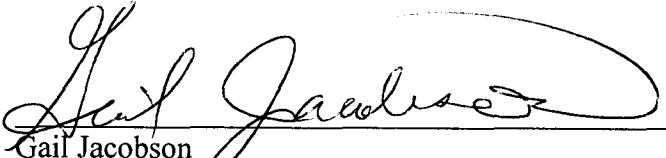
CERTIFICATION

I hereby certify that on December 1, 2008, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated December 1, 2008, regarding change in hearing time for Water Right Permit Application No. 2633-2, as addressed below and on the attached parties of record list:

Robert Peplinski, Chairman
Southern Black Hills Water System, Inc.
HC 56 Box 53
Oral SD 57766

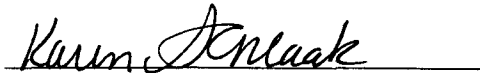
A copy of the above described Notice was sent Inter-office to:

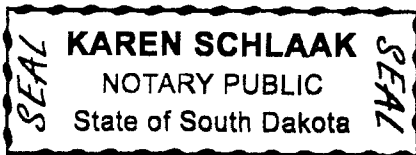
Diane Best, Assistant Attorney General, 1302 E. Hwy 14, Suite 1, Pierre SD 57501-8501


Gail Jacobson
Water Rights Program, DENR

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 1st day of December 2008.


Karen Schlaak
Notary Public
My Commission expires April 1, 2013





**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

January 26, 2009

NOTICE

TO: Talbot J. Wieczorek
Attorney at Law
PO Box 8045
Rapid City SD 57709

Michael M. Hickey
Attorney at Law
PO Box 2670
Rapid City SD 57709

Peter Fahmy
Water Rights Branch
National Park Service
1201 Oakridge Dr Suite 250
Fort Collins CO 80525-5596

Shawn Fugier
27094 Beaver Valley Rd
Buffalo Gap SD 57720

Randy Scroth
PO Box 1
Buffalo Gap SD 57720

FROM: Garland Erbele, Chief Engineer
Water Rights Program, DENR

SUBJECT: Preparation of Findings of Fact, Conclusions of Law and Final Decision

The Water Management Board directed Talbot Wieczorek, counsel for Southern Black Hills Water System, to prepare written proposed Findings of Fact, Conclusions of Law and a Final Decision in the matter of Water Permit Application No. 2633-2. The Board will consider adoption of Findings, Conclusions and Final Decision approving Water Permit No. 2633-2 at 1:00 PM, on March 11, 2009, in the Floyd Matthew Training Center, Joe Foss Building, 523 E Capitol Avenue, Pierre SD. The agenda time is an estimate.

The Board requested that a copy of the proposed Findings, Conclusions and Final Decision be mailed to each Board member and parties by February 19, 2009. Written objections or comments in support of the proposed Findings, Conclusions and Final Decision, or alternative Findings, Conclusions and Final Decision are to be mailed to each Board member, the Board attorney (mailing list enclosed) and parties by March 2, 2009.

At the Board's discretion, oral arguments by parties who timely filed written comments in opposition of the proposed Findings, Conclusions and Final Decision, or alternative Findings, Conclusions and Final Decision may be made on March 11, 2009. The evidentiary hearing was completed on December 10, 2008. No additional testimony will be received.

Enclosure

c: Jeff Hallem, Assistant Attorney General
Diane Best, Assistant Attorney General

CERTIFICATION

I hereby certify that on January 26, 2009, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated January 26, 2009, regarding preparation of Findings of Fact, Conclusions of Law and Final Decision in the matter of Application No. 2633-2 addressed as stated below:

Talbot J. Wieczorek
Attorney at Law
PO Box 8045
Rapid City SD 57709

Michael M. Hickey
Attorney at Law
PO Box 2670
Rapid City SD 57709

Peter Fahmy
Water Rights Branch
National Park Service
1201 Oakridge Dr Suite 250
Fort Collins CO 80525-5596

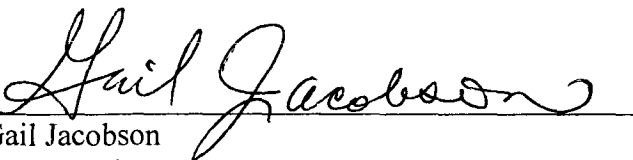
Shawn Fugier
27094 Beaver Valley Rd
Buffalo Gap SD 57720

Randy Scroth
PO Box 1
Buffalo Gap SD 57720

Diane Best
Assistant Attorney General
300 N. Dakota Avenue, Suite 403
Sioux Falls SD 57104

A copy of the above described Notice was sent Inter-office to:

Jeff Hallem, Assistant Attorney General, 1302 E. Hwy 14, Suite 1, Pierre SD 57501-8501

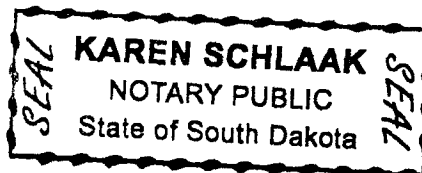

Gail Jacobson

Water Right Program

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 26th day of January, 2009.


Karen Schlaak
Notary Public
My Commission expires April 1, 2013





**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

February 25, 2009

NOTICE

TO: Talbot J. Wieczorek
Attorney at Law
PO Box 8045
Rapid City SD 57709

Michael M. Hickey
Attorney at Law
PO Box 2670
Rapid City SD 57709

Peter Fahmy
Water Rights Branch
National Park Service
1201 Oakridge Dr Suite 250
Fort Collins CO 80525-5596

Shawn Fugier
27094 Beaver Valley Rd
Buffalo Gap SD 57720

Randy Scroth
PO Box 1
Buffalo Gap SD 57720

FROM: Garland Erbele, Chief Engineer
Water Rights Program, DENR

SUBJECT: Revised Time to Consider Adoption of Finding of Fact, Conclusion of Law and Final Decision in the matter of Water Permit Application No. 2633-2

The hearing time has been rescheduled for the Water Management Board's consideration of Findings of Fact, Conclusions of Law and a Final Decision regarding Water Permit Application No. 2633-2, Southern Black Hills Water System. The Board will now consider adoption of Findings, Conclusions and their Final Decision at 10:30 AM (Central Time), on March 11, 2009, in the Floyd Matthew Training Center, Joe Foss Building, 523 E Capitol Avenue, Pierre SD. The agenda time is an estimate.

c: Jeff Hallem, Assistant Attorney General
Diane Best, Assistant Attorney General

CERTIFICATION

I hereby certify that on February 25, 2009, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated February 25, 2009, regarding the hearing time for consideration of Findings of Fact, Conclusions of Law and Final Decision in the matter of Application No. 2633-2 addressed as stated below:

Talbot J. Wieczorek
Attorney at Law
PO Box 8045
Rapid City SD 57709

Michael M. Hickey
Attorney at Law
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Rapid City SD 57709

Peter Fahmy
Water Rights Branch
National Park Service
1201 Oakridge Dr Suite 250
Fort Collins CO 80525-5596

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27094 Beaver Valley Rd
Buffalo Gap SD 57720

Randy Scroth
PO Box 1
Buffalo Gap SD 57720

Diane Best
Assistant Attorney General
300 N. Dakota Avenue, Suite 403
Sioux Falls SD 57104

A copy of the above described Notice was sent Inter-office to:

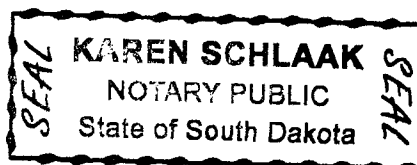
Jeff Hallem, Assistant Attorney General, 1302 E. Hwy 14, Suite 1, Pierre SD 57501-8501


Gail Jacobson
Water Right Program

[illegible]

Sworn to, before me, this 25th day of February, 2009.

Karen Schlaak
Karen Schlaak
Notary Public
My Commission expires April 1, 2013



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FEB 20 2009

GUNDERSON, PALMER, NELSON & ASHMORE, LLP

WATER RIGHTS
PROGRAM

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WYNN A. GUNDERSON
Of Counsel

Writer's E-mail Address: tjw@gpnalaw.com

Writer's Fax No.: (605) 342-0480

February 19, 2009

Garland Eberle
Chief Engineer, Water Rights Program
DENR
523 E Capitol - Joe Foss Building
Pierre SD 57501-3181

Re: Southern Black Hills Water System
Application # 2633-2 GPNA File No.: 07653.0002

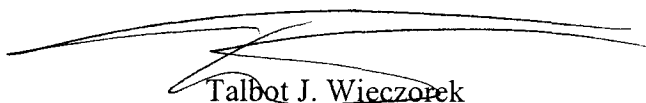
Dear Mr. Eberle:

Enclosed please find Southern Black Hills Water System's proposed Findings of Fact, Conclusions of Law and Final Decision in the above-entitled matter. I have also enclosed a Certificate of Service.

In preparing the proposed Findings of Fact and Conclusions of Law, to the extent possible, I adopted language from the previous findings of fact and conclusions of law from the proceedings the parties agreed the Board could take notice of and rely upon, specifically, Water Permit Applications #2580-2 and 2585-2. To the extent possible, those findings of fact and conclusions of law have simply been restated. In situations where there was site specific information in the prior proceedings, the findings and conclusions were changed accordingly. Additionally, there are findings of fact and conclusions of law specific to the evidence that was presented at the hearing in this Application. Regarding condition 5 set forth in the Decision portion, this language is from the motion that adopted by the Board as it appears on page 301 of the transcript.

If you have any questions, please contact me. Thank you.

Sincerely



Talbot J. Wieczorek

TJW:klw
Enclosures
c: Clients

STATE OF SOUTH DAKOTA
BEFORE THE WATER MANAGEMENT BOARD

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IN THE MATTER OF WATER PERMIT) APPLICATION #2633-2,) SOUTHERN BLACK HILLS WATER) SYSTEM)	APPLICANT'S PROPOSED FINDINGS OF FACT, CONCLUSIONS OF LAW AND FINAL DECISION
---	---

FINDINGS OF FACT

1. A hearing was held in the above entitled matter on December 11, 2008 before the Board. The Board has considered evidence presented and argument made by the parties.

2. The parties stipulated to admission of the record in Water Permit Application Nos. 2580-2 and 2585-2. Those two water permit applications were filed by Southern Hills and heard by the Board in 2006. In reaching its Findings of Fact and Conclusions of Law in this matter, the Board relies, in part, on its Findings of Fact and Conclusions of Law entered on March 19, 2007 in those two previous cases. Further, this Board relies on expert testimony from the expert for Trout Haven in 2006, Dr. Perry Rahn. Further, this Board relies on the 2006 testimony of National Park Service witnesses regarding Wind Cave National Park and its history and mission. Finally, the Board relies on the letters of support and testimony presented by South Hills in support of its assertion in 2006 that providing for additional water by a rural water system in this area is a beneficial use and in the public interest.

3. Because the well involved here is at a different location than those involved in the 2006 applications, the Board has reviewed the previous Findings and Conclusions and testimony of previous experts with due regard to the difference in location of the proposed well here. In particular, the well involved here is located further from the pools at Wind Cave National Park and further from the springs at Beaver Creek than the proposed well in Water Permit Application

2585-2, a matter which prompted this Board to defer the application and reserve its final decision making on Water Permit Application 2585-2 until after an aquifer pump test is conducted.

4. This is an Application to appropriate .67 cubic-feet per second of water (484 acre-feet per year) from the Madison aquifer. The water will be used by the applicant to supply a regional water system that will serve primarily rural domestic needs in the southern Black Hills.

5. The appropriated water will supply a regional water system being developed by Southern Black Hills Water System, Inc. (hereinafter "Southern Black Hills Water").

6. Southern Black Hills Water is a non-profit corporation formed to develop a regional water supply system in the rural areas of the southern Black Hills. Southern Black Hills Water will be serving a large geographic area in the Southern Black Hills. This area includes rural parts of Custer, Fall River and Pennington counties. The primary use of water in this part of the project will be for domestic use, both existing residences and future development, and agriculture operations. The water would also be used for some commercial use. However, the primary use will be residential in nature.

7. The Madison aquifer receives recharge through infiltration of precipitation and stream flow losses in the outcrop area. Natural discharge from the Madison aquifer occurs at artesian springs that originate from the Madison aquifer and to ground water outflow.

8. The proposed well site is in the South East Quarter of Section 35, Township 5 South, Range 6 East in Custer County. This site is located approximately five and three fourths miles west southwest from the lakes and pools in Wind Cave in Wind Cave National Park and three and a half miles north northeast of Beaver Creek Springs that feeds into Beaver Creek.

9. It is reliably estimated that the Madison aquifer contains 640 million acre-feet of recoverable water in western South Dakota. It constitutes a tremendous water resource for the

State of South Dakota. In the area of the proposed well, the Madison is somewhere between 250 and 300 feet thick. The Madison aquifer contains approximately 9.8 million acre-feet of recoverable water and storage in Fall River County and approximately 9.2 million acre-feet of recoverable water and storage in Custer County.

10. The Madison aquifer is very prolific in this area. A well approximately 3 1/2 miles from the proposed site, commonly referred to as the Streeter well, penetrates the Madison aquifer by approximately 10 feet and the well flows naturally in excess of 100 gallons per minute. The shut in pressure is around 30 PSI. The water produced by the Streeter well is good quality water within EPA parameters. This means that if the water quality is similar at the proposed well site all Southern Black Hills Water will have to do to prepare the water for domestic use is chlorinate the water.

11. Drilling a large capacity well is costly. The projected cost of this well is \$700,000. Knowing that there are wells with a good water flow in the area is important because it makes the possibility of drilling a dry hole well less likely.

12. There is available water in the Madison aquifer to supply this requested appropriated amount. There are currently a total of 162 appropriations plus one deferred application from the Madison Aquifer in South Dakota. These appropriations include: seven future use permits that reserve 11,074.8 acre feet of water per year; 133 water permits/rights for non-irrigation purposes, appropriating a total of 99.02 cfs; and 22 water permits/rights appropriating 7,713.36 acre feet per year for irrigation use. If it is assumed that the future use permits can be fully developed; the non-irrigation appropriations will be used at 60% of full time usage at their maximum diversion rights; and irrigation appropriation will use their full appropriation, the maximum, worse case scenario, amount of water that could theoretically be

used under the current appropriations and future use reservations is approximately 61,800 acre feet per year. If the deferred permit is approved allowing an appropriation of a maximum 1,600 acre feet per year, the worse case scenario would be usage of approximately 63,400 acre feet per year. Meanwhile, recharge in the Madison is taking place at 140,000 to 400,000 acre-feet per year.

13. A permit granted to appropriate 0.67 cfs equates to the right to appropriate 484 acre feet of water annual if constantly diverted at the 0.67 rate. However, this rate and volume is the amount requested in order to accommodate use during peak conditions and would be the "worse case" scenario in terms of total use. In reality, actual water use associated with a maximum diversion rate will likely be around 290 acre feet or less. This assumes 60% usage, a reasonable assumption given experience of other users. Actual withdrawals of permits already in the Madison Aquifer have been estimated to average only 12,309 acre feet annually from 1987 to 1996. This is an amount well less than half of the worse case scenario estimate.

14. DENR has monitoring wells fairly close, in some cases less than 1/4 of a mile, to high capacity municipal wells. These monitoring wells show very little draw down from wells that appropriate and pump at a much higher level than this proposed appropriation.

15. Data from observation well CU-91A that is located 4.5 miles southwest of the proposed well site shows a fluctuation of approximately 25 feet in the Madison aquifer since 1991. The current water level at this observation well is higher than it was in the early 1990's. This observation well data and data from other observation wells indicates a reasonable probability that there is unappropriated water available from the Madison aquifer in the immediate area of the water permit applied for by Southern Black Hills Water.

16. Area wide water supply problems are evidenced by the numerous and continuous requests for funds to various state and federal programs for funds for securing a water supply. The state Department of Environment and Natural Resources (DENR) has received recent water source request for funding from Edgemont, Custer, Hermosa, Hermosa Rural Water, Fall River Rural Water, Pringle and other communities in the area.

17. Southern Black Hills Water is designed as a regional water system for the southern Black Hills. The sponsors have been working closely with the Water Resource Assistance Program, a separate program within the DENR. After the Southern Black Hills Water System was formed, the Water Resource Assistance Program endorsed, and the Board of Water and Natural Resources awarded grants to SBHWS, which required a 20% local match and direct funding was received through the South Dakota State Budget.

18. Interest throughout the southern Black Hills for the regional water system has been high. Already Southern Black Hills Water has collected checks from approximately 600 current residential lots, both established homes and vacant lots, in the amount of \$150 each to help support the formation of a regional water system. In Phase One and Phase Two areas, 185 people have committed to hook-ups and paid \$1,500.

19. Moreover, other residents have sent in money or have pledged money but at this point the money has been refused by Southern Black Hills Water because it cannot provide these people a definite timeline when Southern Black Hills Water would be built out to serve their area.

20. The growth around Custer and in the southern hills continues to put pressure on the existing water systems and has resulted in applications for permits for smaller developments. There is a need for good quality and available water in Custer County.

21. In rural Custer County, approximately 600 of new home applicants are using cisterns. Even those people who in the initial building permits in Custer County designate they will drill wells, often end up using cisterns because they have been unable to access the water table through drilling.

22. There is an immediate need for a regional water system within Custer County.

23. The communities of Edgemont, Pringle, Custer, Hill City, Keystone and Hermosa all support the Southern Black Hills Water project. These municipalities alone represent 4,258 people based on the 2000 Census. Moreover, these communities have high summertime tourism that places a great demand on the water supply. Both the Custer State Park and the Crazy Horse Memorial support the project and have a need for water.

24. The expansion of SD Highway 79 to a four-lane south out of Rapid City to Hot Springs at the Hot Springs turnoff has increased development along this corridor in Custer and Fall River counties. A need for water exists in this area.

25. Currently, due to the lack of a regional water supply, when a subdivision moves in, often there are multiple wells drilled. For example, one new subdivision west of Hermosa, along SD Highway 40, will have ten to 15 individual wells. In the last five years, there have been as many as 300 new residential wells in that area alone. It is preferable to have a regional system as opposed to hundreds of smaller residential wells. A regional system with limited number of high capacity wells better serves the public, better protects the water resource, the better serves the public and is more efficient.

26. Experts vary in their opinions as to the discharge rate at Beaver Creek Springs. Carter and others indicate it is around 10 cfs. The discharge of Beaver Creek Springs has been determined by one study conducted by Perry Rahn, a prior expert for Trout Haven, to be a fairly

constant discharge of 8.57 cfs or approximately 3,846 gallons per minute. Even with this type of constant discharge, the existing Streeter Well, which is located approximately 4,000 feet from Beaver Creek Springs, experiences no measurable loss to its static water level.

27. Given the distance between the well site and Beaver Creek Springs and the relatively low diversion rate, it is highly unlikely that any draw downs from this well would have a measurable impact on spring discharge.

28. The Department of Environment and Natural Resources (DENR) has concluded that it is not probable that any ground water rights would be adversely impacted by the permit.

29. The question of whether adverse impairment would occur must be considered. In that regard, the water use of prior appropriators and domestic users is a priority right as against the proposed use, so long as the delivery of their water is independent of artesian head pressure. To the extent, however, that water users from Beaver Creek Springs are relying on artesian head pressure as a means of delivery, their right to use water is not automatically protected as against this use. This analysis speaks to the question of the likelihood of impairment of existing rights. The competing uses here are not that between two competing wells or individual surface water rights; use here is a potential decrease in spring output.

30. The Chief Engineer has concluded that there is unappropriated water available at the proposed well site from the Madison aquifer. The Chief Engineer's report states that the proposed appropriation should not adversely affect existing water rights including domestic wells and the appropriation should not affect the discharge of Beaver Creek Springs.

31. Any decreased discharge into Beaver Creek from Beaver Creek Springs is not considered a protected adverse affect, but the Board believes a decreased discharge may be considered as a public interest issue.

32. There are 13 water rights on Beaver Creek with a total combined prior appropriation of 34 cubic-feet per second. Eleven (11) cfs of these water rights is non-consumption use. These water rights are for agriculture use, such as irrigation, and fish production.

33. Geochemical sampling and analysis performed on several springs and wells in the region indicate that Beaver Creek Springs is isotopically depleted relative to ground water from the Streeter Well, ground-water in other nearby wells, and ground water in Wind Cave. This suggests that some of the ground-water discharging from Beaver Creek Springs may originate as recharge on the western flanks of the Black Hills, and has migrated to Beaver Creek Springs from the southwest (i.e., from the Hot Springs area). This was first hypothesized by the United States Geological Survey (USGS) in an earlier study conducted as part of the Black Hills Hydrology Study, and is supported by the most recent sampling and analysis conducted jointly by the National Park Service (NPS) and the USGS. Beaver Creek Springs may also be under the influence of the Minnelusa aquifer.

34. Shawn Fugier and Randy Scroth testified. They possess water rights to withdraw water from Beaver Creek for agricultural purposes. They opposed granting any permit without giving some consideration to the discharge from Beaver Creek Springs. They had no evidence that any adverse impact to his water right or Beaver Creek Spring would occur.

35. The models presented by the National Park Service expert, Ms. Cutillo, assumed recharge to the Madison being equal to current discharge.

36. Ms. Cutillo testified the NPS would not object to the issuance of the permit if the permit also required a separate monitoring well. She testified a separate monitoring well would aid in obtaining aquifer characteristics in the area such as determining a value for transmissivity that would allow all parties to better gauge any potential local impact the appropriation of water could have. The Chief Engineer did not require a monitoring well because the Application requested only 300 gallons per minute and was distant from the cave pools and Beaver Creek Springs.

37. National Park Service testified that the pools found in Wind Cave are 500 feet below the surface, are not accessible to the general public.

38. The National Park Service contends the possibility of an impact on the park may exist if the water levels in the underground caves were lowered. However, the National Park Service witnesses agreed that the level of the water in the caves is the top level of the Madison aquifer and these levels vary greatly depending on climatic conditions and that the caves have been naturally, slowly draining over the course of several thousand years. The caves were actually created by the draining and seepage of water.

39. The discovery and monitoring of the cave lakes started in approximately 1968. Between 1968 and 1992, the lakes dropped six feet. From 1992 to 1999, the lakes rose 19 feet. Since 1999, the lakes have dropped approximately six feet but are still above the 1968 level. This level change results from the water tables fluctuating and depending on dry years and years of heavy precipitation that affect the recharge of the Madison aquifer. The lake area of the Cave is less than one-half percent of the Cave area.

40. One of the cave lakes is named “What the Hell Lake.” The name is given to the lake because the lake did not exist until the latter half of the 1990s, after some wet years. Prior to that time period, the passage where What the Hell Lake exists, was dry.

41. Wind Cave lakes are located approximately 3¼ miles northwest of the Department of Environment and Natural Resources (DENR) water rights observation well CU-91A. When comparing the water levels of the lakes with water level data from the observation well, both the lakes and the observation wells show a similarity of water level responses to climactic conditions. The influence on the water levels is primarily caused by climactic conditions.

42. The cave lakes are located approximately 5 3/4 miles from the well site. Given the amount of withdrawal and the distance, even if a measurable impact would occur to the cave lakes, any such measurement would be negligible and certainly insignificant when compared with the climatic water level changes that occur at the cave lakes.

43. The National Park Service (NPS) has acknowledged that, even under the worse case scenario, the impact of this appropriation in twenty years would still leave the water tables in the lakes higher than they were in 1987. In this worse case scenario, the NPS expert assumed recharge and discharge were equivalent.

44. Wind Cave National Park (Wind Cave NP) was established on January 9, 1913 in order to, among other things, protect the cave system. Wind Cave NP is to be managed to conserve the scenery and the natural and historic objects and the wildlife therein, and to provide for the enjoyment of the same in such manner as will leave them unimpaired for the enjoyment of future generations.

45. Wind Cave NP uses a well completed in the Madison, Englewood, and Deadwood formations for park purposes. This use is permitted by South Dakota Water Right License No. 419-2 for 0.15 cubic feet per second with a priority date of December 29, 1955.

46. Steve Simpson, the proprietor of Trout Haven, which is along Beaver Creek, opposed the permit although he agreed there is a need for water in the region.

47. Mr. Simpson has a water right from Beaver Creek that allows him to use water for non-consumptive purpose of his fish hatchery, Water Rights Number 892-2. The restrictions on Mr. Simpson's permit require him to measure the stream flow above and below his intake. Although asked to provide this information by Southern Black Hills, Simpson has refused to provide any records.

48. There exists reasonable probability that there is unappropriated water available for the Applicant's proposed use under this permit.

49. The proposed diversion can be developed without unlawful impairment of existing rights.

50. The proposed use in the permit is beneficial use.

51. To the extent that any of these Findings of Fact are determined to be Conclusions of Law, they should be deemed Conclusions of Law.

CONCLUSIONS OF LAW

1. The South Dakota Water Management Board conducted a hearing on this application for appropriation of water under the authority of SDCL Ch. 46-2 and Ch. 46-2A.

2. Unappropriated water is available for the Application. There currently exists a need for quality water for rural water system that this Application would help satisfy.

3. Southern Black Hills Water System is one of several water systems in the State of South Dakota that has been recognized by the legislature as a system necessary for the general welfare of the people of the state and is a preferred priority objective of the state. SDCL 46A-1-2.1

4. Southern Black Hills Water System is a non-profit rural water supply company as defined by SDCL 10-36A-1.

5. The proposed diversion can be developed without unlawful impairment of existing rights to other permit holders. SDCL 46-2A-9.

6. The proposed use is a beneficial use and a public benefit.

7. The proposed use would be an efficient use of the water resources in the state.

8. The Board has determined in the past that a rural water system use of water is a beneficial use. SDCL 46-2A-9 and SDCL 46-1-4.

9. The South Dakota Water Management Board is not required to maintain artesian head pressure when considering the location and capacity of a large capacity well for domestic purposes. SDCL 46-6-6.1.

10. The well to be established under this permit will be a rural water system well.

11. Beaver Creek is fed by an artesian spring, Beaver Creek Springs.

12. When considering whether adverse impairment is an issue, this Board recognizes that it cannot guarantee specific water level of pools found in underground caves.

13. SDCL 46-2A-20 sets forth that no permit may be issued in the area designated by the application unless there is evidence presented at a hearing that establishes both that “(1) sufficient information is available to determine whether any significant adverse hydrologic affects on the supply of water in the Madison formation would result if the proposed withdrawal

were approved; and (2) information, whether provided by the applicant or by other means, show that there is a reasonable probability that the issuance of the proposed permit would not have a significant adverse affect on nearby Madison formation wells and springs.” Applicant has not asked the Board to approve the permit for longer than 20 years. Therefore, the permit will be issued for 20 years and any impacts can be reviewed at the end of the 20-year limitations.

14. The Board has the ability to cancel a permit or amend a permit at the end of the 20 year period.

15. The Board cannot overturn direct statutory determinations of the legislature by declaring a contrary result is in the public interest.

16. As to the public interest test, the Board concludes that the public interest test can be used to protect the downstream users on Beaver Creek and the amount of discharge from Beaver Creek Springs. The Board concludes that if a measurable decrease in Beaver Creek Springs discharge is shown to be caused by usage under this permit, the permit may violate the public interest.

17. As a non-profit corporation, Applicant does not have the ability to require landholders or other water permittees to provide information or allow access to their lands for purposes of monitoring Beaver Creek Springs.

18. As to public interest, the Board finds that granting of the permit is in the public’s interest but concludes that if the appropriation of the permit amount unexpectedly results in an adverse impact to Beaver Creek Springs, that the public interest of maintaining Beaver Creek Springs may outweigh the finding of public interest in issuing the permit.

19. To the extent that any of these Conclusions of Law are determined to be Findings of Fact, they should be deemed Findings of Fact.

DECISION

The Board hereby authorizes the Permit conditioned on the following:

1. In accordance with SDCL 46-1-14 and 46-2A-20, Permit No. 2633-2 is issued for a 20-year term. Pursuant to 46-2A-21, the 20-year term may be deleted at any time during the 20-year period or following its expiration. If the 20-year term is not deleted at the end of the term, the permit may either be cancelled or amended with a new term limitation of up to twenty years. Permit No. 2633-2 may also be cancelled for non-construction, forfeiture, abandonment, or three permit violations pursuant to SDCL 46-1-12, 46-5-37, 46-5-37.1 and ARSD 74:02:01:37.

2. The well approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.

3. The well authorized by Permit No. 2633-2 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.

4. The Applicant, Water Right Holder, shall report to the Chief Engineer annually the amount of water withdrawn from the Madison Aquifer.

5. The Applicant, Water Right Holder, under this permit shall control withdrawals from the well so there is not an adverse impact on water flow from Beaver Creek Springs or adverse change in water quality and character in Beaver Creek Springs.

BY THE BOARD:

DATED: _____

RECEIVED

FEB 20 2009

WATER RIGHTS
PROGRAM

CERTIFICATE OF SERVICE

I hereby certify that on the 19th day of February 2009, a true and correct copy of **SBHWS's Proposed Findings of Fact, Conclusions of Law and Final Decision** was sent via U.S. Mail, first-class postage paid to:

Garland Erbele, Chief Engineer
DENR
Water Rights Program
523 East Capitol Avenue
Pierre, SD 57501-3181

Diane Best
Assistant Attorney General
Office of Attorney General
Natural Resource Section
300 N Dakota, #403
Sioux Falls, SD 57105

Jeff Hallem
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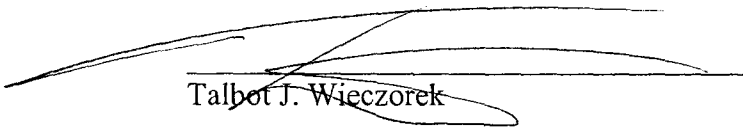
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Talbot J. Wieczorek



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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March 13, 2009

NOTICE

TO: Talbot J. Wieczorek
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27094 Beaver Valley Rd
Buffalo Gap SD 57720

Randy Scroth
PO Box 1
Buffalo Gap SD 57720

FROM: Garland Erbele, Chief Engineer,
Water Rights Program, DENR

SUBJECT: Adoption of Finding of Fact, Conclusion of Law and Final Decision in the matter of
Water Permit Application No. 2633-2

This is to notify you that the Water Management Board rulings and the Final Decision, including Findings of Fact and Conclusions of Law, were adopted March 11, 2009, by the Water Management Board in the matter of Water Permit No. 2633-2, Southern Black Hills Water System. A copy of the Board rulings and signed Findings of Fact, Conclusions of Law and Final Decision are enclosed.

South Dakota statutes provide that decisions of the Board may be appealed to the Courts. Notice of appeal of the Board's decision must be filed within thirty days of this notice and be in accordance with procedures established in SDCL 1-26-31.

Enclosures

c: Jeff Hallem, Assistant Attorney General
Diane Best, Assistant Attorney General, 300 N. Dakota Ave., Suite 403, Sioux Falls SD 57104

CERTIFICATION

I hereby certify that on March 13, 2009, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated March 13, 2009, regarding the adoption of Findings of Fact, Conclusions of Law and Final Decision in the matter of Application No. 2633-2 addressed as stated below:

Talbot J. Wieczorek
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Jeff Hallem, Assistant Attorney General, 1302 E. Hwy 14, Suite 1, Pierre SD 57501-8501



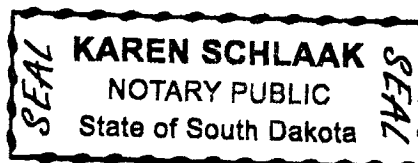
Gail Jacobson
Water Right Program

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 13th day of March, 2009.



Karen Schlaak
Notary Public
My Commission expires April 1, 2013



STATE OF SOUTH DAKOTA

BEFORE THE WATER MANAGEMENT BOARD

IN THE MATTER OF WATER PERMIT	)	FINDINGS OF FACT,	•
APPLICATION #2633-2, SOUTHERN	)	CONCLUSIONS OF LAW	
BLACK HILLS WATER SYSTEM	)	AND FINAL DECISION	

FINDINGS OF FACT

1. A hearing was held in the above entitled matter on December 10, 2008 before the Board. The Board has considered evidence presented and argument made by the parties.

2. The parties stipulated to admission of the record in Water Permit Application Nos. 2580-2 and 2585-2. Those two water permit applications were filed by Southern Hills and heard by the Board in 2006. In reaching its Findings of Fact and Conclusions of Law in this matter, the Board relies, in part, on its Findings of Fact and Conclusions of Law entered on March 19, 2007 in those two previous cases. Further, this Board relies on expert testimony from the expert for Trout Haven in 2006, Dr. Perry Rahn. Further, this Board relies on the 2006 testimony of National Park Service witnesses regarding Wind Cave National Park and its history and mission. Finally, the Board relies on the letters of support and testimony presented by Southern Hills in support of its assertion in 2006 that providing for additional water by a rural water system in this area is a beneficial use and in the public interest.

3. Because the well involved here is at a different location than those involved in the 2006 applications, the Board has reviewed the previous Findings and Conclusions and testimony of previous experts with due regard to the difference in location of the proposed well here. In particular, the well involved

here is located farther from the pools at Wind Cave National Park and farther from the springs at Beaver Creek than the proposed well in Water Permit Application 2585-2, a matter which prompted this Board to defer the application and reserve its final decision making on Water Permit Application 2585-2 until after an aquifer pump test is conducted.

4. This is an Application to appropriate .67 cubic-feet per second of water (484 acre-feet per year) from the Madison aquifer. The water will be used by the applicant to supply a regional water system that will serve primarily rural domestic needs in the southern Black Hills.

5. The appropriated water will supply a regional water system being developed by Southern Black Hills Water System, Inc. (hereinafter "Southern Black Hills Water").

6. Southern Black Hills Water is a non-profit corporation formed to develop a regional water supply system in the rural areas of the southern Black Hills. Southern Black Hills Water will be serving a large geographic area in the Southern Black Hills. This area includes rural parts of Custer, Fall River and Pennington counties. The primary use of water in this part of the project will be for domestic use, both existing residences and future development, and agriculture operations. The water would also be used for some commercial use. However, the primary use will be residential in nature.

7. The Madison aquifer receives recharge through infiltration of precipitation and stream flow losses in the outcrop area. Natural discharge from the Madison aquifer occurs at artesian springs that originate from the Madison

aquifer and to ground water outflow, such as possible leakage to other shallower aquifers in central South Dakota.

8. The proposed well site is in the Southeast Quarter of the Southeast Quarter of Section 35, Township 5 South, Range 6 East in Custer County. This site is located approximately 5¾ miles east-northeast from the lakes and pools in Wind Cave in Wind Cave National Park and 3 miles north-northeast of Beaver Creek Springs that feeds into Beaver Creek.

9. It is reliably estimated that the Madison aquifer contains 640 million acre-feet of recoverable water in western South Dakota. It constitutes a tremendous water resource for the State of South Dakota. In the area of the proposed well, the Madison is somewhere between 250 and 300 feet thick. The Madison aquifer contains approximately 9.8 million acre-feet of recoverable water and storage in Fall River County and approximately 9.2 million acre-feet of recoverable water and storage in Custer County.

10. The Madison is an excellent aquifer in terms of its potential to supply good quality water to relatively productive wells, especially near the outcrop (recharge area). The proposed well site for this Application is about 4½ miles from the Madison outcrop. A well approximately 3½ miles from the proposed site, commonly referred to as the Streeter well, penetrates the Madison aquifer by approximately 10 feet and the well flows naturally in excess of 100 gallons per minute. The shut in pressure is around 12-14 psi. The water produced by the Streeter well is good quality water within EPA parameters. This means that if the water quality is similar at the proposed well site, all Southern Black Hills Water will have to do to prepare the water for domestic use is chlorinate the water.

11. Drilling a large capacity well is costly. The projected cost of this well is \$700,000. Knowing that there are wells with a good water flow in the area is important because it makes the possibility of drilling a dry hole well less likely.

12. There is available water in the Madison aquifer to supply this requested appropriated amount. There are currently a total of 162 appropriations plus one deferred application from the Madison Aquifer in South Dakota. These appropriations include: seven future use permits that reserve 11,074.8 acre feet of water per year; 133 water permits/rights for non-irrigation purposes, appropriating a total of 99.02 cfs; and 22 water permits/rights appropriating 7,713.36 acre feet per year for irrigation use. If it is assumed that the future use permits can be fully developed; the non-irrigation appropriations will be used at 60% of full time usage at their maximum diversion rights; and irrigation appropriation will use their full appropriation, the maximum, worse case scenario, amount of water that could theoretically be used under the current appropriations and future use reservations is approximately 61,800 acre feet per year. If the deferred permit is approved allowing an appropriation of a maximum 1,600 acre feet per year, the worse case scenario would be usage of approximately 63,400 acre feet per year. Meanwhile, recharge in the Madison is taking place at 140,000 to 400,000 acre-feet per year.

13. A permit granted to appropriate 0.67 cfs equates to the right to appropriate 484 acre feet of water annual if constantly diverted at the 0.67 rate. However, this rate and volume is the amount requested in order to accommodate use during peak conditions and would be the "worse case" scenario in terms of total use. In reality, actual water use associated with a maximum diversion rate

will likely be around 290 acre feet or less. This assumes 60% usage, a reasonable assumption given experience of other users. Actual withdrawals of permits already in the Madison Aquifer have been estimated to average only 12,309 acre feet annually from 1987 to 1996. This is an amount well less than half of the worse case scenario estimate.

14. DENR has monitoring wells fairly close, in some cases less than 1/4 of a mile, to high capacity municipal wells. These monitoring wells show very little draw down from wells that appropriate and pump at a much higher level than this proposed appropriation.

15. Data from DENR observation well CU-91A that is located 4.5 miles southwest of the proposed well site shows a fluctuation of approximately 23.5 feet in the Madison aquifer since 1991. The current water level at this observation well is higher than it was in the early 1990's. This observation well data and data from other observation wells indicates a reasonable probability that there is unappropriated water available from the Madison aquifer in the immediate area of the water permit applied for by Southern Black Hills Water.

16. Area wide water supply problems are evidenced by the numerous and continuous requests for funds to various state and federal programs for funds for securing a water supply. The state Department of Environment and Natural Resources (DENR) has received recent water source request for funding from Edgemont, Custer, Hermosa, Hermosa Rural Water, Fall River Rural Water, Pringle and other communities in the area.

17. Southern Black Hills Water is designed as a regional water system for the southern Black Hills. The sponsors have been working closely with the

Water Resource Assistance Program, a separate program within the DENR. After the Southern Black Hills Water System was formed, the Water Resource Assistance Program endorsed, and the Board of Water and Natural Resources awarded grants to SBHWS, which required a 20% local match and direct funding was received through the South Dakota State Budget.

18. Interest throughout the southern Black Hills for the regional water system has been high. Already Southern Black Hills Water has collected checks from approximately 600 current residential lots, both established homes and vacant lots, in the amount of \$150 each to help support the formation of a regional water system. In Phase One and Phase Two areas, 185 people have committed to hook-ups and paid \$1,500.

19. Moreover, other residents have sent in money or have pledged money but at this point the money has been refused by Southern Black Hills Water because it cannot provide these people a definite timeline when Southern Black Hills Water would be built out to serve their area.

20. The growth around Custer and in the southern hills continues to put pressure on the existing water systems and has resulted in applications for permits for smaller developments. There is a need for good quality and available water in Custer County.

21. In rural Custer County, approximately 60% of new home applicants are using cisterns. Even those people who in the initial building permits in Custer County designate they will drill wells, often end up using cisterns because they have been unable to access the water table through drilling.

22. There is an immediate need for a regional water system within Custer County.

23. The communities of Edgemont, Pringle, Custer, Hill City, Keystone and Hermosa all support the Southern Black Hills Water project. These municipalities alone represent 4,258 people based on the 2000 Census. Moreover, these communities have high summertime tourism that places a great demand on the water supply. Both the Custer State Park and the Crazy Horse Memorial support the project and have a need for water.

24. The expansion of SD Highway 79 to a four-lane south out of Rapid City to Hot Springs at the Hot Springs turnoff has increased development along this corridor in Custer and Fall River counties. A need for water exists in this area.

25. Currently, due to the lack of a regional water supply, when a subdivision moves in, often there are multiple wells drilled. For example, one new subdivision west of Hermosa, along SD Highway 40, will have ten to 15 individual wells. In the last five years, there have been as many as 300 new residential wells in that area alone. It is preferable to have a regional system as opposed to hundreds of smaller residential wells. A regional system with limited number of high capacity wells better serves the public and is more efficient.

26. Experts vary in their opinions as to the discharge rate at Beaver Creek Springs. Carter and others indicate it is around 10 cfs. The discharge of Beaver Creek Springs has been determined by one study conducted by Perry Rahn, a prior expert for Trout Haven, to be a fairly constant discharge of 8.57 cfs or approximately 3,846 gallons per minute. Even with this type of constant

discharge, the existing Streeter Well, which is located approximately 4,000 feet from Beaver Creek Springs, experiences no measurable loss to its static water level.

27. Given the distance between the well site and Beaver Creek Springs and the relatively low diversion rate, it is unlikely that any draw downs from this well would have a measurable impact on spring discharge.

28. The Department of Environment and Natural Resources (DENR) has concluded that it is not probable that any ground water rights would be adversely impacted by the permit. This Board accepts and credits DENR expert witness Buhler's testimony in this regard.

29. The question of whether adverse impairment would occur must be considered. In that regard, the water use of prior appropriators and domestic users is a priority right as against the proposed use, so long as the delivery of their water is independent of artesian head pressure. To the extent, however, that water users from Beaver Creek Springs are relying on artesian head pressure as a means of delivery, their right to use water is not automatically protected as against this use. This analysis speaks to the question of the likelihood of impairment of existing rights. The competing uses here are not that between two competing wells or individual surface water rights; use here is a potential decrease in spring output.

30. The Chief Engineer has concluded that there is unappropriated water available at the proposed well site from the Madison aquifer. The Chief Engineer's report states that the proposed appropriation should not adversely affect existing water rights including domestic wells and the appropriation should not affect the discharge of Beaver Creek Springs.

31. Any decreased discharge into Beaver Creek from Beaver Creek Springs is not an impairment of an existing right, but that the Board believes a decreased discharge may be considered as a public interest issue.

32. There are 13 water rights on Beaver Creek with a total combined prior appropriation of 34 cubic-feet per second. Eleven (11) cfs of these water rights is for non-consumptive use. These water rights are for agriculture use, such as irrigation, and fish production.

33. Geochemical sampling and analysis performed on several springs and wells in the region indicate that Beaver Creek Springs is isotopically depleted relative to ground water from the Streeter Well, ground-water in other nearby wells, and ground water in Wind Cave. This suggests that some of the ground-water discharging from Beaver Creek Springs may originate as recharge on the western flanks of the Black Hills, and has migrated to Beaver Creek Springs from the southwest (i.e., from the Hot Springs area). This was first hypothesized by the United States Geological Survey (USGS) in an earlier study conducted as part of the Black Hills Hydrology Study, and is supported by the most recent sampling and analysis conducted jointly by the National Park Service (NPS) and the USGS. Beaver Creek Springs may also be under the influence of the Minnelusa aquifer.

34. Shawn Fugier and Randy Schroth testified that they possess water rights to withdraw water from Beaver Creek for agricultural purposes. They opposed granting any permit without giving some consideration to the discharge from Beaver Creek Springs. They had no evidence that any adverse impact to their water rights or Beaver Creek Spring would occur.

35. The models presented by the National Park Service expert, Dr. Cutillo, assumed recharge to the Madison being equal to current discharge.

36. Dr. Cutillo testified the NPS would not object to the issuance of the permit if the permit also required a separate monitoring well. She testified a separate monitoring well would aid in obtaining aquifer characteristics in the area such as determining a value for transmissivity that would allow all parties to better gauge any potential local impact the appropriation of water could have. The Chief Engineer did not require a monitoring well because the Application requested only 300 gallons per minute and was distant from the cave pools and Beaver Creek Springs.

37. National Park Service testified that the pools found in Wind Cave are 500 feet below the surface, are not accessible to the general public.

38. The National Park Service contends the possibility of an impact on the park may exist if the water levels in the underground caves were lowered. However, the National Park Service witnesses agreed that the level of the water in the caves is the top level of the Madison aquifer and these levels vary greatly depending on climatic conditions and that the caves have been naturally, slowly draining over the course of several thousand years. The air-filled portion of the caves were actually created by the draining and seepage of water.

39. The discovery and monitoring of the cave lakes started in approximately 1968. Between 1968 and 1992, the lakes dropped six feet. From 1992 to 1999, the lakes rose 19 feet. Since 1999, the lakes have dropped approximately six feet but are still above the 1968 level. This level change results from the water tables fluctuating and depending on dry years and years of heavy

precipitation that affect the recharge of the Madison aquifer. The lake area of the Cave is less than one-half percent of the Cave area.

40. Wind Cave lakes are located approximately 3¼ miles northwest of the Department of Environment and Natural Resources (DENR) water rights observation well CU-91A. When comparing the water levels of the lakes with water level data from the observation well, both the lakes and the observation wells show a similarity of water level responses to climactic conditions. The influence on the water levels is primarily caused by climactic conditions.

41. The cave lakes are located approximately 5¾ miles from the well site. Given the amount of withdrawal and the distance, even if a measurable impact would occur to the cave lakes, any such measurement would be negligible and certainly insignificant when compared with the climatic water level changes that occur at the cave lakes.

42. The National Park Service (NPS) acknowledged that, under their hypothetical scenario, that showed the greatest potential impact on the water tables of Wind Cave lakes from withdrawals from Applicant's proposed well, that twenty years of withdrawals would still leave the water tables in the cave lakes higher than they were in 1987. In this "worse case scenario," the NPS expert assumed recharge and discharge from the Madison aquifer were equivalent.

43. Wind Cave National Park (Wind Cave NP) was established on January 9, 1903, in order to, among other things, protect the cave system. Wind Cave NP is to be managed to conserve the scenery and the natural and historic objects and the wildlife therein, and to provide for the enjoyment of the same in

such manner as will leave them unimpaired for the enjoyment of future generations.

44. Wind Cave NP uses a well completed in the Madison, Englewood, and Deadwood formations for park purposes. This use is permitted by South Dakota Water Right License No. 419-2 for 0.15 cubic feet per second with a priority date of December 29, 1955.

45. Steve Simpson, the proprietor of Trout Haven, which is along Beaver Creek, opposed the permit although he agreed there is a need for water in the region.

46. Mr. Simpson has a water right from Beaver Creek that allows him to use water for non-consumptive purpose of his fish hatchery, Water Rights Number 892-2. The qualifications on Mr. Simpson's permit require him to measure the stream flow above and below his intake. Although asked to provide this information by Southern Black Hills, Simpson has refused to provide any records.

47. There exists reasonable probability that there is unappropriated water available for the Applicant's proposed use under this permit.

48. The proposed diversion can be developed without unlawful impairment of existing rights.

49. The proposed use in the permit is beneficial use.

50. The water levels of the underground lakes in Wind Cave represent the water table of the Madison aquifer. The water levels of the underground lakes in Wind Cave therefore fluctuate with changes in recharge to, storage in, and discharge from the Madison aquifer.

51. The NPS monitors the water level in Calcite Lake, Windy City Lake, and What the Hell Lake in Wind Cave. The measured water-level fluctuations of these lakes are similar in timing and magnitude to the water-level fluctuations observed at Wind Cave NP Water-Supply Well No. 2 and DENR Observation Well CU-91A, which are both completed in the Madison aquifer.

52. The NPS stated that the water level in Wind Cave has been historically draining at a rate of 0.0013 feet per year. NPS seeks to preserve unimpaired the natural fluctuation of the water level in Wind Cave.

53. The NPS requested that the Applicant be required to construct an observation well near the proposed pumping well, conduct an aquifer test at the site of the new pumping well, monitor water levels in the observation well during the aquifer test and over the long-term, and report water use on a monthly basis.

54. To the extent that any of these Findings of Fact are determined to be Conclusions of Law, they should be deemed Conclusions of Law.

CONCLUSIONS OF LAW

1. The South Dakota Water Management Board conducted a hearing on this application for appropriation of water under the authority of SDCL Ch. 46-2 and Ch. 46-2A.

2. Unappropriated water is available for the Application. There currently exists a need for quality water for rural water system use that this Application would help satisfy.

3. Southern Black Hills Water System is one of several water systems in the State of South Dakota that has been recognized by the legislature as a system

necessary for the general welfare of the people of the state and is a preferred priority objective of the state. SDCL 46A-1-2.1.

4. Southern Black Hills Water System is a non-profit rural water supply company as defined by SDCL 10-36A-1.

5. The proposed diversion can be developed without unlawful impairment of existing rights to other permit holders. SDCL 46-2A-9.

6. The proposed use is a beneficial use and a public benefit.

7. The proposed use would be an efficient use of the water resources in the state.

8. The Board has determined in the past that a rural water system use of water is a beneficial use. SDCL 46-2A-9 and SDCL 46-1-4.

9. The South Dakota Water Management Board is not required to maintain artesian head pressure when considering the location and capacity of a large capacity well; but the Board may consider artesian head pressure in determining whether issuance of a permit is in the public interest.

10. The well to be established under this permit will be a rural water system well.

11. Beaver Creek is fed by an artesian spring, Beaver Creek Springs.

12. When considering whether adverse impairment is an issue, this Board recognizes that it cannot guarantee specific water level of pools found in underground caves.

13. SDCL 46-2A-20 sets forth that no permit may be issued in the area designated by the application for a term of more than 20 years unless there is evidence presented at a hearing that establishes both that "(1) sufficient

information is available to determine whether any significant adverse hydrologic effects on the supply of water in the Madison formation would result if the proposed withdrawal were approved; and (2) information, whether provided by the applicant or by other means, show that there is a reasonable probability that the issuance of the proposed permit would not have a significant adverse effect on nearby Madison formation wells and springs.” Applicant has not asked the Board to approve the permit for longer than 20 years. Therefore, the permit will be issued for 20 years and any impacts can be reviewed at the end of the 20-year limitations.

14. The Board has the ability to cancel a permit or amend a permit at the end of the 20 year period.

15. In order to issue a water permit, the Board must conclude its issuance is in the public interest. The Board may deny an application or condition a permit to protect the public interest.

16. Based upon the facts presented by holders of water permits on Beaver Creek, it is in the public interest to provide some protection to these downstream users from possible adverse impacts on discharges from Beaver Creek Springs due to the operation of Applicant’s proposed well. If there is a significant adverse effect in Beaver Creek Springs water flow, or in water quality or condition that is attributable to Applicant’s well operations, the permit may violate the public interest.

17. As a non-profit corporation, Applicant does not have the ability to require landholders or other water permittees to provide information or allow access to their lands for purposes of monitoring Beaver Creek Springs.

17. As a non-profit corporation, Applicant does not have the ability to require landholders or other water permittees to provide information or allow access to their lands for purposes of monitoring Beaver Creek Springs.

18. Based on the record, the Board concludes that significant adverse effects on discharges from Beaver Creek Springs arising from Applicant's proposed well operations, though not probable, are possible, and may result in severe consequences to Beaver Creek water permit holders. Therefore the Board concludes, that granting the Application is in the public interest if it includes a qualification, in addition to the qualifications recommended by the State Engineer, that Applicant control withdrawals from the well so there is not a significant adverse effect on the water flow from Beaver Creek Springs or a significant adverse effect on the water quality and character in Beaver Creek Springs. How the Applicant monitors its activities to comply with this condition is left to the sound judgment of Applicant and its experts.

19. To the extent that any of these Conclusions of Law are determined to be Findings of Fact, they should be deemed Findings of Fact.

DECISION

The Board hereby authorizes the Permit with the following qualifications:

1. In accordance with SDCL 46-1-14 and 46-2A-20, Permit No. 2633-2 is issued for a 20-year term. Pursuant to 46-2A-21, the 20-year term may be deleted at any time during the 20-year period or following its expiration. If the 20-year term is not deleted at the end of the term, the permit may either be cancelled or amended with a new term limitation of up to twenty years. Permit No. 2633-2 may also be cancelled for non-construction, forfeiture, abandonment,

or three permit violations pursuant to SDCL 46-1-12, 46-5-37, 46-5-37.1 and ARSD 74:02:01:37.

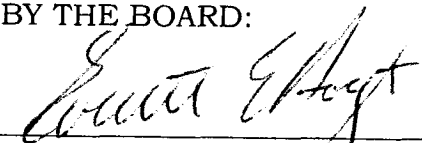
2. The well approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.

3. The well authorized by Permit No. 2633-2 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.

4. The Applicant, Water Permit Holder, shall report to the Chief Engineer annually the amount of water withdrawn from the Madison Aquifer.

5. The Applicant, Water Permit Holder, under this permit shall control withdrawals from the well so there is not a significant adverse effect on the water flow from Beaver Creek Springs or a significant adverse effect on the water quality and character in Beaver Creek Springs.

BY THE BOARD:



DATED: March 11, 2009

STATE OF SOUTH DAKOTA

BEFORE THE WATER MANAGEMENT BOARD

IN THE MATTER OF WATER PERMIT	)	WATER MANAGEMENT BOARD'S
APPLICATION NO. 2633-2,	)	RULINGS ON APPLICANT'S PROPOSED
SOUTHERN BLACK HILLS	)	FINDINGS OF FACT, CONCLUSIONS
WATER SYSTEM	)	OF LAW, AND FINAL DECISION; DENR
	)	AND NPS'S RESPONSES TO
	)	APPLICANT'S PROPOSED FINDINGS
	)	OF FACT, CONCLUSIONS OF LAW,
	)	AND FINAL DECISION;
	)	TROUT HAVEN RANCH'S OBJECTION
	)	TO APPLICANT'S PROPOSED
	)	FINDINGS OF FACT, CONCLUSIONS
	)	OF LAW, AND FINAL DECISION; AND
	)	RESPONSES OF INTERVENORS
	)	RANDY SCHROTH AND SHAWN FUGIER

Pursuant to the directions of the Water Management Board, counsel for Applicant, Southern Black Hills Water System, timely submitted Applicant's Proposed Findings of Fact, Conclusions of Law, and Final Decision. Subsequently, counsel for the Department of Environment and Natural Resources (DENR) submitted DENR's Response to Applicant's Proposed Findings of Fact, Conclusions of Law, and Final Decision; counsel for Intervenor National Park Service (NPS) submitted National Park Service's Response to Applicant's Proposed Findings of Fact, Conclusions of Law, and Final Decision; counsel for Intervenor Trout Haven Ranch submitted Trout Haven Ranch's Objections to Applicant's Proposed Findings of Fact, Conclusions of Law, and Final Decision; and Intervenor Randy Schroth and Shawn Fugier submitted their responses. The Board, upon review of the parties' submissions, the administrative record, and having orally entered its decision, hereby makes the following rulings:

A. Applicant's proposed Findings of Fact Nos. 4, 5, 6, 9, 11, 12, 13, 14, 16, 17, 18, 19, 20, 22, 23, 24, 26, 29, 30, 33, 37, 39, 41, 42, 45, 46, 48, 49, 50 and

51 are accepted as consistent with the administrative record and the Board's oral decision.

B. Applicant's proposed Finding of Fact No. 1 is accepted by the Board as consistent with the administrative record and the Board's oral decision with one correction: "December 11, 2008" should read "December 10, 2008."

C. Applicant's proposed Finding of Fact No. 2 is accepted by the Board as consistent with the administrative record and the Board's oral decision with one correction: "South Hills" should read "Southern Hills."

D. Applicant's proposed Finding of Fact No. 3 is accepted by the Board as consistent with the administrative record and the Board's oral decision with the following corrections: "Different location that" should read "different location than," and "further" as used in the second sentence should read "farther" in both places.

E. Applicant's proposed Finding of Fact No. 7 is accepted by the Board as consistent with the administrative record and the Board's oral decision with one revision: following the phrase "groundwater outflow" insert "such as possible leakage to other shallower aquifers in central South Dakota."

F. Applicant's proposed Finding of Fact No. 8 is accepted by the Board as consistent with the administrative record and the Board's oral decision, as modified below to more accurately reflect the administrative record in this action:

8. The proposed well site is in the Southeast Quarter of the Southeast Quarter of Section 35, Township 5 South, Range 6 East in Custer County. The site is located approximately 5¾ miles east-northeast from the lakes and pools in Wind Cave in Wind Cave National Park and 3 miles north-northeast of Beaver Creek Springs that feeds into Beaver Creek.

G. Applicant's proposed Finding of Fact No. 10 is accepted by the Board as modified below to more accurately reflect the administrative record in this action and the Board's oral decision:

10. The Madison is an excellent aquifer in terms of its potential to supply good quality water to relatively productive wells, especially near the outcrop (recharge area). The proposed well site for this Application is about 4½ miles from the Madison outcrop. A well approximately 3½ miles from the proposed site, commonly referred to as the Streeter well, penetrates the Madison aquifer by approximately 10 feet and the well flows naturally in excess of 100 gallons per minute. The shut-in pressure is around 12-14 psi. The water produced by the Streeter well is good quality water within EPA parameters. This means that if the water quality is similar at the proposed well site, all Southern Black Hills Water will have to do to prepare the water for domestic use is chlorinate the water.

H. Applicant's proposed Finding of Fact No. 15 is accepted by the Board as consistent with the administrative record and the Board's oral decision with the first sentence revised as set forth below to more accurately reflect the administrative record:

"Data from DENR observation well CU-91A that is located 4.5 miles southwest of the proposed well site shows a fluctuation of approximately 23 ½ feet in the Madison aquifer since 1991."

I. Applicant's proposed Finding of Fact No. 21 is accepted by the Board as consistent with the administrative record and the Board's oral decision with one correction: "600" should read "60%."

J. Applicant's proposed Finding of Fact No. 25 is accepted by the Board as consistent with the administrative record and the Board's oral decision with the revision of the last sentence as follows:

"A regional system with limited number of high capacity wells better serves the public and is more efficient."

K. Applicant's proposed Finding of Fact No. 27 is accepted by the Board as consistent with the administrative record and the Board's oral decision with the deletion of "highly" to more fully reflect the Board's oral decision.

L. Applicant proposed Finding of Fact No. 28 is accepted by the Board as consistent with the administrative record and the Board's oral decision further as revised below to more accurately reflect the administrative record and the Board's oral decision:

28. The Department of Environment and Natural Resources (DENR) has concluded that it is not probable that any ground water rights would be adversely impacted by the permit. The Board accepts and credits DENR's expert witness Buhler's testimony in this regard.

M. Applicant's proposed Finding of Fact No. 31 is accepted by the Board as consistent with the administrative record and the Board's oral ruling as further revised below to more accurately the administrative record and South Dakota law:

31. Any decreased discharge in Beaver Creek from Beaver Creek Springs is not an impairment of an existing right, but that the Board believes a decreased discharge may be considered as a public interest issue.

N. Applicant's proposed Finding of Fact No. 32 is accepted by the Board as consistent with the administrative record and the Board's oral decision as revised as follows to more accurately reflect the administrative record and South Dakota law with one correction: the phrase "is non-consumption use" should read "is for non-consumptive use."

O. Applicant's proposed Finding of Fact No. 34 is accepted by the Board as consistent with the administrative record and the Board's oral decision as revised below to more accurately reflect the record:

34. Shawn Fugier and Randy Schroth testified that they possess water rights to withdraw water from Beaver Creek for agricultural purposes. They opposed granting any permit without giving some consideration to the discharge from Beaver Creek Springs. They had no evidence that any adverse impact to their water rights or Beaver Creek Spring would occur.

P. Applicant's proposed Findings of Fact Nos. 35 and 36 are accepted by the Board as consistent with the administrative record and the Board's oral decision with the following correction: "Ms. Cutillo" should be changed in proposed Findings of Fact to read "Dr. Cutillo."

Q. Applicant's proposed Finding of Fact No. 38 is accepted by the Board as consistent with the administrative record and the Board's oral decision with the revision of the final sentence as set forth below to more accurately reflect the record: "The air-filled portion of the caves were actually created by the draining and seepage of water."

R. Applicant's proposed Finding of Fact No. 40 is rejected by the Board as unnecessary to support the Board's oral decision and the proposal does not, as written, accurately reflect the status of "What the Hell Lake."

S. Applicant's proposed Finding of Fact No. 43 is substantially accepted by the Board as further revised below to more accurately reflect the administrative record and the Board's oral decision:

43. The National Park Service (NPS) acknowledged that under their hypothetical scenario that showed the greatest potential impact on the water tables of Wind Cave lakes from withdrawals from Applicant's proposed well, that twenty years of withdrawals would still leave water tables in the cave lakes higher than they were in 1987. In this "worst-case scenario," the NPS expert assumed recharge and discharge from the Madison aquifer were equivalent.

T. Applicant's proposed Finding of Fact No. 44 is accepted by the Board as consistent with the administrative record and the Board's oral decision with one correction: "1913" should read "1903."

U. Applicant's proposed Finding of Fact No. 47 is accepted by the Board as consistent with the administrative record and the Board's oral decision with one correction: In the second sentence "restrictions" should read "qualifications."

V. Applicant's proposed Conclusions of Law Nos. 1, 3, 4, 5, 6, 7, 8, 10, 11, 12, 14, 17 and 19 are accepted by the Board as consistent with the administrative record, South Dakota law, and the Board's oral decision.

W. Applicant's proposed Conclusion of Law No. 2 is accepted by the Board as consistent with the administrative record, South Dakota law, and the Board's oral decision with one addition: after the phrase "rural water system" in the second sentence, insert "use."

X. Applicant's proposed Conclusion of Law No. 9 is substantially accepted, but is revised to more fully reflect the administrative record, South Dakota law, and the Board's oral decision and its "public interest responsibilities.

9. The South Dakota Water Management Board is not required to maintain artesian head pressure when considering the location and capacity of a large capacity well; but the Board may consider artesian head pressure in determining whether issuance of a permit is in the public interest.

Y. Applicant's proposed Conclusion of Law No. 13 is accepted by the Board as consistent with the administrative record, South Dakota law, and the Board's oral decision and the rulings set forth above with the following correction to more accurately describe South Dakota law: after "application" and before "unless,"

insert "for a term of more than 20 years;" in (1) "affects" should read "effects," and in (2) "affect" should read "effect."

Z. Applicant's proposed Conclusion of Law No. 15 is rejected by the Board as inconsistent with its oral decision and it is not totally consistent with the Board's interpretation of its "public interest" responsibilities. In its stead, the Board adopts the following:

15. In order to issue a water permit, the Board must conclude its issuance is in the public interest. The Board may deny an application or condition a permit to protect the public interest.

AA. Applicant's proposed Conclusion of Law No. 16 is rejected by the Board as not fully reflecting the Board's oral decision. In its stead, the Board adopts the following:

16. Based upon the facts presented by holders of water permits on Beaver Creek, it is in the public interest to provide some protection to these downstream users from possible adverse impacts on discharges from Beaver Creek Springs due to the operation of Applicant's proposed well. If there is a significant adverse effect in Beaver Creek Springs water flow, or in water quality or condition that is attributable to Applicant's well operations, the permit may violate the public interest.

BB. Applicant's proposed Conclusion of Law No. 18 is rejected by the Board as inconsistent with its oral decision. In its stead, the Board adopts the following:

18. Based on the record, the Board concludes that significant adverse effects on discharges from Beaver Creek Springs arising from Applicant's proposed well operations, though not probable, are possible, and may result in severe consequences to Beaver Creek water permit holders. Therefore the Board concludes, that granting the Application is in the public interest if it includes a qualification, in addition to the qualifications recommended by the State Engineer, that Applicant control withdrawals from the well so there is not a significant adverse effect on the water flow from Beaver Creek Springs or a significant adverse effect on the water quality and character in Beaver Creek Springs. How the

Applicant monitors its activities to comply with this condition is left to the sound judgment of Applicant and its experts.

CC. Applicant's proposed Decision is accepted by the Board as consistent with the administrative record, South Dakota law, and the Board's oral decision with the following corrections: The initial phrase should read: "The Board hereby authorizes the Permit with the following qualifications:" and to paragraphs 4 and 5: "Water Right Holder" in both paragraphs should read "Water Permit Holder."

DD. DENR Responses Nos. 2, 3, 4, 5, 6, 7, 8, and 10 are accepted by the Board as consistent with the administrative record, South Dakota law, the Board's oral decision, and the Board's rulings set forth above.

EE. DENR Response No. 9 is rejected by the Board to the extent it is inconsistent with the Board's adoption of new Conclusion of Law 15 as set forth in paragraph Z above, which more fully addresses the rationale behind the Board's oral decision.

FF. NPS Responses No. 1, 15, 16, 17, 19, 22, and 23 are accepted as consistent with the administrative record, the Board's oral decision and the Board's rulings set forth above.

GG. NPS Response No. 2 is accepted by the Board to the extent the Board's ruling as set forth in paragraph D above, which revised proposed Finding of Fact No. 3 to change the word "that" to "than." The remainder of the response is rejected as being inconsistent with the Board's oral decision and the Board's rulings set forth above. As revised, Finding of Fact No. 3 is supported by the record.

HH. NPS Response No. 3 is accepted to the extent included in the Board's revision to proposed Finding of Fact No. 7, as set forth in paragraph E above.

II. NPS Response 4 is accepted by the Board to the extent included in the Board's revision to proposed Finding of Fact No. 8, as set forth in paragraph F above.

JJ. NPS Response No. 5 is accepted by the Board to the extent included in the Board's revisions to proposed Finding of Fact No. 10, as set forth in paragraph G above. To the extent not included, the response is rejected as inconsistent with the administrative record, the Board's oral decision and the Board's rulings set forth above. The finding as revised is supported by the administrative record.

KK. NPS Responses No. 6, 7, and 8 are rejected on the grounds the proposed Findings of Fact are not consistent with the Board's oral decision and the Board's rulings set forth above. The challenged Findings of Fact are support by the administrative record.

LL. NPS Response No. 9 is accepted by the Board to the extent consistent with the Board's revision to proposed Finding of Fact No. 15 as set forth in paragraph H above. The remainder of the response is rejected. The challenged Finding of Fact is supported by the administrative record, the Board's oral decision, and the Board's rulings set forth above. Further, the finding is inconsistent with expert testimony from Applicant's expert that significant portion of the discharge from Beaver Creek Springs may come from the Minnelusa Formation, which DENR Observation Well CU-91A does not monitor.

MM. NPS Responses Nos. 10 and 11 are rejected by the Board. Applicant's proposed Findings of Fact Nos. 16 through 25 are supported by the administrative record and are facts relevant to the showing that the proposed use of water is a beneficial use and that the granting of the Application is in the public interest.

NN. NPS's Responses Nos. 12, 13, and 14 are rejected by the Board. Applicant's proposed Findings of Fact challenged in these responses are supported by the administrative record and are consistent with the Board's oral decision and the Board's findings set forth above.

OO. NPS Response No. 18 is rejected. Proposed Finding of Fact No. 39 is supported by the administrative record. An NPS witness, Rodney Horrocks, testified that cave lakes have been monitored since 1968, and that from 1968 through 1992 the water level in cave lakes dropped six feet. NPS cannot request a different set of facts than that testified to by its witnesses.

PP. NPS Response No. 20 is rejected by the Board. Proposed Finding of Fact No. 42 is supported by the administrative record, and is consistent with the Board's oral decision and the Board's rulings set forth above.

QQ. NPS Response No. 21 is accepted by the Board to the extent that it is included in the Board's revision to Applicant's proposed Finding of Fact No. 43 as set forth in paragraph S above. To the extent not included, the response is rejected as inconsistent with the Board's oral decision and the Board's rulings set forth above. As revised, proposed Finding of Fact No. 32 is supported by the administrative record.

RR. NPS Responses Nos. 24, 25, 26, and 35 are accepted by the Board as consistent with the administrative record, the Board's oral decision, and the Board's rulings set forth above.

SS. NPS Responses Nos. 27, 28, 29, 30, 31, 32, 33, and 34 are rejected by the Board as inconsistent with the Board's oral decision and the Board's rulings set forth above. NPS's proposed findings are also unnecessary for the Board to

reach the its decision on this matter. Further, some of the responses are inconsistent with the record as relied upon by the Board, such as expert testimony that a significant component of the discharge at Beaver Creek Springs may be from the Minnelusa Formation; the testimony of DENR and Applicant's experts that the operation of the well at Applicant's proposed well site would not have an adverse impact on existing Water Permit Holders of Beaver Creek; that there is reasonable probability that there is water available; that operations of the well would not have a measurable impact on water levels of the lakes in Wind Cave and the discharges from Beaver Creek Springs; and that the additional distance between the Wind Cave lakes and Beaver Creek Springs, and Applicant's proposed well, together with lower withdrawals than that associated with the proposed well in Application No. 2585-2 are significant." Finally, although additional information on the characteristics of an aquifer are always beneficial, the Board finds there were sufficient facts presented to allow it to enter its Conclusions of Law and Final Decision in this matter.

TT. That Trout Haven Ranch's Objections Nos. 1, 2, 3, and 4 are rejected, except to the extent the objections are included in the Board's rulings on Applicant's proposed Findings of Fact and Conclusions of Law set forth above. Applicant's proposed Findings of Fact and Conclusions of Law, as ruled upon by the Board, are supported by the administrative record, South Dakota law, and are consistent with the Board's oral decision.

UU. Trout Haven Ranch's Objection No. 5 is rejected by the Board. Applicant's proposed Finding of Fact No. 47 is supported by undisputed testimony presented at the December 10, 2008, hearing. Reliance on an exhibit from the

2006 Application proceedings to support this objection is not persuasive given the two years that elapsed prior to the December 10, 2008, testimony being submitted by Applicant.

VV. Trout Haven Ranch's Objection No. 6 is rejected. Applicant's proposed Finding of Fact No. 47 is supported by the administrative record. Although Mr. Simpson may not be legally obligated to provide the information to Applicant, said information was relevant to this matter, and if complied with, would have provided information that may have been useful to the Board regarding water levels in Beaver Creek and Mr. Simpson's objections to issuance of the permit, and that Mr. Simpson did not comply with Applicant's request.

WW. Trout Haven Ranch's Objections Nos. 7, 8, 9, and 10 are rejected by the Board except to the extent included in the Board's rulings as set forth above. The Board concludes that in adopting the additional condition to the water permit that it has protected the public interest as it relates to discharges from Beaver Creek Springs. Further, to require Applicant to provide the monitoring in the manner requested by Trout Haven Ranch could result in Intervenor or those opposed to the issuance of a water permit holding Applicant "hostage" and preventing Applicant from complying from a monitoring requirement. The Board cannot require a party other than Applicant to perform certain actions under a permit, and South Dakota law does not authorize a holder of a water permit to require a third party to acquiesce to use of their land for monitoring activities.

XX. Intervenor Randy Schroth's response to Applicant's Proposed Findings of Fact Conclusions of Law and Final Decision, except as included in the Board's rulings set forth above, is rejected. The Findings of Fact and Conclusions of Law

as ruled upon by the Board are supported by the record of this case, South Dakota law, and are consistent with Board's oral decision. The Board, finding it in the public interest, has conditioned the permit to provide protection of Beaver Creek Springs discharges.

YY. Intervenor Shawn Fugier's Response No. 1 is rejected by the Board as inconsistent with the Board's oral decision and the rulings set forth above. For the reasons set forth in paragraph WW above, the Board will not require the Applicant to perform any specific action, such as installing a weir, to insure Qualification 5 of the Board's Final Decision is complied with.

ZZ. Shawn Fugier's Response Nos. 2 and 3 are rejected, as inconsistent with the Board's oral decision and rulings, except to the extent included in the Board's rulings set forth above and the inclusion of Qualification 5 in the Final Decision concerning the Board's protection of the public interest.

AAA. Shawn Fugier's objections to Applicant's proposed Findings of Fact 16 through 25, 27, 28, 33, and 34 are rejected, as inconsistent with the administrative record, the Board's oral decision and its rulings, except to the extent those findings are modified by the Board's rulings set forth above. The challenged Findings of Fact are supported by the administrative record in this action, which includes the transcripts and exhibits that were introduced on the hearings regarding Application Nos. 2585-2 and 2580-2.

BBB. That Applicant's proposed Final Decision be further modified to reflect the Board's decision by further revising Qualification 5 as follows:

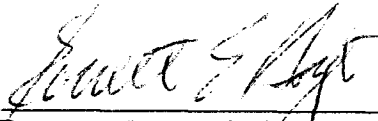
5. The Applicant, Water Permit Holder, under this permit shall control withdrawals from the well so there is not a significant adverse effect on the water flow from Beaver Creek Springs or a

significant adverse effect on the water quality and character in
Beaver Creek Springs.

The Board attorney is directed to prepare Findings of Fact, Conclusions of
Law and Final Decision consistent with the above rulings to be executed by the
Chairman of the Board or designee without further motion or hearing.

Dated this 11th day of March, 2009.

SOUTH DAKOTA WATER
MANAGEMENT BOARD



Everett Hoyt, Chairman



JUN 12 2009

DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

Southern Black Hills Water System Inc
c/o Robert Peplinski
HC 56 Box 53
Oral SD 57766

Dear Mr. Peplinski:

Enclosed is Water Permit No. 2633-2 authorizing construction of your water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

Form 10, *Notice of Completion of Works and Application of Water to Beneficial Use*, is enclosed. Please return this completed form after you have finished the system and have put the water to beneficial use. An investigation can then be scheduled so the water license may be issued, thus completing the acquisition of a water right.

An informational sheet *Common Water Right Questions?* is also enclosed. This sheet is intended to answer some of the questions associated with obtaining and keeping a water right.

Sincerely,

Garland Erbele, Chief Engineer
Water Rights Program
(605) 773-3352

enclosures



South Dakota Legislature

State Capitol, 500 East Capitol, Pierre, South Dakota 57501-5070

House of Representatives

RECEIVED

OCT 12 2012

WATER RIGHTS
PROGRAM

October 10, 2012

Garland Erbele, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources
523 East Capitol Ave.
Pierre, SD 57501

Dear Garland:

Landowners in the vicinity of the state funded Southern Black Hills Water System's wells have posed a number of questions to me regarding the progress, funding and oversight of the project in the Beaver Creek drainage. Probably stemming from the recent drought, there is interest in any annual reports that the State of South Dakota requires to be filed with DENR. Therefore, I would request any and all reports that are public and must be filed with DENR regarding water permits 2632-2; 2634-2; 2546-2; and 2633-2. Thank you in advance for any assistance you may be able to provide, and please do not hesitate to contact me at your convenience should you require anything additional of me.

Sincerely,

Lance S. Russell
State Representative
PO Box 184
Hot Springs, SD 57747
605-745-3228



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

October 19, 2012

The Honorable Lance S. Russell
South Dakota State Representative
PO Box 184
Hot Spring, SD 57747

Dear Representative Russell:

Thank you for your request of annual reports filed with the Department of Environment and Natural Resources (DENR) for various water rights that supply water to the Southern Black Hills Water System. Your list included Water Permit No. 2632-2, which is a permit held by the city of Box Elder. I presume this is a typographical error and the correct permit number is 2302-2 which is the original Eben Streeter water right.

Water Right No. 2302-2 obtained by Eben Streeter in 1994 appropriates 15 gallons per minute (gpm) from one well known locally as the "Streeter well" completed into the Madison Aquifer. Mr. Streeter originally intended this water right to be used for a small water distribution system but is primarily used to supply his house water, for livestock watering, and area homeowners use it to supply water for their cisterns. The water right was obtained prior to the department requiring annual reporting. Therefore, annual water use reporting is not a condition on this water right.

Water Permit No. 2546-2 obtained in 2005 by Eben Streeter appropriates an additional 95 gpm from the Streeter well. The intended use of the water under this water permit was the same as the original water right obtained in 1994. However, annual water use reporting is a requirement of this permit. Mr. Streeter has reported the estimated annual water use since 2005 as follows:

2005	2006	2007	2008	2009	2010	2011
3.4 acre feet	5.6 acre feet	6.2 acre feet	6.2 acre feet	6.7 acre feet	9.2 Acre feet	8.6 acre feet

An acre foot of water equals 325,828 gallons.

Water Permit No. 2634-2 is held by Streeter Family Limited Partnership and was obtained in 2008 authorizing connection of Southern Black Hills Water System to the Streeter well. This permit does not allow an increase in the 110 gpm diversion rate appropriated by 2302-2 and 2546-2. Annual water use reporting is also a requirement of this permit. DENR received the first annual report for this water right for water used in 2011. Southern Black Hills Water

System reported its use separate of Mr. Streeter's 2011 water use from the well. They reported 5.8 acre feet of water used under this water permit in 2011.

Water Permit No. 2633-2 held by Southern Black Hills Water System appropriates 300 gpm from a new well to be completed into the Madison Aquifer. This well is to be located about 2.75 miles north of the existing Streeter well. While annual reporting is a requirement of this permit, the well has not been drilled and no water use has occurred.

I hope this information answers your request. Please let me know if DENR can be of further assistance in responding to your constituents.

Sincerely,

A handwritten signature in black ink, appearing to read "Garland Erbele". The signature is fluid and cursive, with a long horizontal stroke at the end.

Garland Erbele
Water Rights Program, DENR
605 773-3352

STATE OF SOUTH DAKOTA

WATER MANAGEMENT BOARD

= = = = =
IN THE MATTER OF THE WATER PERMIT
APPLICATION NO. 2633-2, SOUTHERN BLACK
HILLS WATER SYSTEM

= = = = =
BEFORE THE WATER MANAGEMENT BOARD
Everett Hoyt, Chairman
Leo Holzbauer, Member
Bernita Loucks, Member
Jim Hutmacher, Member
Tim Bjork, Member
Rodney Freeman, Member
Jeff Hallem, Counsel

ORIGINAL

APPEARANCES

Talbot Wieczorek, appearing on behalf of the Applicant
Diane Best, appearing on behalf of the Department and the
Chief Engineer
Michael Hickey, appearing on behalf of Trout Haven and
Mr. Simpson
Peter Fahmy, appearing on behalf of the National Park Service
Cheryl Schrempp DuPris, appearing as local counsel on behalf
the National Park Service
Shawn Fugier, appearing pro se
Andy Schroth, appearing pro se

PRECISION REPORTING

Cheri Wittler, RPR, CRR

105 S. EUCLID AVE., SUITE E • PIERRE, SD 57501 • (605) 945-0573

TRANSCRIPT OF PROCEEDINGS, held in the
 above-entitled matter, at the Pierre Chamber of Commerce,
 Pierre, South Dakota, on the 10th day of December, 2008.

= = = = =

I N D E X

<u>DENR Witness</u>	<u>Direct</u>	<u>Cross</u>	<u>Redirect</u>	<u>Recross</u>
Ken Buhler	15	57 64 86 103	106 118	108 109 112
<u>Applicant Witness</u>	<u>Direct</u>	<u>Cross</u>	<u>Redirect</u>	<u>Recross</u>
Mitch Kannenberg	122	155 165 173	--	--
Robert Peplinski	224	--	--	--
<u>NPS Witness</u>	<u>Direct</u>	<u>Cross</u>	<u>Redirect</u>	<u>Recross</u>
Paula Cutillo	179	193 199 213	--	--
<u>Trout Haven Witness</u>	<u>Direct</u>	<u>Cross</u>	<u>Redirect</u>	<u>Recross</u>
Arden Davis	228	242 250	256	258
Steve Simpson	261	--	--	--
<u>Intervener Witness</u>	<u>Direct</u>	<u>Cross</u>	<u>Redirect</u>	<u>Recross</u>
Shawn Fugier	263	268	--	--
Andy Schroth	274	--	--	--

(DENR Exhibits 1 through 3 are marked for identification)

INDEX (Continued)

<u>DENR Exhibits</u>	<u>M</u>	<u>O</u>	<u>R</u>
1 - Agency file	2	14	14
2 - Buhler vitae	2	15	15
3 - Map	2	19	19
4 - Diagram	37	38	38
 <u>Applicant Exhibits</u>	 <u>M</u>	 <u>O</u>	 <u>R</u>
1 - Report	120	121	123
2 - PowerPoint	120	121	123
3 - Map	120	121	123
4 - Map	120	121	123
5 - 4/9/07 Letter	150	151	151
6 - 12/13/07 Letter	150		151
 <u>NPS Exhibits</u>	 <u>M</u>	 <u>O</u>	 <u>R</u>
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 <u>Trout Haven</u>	 <u>M</u>	 <u>O</u>	 <u>R</u>
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 <u>Fugier Exhibits</u>	 <u>M</u>	 <u>O</u>	 <u>R</u>
1 - Letter	265	264	264

1 CHAIRMAN HOYT: Okay. With that, we're back to
2 2633-2, and we'll take appearances for the parties
3 starting with Ms. Best.

4 MS. BEST: Diane Best appearing on behalf of the
5 Department of Environment and Natural Resources and the
6 Chief Engineer.

7 CHAIRMAN HOYT: For the Applicant.

8 MR. WIECZOREK: Talbot Wieczorek appearing on
9 behalf of Southern Black Hills Water System.

10 CHAIRMAN HOYT: And for the Interveners.

11 MR. FAHMY: Peter Fahmy on behalf of the
12 National Park Service, and I have with me today --

13 MS. DUPRIS: Cheryl Dupris with the U.S.
14 Attorney's Office.

15 MR. FAHMY: I'm formally associated with her as
16 required by your practice here in the state.

17 MR. HICKEY: Mike Hickey. I represent Trout
18 Haven Ranch and Steve Simpson.

19 MR. FUGIER: Shawn Fugier. I irrigate off
20 Beaver Creek.

21 CHAIRMAN HOYT: Certainly have your spelling in
22 the record, Mr. Fugier, but would you spell that for the
23 court reporter, please.

24 MR. FUGIER: F-U-G-I-E-R.

25 CHAIRMAN HOYT: Are there other Interveners

1 parties who appear here?

2 MR. SCHROTH: Andy Schroth, 711 Ranch. I
3 irrigate off the creek.

4 CHAIRMAN HOYT: Your address.

5 MR. SCHROTH: Box 1, Buffalo Gap.

6 CHAIRMAN: We have your name in the record, but
7 would you spell it again for the court reporter.

8 MR. SCHROTH: S-C-H-R-O-T-H.

9 CHAIRMAN HOYT: Are there other intervenor
10 parties who appear today?

11 Very well. We'll proceed. And appearing for
12 the Applicant.

13 MR. WIECZOREK: I'm going to defer to the State
14 to go first so Mr. Buhler can explain his report. There
15 was also some discussion that we talked to Ms. Best about
16 there was a prior record in this matter, and I believe
17 Ms. Best's going to tell the Court the position on the
18 prior record -- the Court. The Board the position on the
19 prior record and what the counsel have discussed with the
20 ability to refer to that prior record.

21 CHAIRMAN HOYT: Very well, Mr. Wieczorek.

22 Ms. Best.

23 MS. BEST: The application that you will hear
24 today is a new application from the Madison Aquifer in
25 the southern hills for Southern Hills Rural Water System.

1 It is, as Mr. Wieczorek indicated -- there has been some
2 history down there regarding Southern Hills. A number of
3 the same parties are here today as what previously
4 appeared in a previous Southern Hills water permit
5 application that was decided two years ago by this Board.

6 That water permit application was No. 2585. It
7 was a larger water permit application, and it was a --
8 some distance from the one that's being heard here today.
9 But there are some similar issues. And the lawyers in
10 the case have talked, and we have agreed that what we'd
11 like to do because we think there will be some reference
12 back to that previous case is to ask the Board to take
13 judicial notice of the previous proceeding.

14 In fact, there's room in the Administrative
15 Procedures Act to take judicial notice of the Board's own
16 previous proceeding. And that would give the parties the
17 opportunity and in fact the pro se persons who have
18 intervened the opportunity to refer back to any exhibits,
19 for example, or testimony from the previous proceeding.

20 And, of course, they'll need to bring that
21 before you as far as what that exhibit is to date. But
22 at least we wouldn't have to go into foundation or
23 admissibility with those exhibits if we just had had
24 judicial notice of the previous proceeding. So that's
25 one thing we will ask for.

1 As I indicated, the proceeding here today is --

2 CHAIRMAN HOYT: Excuse me, Ms. Best. Do all
3 attorneys join in the request that we take judicial
4 notice of the deferred application, 2585?

5 MR. FAHMY: Yes.

6 MR. HICKEY: Yes, Your Honor.

7 MR. WIECZOREK: Petitioners do.

8 CHAIRMAN HOYT: Thank you. Interveners, if you
9 followed that, do you have any objection to our referring
10 to the prior proceedings as it relates to this issue?

11 MR. HALLEM: You're going to have to answer no
12 for the court reporter rather than shaking your heads.

13 MR. SCHROTH: No.

14 MR. FUGIER: No.

15 CHAIRMAN HOYT: Very well. The Board would do
16 so.

17 MS. BEST: As I indicated, it's a Madison
18 Aquifer well. The Board has previously heard testimony
19 regarding Madison Aquifer wells on a number of occasions.
20 And Ken Buhler has reviewed this application and the
21 chief engineer -- or he's prepared a report. He will
22 testify today regarding his report.

23 Based on that report, the chief engineer is
24 recommending approval of this water permit application.
25 And Ken Buhler will testify regarding -- regarding the

1 report.

2 As the Board knows well, there's a four-part
3 standard for approval of a water permit application.
4 There's beneficial use criteria, public interest
5 criteria, the issue of whether there's a reasonable
6 probability that there will not be impairment of existing
7 water rights, and then also the general issue of water
8 availability in the aquifer. And so it's that four-part
9 test.

10 The focus that you're going to hear today will,
11 I expect, be in large part the public interest criteria.
12 And that issue stems from the Board's determination in
13 the previous case or at least one previous case that
14 although protection of artesian head pressure is not
15 necessarily -- impairment of artesian head pressure is
16 not necessarily an impairment of a water right within the
17 strict legal standard of impairment of existing rights
18 within that element of proof, that when it comes to areas
19 such as springs and the lakes within the Wind Cave
20 National Park System that a strong look ought to be had
21 at public interest and whether an impairment of those
22 would impair public interest.

23 When you talk about two wells as being competing
24 water sources, you can always lower the pump in the other
25 well. And we have talked about that a number of times,

1 and Ken Buhler will talk about that today. But when you
2 are dealing with lakes and springs, they're not a
3 resource that lends itself necessarily to that analysis.

4 And previously the testimony and findings of
5 this Board has looked at those matters as public interest
6 considerations because of the resources involved.

7 The testimony here -- I think you will hear
8 testimony from all sides as to whether the present
9 application ought to be granted in light of that public
10 interest concern so Mr. Buhler has looked at the issue of
11 the effect of this permit.

12 Given the size or the diversion rate of this
13 permit, the volume of the permit, the distance from the
14 water sources involved, and the information available
15 from the State's monitoring wells as well as Ken's
16 experience and background, his report concludes that the
17 permit ought to be granted with -- to go ahead and allow
18 for development of this resource.

19 So I don't have anything further by way of
20 opening statement. I would defer to the other parties.

21 CHAIRMAN HOYT: Very well. We'll take opening
22 statements from other counsel, if you wish.

23 Mr. Wieczorek for the Applicant.

24 MR. WIECZOREK: Just a brief statement. I
25 believe Ms. Best has kind of laid out all the issues. A

1 number of the members of this Board were on the Board
2 when we were here a couple of years ago and talked about
3 a different site that was seeking about four times the
4 amount of diversion.

5 This permit seeks 300 gallons a minute maximum
6 diversion rate. The Applicant -- well, there's a couple
7 things that have occurred here. The Applicant has moved
8 this site further north to move it further away from the
9 springs. Mitch Kannenberg's going to testify the other
10 reason the north site -- why he doesn't move it any
11 further away from the Cave Lakes area because the
12 geological -- geology in that area moving it north makes
13 it less likely to have an impact on the Cave Lakes
14 because of the way the water moves through that area.

15 There's going to be some testimony about a
16 chemical analysis that was done that shows interesting
17 differences that shows the Beaver Creek Springs is
18 actually under the influence of water coming out of the
19 south. So that moves us away from some of those public
20 interests.

21 Just as a brief in referring to that old
22 deferred permit, this Board may remember there was
23 discussions of a pump test. Frankly, when Southern Black
24 Hills got into that and looked at the pump test the cost
25 was prohibitive for them to do a pump test. They just

1 simply couldn't get the funding if they didn't have a
2 permit in place.

3 So the other thing that started to become
4 obvious is even no matter what the results of the pump
5 test were, they weren't sure of -- less than the
6 opposition. So Southern Black Hills talked to some of
7 the Interveners, and some of the feedback they got is ask
8 for less and move it further away from the springs. They
9 did that.

10 There's going to be testimony that the moving of
11 this well site 3 miles north is going to cost Southern
12 Black Hills quite a bit more money for construction, but
13 we're in one of those worlds that you can't get the money
14 until you've got a permit. So you can pay more for
15 construction because you have a permit and you pay to get
16 a permit. It's just the nature of the way things work.

17 So that kind of gives you the history of why
18 they're up here and why they're here but they lowered the
19 demand to a fourth of what that deferred permit had
20 requested. They moved it north to get it out of that
21 area. And I'll let the experts talk about the chemical
22 analysis and what that shows. But it's my understanding
23 it shows that water for that Beaver Creek Springs
24 comes -- at least some of the influence comes out of the
25 south as opposed to coming from the north.

1 That's all I had.

2 CHAIRMAN HOYT: Thank you.

3 Mr. Fahmy.

4 MR. FAHMY: Mr. Chairman, I'm going to dispense
5 with any opening and just reserve my rights to make a
6 closing statement at the end of this matter.

7 CHAIRMAN HOYT: Very well. Thank you.

8 Mr. Hickey.

9 MR. HICKEY: Yes. Very briefly. On behalf of
10 Mr. Simpson and the Trout Haven Ranch, basically we're
11 going to be asking for the same types of protections that
12 we did in the deferral. We appreciate the fact that they
13 have cut back the size of their request and they're not
14 right on top of the springs. We still have some concerns
15 that we'd like to talk about, but the bottom line is we
16 would like those protections. And if -- I wasn't -- I
17 didn't appreciate the fact that Mr. Wieczorek's client
18 needed a permit before he could do aquifer tests. And if
19 that's the holdup, I think that we could work with that
20 with respect to the language and stuff like that so that
21 as long as the aquifer tests were performed prior to
22 utilization, I don't think we would have a serious
23 objection to that.

24 But I think I agree with Mr. Wieczorek and
25 Diane Best that the primary issue here is what's in the

1 public interest, is in the public interest to permit this
2 well, and I think there will be some testimony on that.
3 So thank you.

4 CHAIRMAN HOYT: Mr. Fugier and Mr. Schroth is
5 it? Are you essentially in agreement with Mr. Hickey's
6 comments?

7 MR. FUGIER: Yes.

8 MR. SCHROTH: Yes.

9 CHAIRMAN HOYT: Thank you very much. And,
10 counsel, do you want to review the record at this point?

11 MR. HALLEM: Yes. Prior to the hearing the
12 members of the Board received a Board packet. This is
13 similar to the last time. The Board packet includes the
14 report of the DENR engineer. It also includes the chief
15 engineer's recommendation. And then it contains all of
16 the written notices of intervention, and those would be
17 for the parties that are here today as well as other
18 individual Interveners that aren't here today. Those
19 are -- and those came in the form of e-mails that came in
20 to the Water Rights Division as well as written letters.

21 The packet is available for counsel or any
22 Interveners to see, but this is what the Board has before
23 them.

24 CHAIRMAN HOYT: Anything further?

25 Ms. Best, apparently your team is up.

1 MS. BEST: Okay. Thank you.

2 First off, what I'd like to do is ask for
3 admission of the DENR file. What you've been provided is
4 what the chief engineer is required by law to provide to
5 the Board, which is all pleadings in the case. There's a
6 statute that requires that. So you've got the petitions
7 to intervene and, of course, the chief engineer's
8 recommendation.

9 In addition to those documents -- I mean, those
10 documents are included in the agency file, but the agency
11 file also includes the actual application for the water
12 permit itself, the newspaper notice, the affidavits of
13 publication and then, of course, the originals on these
14 petitions to intervene and the original chief engineer's
15 recommendation.

16 So I would move for admission of DENR 1, the
17 agency file.

18 CHAIRMAN HOYT: Any objections?

19 MR. WIECZOREK: No objections from the
20 Applicant.

21 MR. FAHMY: No objections.

22 MR. HICKEY: None, Your Honor.

23 CHAIRMAN HOYT: Hearing no objections, the file
24 will be admitted into evidence as DENR Exhibit 1.

25 MS. BEST: At this time I would call Ken Buhler.

1 CHAIRMAN HOYT: Mr. Buhler, I'm not certain
2 whether we -- we did swear you yesterday I recall, but
3 let us swear you again for the purposes of this docket.

4 (The witness is sworn by Chairman Hoyt)

5 CHAIRMAN HOYT: And I guess for the day's
6 proceedings, as a matter of fact.

7 DIRECT EXAMINATION

8 BY MS. BEST:

9 Q. Ken, I'm showing you DENR 2. That's your vitae of
10 qualifications; is that correct?

11 A. Correct.

12 MS. BEST: I'm going to go ahead and -- I've
13 given copies to the parties, and I'll just go ahead and
14 hand that out.

15 MR. HALLEM: Does anybody have an objection to
16 DENR Exhibit 2?

17 MR. FAHMY: No.

18 MR. WIECZOREK: No objection.

19 MR. HICKEY: None.

20 CHAIRMAN HOYT: Very well. 2 is admitted.

21 Q. Ken, I've got a couple of questions here. Your
22 vitae mentions that you were involved in the Black Hills
23 Hydrology Study.

24 Can you explain to the Board what your involvement
25 was?

1 A. I served on the steering committee for the Black
2 Hills Hydro Study. As the name implies, direction for
3 that Black Hills Hydro Study came from the committee.
4 Also provided peer review for most of the publications
5 that came out of that, essentially what my involvement
6 with Black Hills Hydro Study was.

7 Q. And again how long have you worked for the DENR?

8 A. I started with DENR with the Water Rights Program
9 July of 1985.

10 Q. And what specific work have you done with respect to
11 the Madison Aquifer?

12 A. You've got to take that back to about 1981. I
13 graduated from college, went to work in Williston Basin
14 in the oil industry. I spent, you know, from 1981 to
15 1985 working on designing well completions, acid jobs,
16 stimulation jobs, which would include acidizing and
17 hydraulic fracturing. Most of that -- a great deal of
18 that work was in the Madison Aquifer.

19 Since I came to work with Water Rights Program, have
20 drilled a number of -- have been involved in the
21 installation of a number of observation wells, including
22 the planning, site supervision, geologist, so on and so
23 forth for those observation wells and reviewed somewhere
24 in the neighborhood of 100 water permit applications that
25 have come before this Board from the Madison Aquifer,

1 have worked with a number of engineers from various firms
2 in design and development of the Madison wells throughout
3 the Hills, have read -- I'm certain I haven't read all of
4 the literature on the Madison but, you know, done a lot
5 of studying on the Madison, worked with a lot of
6 different researchers on the Madison providing data and
7 sharing data.

8 Aquifer tests, you know, have been involved on the
9 measuring end as well as reviewed some of the aquifer
10 tests.

11 Q. In your job do you -- do you handle complaints
12 regarding when people have complaints regarding the well
13 going dry or the well malfunctioning?

14 A. Yeah. There's the well interference aspect of my
15 job. A lot of phone calls, a lot of -- and in some cases
16 some site investigations where somebody implies their
17 well has gone dry or diminished discharge because of
18 another pumping and then, you know, the evaluation of
19 that, the investigation of that. That would be my part.

20 Q. What is your opinion, Ken, as far as what are the
21 best sources of data to use to evaluate the Madison
22 Aquifer?

23 A. Oh, I think -- I'm not patting ourselves on the
24 back. What I'm going to do is pat my predecessors on the
25 back with the observation of all the work that's been

1 established with the Water Rights Program. We have 26
2 observation wells completed in the Madison Aquifer.
3 Those observation wells, some of them date back to the
4 1960s. The bulk of them went in in the late '80s to
5 early '90s.

6 I think anybody that's going to look at the Madison
7 Aquifer and come in front of this Board and say this is
8 what I expect out of the Madison Aquifer really has to
9 look at the observation wells and say from a hands-on
10 perspective something we can actually put our hand on,
11 this is what we have seen is the impact of pumping in
12 this area or better terms the lack of impact of pumping
13 in these areas.

14 We're able to compare wells in high capacity areas
15 or high production areas versus Madison wells that aren't
16 in -- aren't near pumping. Are we seeing the pumping? I
17 think easily the best information that we have that
18 anybody has to look at the Madison Aquifer is looking at
19 this observation well record and just see the response to
20 this aquifer to stress or -- well, recharge and
21 withdrawals.

22 Q. Ken, there is an exhibit with a map on it. Can you
23 tell the Board, did you prepare that?

24 A. Yes, I did. That map is Figure 1 in the report that
25 I intend to present to the Board as part of our review of

1 this application. It's a vicinity map, just so everybody
2 hopefully understands what we're talking about
3 geographically out there, what's where.

4 MS. BEST: And that map has previously been
5 marked as DENR Exhibit 3, and I would move admission at
6 this time.

7 CHAIRMAN HOYT: Any objections?

8 MR. WIECZOREK: No objection.

9 MR. FAHMY: No objection.

10 MR. HICKEY: No objection.

11 CHAIRMAN HOYT: Hearing none, Exhibit 3 will be
12 received.

13 Q. Ken, you indicated that you had prepared a report.
14 Can you explain to the Board -- can you explain your
15 report to the Board, please.

16 A. Sure. Southern Black Hills Water System has made an
17 application to appropriate water. By law the chief
18 engineer's required to make a recommendation to this
19 Board, how this Board should react to -- or what this
20 Board -- a recommendation on how the Board should act on
21 that application.

22 We prepared a report so the chief engineer could
23 make an appropriate recommendation. I'd like to go over
24 this report as a foundation for the chief engineer's
25 recommendation to approve this application with

1 qualifications.

2 Water Permit 2633-2 proposes to appropriate 484 acre
3 feet of water per year at a -- that's a volume at a
4 diversion rate not to exceed .67 cubic feet of water per
5 second. So we're looking at a diversion rate of 300
6 gallons a minute, can pump that 300 gallons of minute
7 until they divert 484 acre feet a year is what this
8 application is for.

9 This application is to complete a well in the
10 Madison Aquifer. They proposed that well was going to be
11 around 1,850 feet deep. It is to be located in the
12 southeast quarter of the southeast quarter of Section 35
13 of Township 6 -- I'm sorry. 5 south and 6 east and
14 that's in Custer County.

15 The water from this rural water system is proposed
16 to serve users in Custer, Fall River, and Pennington
17 County.

18 Come with you again with the Madison Aquifer. The
19 Madison, of course, is -- it's a major regional aquifer.
20 This underlies parts of Montana, North Dakota,
21 South Dakota, Wyoming, and Canada. Just in South Dakota
22 alone we're looking at something like 650 million acre
23 feet of recoverable water in storage. It's a huge, huge
24 resource.

25 For what it's worth, this well site, proposed well

1 site is -- we talk about how large the Madison is. This
2 actually is about 25 miles from the edge of the aquifer.
3 Certainly not the center of that. Now the Madison
4 Aquifer is contained in the Madison Limestone. Madison
5 Limestone is this massive limestone. The upper part of
6 that is what we call carstic. It has caves in it. It
7 has solution features and basically enlarged conduits
8 within that aquifer -- or within the limestone that allow
9 water to move.

10 The lower part of the Madison Limestone is probably
11 a confining bed. So probably don't have water movement
12 to or from the Madison from below because the bottom of
13 the -- the bottom of the limestone's a very tight
14 dolomitized limestone.

15 Above the Madison Aquifer is the Minnelusa
16 Formation. The Minnelusa is -- unconformably overlies
17 the Madison, and it probably is an upper confining bed.
18 So we don't have water moving from the Madison to
19 shallower aquifers or shallower aquifers to the Madison
20 because of Minnelusa.

21 The Madison's generally considered an excellent
22 aquifer. This is both in terms of this potential to
23 supply quality water and relatively productive wells.
24 This is especially true near the recharge area.

25 Now to go to Figure 1 in our report and also

1 exhibit -- the exhibit, the Madison Aquifer I've shown --
2 I'm sorry. The Madison outcrop we've shown as that light
3 tan color. That's where the Madison is at the surface.
4 It's where the Madison is being recharged.

5 We show in Figure 1 the proposed well site of 2633-2
6 and its relative distance from the Madison. At this
7 location I expect -- at the location proposed by this
8 Applicant I expect the Madison top to be around 1,650
9 feet below ground surface. I expect the Madison to be
10 somewhere between 250 and 300 feet thick here.

11 Now one thing about it is the -- this well site is
12 located near a geologic structure called a monocline. A
13 monocline is simply a fold in the rock. And with that
14 fold we'd expect to have some fracturing and have some --
15 we're going to have fracturing associated with this.
16 It's probably going to enhance its ability to move water.
17 If you will, if I took a piece of paper and folded it
18 like this, I've got some stress up along the top of it,
19 and probably some cracks along there that make this a
20 reasonably good-looking site for a well because of
21 that -- this geologic structure.

22 One thing about this structure, a little later --
23 the way the water is going to move through the Madison
24 Aquifer in this location might be influenced by this
25 structure. It may move easier in one direction than

1 another direction, and this structure might dominate
2 that.

3 Now the Madison is under confined conditions or what
4 you might call an artesian aquifer. Expect the water
5 level in the well at this site to be about 150 feet below
6 ground surface. Remember the top of the aquifer's around
7 1,650 feet here. The water level is around 150 feet.
8 So, if you will, we're talking about something like 1,500
9 feet of artesian pressure at this site.

10 So that's by way of background for the Madison
11 Aquifer in this location.

12 When we review an application so the chief engineer
13 can make a recommendation we look at SDCL 46-2A-9. And
14 that's the law that says for a permit to be approved we
15 need to have four qualifications. There's going to be
16 unappropriated water -- reasonable probability there's
17 unappropriated water available. Reasonable probability
18 there's not going to be an unlawful impairment of
19 existing rights. It's got to be a beneficial use, and
20 it's got to be public interest.

21 Rope that down. So we'll go through each one of
22 those as I did in my report, starting with the water
23 availability.

24 Using a very broad brush we look at SDCL 46-6-3.1.
25 That statute basically says when considering an

1 appropriation from ground water we've got to make sure
2 that withdrawals from that aquifer don't exceed recharge
3 to the aquifer. In other words, you can't mine an
4 aquifer. This was discussed a little bit yesterday.

5 There's two exceptions in that statute notable. The
6 exceptions are this doesn't apply to the rural water
7 system and this doesn't apply to the Madison. But still
8 figure that this is -- the principles of withdrawal not
9 exceeding recharge, there's still a reasonable benchmark
10 to look at when we talk about defining the availability
11 of water here.

12 Looked at a real simple water balance here. We've
13 got recharge from the Madison Aquifer coming from stream
14 flow losses. Every stream as it crosses the Madison
15 outcrop again on Figure 1 of our report, the yellow or
16 tan area there is where the Madison's at the surface.

17 Every creek, stream -- every -- every river coming
18 out of the Hills as it crosses the outcrop with the
19 exception of 2 loses all of its flow except for during
20 high flow times. So you get -- you get a lot of recharge
21 to the aquifer from the water -- from surface water
22 sources.

23 The major source of recharge to the aquifer,
24 however, is from precipitation that falls right on that
25 outcrop, the infiltration of that. The numbers that we

1 have available to us on what is average annual recharge
2 to the Madison Aquifer, there was a study done in 1981
3 for part of the ETSI Pipeline Project, and they came up
4 with these numbers that recharge to the Madison is
5 somewhere between 140,000 and 400,000 acre feet a year.
6 A lot of recharge.

7 I'm going to caution that one of the things those
8 guys did was they basically said the Madison Aquifer is
9 everything between the Precambrian and the cretaceous.
10 You know, they used -- but it's still not a bad number.
11 The Black Hills Hydro Study, they looked at the
12 Madison -- simply the Madison in the Black Hills and
13 between 1931 and 1998 they estimated the average annual
14 recharge of around 137,000 acre feet a year. So we're
15 comfortable with those sort of numbers.

16 When we look at water use from the Madison, a very
17 small part of the water use, some of the estimates are
18 something like 2, 2 and a quarter percent of the water is
19 actually used for domestic wells. Most of the water
20 being used out of the Madison is a use that requires a
21 water right or a water permit.

22 So when I look at the amount of water that's being
23 taken out of the aquifer we can look at the number of
24 permits -- the appropriations from the Madison. There
25 are currently 162 appropriations from the Madison and one

1 deferred application. These appropriations include we've
2 got seven future use permits. They're reserving just
3 over 11,000 acre feet of water a year. We've got 133
4 permits or rights that are appropriating 99.02 CFS.
5 We've got 22 water permits or water rights that
6 appropriate a volume of 7,713.36 acre feet of water for
7 irrigation.

8 If we use the worst-case scenario, if everybody's
9 using as much water as they can possibly use out there or
10 will probably use, we come up with a water use somewhere
11 around 61,800 acre feet of water a year. That's
12 worst-case scenario.

13 If you throw the deferred application in, that's
14 another 1,600 acre feet a year, we'd be looking at
15 something around 63,400 acre feet of water a year that
16 could be pumped under permit from the Madison.

17 Now when I say worst-case scenario, there's some
18 reasonable logic to come up with that worst-case
19 scenario, but it might be incredibly worst case. Because
20 when we look at the Black Hills Hydro Study between 1987
21 and 1996 they're coming up with something like 12,000
22 acre feet of water a year being pumped out of the
23 Madison.

24 When I look at probable withdrawals based on their
25 numbers of what would happen in 2008, we might have

1 20,000 acre feet of water a year being pumped out of the
2 Madison. All right.

3 This 484 acre feet of water represents full-time
4 pumping at the maximum diversion rate. So we're looking
5 at 24-seven, 365 days a year pumping 300 gallons a minute
6 to get 484 acre feet a year. In all actuality that ain't
7 going to happen. We're probably talking closer to
8 numbers like pumping 290 acre feet a year off of this.
9 That's running the well 60 percent of the time. So it --
10 to get 484 acre feet a year the Applicant would have to
11 come in and either increase the diversion rate or -- I'm
12 sorry. Get a new permit application, increase the
13 diversion rate, or add another well to pump that volume.
14 And either of those would require public notice.

15 So if we put the amount of water that's probably
16 being used out of the Madison, 20,000 acre feet a year,
17 recharge to the Madison around 140,000 acre feet a year,
18 add the amount of water we're talking about from this
19 permit, simple water balance says, yeah, we got
20 unappropriated water available from the Madison Aquifer
21 for this permit. This is not going to affect the
22 availability of water.

23 I'm not suggesting that all of the water recharged
24 to the Madison is available at this site or all of the
25 water that's in storage in the Madison is available at

1 this site, but we needed a way to convey that we're
2 talking about a huge resource here, a lot of water in
3 storage, a lot of recharge, relatively untapped. So
4 that's why we threw those numbers out.

5 Now in this case we're actually able to talk about a
6 very localized water budget, not this huge water budget.
7 As part of the Black Hills Hydro Study a report was put
8 together on hydrological -- that actually broke the
9 entire Black Hills area down into subunits. And those
10 subunits were broke down so that -- as logically as they
11 could to make sure we don't have water moving -- they
12 tried to have each subunit stand on its own, if possible.

13 So when they looked at this subunit they said in
14 this area we got outflow from the subunit coming in a
15 couple different ways. We got artesian spring flow,
16 something like 9.6 acre feet a year -- CFS average
17 discharge. We got ground water outflow, just water
18 moving out of the subarea, nine-tenths of a CFS. And
19 well withdrawals. The well withdrawals were something
20 like a tenth of a CFS.

21 So again this shows that we really don't have any
22 well withdrawals in the area. I bring that up to show
23 that again this is relatively untapped resource, even on
24 a fairly localized scale.

25 Now if we're going to get a water balance out there,

1 we're not going to lose water out of storage, not going
2 to have withdrawals exceeding recharge. In this new area
3 or in this area with a new well withdrawal we're either
4 going to need to -- the natural discharge that occurs at
5 the artesian spring or ground water outflow would have to
6 decrease. You're either going to take it out of the well
7 or else -- if you're taking it out of the well, you might
8 decrease spring discharge or you might decrease ground
9 water outflow. Or if you're pumping the well, you need
10 to have more water come into the area. One of the two
11 things has to happen.

12 Now we can assume that a very, very subtle
13 difference in the water table, a decrease in the water
14 table can induce a lot more water from another area, or
15 it can decrease the amount of water that goes out of
16 the -- the ground water outflow from the area. So that's
17 going to take a very subtle change.

18 To impact the artesian spring we're going to need to
19 have a fairly significant change in water level at that
20 spring. Let me try it this way. If -- no. I don't want
21 to do that. Never mind.

22 The point being the 484 acre feet of water more than
23 likely 290 acre feet of water that we should be talking
24 about here, to pump that out of this subarea or pump this
25 out of the area what's going to happen? More than likely

1 what's going to happen is we're going to decrease the
2 ground water outflow or we're going to increase the
3 ground water inch flow. We're going to do that because
4 it just takes a really small change in the water level to
5 make a lot of water difference.

6 Are we going to affect the spring flow with this?
7 The natural discharge from the spring flow. At that
8 point it's going to take a big water level change at the
9 spring to make a difference.

10 So at the end of the day this -- the volume of water
11 this permit proposes to withdraw from the Madison should
12 not impact the amount of water in storage or the -- you
13 know, we have unavailable water for this permit.

14 As mentioned leading into this thing, we monitored
15 26 observation wells in the Madison Aquifer. One of
16 those observation wells is located about 4 and a half
17 miles from -- southwest of this well site, proposed well
18 site. The other one is located about 11 miles north of
19 the proposed well site.

20 These hydrographs show the potential metric surface
21 or the water level of the Madison changes. It came up in
22 the 1990s because we had a lot of recharge, started
23 declining in the year 2000 because there was less
24 recharge. Both these observation wells will in Figure 2
25 and 3 of our report show similar responses. These

1 responses are similar to every other observation well we
2 have in the Hills. Water levels came up when it was wet
3 and went down when it was dry.

4 The thing that's kind of interesting and we point
5 that out in the report is the water level has declined
6 more at distance -- you see here in figure 3 and it's
7 well CU 93A. I think this is really interesting to bring
8 this up because, you know, part of what we have to do is
9 look at these observation wells and what's going on here,
10 what does this mean and there's a couple possible
11 explanations for that.

12 One of those explanations might be that the one well
13 was closer to the outcrop than the other. The further
14 away from the outcrop or recharge area the -- basically
15 the more water available to it. Or maybe the more likely
16 scenario is because of the proximity of observation well
17 CU 91A to Beaver Creek Spring we aren't able to -- it
18 doesn't -- that proximity has dampened the water level
19 responses a little bit.

20 Regardless, the observation wells that we present in
21 this report, Figure 2 and Figure 3, are representative of
22 climatic changes instead of any pumping from the aquifer.
23 And long-term water well declines are not apparent from
24 the observation wells. So these observation wells we can
25 use as data to also come before this Board and say

1 there's a reasonable probability that unappropriated
2 water is available from the Madison Aquifer.

3 Second point that 46-2A-9 requires us to look at to
4 make a recommendation to you is where the impact's going
5 to be on existing water rights.

6 We looked at other wells in the area. We do not
7 have a record in the Water Rights Program of a domestic
8 well completed in the Madison Aquifer within 5 miles of
9 this proposed well site. Okay.

10 We only have record of three water rights or water
11 permits within 5 miles. Those three are listed in
12 Table 1. Although there are three water rights or three
13 appropriations, we're only talking about two wells here.
14 Water permit number 2302-2 and 2546-2 for Eben Streeter
15 are from the same well.

16 I should also point out that the permit that the
17 well-being used by Water Permit No. 419-2 for Wind Cave
18 National Park, we could get into a really lengthy
19 discussion about whether that is actually a Madison well
20 or whether it's a Deadwood well. There's enough question
21 in my mind that I -- although we've -- I kind of did
22 worse case scenario here and said, what the heck, let's
23 call it Madison but at the end of the day I'd rather call
24 it a Deadwood well.

25 So we don't have any real water rights or just a

1 couple within a 5-mile area. And those are a significant
2 distance away.

3 We need to go back to the National Park Service
4 well, the Wind Cave National Park well. Again, I think
5 that the well that they have and they're using is
6 probably getting some water out of the Deadwood. They
7 came in in 1998, asked for permission to drill a -- an
8 additional well into the Deadwood. Their driller stopped
9 in the Madison. So they do have a Madison well.
10 However, that well does not meet the drinking water
11 standards for a public water system. So they're not
12 using that well.

13 Okay. In addition to the appropriations we show in
14 Table 1, we also have the deferred permit, No. 2585-2,
15 that was for Southern Black Hills Water System. That was
16 deferred in March of 2007 to refresh your memory. That
17 was to allow future study to address the public interest
18 aspect of potential impacts on Beaver Creek Spring and
19 the water resources of Wind Cave National Park.

20 The application before you is about 2 and 3 quarter
21 mile southwest of -- I'm sorry. Northeast of the
22 original well site.

23 So just so -- I'm sorry. Not the original well
24 site, the site for 2585-2. So just refer to figure DENR
25 Exhibit 3. I just want to show you what we have here.

1 I've given you all the background. Water Permit
2 Application 2633-2 is located right here. We have these
3 red dots -- and, again, this shows on your permit -- or
4 on your report, the red dots down here, that's the site
5 of the Eben Streeter well, also the proposed site of
6 Water Permit Application No. 2585-2. Got about two and
7 three-quarter miles between there and there.

8 We show Beaver Creek Spring just a little bit to the
9 southeast of the Streeter wells. You can see that on
10 your report.

11 I've shown where Wind Cave National Park is. That's
12 the gray stippled area. You can see where it's at with
13 regard to the observation -- to the proposed well.

14 Also shown in the blue square, the approximate
15 location of Wind Cave Lakes. I think yours shows it just
16 fine but just to point out what we have. And then
17 another thing that, you know, was significant was the
18 heavy black line just to the east of the observation --
19 of the proposed well site is the Buffalo Gap monocline.
20 And that's what we talked about a little bit earlier
21 where got some structure here, might have some fractures,
22 might be a good place to drill a well because we've got a
23 real probability of some enhanced --

24 MR. HUTMACHER: Can I ask just a couple of
25 questions along the line of the map?

1 The locale study says the water flow is coming
2 in from the southwest and going east. Did I understand
3 that right?

4 MS. BEST: Ken, here. Use this.

5 THE WITNESS: Yes. I mentioned this one of the
6 last times we dealt on this. They used geochemistry to
7 determine origins of the water. Don't want to talk
8 different sources because we're all talking Madison water
9 here. But origins.

10 One of the things they looked at was tritium
11 which came from the atomic bombs. And so you can age
12 date water from tritium. And another thing was O18,
13 stable oxygen isotope.

14 And so by looking at the concentrations of these
15 things in the water because at different elevations you
16 get different oxygen levels in -- so if it recharges
17 higher, it's going to have a different oxygen level than
18 if it recharged at a lower elevation.

19 So I'm sorry. I had to go into the background.
20 So the geochemists tell me all this stuff, and I'm not a
21 geochemist so I need to take it on face value. But
22 what -- there's been a couple geochemical reports. One
23 of them was part of the Black Hills Hydro Study by
24 Cheryl Naus. N-A-U-S, I believe the name is.

25 And one of the things they show is we're going

1 to -- we're going to say Hot Springs is right about here.
2 One of the things they show is there's a certain
3 component of water that actually was recharged on the
4 west flank of the Black Hills, that came around and is
5 just barely coming up the east side.

6 And so there's a certain component that is
7 coming around from the south to this area. One of the
8 things that the study that the Park Service did in
9 conjunction with U.S.G.S. and LBG, the Applicant shows
10 that, they -- they're showing there's potentially three
11 sources -- three origins of the Madison water in this
12 area. One of them is local recharge. It hits the
13 outcrop, and it's just very local.

14 We've got another component coming more or less
15 from the south around and then there's another component
16 of the water that is even further south.

17 That was a long way to get there. Did I answer
18 your question?

19 MR. HUTMACHER: Now can I ask one more? I'll
20 ask one more. The monocline.

21 THE WITNESS: Yeah.

22 MR. HUTMACHER: When water -- okay. We have a
23 natural water flow, and let's assume it's presumptive.
24 It's coming into that monocline at roughly a 90-degree
25 angle.

1 Does it divert that water at that point, or is
2 that monocline more of a recharge area than it is --

3 THE WITNESS: Now out at the monocline,
4 remember, you're going to be around 1,800 feet, maybe
5 2,000 feet to the top of the Madison. Okay. So with
6 that fold there is it going to impact -- you know, the
7 way the water typically is going to move, radially away
8 from the knolls, is that monocline going to --

9 You can do one of three things with the
10 monocline. It can have no impact, it can be a barrier,
11 or it can enhance flow.

12 I think that it's probably going to impact the
13 flow, not going to be a barrier. It's going to actually
14 give you a source -- that's why I said earlier that the
15 proximity of this well site to that structure makes a lot
16 of sense. You know, you probably look here to find where
17 the rock is broke up where you can move water better.

18 Does that answer that?

19 MR. HUTMACHER: Yep. You did.

20 Q. (BY MS. BEST) Ken, as long as you're at the map,
21 can you -- can you go to -- go to the next drawing under
22 this map.

23 (DENR Exhibit 4 is marked for identification)

24 CHAIRMAN HOYT: Mr. Buhler, I think Ms. Best was
25 redirecting you in some way to another exhibit.

1 A. Ms. Best would like me to introduce Exhibit DENR 4,
2 which is a very simplistic representation of a monocline.
3 It's a block diagram just showing from a side view the
4 beds drape over our -- are folded over. That's what
5 we're talking about with the Beaver Creek monocline.

6 MR. HALLEM: Mr. Buhler, are you going to
7 introduce the exhibit?

8 MS. BEST: I move for admission of DENR 4.

9 CHAIRMAN HOYT: Any objection?

10 MR. WIECZOREK: No objection.

11 MR. FAHMY: No objection.

12 MR. HICKEY: No objection.

13 CHAIRMAN HOYT: Hearing none, Exhibit 4 I
14 believe will be admitted.

15 Q. So, Ken, this is not the monocline of the specific
16 place that we're at in the Black Hills, this is a graphic
17 representation; correct?

18 A. Graphic representation, yeah, that -- I couldn't
19 tell you where I got it. It's just a graphic
20 representation. It's not specific to the Buffalo Gap
21 monocline. But just so that -- I mentioned monocline a
22 couple of times. Just so we're all on the same page and
23 recognize what we're talking about with the monocline.
24 It's just the beds which originally were laying
25 horizontally now have a fold to them.

1 MR. HALLEM: Mr. Buhler, can I ask you a
2 clarification question?

3 On Figure 1 you call it the Beaver Creek
4 monocline. Is that a misstatement? In your report you
5 call it a Buffalo Gap.

6 THE WITNESS: Mr. Buhler screwed up and made a
7 graphic and had Beaver Creek on his mind. That should be
8 Buffalo Gap monocline. I apologize. That is correct on
9 this exhibit.

10 Q. Ken, further with respect to your previous
11 testimony, you indicated where the city of Hot Springs
12 was. Could you just take the marker and just mark on
13 there where Hot Springs is so that there's a -- the
14 record's clear. Approximately.

15 A. For point of reference, the line on here is
16 Highway 79. This line here is Highway 385. I think I
17 got to put Hot Springs right about in here (indicating).

18 Q. Just mark it --

19 A. I did.

20 Q. -- HS or something. You indicated during your
21 testimony that you had talked to the Board about the
22 Greenhorn Formation yesterday or that statute applying to
23 the -- the water mining statute.

24 I just want to clarify. When you said you talked to
25 the Board yesterday were you talking about your testimony

1 in another case?

2 A. Yes.

3 Q. And you have previously not had discussions with the
4 Board pertaining to this proceeding today; is that
5 correct?

6 A. That's correct.

7 Q. You testified about the 60 -- just to clarify, you
8 testified about the 60 -- likely 60 percent of the --
9 that 60 percent of the requested volume is what you would
10 expect to see used on a consistent basis. Where do you
11 get the 60 percent from?

12 Just generally if you could -- I'm not asking for
13 another report, just generally if you could explain that
14 to the Board. Why would we assume that they would only
15 use 60 percent?

16 A. I have gone through and looked at other water usage
17 from rural water systems, basically common distribution
18 systems. This being the City of Rapid, Boxelder,
19 Spearfish in another report or for another application
20 brought before you. And the best number I could come --
21 not best. Rapid City was pumping around 53 percent of
22 their appropriation, which was incredibly high compared
23 to what the rest of the common distribution systems I
24 looked at.

25 Most of them were in the 20 to 30 percent

1 neighborhood. You simply can't pump a well 24-seven.
2 And with Rapid pumping that 53 percent that was
3 anomalously high. So that's why I even bumped it up one
4 notch and came to you and said 60. Or I'm going to
5 rationalize the 60 percent.

6 I will tell you that's not original. In the 1990s
7 the Water Management Board had to qualify future use
8 permits that were originally approved as a CFS. Or by a
9 diversion rate. We at that time talked to the rural
10 water systems, talked to the municipalities and all of
11 that and said how much water can you use? If we give you
12 X gallons a minute, how much can we figure you're going
13 to pump that? They came to us and said 60 percent.
14 We're cool with 60 percent.

15 So that started in the '90s and, you know, within
16 the past year looked at it even closer, and that's the
17 60 percent. It's a nice looking number.

18 Q. Thank you, Ken. You were I think previously
19 testifying concerning your report, and you were going
20 through the report and explaining it to the Board. And I
21 asked you some points of clarification. But I think you
22 were going to continue with your report.

23 You have more; correct?

24 A. Thanks. Okay. We were talking about the potential
25 impacts this proposed appropriation may have on existing

1 water rights. Defined what those water rights were,
2 discussed those water rights. And now we need to --
3 again, the Madison is under artesian conditions here.
4 You pump a well in a aquifer that's under artesian
5 conditions, you can expect drawdown.

6 I can't come before this Board, I don't think
7 anybody can come before this Board, and say this is
8 exactly what the drawdown is going to be. The Madison's
9 site specific. We've got some things happening here. I
10 can't come in front of you and say this is how much
11 drawdown I can expect at this well or at this distance.

12 But I can come to the Board and say based on the
13 Water Management Board Rules 74:02:04 and 74:02:05, we're
14 looking at protecting the source, or the Water Management
15 Board looks at protecting the source, not necessarily the
16 means of delivery.

17 So the protection provided by water law is -- and
18 provided to -- to existing rights is independent of
19 artesian head pressure. In other words, the placement of
20 an existing user's pump within the well is not
21 necessarily protected. If the water level drops, that
22 user may need to lower the pump. And the existing user
23 would be -- would be responsible for lowering that pump.

24 In fact, this Board in 1995 basically said, look, if
25 we're going to protect that water level at an existing

1 user's site, that's going to be in conflict with
2 SDCL 46-1-4 that says we need to put water into maximum
3 beneficial use. You simply can't use water unless you
4 get some drawdown.

5 So that's -- that's why I can come in front of this
6 Board and say from the way this Board has dealt with
7 protecting the water rights in the past and the way
8 everything is set up, artesian head pressure's not
9 protected. We're dealing with a lot of artesian head
10 pressure here. Will there be an adverse impact on these
11 existing water rights?

12 No. There will not be. Because that artesian head
13 pressure. That's the pie in the sky answer for why we're
14 not going to see any water drawdown. The real answer for
15 why we're not going to see any impact on these wells is
16 remember we have 26 observation wells out there we're
17 looking at.

18 We've got observation wells next to municipal wells
19 in Spearfish, next to municipal wells in Sturgis, next to
20 Rapid City municipal wells. We're not seeing significant
21 drawdown in the Madison.

22 We're looking at the drawdown in feet or tens of
23 feet neighborhood. We're simply not seeing the drawdown.
24 I have no reason to suspect this area will be any
25 different than any of the other areas we have.

1 What's more, when we're looking at the distance from
2 this well to existing users, again, we have sufficient
3 distance, and we're only talking 300 gallons a minute
4 here. Don't expect drawdown to extend it any distance,
5 what drawdown there is.

6 The next component of approval of a permit -- I
7 think that handles impairment issues. The next component
8 is the beneficial use. Of course, this Board's been on
9 record a number of times stating rural water systems are
10 beneficial uses of water.

11 The last component of approval of a water right is
12 the public interest issue. Previously when we've looked
13 at appropriations in this area there's been a couple
14 local public interest issues that have come up. Those
15 have been what's the possible impact to artesian springs,
16 number one. Number two, what's going to be the potential
17 impact to the water resources of Wind Cave National Park?

18 Looking at the artesian springs, again, if there's a
19 decline in the water level or the potentiometric surface
20 in the neighborhood of a spring, artesian spring, it
21 could decrease the discharge of the spring. That
22 artesian head pressure is not protected by water law.

23 In fact, the Water Management Board has recognized
24 that you need to look at the artesian spring discharge or
25 impact to that discharge as a public interest issue, not

1 an impairment issue.

2 And if the Board has in considering Water Permit
3 Application 2585-2 made a conclusion of law that says the
4 only protection water law provides when considering an
5 application for an underground water permit for the full
6 flow from an artesian spring is under the public interest
7 criteria.

8 Going back to Figure 1 in your report for Exhibit 3,
9 again, this yellow flag shows the proposed well site.
10 This black flag shows Beaver Creek Spring site. I think
11 that we're looking at about 3 miles between this well
12 site and Beaver Creek Spring that -- and we're only
13 looking at 300 gallons a minute. It's unlikely that
14 drawdown from this well would be measurable at Beaver
15 Creek Spring.

16 The second component that we looked at with the
17 public interest aspect was the Wind Cave National Park's
18 water resources. When the Park Service intervened on the
19 future use -- on a couple previous applications they
20 identified their water resources. They sited those as
21 including, number one, several large -- I'm sorry.
22 Several lakes and pools at the lower reaches of Wind
23 Cave. Secondly, three perennial streams within Wind Cave
24 National Park. And, third, was seeps and springs within
25 the park.

1 Since those were the water resources of the park
2 that they identified, we took a look at those to make a
3 recommendation what would the potential impact of this
4 be.

5 Number one was the lakes and pools. These lakes and
6 pools are located about 5 and three-quarter miles from
7 the well site, and that you see on Figure 1. If you look
8 at the water levels or the stage of those lakes, I show
9 that graphically in figure 4. There are three lakes that
10 they have measurements of: Calcite Lake, Windy City
11 Lake, and What The Hell Lake. And they seem to be
12 responding to climatic conditions pretty well.

13 One of the things that I did was I took the data
14 that I got from the Park Service and I superimposed the
15 observation well data from water rights observation data
16 of CU 91A onto that data, plotted that up and presented
17 that to this Board in Figure 5 of your report.

18 When you look at that figure it's fairly apparent
19 that the observation well and the lakes are all
20 responding similarly and similarly -- I'm sorry. And are
21 reacting to climatic conditions.

22 Would expect the impacts -- again when talking
23 around 5 miles away, 300 gallons a minute the impacts of
24 this pumping on those lakes would be negligible, if
25 measurable -- I'm sorry. We'll leave it at that,

1 negligible, if measurable, and certainly insignificant
2 when compared with the climatic water level changes.

3 One thing we should point out or I'd like to point
4 out is if you look at Figure 1, just a little over
5 halfway if you draw a line between the proposed well site
6 and the lakes, just a little over halfway between there
7 is the Park's -- is the Park's well -- are the Park's
8 wells. They have a Madison well, and they have a
9 Deadwood well there.

10 Certainly any drawdown that could be measured at the
11 lakes would be measurable at those wells and it would be
12 more significant at the wells than it would be at the
13 lakes.

14 I'm not advocating using these as an observation
15 well. It's awful hard using a pump well or a potential
16 pump well as an observation well. All I can tell is how
17 much water they're using. But if there was going to be
18 an impact on the lakes, it would certainly be felt and
19 may even be an adverse impact on -- it would certainly be
20 measurable at the wells before it would be at the lakes.

21 Second water resource that the Park pointed out was
22 the streams, both perennial and ephemeral streams. They
23 identified three perennial streams that they were
24 concerned with, and that was Cold Spring, Beaver Spring,
25 and Highland Creek -- I'm sorry. Beaver Creek and

1 Highland Creek.

2 We'll start with Cold Spring. Cold Spring Creek
3 lies entirely -- I'm trying to say this right.
4 Geologically lower than the Madison Aquifer. Okay.
5 Because it's geologically lower, would not expect --
6 there's no way the Madison could impact. Madison doesn't
7 even exist where Cold Spring is.

8 When we look at Beaver Creek remember that Beaver
9 Creek like all the other springs except two lose all its
10 flow into the sinkholes, if you will, or in the loss zone
11 unless a threshold level is met or surpassed. On Beaver
12 Creek they're estimating that if you don't have 5 cubic
13 feet of water per second coming down the creek when it
14 hits the sink holes, it's not going to make it to the
15 other side of the sinkholes.

16 Okay. When you look at the flow duration curve
17 for -- or the hydrograph for Beaver Creek above the
18 sinkholes, very seldom does it ever make 5 CFS. If there
19 were a reduction in water levels in the Madison in the
20 area, would that impact it? No, it wouldn't. The
21 studies have shown that this -- well, let me -- I'm
22 getting ahead of myself.

23 So Highland Creek is another one of these creeks
24 that the estimate is it takes 10 cubic feet of water per
25 second above the sinkholes to make it across the loss

1 zone. And the flows in Highland Creek are generally less
2 than 10 cubic feet a second.

3 Now these loss thresholds, 5 cube feet a second on
4 Beaver Creek and 10 cube feet on Highland Creek, the
5 researchers think those are pretty constant. It really
6 doesn't matter what the water level in the aquifer is.
7 If you have a higher water level or a lower water level,
8 you're still looking at 5 cubic feet per second on Beaver
9 Creek, 10 cubic feet per second on Highland Creek.

10 CHAIRMAN HOYT: Excuse me, Mr. Buhler. May I
11 ask a point simply for clarification? When you discuss
12 Beaver Creek near Pringle and the loss thresholds that
13 you're referring to, would that be upstream from Beaver
14 Creek Springs?

15 THE WITNESS: Yes.

16 CHAIRMAN HOYT: So I want to clarify that.
17 We're not talking about flows downstream from Beaver
18 Creek Spring.

19 THE WITNESS: Thank you. That's correct.

20 A. At the end of the day we don't think pumping this
21 well will impact these springs -- Beaver Creek, Highland
22 Creek or Cold Springs. So the surface water resources of
23 the National Park shouldn't be impacted at all by this
24 appropriation.

25 The other water resource that the Park brought up in

1 the past was they have around 75 seeps and springs that
2 they identified. When I look at those seeps and springs,
3 they were either at a surface -- they either surfaced at
4 geologic formations that are hydraulically isolated from
5 the Madison or from geologic formations that are older
6 than the Madison. Therefore, way below the Madison.
7 Madison doesn't even exist there.

8 The few springs and seeps that were identified by
9 the Park in our previous hearings that are actually
10 situated on the Madison outcrop on the recharge area are
11 probably expressions of perched water levels. They're
12 not representative of the regional -- the regional
13 Madison water level here. They're at elevations a lot
14 higher than what the regional water level is.

15 So don't see where this application could -- this
16 appropriation could impact those seeps or springs.

17 Those were the public interest issues that were
18 brought to us regarding this application that we brought
19 to the Board for consideration.

20 At the end of the day SDCL 46-2A-20 requires any new
21 appropriation out of the Madison to have a 20-year term
22 limit on it. There is not -- as is -- as we come before
23 the Board on every Madison permit since 1992, there is no
24 reason not to put a 20-year term limit on this. It's --
25 we've always done that.

1 To conclude, Madison's a viable aquifer. There's a
2 reasonable probability there's unappropriated water
3 available. This appropriation they propose 484 acre feet
4 a year. In all likelihood we're not going to be seeing
5 any more than 300 acre feet a year amount. There's
6 reasonable probability that water is available for this
7 appropriation.

8 Again, the 46-6-3.1 doesn't apply here, but we can
9 still say that withdrawals aren't going to exceed the
10 recharge if this permit's approved.

11 There's a reasonable probability this application
12 can be made without adversely impacting existing rights.
13 The Board has gone on record in the past a number of
14 times saying this is a beneficial use of water.

15 We don't think that this appropriation is likely to
16 impact Beaver Creek Spring. We doubt -- we do not think
17 this appropriation will impact the water resources of
18 Wind Cave National Park. We've got to put a 20-year term
19 limit on this like every other Madison permit. And, by
20 the way, with that 20-year term limit, on review of that,
21 we need to give notice and there needs to be a hearing on
22 it. Or there can be a hearing on it. So 20 years from
23 now if this permit is approved, the Board can revisit
24 this, if you will.

25 One other issue that I think we need to get on the

1 record is Water Management Board did defer Water Permit
2 Application 2585-2 for Southern Black Hills. That was
3 for a Madison well, about 2 and three-quarters miles
4 southwest of here. Don't feel -- because that deferral
5 was on a public interest issue, not on water availability
6 issue, we think we can go forward with these applications
7 and leave that in the deferred bin without running into
8 issues on who's on first.

9 That was supposed to be a brief overview of our
10 report. With that, the chief engineer is recommending
11 approval with qualifications -- four qualifications. I
12 believe the Board has a copy of those.

13 Other questions?

14 CHAIRMAN HOYT: Thank you, Mr. Buhler. I think
15 I'll exercise a prerogative chair for a moment,
16 Mr. Buhler. And I'll refer to your report because I
17 think that we need to clarify, perhaps, previous Board
18 action. And I'd like to refer to page 8 of your report
19 in which you discuss the public interest doctrine and the
20 manner in which the Board may have applied it to artesian
21 head and springs in the past.

22 And I will ask your counsel to refer to
23 SDCL 46-6-26 and assist you, Mr. Buhler. It's a statute
24 that we had not previously referenced in our proceedings
25 that I feel may be relevant to this proceeding and may

1 have been relevant to our prior proceedings as well. But
2 we may not have specifically referenced it in the context
3 of public interest.

4 So I'll ask you, Ms. Best, if that statute,
5 46-26, is still South Dakota Law, excuse me, at the
6 present time?

7 MS. BEST: Yes.

8 CHAIRMAN HOYT: Okay. And for the record,
9 Mr. Buhler, I believe it's quite brief, could you just
10 read that statute into the record.

11 THE WITNESS: "Permits may be denied or
12 conditioned to protect domestic or municipal wells or
13 natural springs. The Water Management Board or chief
14 engineer pursuant to 46-1-16 may deny or condition any
15 permit in conformity with 46-6-24 as is determined
16 necessary to protect domestic wells, municipal wells, or
17 natural springs of this state."

18 CHAIRMAN HOYT: And in reading that statute in
19 preparation for this hearing, it seemed to me,
20 Mr. Buhler, that that might be a more specific expression
21 of legislative intent than we might find under the public
22 interest doctrine in 46-2A-9.

23 Would you agree with that?

24 THE WITNESS: Yes, sir.

25 CHAIRMAN HOYT: Having read it then, do you feel

1 it would be applicable to this proceeding?

2 THE WITNESS: Certainly.

3 CHAIRMAN HOYT: In your testimony in
4 recommending a permit term of 20 years, the basis for
5 your doing so was in SDCL 46-2A-20 at page 11 of your
6 report. And is your recommendation based then on the
7 fact that you did not feel that there was a reasonable
8 probability the issuance of the proposed permit would not
9 have a significant adverse effect on nearby Madison
10 Formation wells and springs?

11 THE WITNESS: Ask that again. I heard a double
12 negative. I'm sorry.

13 CHAIRMAN HOYT: I'll have the court reporter
14 read it back. I'm not sure I can say it the same way.

15 (Reporter reads back the last question)

16 THE WITNESS: In part, yes.

17 CHAIRMAN HOYT: Thank you.

18 THE WITNESS: The other part of that would be I
19 don't think -- I can come to you with a reasonable
20 probability that there's unavailable water,
21 unappropriated water, and I'm not really sure how
22 attorneys look at reasonable probability. But can I come
23 in with a positive determination -- no. We always have
24 to leave that -- I don't want to argue that we don't need
25 a 20-year term limit. I don't think I can carry that

1 burden on any Madison permit.

2 CHAIRMAN HOYT: Very well. My intention in
3 pursuing this line of questions with you, Mr. Buhler, was
4 simply to I guess get your opinion, of course, but also
5 to make the parties aware that perhaps we did not go far
6 enough in the previous decision in indicating the
7 legislative -- our view -- or my view of legislative
8 intent as it relates to springs and the fact that two
9 statutes address protection of springs directly.

10 And having had an opportunity to review 46-6-26
11 and 46-2A-20, would you concur with that statement?

12 THE WITNESS: Yes.

13 CHAIRMAN HOYT: Thank you.

14 Thank you, Mr. Buhler. Counsel is suggesting
15 that in the interest of our court reporter, we'll take a
16 very brief recess because we do have only until noon
17 scheduled for the hearing in this matter. So thank you
18 very much. We'll be in recess for -- let's do it in 5.

19 (A short recess is taken)

20 CHAIRMAN HOYT: Mr. Buhler, you're still on the
21 stand. Ms. Best, is there further follow up that you
22 might have in regard to prior testimony?

23 MS. BEST: Well, there is. I think that Ken was
24 already -- had finished. But there was a discussion
25 regarding the statutory framework under which this

1 application needs to be heard. And I wanted to make sure
2 that we were square on that before we continue with any
3 additional cross-examination.

4 Q. (BY MS. BEST) Ken a statute was referred to,
5 46-6-26. Again, Chairman Hoyt was asking you about that
6 statute.

7 Can you explain why that statute wouldn't have been
8 referenced by the Water Rights staff or by you in your
9 report?

10 A. I'm an engineer, not an attorney. But when we
11 looked at the -- started looking at how does water law
12 relate to springs I -- I'm not changing my answer at all.
13 46-6-26 definitely is more specific with regard -- in
14 answer to Chairman Hoyt's question, does it more
15 specifically deal with springs? Yes, it does, in fact,
16 more specifically deal with springs.

17 The reason why we did not look at 46-6-26, I mean,
18 we try to bring a decent package to this Board when we
19 review an application and why did we overlook this? The
20 reason why we left this one out of the mix when we
21 brought it to this Board is as a humble engineer the way
22 I read this statute, 46-6-26 talks about conformity with
23 46-6-24. 46-6-24 is a statute that deals with mine
24 dewatering and the protection going to be afforded to
25 prior users if there's an impact from the mine

1 dewatering.

2 46-6-26 seems to us and the reason why we left it
3 out of our presentation to the Board is it talks about if
4 you're dewatering a mine, you affect the spring, the
5 Board can deny a permit. So that, sir, is why I said
6 yes, this is more applicable to springs. But is it more
7 applicable in this case? At the time I was preparing my
8 report I did not think so. That's why I did not bring
9 this in front of you.

10 CHAIRMAN HOYT: Okay.

11 MS. BEST: I have nothing further. Mr. Buhler
12 is available for cross-examination.

13 CHAIRMAN HOYT: Very well. We'll start with the
14 Applicant, Mr. Wieczorek.

15 MR. WIECZOREK: Thank you, Chair.

16 CROSS-EXAMINATION

17 BY MR. WIECZOREK:

18 Q. Mr. Buhler, I just have a couple of questions. I
19 believe the Chairman clarified some of this. I want to
20 make sure I'm right on it.

21 The springs you're talking about the Park was
22 concerned about are springs that are on the high side of
23 the aquifer; correct?

24 A. The ones that the Park is talking about?

25 Q. Right. Excuse me. The creek. I'm doing the same

1 thing you are. The streams. The streams you were
2 talking about are on this side of the aquifer. And then
3 they go over the recharge area, and they disappear in
4 that recharge area; correct?

5 A. Correct.

6 Q. Okay. So as I understand your testimony, the well
7 site, this well site, won't impact those because the loss
8 from those springs is the same -- is going to be the same
9 whether the Madison's up due to wet years or down due to
10 drought years?

11 A. Right. Now just a little matter of clarification.
12 I don't think Cold Brook Spring -- the Cold Spring or
13 whatever the first one is, I don't think that ever makes
14 it to the Madison. I believe that is entirely below the
15 Madison. So the other two you're exactly right.

16 Q. Okay. And I don't live with this every day so I get
17 a little confused when you talk about a 5 CFS. That's
18 cubic feet per second; correct?

19 A. Correct.

20 Q. For example, when you talk about Beaver Creek
21 Springs, is a good average flow there about 10 CFS? Is
22 that fair?

23 A. Okay.

24 Q. Okay. But if you're talking 10 CFS, how many
25 gallons a minute is that?

1 A. 10 would be around 4,480.8.

2 Q. Okay. So if -- so compare that -- if Beaver Creek
3 Springs is flowing at 10 CFS, it's flowing out
4 approximately 4,500 gallons a minute, and the request for
5 the permit is for a maximum diversion rate of 300 gallons
6 per minute; correct?

7 A. Correct.

8 Q. And you talked about the 60 percent. So when you're
9 talking about if you apply that 60 percent to the gallons
10 per minute, that's 180 gallons per minute on average?

11 A. Correct.

12 Q. And for the springs it would appear from the
13 chemical analysis that's been done the springs have at
14 least some influence of water coming out of the south.

15 Would you agree with that?

16 A. That's what the geochemists tell me.

17 Q. Okay. And so to the extent there's water coming
18 into the Beaver Creek Springs out of the south, this well
19 site would actually be what I would call downstream.
20 It's -- the springs would get the water from the south
21 before this well would ever get it. This well is north
22 of the springs; correct?

23 A. Yeah.

24 Q. Yeah. So for water coming from the south it's
25 that -- that water hits Beaver Creek Springs, and this

1 well would have no impact on that water coming from the
2 south.

3 A. I can't agree with that. I won't say no.

4 Q. Okay.

5 A. You know, again, what we're talking about is is the
6 origin of the water at the spring different than the
7 origin of the water up at this well site?

8 The geochemists say it is. If you pump a well --
9 and one of the things we're talking about is, you know,
10 how are we going to balance the budget here. If we take
11 more water out, well, we're going to induce more water
12 from different areas. We're going to get some leakage
13 from some ground water inflow.

14 So if you pump this well, can you change that and
15 actually induce some flow from south to north? Yes, you
16 can. So I don't think you can definitely say this is
17 north and the water's coming from the south, no harm, no
18 foul. Because I think there -- you know, you can't
19 definitely just say no on that. You know, probability,
20 are we talking different origin? Maybe.

21 Q. But if I understand your testimony here today
22 correctly, you made a determination to a reasonable
23 probability that the issuance of a 300-gallon-per-minute
24 permit at this site will not have an impact on the
25 springs?

1 A. That's correct.

2 Q. Okay. You talked a little bit about monitoring
3 wells next to city wells. When you're talking about
4 you're monitoring wells next to city wells like for
5 Rapid City, it was monitoring wells within a mile of
6 those city wells? Approximately.

7 A. Yeah. I think one of them is 1,600 feet from a city
8 well. And, you know, within -- you know, we have some
9 observation wells within a mile of almost all of
10 Rapid City's wells.

11 Q. And the only thing I'm getting at is when you're
12 making that comparison, Rapid City wells are -- their
13 diversion rate is extremely -- is much more than this
14 300 gallons a minute?

15 A. Most of them are, yeah.

16 Q. And so when you're looking at the Rapid City wells
17 and you're looking at your monitoring wells, your
18 monitoring wells are even closer, the monitoring wells
19 that you're doing this observation on that you're
20 referencing?

21 A. Yeah. I think what I want to say is those
22 monitoring wells which are even closer to high production
23 areas are not showing significant drawdown. And we see
24 that in Rapid City where we're -- you know, they're
25 pumping I believe in the neighborhood of 9,000 acre feet

1 a year out of the Madison, and the water levels in those
2 wells look the same as the water wells down in Huron.
3 Spearfish is -- so I think that's the point both you and
4 I would like to make and that is we're not seeing the
5 impact of high production wells and those wells are a lot
6 higher production than what we're talking here.

7 Q. And based on your review of the wells, what really
8 impacts the level of the Madison is whether it's a wet
9 year, a dry year, or an extended drought.

10 A. That's correct.

11 Q. I'm not going to go back through but you did an
12 analysis where you actually plotted the Madison level at
13 your observation well in this area with the caves and
14 those pretty much follow each other on if it's a wet
15 year, they're up, if it's a dry year, they're down?

16 A. Correct. And basically the same amplitude, if you
17 will. Looking at the same water level. The water levels
18 came up the same in our observation well as they came up
19 in the lake. They declined the same.

20 Q. In the mid to later '90s we had a couple really wet
21 years out in the Hills kind of back to back?

22 A. I'm sorry?

23 Q. Well, we had some wet years in the '90s, and the
24 water levels came up.

25 A. Correct.

1 Q. And, in fact, when I was looking at your chart you
2 chart What The Hell Lake in your testimony?

3 A. Correct.

4 Q. Am I correct the name What The Hell Lake came about
5 because the lake hadn't existed before the years in the
6 1990s?

7 A. That's my understanding. They were on their way to
8 Calcite Lake and got to this point and all the sudden,
9 What the hell?

10 Q. So and -- well, we did reference the old record at
11 one point. There was some allegations in the record and
12 the previous proceeding in that deferred permit that the
13 City Springs in Rapid were dry because of pumping.

14 But do you know whether the City Springs had a wet
15 year last year, whether they've come back?

16 A. Yeah. At least on October 1 of 2008 and October 15
17 of 2008 the U.S.G.S. personnel were out to verify -- not
18 to verify but and noted that the City Springs is flowing.
19 I think previous testimony was since the city began
20 pumping the Madison, City Springs has gone dry.

21 Q. Right.

22 A. I think the record -- I don't believe that's
23 correct.

24 Q. Yeah. We had a wet year, and the City Springs came
25 back.

1 A. Right.

2 MR. WIECZOREK: That's all I have.

3 CHAIRMAN HOYT: Other cross-examination?

4 Mr. Fahmy.

5 MR. FAHMY: Thank you, Chairman.

6 CROSS-EXAMINATION

7 BY MR. FAHMY:

8 Q. Mr. Buhler, I wanted to ask you some questions
9 regarding your reports. Perhaps we can kind of just go
10 through your report.

11 On page 1 of your report -- and I think you -- in
12 your remarks you referred to that the proposed well site
13 is very near the Buffalo Gap monocline; correct?

14 A. Uh-huh.

15 Q. I think you mentioned that the fracturing that's
16 assumed to coincide with this fold would enhance
17 hydraulic conductivity of the Madison in this area. Then
18 you went on to state in your report the monocline and
19 features associated with it may dominate the ground
20 water flow and result in anisotropic?

21 A. Anisotropic.

22 Q. Transmissivity in this area.

23 I wanted to know what roll did this conclusion play
24 in your analysis of the possible effects of the proposed
25 ground water withdrawal?

1 A. I suspect that if there is enhanced -- if there is
2 fracturing enhanced hydraulic conductivity, it is going
3 to be in a north-south direction. It's going to be
4 parallel to Buffalo Gap monocline.

5 So the flow would actually be -- I think I'm going
6 to get more drawdown north and south than east and west.

7 Q. So looking at the Figure 1 there that you've put up,
8 the vicinity map, so what you're suggesting is that there
9 would be greater transmissivity north and south along the
10 west side of the monocline or perhaps --

11 A. Well, to make it really simple I think because of
12 fracturing along this monocline I think the odds are
13 really good that if our -- if our pumped well is here,
14 typically, you know, under what all the conceptual models
15 you're going to have a nice circle of drawdown from that
16 well. But because I got a monocline here, I think I'm
17 going to have a drawdown that's going to be more
18 elliptical, and I think that's going to show more -- the
19 drawdown is going to extend further north and south than
20 it will east and west.

21 Q. Okay. Perhaps -- I don't think you have Beaver
22 Creek plotted on this vicinity map, but could you perhaps
23 show us and the Board where that might be in relation to
24 the monocline?

25 A. This is Beaver Creek Spring.

1 Q. Okay.

2 A. Basically head water. And I don't know. Kind of in
3 that vicinity (indicating).

4 Q. So Beaver Creek Springs intersects the monocline, or
5 the monocline intersects Beaver Creek Springs? It cuts
6 through it? Is that what you're depicting there?

7 A. Remember the monocline is something like 2,000 feet
8 below -- where the Madison is, something like 2,000 feet
9 below ground.

10 Q. Okay.

11 A. Does Beaver Creek Spring cross Buffalo Gap
12 monocline? Yeah. I think it does.

13 Q. Okay. So --

14 A. Does Beaver Creek cross, not Beaver Creek Spring.

15 Q. Exactly. Thank you for that clarification. I'm
16 interested in terms of what geophysical data you perhaps
17 looked at to support your assumption with regards to the
18 fact the fracturing would coincide with the monocline?

19 Is there some geophysical data that you might have
20 examined? And, if so, what does it tell us about the
21 character, direction, and strike of those fractures?

22 A. There was no geophysical data that I looked at.

23 Q. So it was simply geological mapping that you were
24 familiar with?

25 A. Well, the structure contour map of the Madison

1 Aquifer shows a monocline here. Geology 101, do you
2 expect some fracturing associated with the monocline?

3 Yes.

4 Q. In your report you -- I guess what additional
5 information would help you in terms of defining the
6 nature of the drawdown that would be associated with this
7 well in the vicinity of the monocline?

8 Do you think geophysical information might be
9 helpful in better determining the contours of that
10 drawdown along the monocline?

11 A. I need you to define how you're using the term
12 "geophysical."

13 Q. Let's say seismic data from active seismic, passive
14 seismic, gravity data, things that would give you more
15 data with regards to the structure in the subsurface.

16 A. You know, I'm a geological engineer. As a geologist
17 I'm always going to say, yeah, anymore data you give me
18 is going to help. As an engineer, I'm going to say but
19 let's draw a line here somewhere. You're never going to
20 know until you pump it. You can be as conceptual as you
21 want.

22 So you're asking me would more data help? Yes. Do
23 we need more data? I don't think so.

24 Q. Okay. But you said you won't know until you pump
25 it. And so you're suggesting that perhaps by pumping

1 you're able to see what the effects of that pumping is
2 with regards to the drawdown associated with that
3 pumping -- aquifer test.

4 A. My intent was to say again back to one of the very
5 first questions Ms. Best asked me, what's the best
6 information we can bring to make a decision on what's
7 happening out here? And the best information we can
8 bring to the Board is the observation well data where we
9 actually have -- we can see what has happened.

10 Now to model this in any way, are there going to be
11 problems with modeling? Is it going to be an exact
12 predictor of what's going on? I guess what I'm trying to
13 say is, you know, we can get all this additional data and
14 we can do all of this, but none of the models have
15 matched what we've seen in our observation wells. So to
16 get additional data to say I want to model this to see
17 what the drawdown's going to be, I'm still going to come
18 back but yeah -- so my flippant answer was we're still
19 never going to know until we pump it.

20 Q. Okay. We'll be talking about the observation wells
21 a little later in my cross with you. Let's talk about
22 the water balance discussion you've got in your report.

23 You talked earlier about some of the estimates of
24 water balance that you had looked at. Would you regard
25 the water balance that Carter and others came up of

1 137,000 acre feet per year to be the best estimates of
2 average annual recharge?

3 A. Yeah. That's not bad. There's some other stuff
4 that supports that, but that's not a bad number.

5 Q. Okay. Mr. Buhler, since in a typical water balance
6 discharge equals recharge, where does this 137,000 acre
7 feet discharge -- you've talked about how much recharge
8 there is. Where does this water go, given the discharge
9 typically equals recharge?

10 A. On a gross level it's going to go the same place as
11 what it did on the regional -- where we talked about the
12 subarea. You're going to have ground water outflow. You
13 have natural spring discharge. And wells are pumping.
14 That's how your water is leaving.

15 Q. Okay. So by spring discharge we mean springs like
16 Beaver Creek Springs; correct?

17 A. Which water budget are we talking about? The gross
18 one or the sub one? Off of springs, yes.

19 Q. Yeah. In either case a subarea or the aquifer when
20 we're talking about natural discharge we're talking about
21 springs; correct?

22 A. And ground water outflow.

23 Q. And what would be ground water outflow in your
24 opinion? I mean, can you tell the Board what you mean by
25 that term? Is that seepage to a stream or --

1 A. We've got water leaving the area underground, and
2 it's a potential source of recharge to shallower aquifers
3 in western South Dakota -- the -- central South Dakota.
4 Let's put it that way.

5 Q. Okay. So that water it essentially recharges other
6 aquifers so it's a source for those aquifers?

7 A. Yeah. Correct.

8 Q. Okay. Now turning to page 4 in your report -- and I
9 guess I was a little confused when I first read the
10 second full paragraph on page 4. I think I understand it
11 a little bit better now that --

12 A. Where are we at, sir?

13 Q. Second full paragraph on page 4. You had discussed
14 this at some length on how you came up with the
15 60 percent. But I guess what I took away from reading
16 this paragraph is that you don't believe it's possible
17 for Southern Black Hills to obtain the amount of water
18 its sought in this permit from a single well.

19 A. I think that's accurate.

20 Q. Okay.

21 A. Again, where I'm coming from is for a single well to
22 produce 484 acre feet of water a year would require
23 pumping -- continuous pumping. And it's simply not
24 practical.

25 Q. Okay. So you envision that at some point in the

1 future Southern Black Hills will have to essentially
2 apply for another point of diversion to draw that
3 additional quantity of water that they cannot produce
4 from a single well.

5 A. Or they're either going to accept less water than
6 484 acre feet a year or need to increase their diversion
7 rate or add a well to get 484.

8 Q. So I just want to be absolutely clear on this. Your
9 analysis with regard to the potential effect that this
10 permit would have, okay, on the public interest was
11 really based on a cumulative annual diversion of 290 acre
12 feet and not 484 acre feet?

13 A. No. That's not correct.

14 Q. All right. Good.

15 A. Paragraph 2, page 4, first full paragraph, page 2 --
16 or paragraph 2, page 4, that's brought up simply to say
17 for all practical purposes we're not talking 484. But if
18 we want to talk 484 -- and that was just a practical
19 point.

20 Q. Uh-huh. Okay. But as a practical matter for them
21 to get 484 they're going to have to come back and going
22 to have to add another well.

23 A. Not necessarily another well. They need another
24 appropriation.

25 Q. Another appropriation?

1 A. Either increase their diversion rate to have enough
2 diversion rate to pump 60 percent of the time to get
3 484 acre feet a year --

4 Q. Okay.

5 A. -- or add another well.

6 Q. Okay. So you foresee potentially another proceeding
7 such as this in order for them to essentially develop
8 484 acre feet?

9 A. If they choose to develop 484, I think it's going to
10 have to go that direction.

11 Q. Okay. All right. Thank you. Okay. Let's talk
12 about the observation wells. And you began that
13 discussion on page 4. I think -- you had the opportunity
14 to visit Wind Cave and to take a trip down to I believe
15 the lakes that have been referenced --

16 A. Yes, sir.

17 Q. -- in this proceeding and the earlier proceeding.
18 Is it your understanding that the water level in those
19 lakes represents essentially the top -- the water level
20 in the Madison Aquifer?

21 A. Yes.

22 Q. Okay. So --

23 A. At that point, yeah.

24 Q. So when you said that you compared water levels in
25 the observation wells to water levels in the Madison

1 wells you found that they were would it be fair to say
2 highly correlated in terms of the rise and the fall?

3 A. Yes.

4 Q. Okay. Isn't that to be assumed essentially, given
5 that the water level in the lakes and the cave represents
6 essentially the water level in the Madison Aquifer in
7 that area?

8 A. Yeah. You need -- you're okay assuming that. But
9 now let's move that past assumption and say are you
10 right?

11 Well, in the first place the water level is at the
12 right -- at the right elevation to match the regional
13 ground water so we're okay there.

14 Now does it fluctuate with the regional? Yeah. So
15 we can take it past assumption and say, yeah, our
16 evidence shows this.

17 Q. Uh-huh.

18 A. So you kind of bumped it up.

19 Q. Okay. So obviously you're seeing changes in water
20 levels in your observation wells and water levels in the
21 caves in response to recharge.

22 Do we also see changes in discharge for places like
23 Beaver Creek Springs as a result of increased recharge in
24 the Madison?

25 A. Say that again. I missed --

1 Q. Okay. Well, you talked about how you saw increases
2 in water levels in lakes in the caves?

3 A. Uh-huh.

4 Q. Appears increased recharge.

5 A. Uh-huh.

6 Q. During those times of increased recharge do you also
7 see increases in the discharge from natural springs such
8 as Beaver Creek Springs?

9 A. Possibly. And I'm answering that possibly because
10 when you look at all of the estimates from Beaver Creek
11 Spring discharge, we've got spring discharge measurement
12 from something like 5 CFS up to 15 CFS. Are we talking
13 inaccuracy? And, you know, in one of the big studies
14 that everybody likes to use, Reported Investigations 107
15 by Rahn and Gries, they like to use that and say Beaver
16 Creek Spring is a fairly constant discharge of I think
17 they say 8.57.

18 Well, if you're saying fairly constant yet their
19 measurements show a swing of several CFS, is that the
20 inaccuracy of the measurement, or is that the change in
21 discharge? So I'm going to say probably to your answer
22 because I don't think anybody can measure that spring
23 close enough to tell me whether it's their inaccuracy or
24 whether it's their -- whether it's actually a change in
25 discharge. But, yeah, it's probably increasing a little

1 bit.

2 Q. Okay. Okay. All right. Let's talk about one of
3 the observation wells I think you cited in the report,
4 and I believe it's represented on Figure 1 in the
5 vicinity map. It's observation well CU 91A.

6 A. Yes.

7 Q. Okay. Now earlier in your remarks you talked about
8 the -- and I think in your report you talk about the
9 anisotropy in this area of the Madison Aquifer.
10 Essentially the homogeneity in terms of that?

11 A. Okay.

12 Q. Given this -- the dominance that this anisotropy
13 plays in terms of dictating ground water flow, how -- do
14 you think that that well is really useful in determining
15 what changes might be occurring in the potentiometric
16 surface, okay, in the vicinity of the Wind Cave Lakes and
17 Beaver Creek Springs?

18 A. Yes. That's why I cited it.

19 Q. Okay. But so you're saying that all this complex
20 structuring here determines -- and I think you -- in
21 response to a question I put to you earlier you suggested
22 that the drawdown that might be associated with pumping
23 the proposed well would to some extent be along the axis
24 of the Buffalo Gap monocline; correct?

25 A. Right.

1 Q. Okay. Now as I see it, on this map, vicinity map
2 here, CU 91A is some distance from the Buffalo Gap
3 monocline; correct?

4 A. Correct.

5 Q. So I guess I'm struggling with understanding how
6 that particular observation well would help tell you
7 what's happening with regards to the drawdown associated
8 with this proposed well site given that you've suggested
9 that the drawdown would essentially be along the axis of
10 a monocline.

11 A. Mr. Fahmy, I believe what I did in the
12 observation -- in the report was say this well -- we can
13 use this observation well. This is in regard to is there
14 unappropriated water available. I don't believe anywhere
15 in the report did I say this would be an indicator of
16 impairment of existing rights.

17 I think we use this to say availability of water.
18 So where you were heading, I believe, is am I going to
19 show a drawdown on this observation well? I don't think
20 I ever suggested that I would.

21 Q. Okay. Maybe I misunderstood, you know, what your
22 testimony was, your report.

23 So I think what you've just said is that it would
24 not serve as a useful observation point with regards to
25 measuring drawdown associated with the proposed well

1 site?

2 A. True.

3 Q. Okay. Thank you.

4 Okay. On page 6 of your report you talk about --
5 and this is at the end of page 6 you talk in the Madison
6 Aquifer you earlier remarked about the Madison Aquifer
7 would be under artesian conditions in this area. And you
8 talk about how the drawdown from the pumping of the well
9 may extend over a fairly large area.

10 You go on to state that at this time it is not
11 practical to attempt to quantify the specific effect this
12 well may have on area wells since aquifer characteristics
13 have not been determined for this area and aquifer
14 characteristics of the Madison can vary considerably
15 within a short distance.

16 Essentially, you know, my recollection -- and I want
17 to see if this is your recollection as well -- in the
18 earlier proceeding, 2585, weren't you essentially in the
19 same position with regards to your knowledge of aquifer
20 characteristics that at that time you had essentially
21 insufficient information to determine aquifer
22 characteristics for the area?

23 A. Yes. But what I think -- to clarify that, in our
24 report both in 2585-2 and in this we came to this Board
25 and said, Board, I'm not going to tell you how much

1 drawdown there's going to be. Can't do it. But I can
2 tell you that drawdown's not going to be an adverse
3 impact.

4 Q. Okay.

5 A. And I think I did that again today, or I certainly
6 tried to do that again today.

7 Q. But in the earlier proceeding, 2585, did not the
8 State -- excuse me. The chief engineer recommend
9 deferral so that an aquifer test could take place and
10 that the effects could be evaluated on I think in that
11 case it was Beaver Creek Springs?

12 A. Well, that's correct. But, remember, there's some
13 significant differences between this application and
14 application 2585-2. And those significant differences
15 are, number one, 2585-2 is looking for something like
16 1,200 gallons a minute 4,000 feet away from Beaver Creek
17 Spring. This application is for 300 gallons a minute,
18 one-fourth of that amount of water. It's 3 miles from
19 the spring.

20 So, yes, we recommended deferral on that one and
21 we're not on this one because we've got distance and
22 reduced diversion rate.

23 Q. Okay. So but we don't have any additional
24 information with regard to aquifer characteristics at
25 this time; is that correct?

1 A. That's incorrect. National Park Service did an
2 aquifer test in which I was involved in, and we found
3 that the transmissivity was around 3,200 feet square per
4 day. Modeling was done previous to the other study
5 modeled at 1,600 square feet per day. Yes, we do have
6 additional information in this area.

7 Q. Okay. Good. So based on that additional
8 information, what type of technical or scientific
9 analysis did you employ to support your conclusion?

10 A. That conclusion being?

11 Q. That conclusion being that this permit should be
12 granted without the necessity of conducting an aquifer
13 test. Because, frankly, Mr. Buhler, you just told me the
14 difference between this case and the prior case, 2585, is
15 there's less water will be pumped and it's further away.

16 But I guess I just want to know, other than those
17 two factors, what technical or scientific analysis did
18 you do?

19 A. I believe I have a 12, 13, 14-page report in which I
20 define what we did to evaluate this. And I think I spent
21 a lot of time with the Board saying --

22 Q. Okay.

23 A. -- what we did to evaluate. To go further than
24 that, you know, maybe -- and as a lay Board I want to
25 keep this on a lay level. One of the things to look at,

1 the simplest way to view this, Beaver Creek Spring best
2 estimates from the U.S.G.S. discharging 10 to 15 cubic
3 feet of water per second. Okay.

4 When we look at the water level in the Streeter
5 well, which is 4,000 feet away from Beaver Creek Spring,
6 that water level fits in to the regional potentiometric
7 service as does CU 91A. Everything fits.

8 We can't even see the impact on the potentiometric
9 surface of 10 CFS discharge of the spring. You know,
10 what makes -- you know, I cannot believe that a
11 smaller -- you know, when we're looking at .67 CFS that
12 that would have an impact.

13 Q. I see. But I guess one thing -- is Beaver Creek
14 Springs actually measured?

15 A. Is it what?

16 Q. Is it measured? Is there measured so that you can
17 tell if there's a change in the discharge from ground
18 water pumping?

19 A. No, sir.

20 Q. Okay. All right.

21 A. Not that I'm aware of.

22 Q. All right. I don't want to take too much more of
23 your time, but I want to get to the public interest part
24 of your report. And actually let's go to page 11, the
25 term limits.

1 You testified regarding that and the recommendation
2 of a chief engineer was that information is not available
3 to justify issuing these permits without a term
4 limitation of 20 years. And in response to a question
5 from Mr. Wieczorek you suggested, I believe, that there
6 was a reasonable probability -- that there was a
7 reasonable probability that the proposed well would have
8 no effect on Beaver Creek Springs. That's what I wrote
9 down as your answer to --

10 A. That's correct.

11 Q. Okay. Given that the standard as I understand it
12 and as you set forth on page 11 from SDCL 46-2A-20 is
13 that the Board can grant a permit for more than 20 years
14 in the event that evidence is presented at the hearing
15 that there's sufficient information to -- that is
16 available to determine that any -- let's see. That there
17 is a reasonable probability the issuance of a proposed
18 permit would not have a signify adverse effect on nearby
19 Madison formation wells or springs, it seems to me that
20 on one hand you've testified that this application meets
21 that standard and yet you've testified that -- and the
22 recommendation contains a statement that information is
23 not available to justify issuing these permits without a
24 term limitation of 20 years.

25 Now I guess I'm a little confused. Because what

1 I've heard through much of your testimony is there's this
2 great uncertainty, there's this lack of information,
3 okay, and that -- and that you've testified that every --
4 I believe it's every Madison Aquifer permit since 1992
5 has this 20-year term limit, it would seem to me that
6 this is a fairly high standard with regards to burden of
7 proof that someone must show in order to meet this
8 requirement that there's a reasonable probability that
9 the issuance of a well permit will not have a significant
10 adverse effect.

11 So I guess I'm struggling to understand what your
12 position is. Is it that there's inadequate information
13 or that it's your personal professional judgment -- your
14 professional judgment that there is not going to be any
15 effect and, you know, we have sufficient information?

16 A. I'm the one that's really confused.

17 Q. Okay.

18 A. Excuse me. And where I'm confused is when I talked
19 to the National Park Service, the National Park Service
20 tells me we're really concerned about long-term potential
21 impact of this. Not next week, not next year but
22 long-term.

23 Q. Yes.

24 A. And recognizing this, I knew there was no way that I
25 wanted to help the chief engineer support a

1 recommendation of not less than 20 years because at this
2 point we came in I think recognizing the public interest
3 of the Park saying I want to make sure I got a long-term
4 handle. And I think by keeping this in there we have it
5 handled.

6 I don't see a problem with that. Now you're telling
7 me -- you know, you're saying we've got unappropriated
8 water but we're not going to have adverse impact, how
9 come you still want this in.

10 Q. Well, I guess I'm trying to figure out how you
11 determine, even with a 20-year term on this that there's
12 not going to be a significant adverse impact if there's
13 no measuring of Beaver Creek Springs? Are you just going
14 to rely on anecdotal information from water rights
15 holders on Beaver Creek? I mean, how -- and has --

16 I guess has the Board ever amended or cancelled a
17 Madison Aquifer permit for a municipal or quasi municipal
18 water supply in the event that there's a significant
19 adverse impact?

20 I guess I'm -- I guess what I'm struggling for is
21 why wouldn't it be appropriate to require an aquifer test
22 in this instance, okay, where there's uncertainty about
23 the potential effects of the proposed withdrawal on the
24 public interest values that we've talked about in this
25 case versus the prior application?

1 You mentioned those two factors of distance and
2 amount. But it seems to me there's still uncertainty,
3 and there's sufficient uncertainty that the chief
4 engineer recommended that this permit not be issued for
5 the term of in excess of 20 years. I just -- I just
6 don't understand why it wouldn't be helpful to have that
7 same requirement with regards to this proposed well that
8 you were going to -- that the chief engineer recommended
9 for the well -- the Streeter site.

10 A. Mr. Frahmy, one of the points I tried to make
11 earlier is with any appropriation there is some
12 uncertainty.

13 Q. Uh-huh.

14 A. There's no absolute certainty to anything with
15 regard to what is the impact of that pumping going to be.
16 So is the uncertainties associated with this permit on
17 its impact on Beaver Creek Spring or, you know, the
18 public interest thing?

19 We don't feel the uncertainties here are high enough
20 to warrant a aquifer test, deferral for an aquifer test
21 like we did earlier.

22 Those uncertainties were much higher. The stakes
23 were higher when we're closer and have a higher
24 production rate. Again, like I told the Board when we
25 went through the 20-year term limit thing, can I come

1 here and say there's absolute certainty there's not going
2 to be an impact? No. I'd hate to ever try to carry that
3 in. So am I always going to have a 20-year permit on a
4 Madison permit? Yes.

5 Q. I'm going to try to help you here because I see this
6 continuum between the prior permit and the point of
7 diversion and the amount and its proximity to Beaver
8 Creek Springs. I see the current proposed well site and
9 the amount that's being requested and its distance. But
10 it seems to me that where do you draw the line?

11 Let's say for a hypothetical the permit that was
12 before the Board today was maybe only a mile further away
13 from Beaver Creek Springs than 2585 and was only maybe
14 20 percent less. Would you then say, well, no, that's --

15 I guess I'm just trying to understand where is the
16 analysis? Where is the -- I mean, you've pointed to the
17 report, but I don't see any sort of attempt to use the
18 Theis equation -- the Theis equation given all his
19 limitations as sort of a reconnaissance level analysis of
20 what the effects might be.

21 I mean, is it simply just distance and amount?
22 Because that's really the only two factors that should
23 weigh into the consideration as to what the uncertainty
24 is and what quantum of evidence the Board should be
25 presented in order to make these decisions.

1 A. They are big factors.

2 Q. So in your estimation a more rigorous analysis isn't
3 warranted?

4 A. I'm sorry?

5 Q. In your opinion a more rigorous analysis and a more
6 rigorous attempt to get additional information and
7 examine it in terms of the potential effects of ground
8 water withdrawals is not warranted in this case?

9 A. I agree. It's not necessary in this case.

10 MR. FAHMY: All right. Thank you. I have no
11 further questions of this witness.

12 CHAIRMAN HOYT: Very well.

13 Mr. Hickey.

14 CROSS-EXAMINATION

15 BY MR. HICKEY:

16 Q. Mr. Buhler, you know my client is Trout Haven Ranch?

17 A. Yes, sir.

18 Q. And you know that's located on Beaver Creek?

19 A. Yes.

20 Q. And you're aware of the importance of other factors
21 such as pH, water temperature, clarity, and what have you
22 concerning that operation?

23 A. You've brought that up in the past, yes.

24 Q. And, in fact, in 2585 there were certain protections
25 that were going to be built into -- in the aquifer test

1 and any permit that we were going to have to come back to
2 the Board to address those kind of concerns; correct?

3 A. Yeah. I believe one of the findings said something
4 to the effect of we'll pay particular attention -- yeah.

5 Q. And one of the things that were going to happen is
6 they were going to build a weir where they were actually
7 going to measure the volume of water at Beaver Creek
8 Springs; correct?

9 A. As I understand it, that's correct.

10 Q. And none of that ever happened, did it?

11 A. I don't believe it ever did.

12 Q. Okay. So we still don't have a measuring device at
13 Beaver Creek Springs that's accurately going to show the
14 amount of flow that is maybe lost or not lost; correct?

15 A. That's the best of my knowledge.

16 Q. Okay. And so we're going to go ahead under your
17 recommendation and start the pumps, and if it has an
18 adverse impact on my client, that's just the luck of the
19 draw? There's no protection for him; correct?

20 A. At this point, no. I think you're correct.

21 Q. Okay. And by the same token, if this operation
22 happens to dry up that springs, that's just the tough --
23 that's just the luck of the draw because it's -- there's
24 no findings, you make no recommendations to protect the
25 public interest as it pertains to maintaining the flow in

1 Beaver Creek Springs; correct?

2 A. Partially correct. You know, in the first place it
3 isn't going to happen overnight. Okay? And I think the
4 provisions of the 20-year term limit certainly do provide
5 some protection there of is this an irreversible thing?
6 No, it's not.

7 Q. Well, maybe if you're talking about whether there's
8 a 10 percent change in the stream flow from 10 CFS to
9 9 CFS. But it puts my client out of business, that could
10 be an overnight thing, could it not?

11 A. The 10 to 9 or --

12 Q. Yeah. You change the water temperature, you change
13 the pH, you change the clarity of that water, you heard
14 his testimony before of the potential problems that's
15 going to create; correct?

16 A. That's been his testimony, yeah.

17 Q. Right. And you don't believe that?

18 A. You know what? I got in trouble several years ago
19 for answering some questions pertaining I was a biology,
20 and I don't want to get in that trouble again so that's
21 out of my bailiwick.

22 Q. So at least when the Board dealt with 2585 they put
23 some protections in, did they not?

24 A. Yeah. In the findings they said -- yeah. With
25 regard to the aquifer test.

1 Q. Okay. And in the decision they specifically said
2 that in reviewing the proposal -- the chief engineer
3 shall evaluate -- the pump test proposal adequately
4 addresses concerns about reduction in water flows, water
5 quality, pH, temperature, and clarity in the Beaver Creek
6 that would adversely effect the operation of Trout Haven
7 Ranch.

8 That's right in their decision; correct?

9 A. That's correct.

10 Q. And you're not making any kind of recommendations or
11 you're not even addressing that in this application;
12 right?

13 A. We address that in our review of this application
14 when we looked at the public interest and said, Board, in
15 the past we've looked at Beaver Creek Spring as a public
16 interest concern when we're pumping out of the Madison
17 here. Is there a likelihood of impact on Beaver Creek
18 Spring? Our review said no, we did not believe so.

19 Q. But why wouldn't you put those same kind of
20 protections in place? Because you've admitted you don't
21 really know for sure. It is just your best estimate;
22 right?

23 A. That's correct.

24 Q. So why wouldn't you have those same protections in
25 this application as you had in the previous one? What's

1 it hurt?

2 A. Because my best judgment says it's unnecessary here
3 and why do I want to spend a bunch of their money
4 unnecessarily.

5 Q. Building a weir is spending a bunch of their money
6 unnecessarily to find out what the accurate flow is?

7 A. Can you excuse me one second, please.

8 Q. Sure.

9 (Witness confers with Garland Erbele)

10 A. I apologize. I'm sorry. I want to make two -- two
11 issues regarding the weir. Okay.

12 Number one, the best of my understanding is the
13 Applicant made provisions with the U.S.G.S. to try to
14 install the weir. And my understanding is access was
15 denied, essentially. That's what I'm told.

16 The second point I would like to make with regard to
17 flow of Beaver Creek Springs is Water Permit No. 892-2,
18 which is your client's permit, contains a qualification
19 that he shall maintain stream records above and below his
20 hatchery in which if those qualifications are being met,
21 we should have those flow records that you are looking
22 for.

23 So are there measurements? I don't know. You'd
24 have to ask your client. It's on his qualification.

25 Q. Why in the world then did we talk about establishing

1 a weir?

2 A. I think everybody wanted to make sure that we had --
3 you know, if there was going to be a flow test, if there
4 was going to be argument about flow in, let's make sure
5 we have something that was, you know, accurate.

6 Q. And isn't that still a valid concern today?

7 A. It certainly is a concern if we don't have the flow
8 records. You know, if we got flow records, why would we
9 need a weir.

10 Q. Well, I don't know how you estimate the flow -- I
11 don't know what a flow record is to be honest. I don't
12 know how Steve Simpson measures that, but have you ever
13 asked him for the records that he's got?

14 A. Pardon me?

15 Q. Have you ever asked him for the records that he's
16 got?

17 A. No. Do you have records?

18 Q. Yeah. He supplied them once to Southern Hills.
19 And --

20 MR. WIECZOREK: I'm going to object as that's
21 not in the record and, quite frankly, that's a
22 misstatement of what's going to be later testimony. So
23 it's evidence not in the record for him to say he
24 supplied us anything.

25 CHAIRMAN HOYT: I'm going to overrule the

1 objection. And, counsel, you'll have an opportunity to
2 address it through your witnesses.

3 Q. I guess my question, Ken, is how does he measure the
4 flow? How does Simpson measure the flow?

5 A. I have no idea. I have not seen any flow measuring
6 devices associated with Permit 892-2. Nor have I seen
7 flow records. So I cannot answer that.

8 Q. And that was -- and you correct me if I'm wrong.
9 That was my understanding as to why he wanted a weir. So
10 we'd have an accurate measuring device; correct? In --

11 A. Yeah. As far as I know.

12 Q. Okay. And it's your understanding -- somebody told
13 you that U.S.G.S. went in there to build a weir and Steve
14 said no?

15 A. That's what I was told.

16 Q. Who told you that?

17 A. I want to say I got that from the consultant to the
18 Applicant. The issue as I understand it is the
19 conditions placed on the U.S.G.S. -- what I was told,
20 conditions placed on the U.S.G.S. for installation of the
21 weir were unacceptable to the U.S.G.S. So they weren't
22 necessarily told no, you can't establish a weir but you
23 can establish a weir under these conditions, and the
24 U.S.G.S. said I can't do that. So whether it wasn't a
25 direct -- no. That's my understanding.

1 Q. When was this done? I mean, this application was in
2 2006. When were these contacts made, and, I mean, did
3 the State get involved in that?

4 A. I was not involved. So I will tell you that's --

5 Q. It's hearsay to you?

6 A. Yeah. That's what was relayed to me.

7 Q. Okay.

8 A. I take it back. I can tell you that I talked to
9 Joyce Williams (sic) with the U.S.G.S. I can't tell you
10 when I talked to her, but that's -- so I guess -- I guess
11 we have to drop the hearsay and say, no, I discussed this
12 with the U.S.G.S., and that was the story they were told.

13 Q. Joyce Williams told you that this was the story she
14 had heard?

15 A. No. Joyce Williams, a hydrologist with the U.S.G.S.
16 Joyce Williams is telling me this is why we're not going
17 to establish a weir here.

18 Q. And what did she tell you?

19 A. She told me that the conditions placed on the
20 U.S.G.S. for installation of the weir were unacceptable
21 to the U.S.G.S. so they would be unable to establish a
22 weir there.

23 Q. What was your understanding of the conditions that
24 she said were placed?

25 A. My understanding -- my understanding, Mr. Hickey,

1 was -- here's how I recall it: U.S.G.S. went to
2 Mr. Simpson, said we'd like to install -- we'd like to
3 install a weir. Mr. Simpson said fine, but if you kill
4 my fish, I'm holding you responsible. You're liable for
5 any change in anything, including, you know, any impact
6 to my hatchery. And they said, wow, I can't do that. I
7 can't assume that liability. That's my understanding of
8 what happened here.

9 Q. Okay. And when did this occur?

10 A. I'd be guessing if I gave you a number.

11 Q. I mean -- I guess to be honest with you, this is the
12 first I've ever heard of this. Why -- if that was the
13 problem, why wasn't there some communication to counsel
14 to address this concern?

15 MR. WIECZOREK: I've got various letters that
16 went to Mr. Hickey asking for information and asking for
17 cooperation. I can introduce them later to the Board.

18 MR. HICKEY: I'm talking about the weir. I've
19 never heard this before.

20 MR. WIECZOREK: Mr. Kannenberg can talk some
21 about the status of how the weir was supposed to be
22 handled by the U.S.G.S. and some of the issues U.S.G.S.
23 had.

24 MR. HICKEY: I guess my question --

25 CHAIRMAN HOYT: Excuse me, gentlemen, but in the

1 interest of decorum procedure we'll ask you to present
2 that through your witnesses if you'd like and you're free
3 to follow up in cross-examination of Mr. Buhler if you'd
4 like to pursue this line of questioning, Mr. Wieczorek.
5 Thank you very much.

6 Mr. Hickey, please proceed.

7 MR. HICKEY: I will move on.

8 Q. It's still true, is it not, Mr. Buhler, that it's
9 your opinion that you can't tell the amount of a drawdown
10 because of the aquifer characteristics of the Madison,
11 they fluctuate so much?

12 A. I can't tell you precisely what the drawdown's going
13 to be here.

14 Q. But you anticipate that it's going to be elliptical
15 and it will extend more to the north and south than it
16 does to the east and west?

17 A. That's what I would anticipate.

18 Q. And Beaver Creek Springs is to the south; correct?

19 A. Southeast.

20 Q. Okay. Would that be within the ellipse that you're
21 talking about, or you don't know?

22 A. My best guess is, no, it wouldn't be. I don't think
23 that Beaver Creek Spring is going to be within the
24 drawdown cone of this proposed well.

25 Q. But we don't know for sure; correct?

1 A. No.

2 Q. And we won't know until actually there's pumping and
3 we see the effects of it?

4 A. I think anybody that says they know for sure is
5 lying.

6 Q. And that's one of the purposes of the aquifer test
7 that Mr. Fahmy is asking about is to get more data;
8 correct?

9 A. I believe that's what Mr. Fahmy was asking for.

10 Q. And, as I understand it -- you correct me if I'm
11 wrong, but one of the reasons that an aquifer test
12 wouldn't -- couldn't be done before was because there
13 wasn't a permit that was issued?

14 Is that what they told you, the Applicant? They
15 couldn't do the test because they didn't have a
16 permit?

17 A. No. I've never heard that. I have not heard that.
18 But they could get a temporary permit to dewater -- or
19 temporary permit to do the aquifer test. Other permits,
20 I think they probably need a surface water discharge
21 permit, things like that.

22 I'm not real sure what other permits they would need
23 to do a test. But it was never my understanding that the
24 reason why there wasn't an aquifer test done -- my
25 understanding was the reason for that was not because of

1 permitting or anything else. It was they chose to look
2 in a different neighborhood.

3 Q. Was the -- were you ever approached for any kind of
4 temporary permits to allow an aquifer test?

5 A. Not formally, no. There was some informal
6 discussion about it.

7 Q. The observation wells that you talk about, those, of
8 course, they wouldn't measure or have any -- supply any
9 information concerning temperature of water, clarity of
10 water, pH of water, or anything like that; correct?

11 A. Wait a minute. Which observation wells?

12 Q. Like the 93 A --

13 A. Our whole network?

14 Q. Yeah.

15 A. And they wouldn't contain -- what was your question?

16 Q. They wouldn't have any -- they wouldn't shed any
17 light on the temperature of water, the pH of water, the
18 clarity of water, concerns like --

19 A. We have pH measurements on all of those. Yes. They
20 could shed light on all of those.

21 Q. Okay.

22 A. All and any of those.

23 Q. For example, what would be the pH numbers of -- do
24 you know or do you have that information available?

25 A. I don't have that at my disposal right now. I'm

1 sorry. We do have record that that well was -- we pumped
2 it and sampled it after we completed the well. There's
3 some geochemical stuff that's been done on it too that
4 could give you that.

5 Q. Is there a -- you make observations on the
6 observation wells, as I understand it, daily or how
7 often?

8 A. Actually we have continuous recording equipment on
9 those wells measuring once per hour. We ground truth
10 those. In the summertime we got a body out there
11 measuring that water level approximately once every three
12 weeks. In the wintertime we're talking maybe once
13 every -- once a month.

14 Q. Do you get pHs at those times?

15 A. No, sir. We're simply looking at water levels.

16 Q. Do you get water clarity at that time?

17 A. No, sir. We're simply looking at water levels.

18 Q. Or temperatures?

19 A. Water levels only.

20 Q. Okay. Just one last -- you said that there was --
21 at City Springs they went dry and they returned this
22 October; is that correct? Or something to that effect?

23 A. I never said they went dry. There was testimony
24 before this Water Management Board that City Springs went
25 dry. My testimony today was we have evidence those

1 springs are not dry, did not dry up.

2 Q. And that's in October of this year; correct?

3 A. As recent as October of this year.

4 Q. Okay. What was -- I think the hearing in this
5 matter was in -- I don't see a date on it. October 6 --
6 October 11 of 2006. What was the condition at that time?

7 A. I can't tell you that. Let me grab something here.
8 Excuse me.

9 (Witness retrieves document)

10 A. In answer to your question, Mr. Hickey, I cannot
11 tell you what their condition was at that time. What I
12 can tell you based on water resources data of
13 South Dakota water year 1994, this is U.S.G.S. Water Data
14 Report SD-94-1, it is between 1988 and 1994 they have
15 record of several measured discharges of City Springs in
16 that time period.

17 Q. When did Rapid City Well No. 6 go on line?

18 A. I think it was about 1989. In that 1989, 1990
19 neighborhood.

20 Q. And is it your understanding that that -- that when
21 that well went on line that it didn't have a significant
22 reduction on City Springs?

23 A. I never went out and measured City Springs. The
24 only thing I know about City Springs at this point is
25 previous testimony at the Board meeting on City Springs

1 and looking at this study. So I can't -- I can't -- I'm
2 not going to testify that they -- I'm not going to
3 testify that the flow was reduced when Rapid City started
4 pumping because I don't have personal knowledge of that.

5 Q. Do you know, the hatchery there, the fish hatchery
6 at Rapid City?

7 A. Cleghorn Springs Fish Hatchery?

8 Q. Yes. Cleghorn Springs Fish Hatchery. Do you know
9 whether or not they have to alter the manner in which
10 they conduct their operations when the Rapid City wells
11 kick in?

12 A. Yes and no. I know that they had to alter their
13 manner of operation one time when there was a Rapid City
14 pumping issue. But whether that's a day in, day out
15 thing, I don't know. So you get my yes or no on that.

16 Q. That's fine. I'll have somebody else.

17 MR. HICKEY: Thank you. That's all I have.

18 CHAIRMAN HOYT: Very well. Ms. Best, you'll
19 have an opportunity for redirect, but let us ask
20 procedurally it's noon at this point. I think all of the
21 parties here are also parties to the docket which is
22 scheduled to commence at 1 o'clock, are you not? That is
23 the Streeter well.

24 THE WITNESS: Excuse me. I believe the National
25 Park Service is not party to the next hearing.

1 CHAIRMAN HOYT: Very well. But I think the
2 others are, are you not? It would be my suggestion that
3 we continue with this docket even though the other
4 hearing is noticed for 1 o'clock. And then upon
5 conclusion of this docket we'll commence the hearing on
6 the Streeter application.

7 Does that meet your concurrence?

8 MR. WIECZOREK: The concern I have is the
9 Streeter application is a limited -- more limited review,
10 I believe. And it would be our -- it would be our
11 preference to make sure the Streeter application's heard
12 today as being noticed today.

13 And I do have some concern -- I don't mind
14 pushing on this hearing and pushing Streeter off, but I'd
15 like maybe a cutoff where we can get to the Streeter
16 application and not see that pushed off to March or
17 something beyond that.

18 CHAIRMAN HOYT: By all means. Let's do this
19 then. Let's continue the hearing in this matter at
20 1 o'clock and we'll monitor our progress, Mr. Wieczorek,
21 and make certain that we do have sufficient time for
22 Streeter.

23 On occasion this Board has continued hearings
24 well into the evening, and I think probably we're
25 prepared to do that again if necessary because we do have

1 an important matter coming before the Board tomorrow as
2 well. So let's do that. I'd ask Mr. Gronlund if you
3 would because we've taken judicial notice of the previous
4 docket -- I think it was 2885 where we attached the
5 conditions of the decision that Mr. Hickey was talking
6 about. Because we're taking judicial notice of that if
7 you provide the Board copies of the Findings of Fact,
8 Conclusions of Law and the Decision in that matter so
9 that we might have them for reference.

10 MS. BEST: I'll just go ahead and give them to
11 you now. We can make copies.

12 CHAIRMAN HOYT: Well, what do you know? You
13 anticipated that. Very well. We will stand adjourned
14 then until 1 o'clock.

15 (A lunch recess is taken)

16 CHAIRMAN HOYT: The Water Management Board is
17 back in session to continue the hearing in the matter of
18 Water Permit Application 2633-2. This is the time for
19 Interveners Fugier? Did I come close.

20 MR. FUGIER: Fugier, yeah.

21 CHAIRMAN HOYT: Fugier and Schroth to ask
22 questions of the DENR witness. Ken is back.

23 MR. FUGIER: I have no questions.

24 MR. HALLEM: Thank you, Mr. Fugier.

25 Could you please come up so the court reporter

1 can hear you, Mr. Schroth.

2 MR. SCHROTH: Randy Schroth, Buffalo Gap,
3 South Dakota.

4 CROSS-EXAMINATION

5 BY MR. SCHROTH:

6 Q. I would just like to ask Ken what perimeters or --
7 like on the first deal we had all kind of -- the Board
8 had agreed on a pump test and drawdown on that. At what
9 point do you think we need that or do you think it's
10 just -- in your professional opinion if they keep
11 applying for more water, is there a point in there you
12 think we should ask for that?

13 A. Mr. Schroth, in my professional opinion we don't
14 need it here. We needed it there. What's too close,
15 what too -- I can't tell you at what point we need it. I
16 can tell you when we don't need it. Do you know what I
17 mean?

18 Q. Well, they're putting a system in that demands way
19 more water than they're asking for on this. Any phase of
20 their system that I've seen any of the work on that is
21 not enough water to supply their system.

22 A. Okay.

23 Q. Okay. So they're going to need more water.

24 A. Uh-huh. Any additional water to the 484 acre feet,
25 the year that they're appropriating here and, like I say,

1 probably the 300 acre feet that they can probably
2 develop, anything beyond that we need to be here again.

3 And when we -- you know, it's going to take public
4 notice and probably a public hearing. And at that time
5 based on the specifics, then we're going to come back to
6 the professional judgment of saying here's specifically
7 where the well location is going to be, here's
8 specifically what the pump grade is going to be, this
9 warrants additional, or this does not.

10 So that -- there will be a time to look at that,
11 and, you know, we will apply -- it will be predominantly
12 professional judgment. And, you know, if they do develop
13 this and -- this permit and need to develop more,
14 certainly we'll have more information than we -- you
15 know, we can keep building off of what we already know,
16 further tweak professional judgment.

17 Q. Okay. So they put 10, \$20 million worth of pipeline
18 into the ground. Then is it feasible to do a pump test
19 when they need more water, I mean, once you've got all
20 these people dependant upon this water?

21 A. You know, of course, this Board can qualify a permit
22 any way they want to. And I can show you an example of a
23 examination where the Water Management Board actually
24 said if we have X drawdown Y feet away four years from
25 now, you're done.

1 Q. Okay.

2 A. So it's not out of the realm of possibility. I
3 mean, just because the pipe's in the ground doesn't
4 mean --

5 Q. Okay.

6 A. Doesn't mean the train already left the station,
7 never going to stop again.

8 Q. Okay. And another thing, Joyce Williams did come to
9 my house --

10 MR. HALLEM: Excuse me, sir. This would be
11 testimony. Do you have a question of Mr. Buhler? Were
12 you going to ask Mr. Buhler a question about this?

13 MR. SCHROTH: Yes.

14 Q. So were you in contact with Joyce at all after she
15 met with us?

16 A. Yes, I was. And, by the way, it's Joyce Williamson,
17 not Joyce Williams. I screwed up. And as I mull this
18 about as we continue on, I did not want to imply that
19 somebody said, no, you can't set a weir here. I think
20 U.S.G.S. said we can't set a weir here and handle
21 potential impacts of setting the weir, so on and so
22 forth.

23 Q. Did Joyce talk to you about her alternative plan on
24 using a weir with the rock banks on the creek? She
25 talked, setting a band there and using the banks of the

1 creek where it's real rocky there. Did Joyce mention
2 anything to that?

3 A. No. We never got into the specifics with that.
4 Really where we got to Joyce, I was talking to her on the
5 phone with something else. She brought up this issue
6 that, look, I don't think we're going to be able to put a
7 weir in there because they don't want us out there with a
8 backhoe, so on and so forth, and I think we need to fall
9 back. And it was left at that and whether there was
10 stuff past that --

11 Q. Joyce never mentioned any of those other
12 alternatives to you?

13 A. No. This was an in passing issue.

14 MR. SCHROTH: Okay. That was it.

15 CHAIRMAN HOYT: Any further questions,
16 Mr. Schroth?

17 MR. SCHROTH: No. Not from me.

18 CHAIRMAN HOYT: Thank you. Any redirect?

19 MS. BEST: Just a little bit. Thank you.

20 CHAIRMAN HOYT: Ms. Best.

21 REDIRECT EXAMINATION

22 BY MS. BEST:

23 Q. Ken, in response to Mr. Hickey -- or Mr. Hickey was
24 asking you about possible adverse impact to -- I guess it
25 was to Beaver Creek Springs. We were talking about

1 drawdown in general and he asked you a question about,
2 well, you don't know for sure and you said yes, we don't
3 know for sure.

4 Do you recall that dialogue?

5 A. Yes.

6 Q. When you said we don't know for sure what were you
7 referring to?

8 A. Again, what I was referring to is can I predict
9 exactly what that drawdown's going to be? No. Is there
10 a reasonable probability -- based on my professional
11 judgment, is there a reasonable probability that there
12 won't be adverse impact? Yes.

13 You know, will you ever know for sure? I mean, even
14 an aquifer test because of the assumptions that you need
15 and can't always be fulfilled, you're never going to be
16 able to say yes, I know for sure.

17 Q. And based on your professional judgment, again, is
18 more data needed in order to determine whether the permit
19 that's applied for here should be issued?

20 A. I don't believe more data is necessary. I think
21 I -- our analysis is appropriate to address the issue of
22 will there be -- is there unappropriated water available?
23 I don't think anymore data would change our answer.
24 It -- impairment of existing rights, beneficial use,
25 public interest, no, I don't think anymore data would --

1 is necessary based on my professional judgment.

2 MS. BEST: I have no further questions.

3 CHAIRMAN HOYT: All right. Any further cross
4 from Mr. Wieczorek?

5 MR. WIECZOREK: No, Mr. Chairman.

6 CHAIRMAN HOYT: Mr. Fahmy.

7 MR. FAHMY: I have just one question.

8 RE CROSS-EXAMINATION

9 BY MR. FAHMY:

10 Q. Hypothetically, Mr. Buhler, given this proposed well
11 site, let's say instead of having reduced the amount that
12 they were seeking over and above what they had asked for
13 in 2585, let's say they doubled the amount that they were
14 asking for.

15 Would you have required an aquifer test?

16 A. Were they to ask for 2,400 acre feet -- 2,400
17 gallons a minute at this site rather than 300 gallons a
18 minute?

19 Q. Yes.

20 A. Would we --

21 Q. Well, in our earlier dialogue we were having you
22 seemed to suggest that the two most important factors in
23 your recommendation was, one, the fact that the point of
24 diversion was now further away and, two, that they were
25 asking for a reduced volume of water.

1 So I'm simply asking that if instead -- and this is
2 a hypothetical. If they had actually asked for more
3 water, say twice as much, would your recommendation have
4 been we need to have an aquifer test here?

5 A. I think I'd have to spend a lot more time evaluating
6 it than the 30 seconds we're doing right now to -- we
7 would want to look at it as we do every permit.

8 Q. Okay.

9 A. You know, I'd have to spend some --

10 Q. So further analysis would be warranted, in other
11 words?

12 A. Yeah. We --

13 MR. FAHMY: I have nothing further of this
14 witness.

15 CHAIRMAN HOYT: Very well. Mr. Hickey.

16 RECROSS-EXAMINATION

17 BY MR. HICKEY:

18 Q. You indicated that -- we're talking about the
19 484 acre feet of water of volume. The next application
20 is to increase the Streeter well; right? The volume is
21 going to go up to -- they're going to increase the volume
22 of the number of acre feet they can get?

23 A. They can increase it, yeah.

24 Q. Right. And that's about 176 additional acre feet of
25 water?

1 A. Potentially.

2 Q. Okay. So in fairness it's not really -- you can't
3 really look at this application in isolation. If, in
4 fact, the Streeter well is approved, that change, we're
5 talking about over 600 acre feet, are we not? 484 and
6 176?

7 A. No. I'm not doing that. Your numbers are fine.
8 You're asking me to say what happens if we approve
9 another permit and another permit and another permit. I
10 thought we were talking about just this permit and
11 certainly -- and it seems to me -- I don't mean to be
12 argumentative here, but it seems to me like that 175 acre
13 feet comes up in the next hearing, not necessarily this
14 one.

15 Q. Yeah. But you're aware of that?

16 A. Oh, certainly.

17 Q. It's minutes away.

18 A. Yeah.

19 Q. So it is a little bit misleading to say it's only
20 484 acre feet. Because if the other application is
21 approved, we're talking about more water, water from a
22 closer locality, but yet that doesn't impact any of your
23 recommendations concerning an aquifer test or anything
24 like that?

25 A. What I'm saying is this permit is for 484 acre feet

1 a year.

2 Q. Right.

3 A. And looking at this permit by itself --

4 Q. But you're not -- as I understand it, you're not
5 recommending an aquifer test, that that be done on the
6 Streeter well either; right?

7 A. That's correct.

8 Q. So if we do it in little increments, we'll never
9 have to do an aquifer test because each little increment
10 in and of itself isn't significant; correct?

11 A. Each little increment does not necessarily need to
12 be, no. Again, we're talking distance and diversion
13 rate. And if I spread the diversion rate out over
14 several increments to use your term, is that going to
15 have the same impact as one -- again, we're going to go
16 to professional -- you know, with the experience on that.

17 Q. Sure. The deferred application, 2585, that's still
18 in the works, so to speak; right?

19 A. That's correct.

20 Q. Hasn't been withdrawn?

21 A. That's correct.

22 Q. And so that can again be brought before the Board at
23 any time that Southern Hills decides that they want to do
24 that?

25 A. I'm not sure procedurally, but I think, yeah, for

1 practical purposes -- I think it can come back in front
2 of the Board after an aquifer test has been run and
3 evaluated.

4 Q. Or they can come back before the Board and ask that
5 no aquifer test be performed based upon the results that
6 you may get after these things are complete; correct?
7 Ask that the Board remove that condition?

8 A. I'm not sure of the legal term. I think they can
9 make that pleading.

10 MR. HICKEY: Okay. Thank you.

11 CHAIRMAN HOYT: Any questions, Mr. Wieczorek?

12 RECROSS-EXAMINATION

13 BY MR. WIECZOREK:

14 Q. Mr. Hickey stated that the Streeter permit is an
15 increase. But that's not a request to increase that
16 permit, is it? That's just a -- all we're doing is
17 amending that to allow Southern Black Hills to use the
18 existing permit, permitted amount.

19 A. You're both right. And this will come up in the
20 next proceeding. There is a permit out there which is
21 being, I don't know, I'm going to say underutilized, not
22 utilized to its maximum potential. And if Southern Black
23 Hills diverts water from the Streeter well, will it
24 increase the diversion from the well? Probably. Is it
25 an increase in appropriation? No. So you're both

1 correct.

2 MR. WIECZOREK: That's all I would have. Thank
3 you, Mr. Chair.

4 CHAIRMAN HOYT: Very well. Questions from the
5 Board for Mr. Buhler?

6 I'll have one for starters while the Board
7 members collect their thoughts.

8 Would you at least refresh my recollection at
9 least as to an aquifer test pump or pump testing an
10 aquifer or however that phrase has been used and what
11 does that entail and what would be maybe a magnitude of
12 cost of such a test?

13 THE WITNESS: What it entails, you are going to
14 stress the aquifer, i.e., you're going to pump a well and
15 cause a stress, and you're going to measure what that
16 stress -- what the result was on the aquifer.

17 In other words, you're going to pump it at a
18 given rate and you're going to measure the drawdown.
19 From that you can calculate aquifer characteristics. If
20 you use just a single well, you can calculate the
21 transmissivity of the aquifer. That's, if you will, the
22 ease of water moving to the well.

23 Now if you have a second well involved where you
24 pump a well and measure the impact on a second well, you
25 can guess both transmissivity and storativity of the

1 aquifer. So the bear minimum would be like I helped the
2 Park Service do -- ran an aquifer test on one well,
3 measured the drawdown with a pump rate, came up with
4 that. That's the bear minimum to get a transmissivity
5 value.

6 The next thing you're going to do is put in a
7 second well out there, and you're going to measure the
8 impact on that.

9 And then one of the things we discussed around
10 here was maybe we need an observation well, one in each
11 direction so we can see whether the cone of influence is
12 a nice circle or whether it's elliptical. So hopefully
13 that explains where we're at with an aquifer test.

14 CHAIRMAN HOYT: With one follow up, if you will.
15 How close does the well to be tested have to be to the
16 well proposed to be drilled?

17 THE WITNESS: Close enough to be able to measure
18 drawdown.

19 CHAIRMAN HOYT: Specifically then could any of
20 your observation wells serve as an aquifer test pump
21 site -- pump test site?

22 THE WITNESS: As an observation well for a test?

23 CHAIRMAN HOYT: Yes. You mentioned there is an
24 observation well in the vicinity of the proposed well
25 site.

1 THE WITNESS: I don't think the drawdown -- I
2 don't think they're going to be able to pump a well hard
3 enough to measure the drawdown at our observation well
4 for an aquifer test. You know, when I say -- you've got
5 to have that observation well close enough to be able to
6 measure a drawdown. If you're pumping 10 gallons a
7 minute, you obviously need the well closer than if you're
8 pumping 100 gallons a minute.

9 And so with this several-mile space from the
10 sites that are proposed I don't think you could measure
11 the drawdown on the wells.

12 CHAIRMAN HOYT: Could any of the Interveners
13 draw any comfort from the use of your observation well as
14 a -- as an aquifer pump test?

15 THE WITNESS: As an observation well for a pump
16 test, or do you want to run a pump test off our
17 observation well?

18 CHAIRMAN HOYT: I want to run a pump test off
19 your observation well. Are the results meaningless? Is
20 it a waste of time?

21 THE WITNESS: You bet. They could certainly
22 pump our observation well and measure the drawdown in our
23 observation well and calculate some aquifer
24 characteristics from that. And I would think that, you
25 know, in -- would that call somewhere maybe for more

1 data? Yeah. You could get some more data on what the
2 aquifer's like there.

3 CHAIRMAN HOYT: Would it be of any value to you
4 in perhaps either of these dockets under consideration?

5 THE WITNESS: Oh, sure.

6 CHAIRMAN HOYT: Well, and I appreciate what
7 you've said before about more data is always helpful.

8 THE WITNESS: Yeah.

9 CHAIRMAN HOYT: I can appreciate that. But I
10 mean -- well, I guess I'm trying to explore with you
11 whether there might be alternatives to the aquifer pump
12 test I guess it is without actually proceeding to drill
13 the well, which is the subject of this application and do
14 such a test.

15 THE WITNESS: You could certainly pump our well
16 and get further definition on the aquifer characteristics
17 in this area.

18 CHAIRMAN HOYT: Would any modifications be
19 necessary to that well, to your observation well?

20 THE WITNESS: You're going to need to bring a
21 pump and power source to it to do that.

22 CHAIRMAN HOYT: Okay. Is that complex? Is it
23 difficult? Is it impossible?

24 THE WITNESS: Should be pretty straightforward.

25 CHAIRMAN HOYT: How much would it cost?

1 THE WITNESS: I'm afraid I can't answer that. I
2 don't know what the cost to rent a pump. I don't know
3 what it costs to rent a generator. I think you're going
4 to have at least a drill crew out there for the duration
5 of the test to do your stuff, and they're going to run
6 you, you know, 150 bucks an hour or so. I'm talking
7 about --

8 CHAIRMAN HOYT: Would it be less than \$50,000?

9 THE WITNESS: I'm thinking you can do it for
10 less than 50.

11 CHAIRMAN HOYT: Okay. We'll have other
12 professional witnesses here who may have a better feel
13 for that, but thank you for --

14 Any other questions from the Board?

15 MR. FREEMAN: I've got one, Ken. And I'm not --
16 I don't mean to appear argumentative. I just want to
17 make clear in my own mind what your testimony is.

18 Back in '07 on the last one the Board is
19 reserving its decision until further information is
20 supplied. We wanted the following questions answered,
21 whether testing will show any evidence of impact on the
22 flow of Beaver Creek, what evidence of impact, if any,
23 will the testing show on lakes and Wind Cave and several
24 other things, but primarily they were our two concerns.

25 You're saying that those should no longer

1 concern the Board because the proposed well is now 3 and
2 a half miles away and there's a greatly reduced amount of
3 water that the permit is asking for?

4 THE WITNESS: Yes.

5 MR. FREEMAN: Is that a pretty good summation?

6 THE WITNESS: That's correct.

7 MR. FREEMAN: Okay. Thanks. That's all I have.

8 CHAIRMAN HOYT: Further questions from the Board
9 for Mr. Buhler?

10 MS. BEST: May I ask a follow-up question then?

11 CHAIRMAN HOYT: Certainly.

12 REDIRECT EXAMINATION

13 BY MS. BEST:

14 Q. Ken, as far as the State's observation wells, would
15 it be necessary for the State -- would a stress test
16 using a State observation well provide information
17 necessary for making a recommendation on granting the
18 permit or denying the permit?

19 A. This permit?

20 Q. Yes.

21 A. I don't think that data's necessary to grant this
22 permit.

23 MS. BEST: Okay. Thank you.

24 CHAIRMAN HOYT: Okay. This will go quickly.

25 Mr. Buhler, I'm not sure. We're going to allow counsel

1 last shot at you here.

2 Mr. Wieczorek, anything?

3 Mr. Fahmy, no more hypotheticals?

4 MR. FAHMY: No more hypotheticals.

5 CHAIRMAN HOYT: Mr. Hickey.

6 MR. HICKEY: Nothing.

7 CHAIRMAN HOYT: Very well. Mr. Buhler, you're
8 at rest.

9 Very well. Ms. Best, do you have further
10 witnesses to call?

11 MS. BEST: I have no further witnesses. Thank
12 you.

13 CHAIRMAN HOYT: Very well. Applicant having
14 deferred to DENR, we'll move to Applicant and any --

15 MR. WIECZOREK: Put on the stand Mitch
16 Kannenberg to begin with, Mr. Chairman.

17 CHAIRMAN HOYT: Very well.

18 MR. KANNENBERG: Is this the geologist's job or
19 the attorney's job to submit Exhibit 1?

20 CHAIRMAN HOYT: Is this advertising material for
21 your firm?

22 (Discussion off the record)

23 CHAIRMAN HOYT: State your name and address for
24 the record.

25 THE WITNESS: Mitch Kannenberg, Leggette,

1 Brashears & Graham, Sioux Falls, South Dakota.

2 (The witness is sworn by Chairman Hoyt)

3 CHAIRMAN HOYT: You have an exhibit for us, do
4 you?

5 THE WITNESS: Yes.

6 (Applicant Exhibits 1 through 4 are marked for
7 identification)

8 THE WITNESS: On these exhibits I'll be
9 projecting them up on the wall, everything that's in
10 these exhibits. I've got extra hard copies. If the
11 Board, any members of the Board or even some of the
12 Interveners would like a hard copy, I can give you a hard
13 copy.

14 CHAIRMAN HOYT: If you want to proceed to
15 describe them and introduce them.

16 THE WITNESS: All right. Exhibit 1 is a --
17 you've heard about the jeep chemical tests and, some of
18 you remember from the last hearing two years ago on the
19 deferred permit we talked about doing the geochemical
20 sampling and analysis project. Exhibit 1 is the report
21 that my firm wrote on that project with input from -- and
22 I'll talk about it a little bit more later, with input
23 from the National Park Service and U.S.G.S. That is
24 Exhibit 1.

25 Exhibit 2 is simply a printout of some

1 PowerPoint slides that you'll be seeing. And they're
2 just kind of some summary slides of my testimony.

3 Exhibit 3 is a map of Wind Cave provided by
4 Rodney Horrocks and the National Park Service to me.

5 And Exhibit 4 is just kind of a -- this map is
6 actually in Exhibit 1 in larger format. This is just
7 kind of a blown up of the specific area that we're
8 talking about around the well application, the caves, and
9 the Beaver Creek Springs.

10 CHAIRMAN HOYT: Very well. Mr. Wieczorek, do
11 you want to offer Exhibits 1 through 4 at this time
12 subject to objection?

13 MR. WIECZOREK: I would, Mr. Chairman.

14 MS. BEST: No objection.

15 MR. FAHMY: No objection.

16 CHAIRMAN HOYT: We'll give Mr. Hickey an
17 opportunity to take a look.

18 Mr. Hickey, if you would like to reserve your
19 objections --

20 MR. HICKEY: That's fine.

21 CHAIRMAN HOYT: I wasn't trying to rush you.
22 We're not trying to rush you either way. If you want to
23 reserve your objections until foundation has been laid.

24 MR. HICKEY: Okay.

25 CHAIRMAN HOYT: Very well. Mr. Wieczorek.

1 MR. WIECZOREK: Mr. Chairman, since he's
2 retaining foundation, do you want to go through
3 foundational questions on Exhibit 1, and I was going to
4 explain rather than --

5 CHAIRMAN HOYT: That will be fine. Lay the
6 foundation, please.

7 DIRECT EXAMINATION

8 BY MR. WIECZOREK:

9 Q. Exhibit No. 1 is what?

10 A. Report put together from the geochemical sample
11 analysis project jointly funded by the National Park
12 Service, Southern Black Hills Water Service. U.S.G.S.
13 did a sampling, and all of us took a crack at analyzing
14 the results. This report is the report my firm prepared
15 on behalf of Southern Black Hills.

16 Q. And you are involved in the preparation of this
17 report?

18 A. Yes.

19 Q. And you submitted a -- data that contain -- the
20 report was obtained through various sources, and you had
21 the data in the report was obtained through various
22 sources such as U.S.G.S. and the Parks?

23 A. Let me summarize. The United States Geological
24 Survey conducted the field work. They did the sampling.
25 They sent the samples to the laboratory for the various

1 types of analysis.

2 They were accompanied with members of the National
3 Park Service on -- I believe Jennifer went on all the
4 sampling sites. And I accompanied them on some of those
5 locations that were of key interest to my client. And,
6 again, Southern Black Hills paid for about a third of the
7 costs associated with this study, and the National Park
8 Service paid the other two-thirds cost of the study.

9 Q. And then you prepared the report based on that data?

10 A. Yes. And I did submit it -- the National Park
11 Service and the United States Geological Survey had a
12 chance to review it and provided valuable input and
13 revision -- or comments, professional comments.

14 MR. WIECZOREK: That's all the foundational
15 questions I'd have on the report to lay the foundation
16 for it.

17 CHAIRMAN HOYT: Mr. Hickey, do you have any --

18 MR. HICKEY: No objection.

19 CHAIRMAN HOYT: No objection. Thank you.

20 MR. WIECZOREK: So at this point I'd allow
21 Mr. Kannenberg to do what he does in front of this Board
22 on a regular basis, kind of explain what his opinions are
23 and why he reached the opinions he did.

24 CHAIRMAN HOYT: We're prepared to entertain your
25 entertaining narrative, Mr. Kannenberg.

1 THE WITNESS: Are we according to Hoyle now,
2 Mr. Chairman?

3 MR. HALLEM: Are you going to use the other
4 three exhibits in your presentation?

5 THE WITNESS: Yes.

6 MR. HALLEM: We either need to have them
7 admitted now or foundation on other exhibits.

8 MR. WIECZOREK: I'm sorry. I understood
9 Mr. Hickey to reserve his foundational objection only to
10 Exhibit 1.

11 MR. HICKEY: No objection. Go ahead and put
12 them in.

13 CHAIRMAN HOYT: Thank you. We'll admit
14 Exhibits 2, 3, and 4 as well. Now you're free.

15 THE WITNESS: Now we're good? All right. So as
16 I -- I want to give a little bit of foundation on this
17 geochemical sampling analysis report. It goes back to
18 the deferred permit when we met here about two years ago.
19 And the original idea was approach this in a phased
20 approach. We would do some geochemical sampling, which
21 the U.S.G.S. had already done similar work previously
22 back in 2001 as part of the Black Hills Hydrology Study
23 that Mr. Buhler discussed briefly a little bit in his
24 testimony.

25 Take some of the stuff they did and repeat it,

1 and then based on the results, we would use it -- we knew
2 at the time that it wouldn't give us all the answers that
3 we could possibly need to know. It was kind of a
4 screening project to give us a red flag, green flag type
5 of information.

6 For example, if we sample at that time I'm going
7 to refer to it as the Streeter well, that's the deferred
8 permit location, if the water quality of that was
9 completely identical to the Beaver Creek Springs, that
10 might raise a red flag to us that we should perhaps move
11 elsewhere. Same way with the problems with the water --
12 or the same way with the water quality at Wind Cave, the
13 underground lake specifically.

14 So while -- and as Mr. Buhler has pointed out,
15 you know, it's geochemistry. It doesn't have all the
16 answers. It's just one part of the picture, total
17 picture. So with that background -- then I'll just give
18 you the -- or after that we were going to go to a pump
19 test, and I think has the Board heard enough testimony on
20 why that pump test did not occur?

21 What do you think?

22 MR. WIECZOREK: We can certainly ask questions
23 about it. If not --

24 THE WITNESS: I'll just go directly to the
25 results of the geochemical study. And I'll try to make

1 it fairly quick.

2 This map is just where we're at in the world.

3 And can you all see this?

4 MR. BJORK: Can we hand out copies of that,
5 please.

6 THE WITNESS: And, unfortunately, I don't have a
7 pointer outside of my index finger. The well we're here
8 today up here is 2632-2. Beaver Creek Springs is right
9 here. Wind Cave is up here.

10 There's some colors on this map. Just to give
11 you some background, these represent the surface
12 expression of the geologic formations. The Madison
13 Limestone that you've been hearing a lot about -- I'm
14 impressed. You forgot to show me how to -- oh, I even
15 know how to use it.

16 So this is where the Madison Limestone outcrops.
17 That's where the recharge is going in this particular
18 area. This is the Minnelusa Formation, Minnehahta, and
19 the Opeche. They're lumped together on this particular
20 map.

21 Some of the other things Mr. Buhler talked
22 about. This is Buffalo Gap monocline. Large fold.
23 There's a smaller anticline, which is another type of
24 fold. Where did the -- there. Anticline. That's simply
25 a fold like this.

1 Next to it is a syncline. That's a fold like
2 this. And there's also some faults shown on this map.
3 One right there. One right there. That's the Buffalo
4 Gap. That's where the creek flows through the monocline
5 and out the Buffalo Gap. That's the geologic map, and
6 that's the area we're working at.

7 A lot of these as part of this geochemical
8 sampling project, the Streeter well was sampled. Here we
9 go again.

10 It's not working. No wonder. Thought it was me
11 for a moment.

12 All right. These are -- we sampled wells. We
13 sampled springs. We sampled underground lakes. We
14 sampled streams. Or the U.S.G.S. sampled them. Each
15 yellow sampling location is shown with a yellow dot. And
16 I'm not going to go through all those sample results. We
17 don't have that time.

18 What I'm going to do is show you just the
19 highlights on some of the water -- particularly I'm going
20 to focus on is just the water quality differences between
21 the Streeter well, the Madison Aquifer well, Beaver Creek
22 Springs, and the cave.

23 Yeah. Thanks.

24 This is a -- I got a lot of these, and I'm only
25 going to go through it in detail once, and then I'm going

1 to flip through them really fast.

2 Okay. This is a graph that basically shows this
3 is specific conductance. You can think of it as a
4 measure of the salinity of the water, how much total
5 dissolved solids are in the water. And what I've got
6 here is all the places that we sampled as part of this
7 project along the bottom and the labels. And I know you
8 can't read them. I'll point them out to you as we go.

9 Right here, these two high -- and these are the
10 results, the concentrations. And the reason -- there's a
11 lot of different ways to present to you chemical data.
12 Some of the purists are probably turning over in their
13 graves because they like to use things called stiff
14 diagrams and trilinear diagrams, but I decided to use
15 this method just so I could show you examples on how they
16 fit -- compared with each other at all the sampling
17 sites.

18 This one's real high. Obviously that one sticks
19 out; right? That's Beaver Creek Springs. And what that
20 says is that location is highly mineralized compared to
21 the other wells, underground lakes, streams, and --
22 wells, lakes, streams, and springs that we sampled.

23 This is dissolved sulfate. This is another one
24 where -- some of these over here are hot springs in the
25 Hot Springs, sometimes called Fall River Springs.

1 They're kind of high. The rest are all pretty low for
2 sulfate for the wells, springs, and creeks. Except for
3 Beaver Creek Springs. It's way up here.

4 This is dissolved chloride. We've got another
5 well a long ways away from the outcrop so the ground
6 water's had -- I should point out on these things like
7 calcium sulfate, these dissolved ions, they give you an
8 idea of where the water's been. As it travels through
9 the rock it dissolves that rock, and the chemistry -- the
10 ions that show up in that water are a function of where
11 it's been, what rock it's been. So -- what rock or
12 formations's traveled through.

13 This is chlorite. We've got some Hyclorite on
14 this particular well, which is quite a ways away from the
15 outcrop area so you would expect that.

16 Some Hyclorite in Hot Springs, and then here's
17 Beaver Creek Springs again. It's still pretty high, but
18 it's not the highest this time.

19 Dissolved calcium. Any guess on what that high
20 one is there? Beaver Creek Springs. I should point out
21 most of the Wind Cave sites, they have drips, they have
22 lakes, and they have what they call a river. They're all
23 over on the right side of these graphs. The Streeter
24 well is right next to Beaver Creek Springs.

25 The DENR observation wells that Mr. Buhler was

1 talking about, CU 91A, they're right to the left. So as
2 you look through these -- and rather than go back through
3 the previous slides -- these are all in the report, by
4 the way. These have all been pretty much the same,
5 pretty much on the same order of magnitude, the same
6 concentration. The Streeter well results with the water
7 results from Wind Cave Lakes. This has been a
8 significant difference, the Beaver Creek Springs.

9 We're almost done with these. Go ahead, Paula.

10 Sodium, again, Beaver Creek Springs, high. Some
11 other wells and Hot Springs are also high.

12 Nitrite and nitrate. This is a -- this is not
13 a -- this is more of a function of -- I'm not sure why I
14 even have this one in here. You know what? It doesn't
15 add to the argument. In the interest of time, zip along.

16 Dissolved arsonic. This one I put in here as an
17 indicator more for -- it's kind of a puzzle. Arsonic,
18 10 micrograms per liter, that's the EPA maximum limit
19 that you can have in your drinking water. The MCL they
20 call it. Most of the wells are all below that. Streeter
21 well's right around 7.8. Arsonic's pretty high in the
22 cave. And I don't know why. Maybe if you guys know why,
23 you can say during your testimony. But it's all -- in
24 both the lakes and in the drips and the rivers some of
25 it -- it's all over 10. So it's not in my client's

1 interest to be pumping any water from the caves.

2 Even one of the -- the well that -- I call it
3 Park Well 2. That's what you call it, isn't it? Is
4 their Madison well and it's high in arsonic as well. I
5 don't know why that is. I don't know if anybody does at
6 this point.

7 Next one, please, Paula.

8 Now we're going into something a little
9 different. This was we looked at field parameters. We
10 looked at major ions. That's not all. That's just the
11 ones that highlight the differences. There were some
12 major parameters where Beaver Creek Springs is pretty
13 much the same as everything else. But for the most part
14 most of them Beaver Creek Springs is a significant
15 difference relative to the rest of the -- specifically to
16 the Streeter well as well as to the other wells --

17 CHAIRMAN HOYT: Mr. Kannenberg, just a point of
18 clarification. You normally pointed to two dots that
19 were significantly higher. Are those both Beaver Creek
20 Springs?

21 THE WITNESS: Yes. Thank you, sir.

22 CHAIRMAN HOYT: I was confused one of them was
23 another well.

24 THE WITNESS: As part of the QA/QC, quality
25 assurance/quality control of this project, most of the

1 sites were sampled more than once. So I just showed all
2 the results.

3 Tritium is a stable isotope of hydrogen. It's
4 used to age date ground water. It wasn't really in the
5 water before we started atmospheric testing nuclear
6 bombs. So you use it as a method to get an idea, did
7 this water fall to the surface prebomb or postbomb is
8 what we say for shorthand.

9 U.S.G.S. in there, geochemical report that
10 Mr. Buhler referenced earlier, Naus is the principal
11 author on it, 2001, says basically if you have any
12 concentration of tritium, you can expect there's some
13 modern water in there. But for the most part if it's
14 below 5, it's probably predominantly prebomb water or old
15 water.

16 So what we have -- this is Beaver Creek. Now
17 this is not the springs. This is Beaver Creek upstream
18 of the Park. And it's got -- it's up -- as you would
19 expect, it's up about 17. That tells you, well, that's
20 rainwater. That's recent rainwater. You would expect
21 that.

22 Hot Brook Springs, that's down here about 1.
23 That's less than 5. And you've heard this talk about a
24 southern -- or a component of the flow coming from the
25 vicinity of Hot Springs and moving north up into this

1 area. This is one of the reasons the U.S.G.S. has
2 postulated that. That shows -- or it's related to that.
3 And that shows prebomb old water. This is a private
4 well. I'm not going to worry about that.

5 Here's DENR's observation well. No tritium to
6 speak -- no measurable tritium suggesting prebomb water.
7 And they have three wells there; a Madison well,
8 Minnelusa well, and a Minnehahta well.

9 And the Madison and Minnelusa wells, no tritium.
10 The Minnehahta well, which is a shallow limestone and it
11 is -- we'll go back to that map, and I'll show you a
12 little more. It's a shallow -- it's got a lot of
13 tritium, which you would expect. It shows local retard.
14 The Streeter well has 5. It's right on the edge. Cave.
15 One of the lakes amply named What The Hell Lake has 5.
16 Drip side has a little more.

17 And then this is the last graph that you'll have
18 to look at for me. And this is -- Mr. Buhler also
19 referred to this earlier. This is the oxygen -- or this
20 one I did stable oxygen isotope, but we also did another
21 stable hydrogen isotope. I'm just going to talk about
22 the oxygen.

23 What it is is rainfall -- when it comes from the
24 west as it goes over the Rockies it rains out, and some
25 forms of oxygen are heavier than others and they look at

1 the ratio of that oxygen and they can tell by those
2 ratios of the different types of oxygen in the water
3 sample has it came from the west and come over the
4 Rockies or has it come from the south from the Gulf?

5 That water is heavier. It doesn't have that
6 oxygen, isotope is heavier. It doesn't have mountains to
7 cross coming up from the Gulf of Mexico.

8 So what this shows, the further down it is the
9 lighter the isotope is. These are springs, Hot Springs.
10 The isotopes are very low there. Or very light.
11 Isotopically depleted are very light.

12 The main point I want to make on this slide, the
13 Streeter well is right around here, about minus 12, about
14 the same as all the water samples from the cave and about
15 the same as -- similar to the water samples from the DENR
16 observation well.

17 The springs are -- isotopically are really low.
18 They're in the same area. But relatively -- the isotope
19 is pretty low compared to the wells in the same area.

20 Next one, please, Paula.

21 So those are the results. What were the
22 conclusions? And basically I'm going to really make this
23 short and simple. The Streeter well, the water quality
24 from the Streeter well is -- has almost nothing in common
25 with the water quality of the springs. Huge differences.

1 The water quality of the Streeter well, pretty similar to
2 the water quality with the cave, the cave water.

3 And those -- I'm going to just leave those two
4 conclusions at that for now.

5 Now I have about four or five of these, and then
6 I'll be about done. So this describes my firm's hydro
7 geological conceptual model for this permit application.

8 A site conceptual model, it's kind of a new buzz
9 word. It's been around five or 10 years. It's like a
10 bailout. What it basically means is it's -- and
11 different agencies use it a little bit differently, but
12 really what it boils down to is something like this that
13 I think you probably got from Mr. Buhler's testimony.
14 We're talking about things 1,000, 1,600 feet under the
15 ground that we can't see.

16 A site conceptual model says you take your
17 data -- and this is your best understanding, your best
18 estimation of what's going on now. This is your summary
19 of what you think you're looking at. Now as you get
20 smarter and more experienced, you can refine that.

21 So site conceptual model. This aquifer in this
22 area is a -- Mr. Buhler has indicated it's a highly --
23 regionally it's a highly productive aquifer. The
24 national -- well, I'll just leave -- just go down these
25 four. And then I have a separate slide on each one of

1 these bullet points, fill them out, and then I'll be
2 done.

3 The aquifer in this location is likely
4 anisotropic. Anisotropic simply means the aquifer
5 characteristics, the TNS you've heard in previous
6 testimony at a point can vary with direction depending on
7 the aquifer matrix on how the fractures are orientated.
8 More about that later.

9 And I already talked about the lakes of Wind
10 Cave are primarily -- from the results of this study it's
11 a mixture, but there's a significant portion of modern
12 water in there. And I'll talk more about that later.

13 And then a portion of the Beaver Creek water,
14 Beaver Creek Springs, the source of that is coming up
15 south from Hot Springs.

16 All right. Number 1, why do I say the Madison
17 Aquifer's productive in this area? The National Park
18 Service was kind enough to share their pump test data
19 with us, and they got a transmissivity of about 3,000
20 square feet per day. That's higher than the previous
21 transmissivity that the U.S.G.S. -- and Mr. Testimony --
22 Mr. Testimony. Mr. Hickey and Mr. Buhler talked about
23 this a little bit in some of his cross-examination.

24 The U.S.G.S. had estimated a transmissivity
25 somewhere between 13 and 1,600 square feet per day. This

1 test shows it a little higher than that up to 3,000.

2 I think where our well is it could even be
3 higher than that. Because you have that monocline,
4 because you have that fault, the rock gets broke up, gets
5 fractures in it, fresh water comes in, and it dissolves
6 it out, and it makes those fractures bigger. That's why
7 we have something called Wind Cave there. It's called
8 enhanced secondary permeability or solutional conduits,
9 and it's real common in a limestone carstic aquifer,
10 which the Madison Aquifer is, to have significantly
11 increased porosity in the areas of geologic structure
12 like folds and faults.

13 So that's one of the reasons we put this well
14 where we did -- or are wanting to put it where we do.

15 The existing Streeter well flows at 110 gallons
16 a minute through an inch and a half pipe. That suggests
17 a productive aquifer at that location.

18 And I already talked about C here.

19 Anisotropic. A Wind Cave is a perfect example
20 of anisotrophia. And I already talked about this too.
21 The folds and faults are conducive to getting enhanced
22 secondary permeability.

23 Let's just go to the next slide, Paula. As an
24 example of a picture's worth a thousand words; right?
25 This is the picture of the cave provided to me by the

1 Park Service. And it's a map of it, obviously. And most
2 of the conduits are orientated in this direction. You
3 can see for yourself basically northwest to southeast.

4 So the aquifer, at least if -- over here -- or
5 this type of pattern is also throughout the rest of the
6 area. I would expect water -- it would be a lot more
7 productive in this direction than in this direction.
8 There's a lot more openings in the aquifer, a lot more
9 place for the water to be. It's a lot easier to get out.
10 It's not as well connected in the direction perpendicular
11 to that trend.

12 And so on the bigger picture, here's that
13 picture you saw earlier that was blown up. This is the
14 cave up here. And as Mr. -- this thing doesn't work.
15 But if we have aquifer anisotropy, which the cave is a
16 perfect example of, a living, breathing cave, an example
17 of anisotrophia. I guess caves breathe, don't they,
18 Rodney? That you can crawl through. We know it's
19 present there. We don't know for sure it's present all
20 the way through here.

21 But we do have this fault that's kind of
22 orientated the same direction as the cave. Got this big
23 monocline there.

24 We've had previous testimony about drawdown
25 ellipse versus circle. You pump a well. You get a

1 circle that expands out or ellipse. If this pattern
2 holds true -- we don't know. We don't know that that's
3 true. This is site conceptual model. I think it's very
4 possible that it does based on the cave and some of the
5 orientation of these, but I do not know that for certain.

6 But if that is the case, then your drawdown is
7 going to be more in that direction, and it's not going to
8 propagate -- your cone of depression won't propagate in
9 the other direction as well. So it won't necessarily
10 move out that far in this direction. Perpendicular to
11 the main trend of anisotropy.

12 So getting back to the A -- can you back it up
13 for me one more time? One other thing that we talked
14 about about this idea of the water coming up from the
15 south from Hot Springs? We have geochemical data that
16 suggests that, but there's also a report done by the
17 U.S.G.S. in the Black Hills Hydrology Study that says,
18 look, we got Beaver Creek Springs discharging at 8 and a
19 half to 10 CFS. That's more water coming out of that
20 subarea that Mr. Buhler talked about where they broke up
21 the hills into certain little subareas along there and
22 said, okay, we got this much recharge coming in by rain
23 and through the streams going into the sinkholes and we
24 have this much water going out.

25 And for that particular subarea that this

1 project is located in, the U.S.G.S. said there's more
2 water coming out there than what we can account for
3 coming in. So that is another example of -- it's not
4 just the chemistry that suggests there might be water
5 coming into this area from other locations other than
6 just the outcrop of the Madison.

7 And the fact that the Wind Cave water is
8 primary -- or is a mixture but the fact that it's
9 dominated by local recharge shouldn't be a surprise. The
10 formation is right there on that map. They're right next
11 to the outcrop. They've got a dye test that also kind of
12 supports the anisotropy business.

13 I should get back to the map. I'm sorry, Paula.
14 Could you back it up.

15 They did -- that loss zone, Beaver Creek where
16 the stream comes in and then disappears, is right about
17 here (indicating). It's shown on your big map but it's
18 right about -- well, actually right about up here
19 (indicating).

20 The Park Service dumped dye into that loss zone
21 and they found that dye in their well down here two
22 months later. So you'll notice that kind of follows the
23 same direction as the cave, and that's obviously modern
24 water getting down there.

25 So now I'll try not to back up any further.

1 So the Wind Cave water is fairly modern. The
2 isotope data, the chemistry data, even the -- just a
3 simple geology and the fact that it's so close to the
4 outcrop I think attests to that.

5 Water levels respond quickly to precipitation
6 there. They've changed as much as 6 -- or almost 19 feet
7 in as little as six years. Precipitation, you've heard
8 testimony from Mr. Buhler and other folks on that, that
9 it does change quite rapidly. And I talked about their
10 dye tests.

11 This is the business -- I'm not really going in
12 order. I can't see my slides. Usually I use the slides
13 to keep me in track, and I'm looking at the Board and not
14 looking at my slides so much. I've already covered most
15 of this about why we think that the -- not just we, us,
16 but U.S.G.S., that a portion of the water supply at
17 Beaver Creek Springs is coming from the south from
18 Hot Springs or in the vicinity of Hot Springs.

19 Next slide, Paula.

20 And so in that situation -- and this is
21 something that I think Talbot, Mr. Wieczorek, had brought
22 up earlier is if indeed we have regional ground water
23 flow coming up supplying Beaver Creek Springs from that
24 direction, there's some large geologic features here that
25 could provide a conduit for that.

1 This is a huge anticline that starts all the way
2 down by Hot Springs and goes up. It's the cascade of
3 Cottonwood. Cottonwood anticline. So that could also
4 provide a mechanism for the water to move in that
5 direction.

6 But if it does and all the information in our
7 site conceptual model suggests that it does, then this
8 well that we're talking about, which is 3 miles north of
9 there, is not located between the springs and their
10 source of the water. As a matter of fact, we're 3 miles
11 down gradient or downstream of there.

12 And the water that -- the local water that
13 recharges the cave here as it goes radially away from the
14 Black Hills, we're down gradient or downstream from there
15 as well, in addition to it's not likely that if the
16 anisotropy holds -- and that's if. But it's a very good
17 chance we're not going to have much propagation at that
18 way.

19 Next slide, please, Paula, and the last one.

20 So based on this available data, all these
21 different things we've looked at, based on our site
22 conceptual model, impacts to the springs and to the cave,
23 underground lakes seem unlikely. And I would take in
24 addition with this some of the information, the long-term
25 information, that Mr. Buhler talked about. I've heard

1 that not only through folks with the State but
2 conversations with Rapid, Swim Cities that I work for in
3 the Black Hills area.

4 The aquifer, it's a very productive aquifer
5 where it's busted up, where it's cavernous, where you
6 have this enhanced secondary permeability, and you don't
7 have that much drawdown associated with the pumping in
8 the areas where it's productive, where the transmissivity
9 is good.

10 And that concludes the prepared portion of this.
11 I'll now step over in front of there and take my lips.

12 Q. Mitch, before you leave your computer, if you back
13 up one slide, back up one more past the map, number 4
14 there.

15 A. Okay.

16 Q. On the exhibit that was marked for the record it's
17 different slightly. Instead of talking about the
18 Hot Springs area, it talks about the western flanks of
19 the Black Hills. Is that the same thing?

20 A. Yes and no. I'm sorry. The isotope data -- the
21 western flanks of the Black Hills where the Madison
22 outcrop is is a little higher than the eastern. So the
23 idea is it falls on the western flanks of the outcrop and
24 then moves down, basically comes around the horn and up.

25 Q. That the water would enter the aquifer on the

1 western slopes, move down through the Hot Springs area?

2 A. Right.

3 Q. And work it's way back north?

4 A. Correct.

5 Q. So when you say the Hot Springs area --

6 A. Yes.

7 Q. -- would be by way of western -- the western flank?

8 A. It comes up through there on its way. Possibly.

9 Q. Well, based on the chemical analysis that --
10 U.S.G.S.'s conclusion is there's a southern influence;
11 correct?

12 A. Yes. They speculate. They do say it's complex, but
13 they said there's a -- there appears to be a southern
14 component of the flow. Based on my firm's interpretation
15 of the chemistry data, we agree with that assumption.
16 But not only do the chemistry data support that, but the
17 mass balance supports that.

18 Q. And the chemical -- so the chemical analysis
19 performed by your company with help from U.S.G.A. (sic)
20 and Parks?

21 A. Performed by the U.S.G.S.

22 Q. That supports that southern influence?

23 A. In my opinion, yes, it does. Now there's a --
24 geologists, as you all noticed, have a variety of
25 opinions here and we may hear some others but I think the

1 evidence is fairly, fairly strong that yes.

2 Q. On your -- the map that you had up, the -- if you
3 can go to the map on your computer?

4 A. Sure.

5 Q. Just so I understand this, the anticline, the
6 Buffalo Gap anticline that you've been discussing --

7 A. Buffalo Gap monocline.

8 Q. Monocline. Excuse me. Is the line kind of up
9 right -- right-hand corner. Could you point that out to
10 the Board so they know the exact line you're talking
11 about?

12 A. Yeah. It's the biggest line on there. It's the one
13 that starts at the bottom and goes from the south and
14 goes to the north. So you can really see it -- if you
15 ever drive down there, just take a look off to the right.
16 You can see it. It's right here. That's the Buffalo Gap
17 monocline.

18 Q. So even if there would be some drawdown to follow
19 that line, that drawdown would be going more southeast
20 and would be east of the springs area; is that correct?

21 A. Well, if -- I think there was some testimony earlier
22 that said if the anisotropy is associated with this line,
23 it could be -- it could get a cone of depression that
24 goes like this (indicating). Roughly parallels it.

25 But this we've also got this fault that roughly

1 parallels this. So I'm not sure I answered that
2 question. Run it by me again.

3 Q. Well, I guess my question was for you if the
4 drawdown does parallel, that that drawdown is going to
5 end up being east of the springs?

6 A. Yeah.

7 Q. There was a line of questions and I'm not quite sure
8 whether it bears on this proceeding that much but that
9 had to do with whether the U.S.G.S. was going to put a
10 weir into that deferred permit.

11 Can you just explain to the Board that whole issue
12 of trying to measure that Beaver Creek Springs area?

13 A. Certainly. We had contacted the U.S.G.S. to ask
14 them to do the springs monitoring for us as a
15 disinterested third party. And they had indicated that
16 they would be willing to do that. What you typically do
17 is build a concrete weir.

18 Now they spoke with the -- the springs are on the
19 7-11 Ranch and I spoke with the folks on the 7-11 Ranch
20 and they said they would entertain that. They had no
21 problems with U.S.G.S. access to that land and even
22 letting me go on that land.

23 But the U.S.G.S. looked at it in a little closer
24 detail and looked at the rocks and the amount of earth
25 movement that would have to be done to put this concrete

1 structure in. And they were concerned that the silt and
2 disturbance associated with those construction activities
3 could potentially cause a problem with the Trout Haven
4 Ranch water quality. And they did not want to take that
5 chance.

6 So what they chose to do instead was to manually
7 make a stream channel profile and manually measure the
8 water. It's harder to do, but they were -- they were
9 going to take quite a few measurements. We still would
10 have had a fairly accurate measurement of the spring
11 discharging.

12 It really didn't have anything to do with access of
13 the land. It had more to do with concerns about
14 potential ramifications and disturbing the water quality
15 downstream.

16 Q. Based on Mr. Simpson's claims that he'd have to be
17 compensated if anything happened?

18 A. I did not speak with Mr. Simpson. I just -- they
19 said there were some concerns from Trout -- I did not
20 hear this directly. I heard this from the U.S.G.S. They
21 said there were concerns from a water quality standpoint
22 that it might impact Trout Haven.

23 Now whether they spoke with Trout Haven or not, I do
24 not know.

25 Q. We've been talking a lot about different areas the

1 water's coming from, but I understand your opinion is
2 that the location of this well and given the amount
3 requested to be appropriated that you do not believe it's
4 likely that you'd see any impact at Beaver Creek Springs;
5 is that correct?

6 A. That's correct.

7 Q. And you do not believe it would be likely that you
8 would see any impact at the caves; is that correct?

9 A. That's correct. And I think our transmissivity, the
10 aquifer's even going to be more productive where our well
11 is at than it is where the Park Service did their pumping
12 tests. So that could even further mitigate.

13 Q. And thank you for bringing that up because that
14 transmissivity number as the testimony has been earlier,
15 from the assumptions that were used during the deferred
16 meeting for the other side, the actual tests by the -- by
17 the Park Service shows that transmissivity number is
18 about double of what they had assumed before?

19 A. Yeah. More than -- from 1,300 to 3,200.

20 Q. Okay. And that higher number is good when you talk
21 about drawdown; right? The higher the number the less
22 drawdown you expect?

23 A. Yes.

24 Q. There has been some discussion about costs of doing
25 aquifer tests. And I just want to talk about this site.

1 And we're talking about the site that this permit's about
2 is 3 miles north. Is it going to be more expensive to
3 sink that well at that site than it would have been under
4 that old deferred permit that was approximately 2,
5 two-and-three-quarter miles to the south?

6 A. Yes. It will be double the cost.

7 Q. And why is that?

8 A. Increased depth of the well.

9 Q. Meaning the Madison's at a deeper --

10 A. Yes.

11 Q. And so if you're going to -- there was some
12 discussion about doing a pump test at the State's
13 monitoring well.

14 Do you think doing a pump test of the State's
15 monitoring well, which is approximately 3 miles south, is
16 going to really show you any characteristics of what's
17 going on 3 miles north?

18 A. Wish I could remember the diameter of the well.

19 Could I ask Mr. Buhler the diameter of the well?

20 I don't -- I would agree with Mr. Buhler that we
21 really don't need another pump test in their well. I too
22 am a geologist and an engineer, a hybrid, so I always
23 like more information.

24 But we've got a fairly good pump test. It's in an
25 area -- that observation well is in an area that may be

1 significantly different than ours. It's not an area with
2 all the fractured -- it's not likely to have the
3 transmissivity that's as high as ours is going to be.
4 While it would give us another data point, I don't know
5 that it's worth the effort to do.

6 Q. I'm going to just walk over here so we can talk
7 towards the court reporter while we ask the questions.

8 MR. WIECZOREK: I'm going to ask the court
9 reporter just to mark a couple documents.

10 (Applicant Exhibits 5 and 6 are marked for
11 identification)

12 (Discussion off the record)

13 Q. For the purposes of the record, we've referred a
14 couple of times to the Park Service doing a pump test.
15 And Exhibit 4, is that well labeled on that exhibit?

16 A. Yes, it is.

17 Q. And what's the name on that well?

18 A. NPS Park Well No. 2.

19 Q. Okay. And that well site is actually between this
20 proposed permitted site and the caves; is that correct?

21 A. Yes, it is.

22 Q. And that's a Madison well?

23 A. Yes, it is.

24 MR. WIECZOREK: I've marked exhibits Applicant's
25 Exhibits 5 and 6. I'm just going to show them to him so

1 he can review appropriately. And then I have copies for
2 the Board, but I'll lay foundation before I hand it out
3 to the Board.

4 CHAIRMAN HOYT: Please do.

5 Q. Mr. Kannenberg, do you recognize these letters?

6 A. I do.

7 Q. Were these letters that you were provided or copied
8 on to during the scope of your employment with Southern
9 Black Hills?

10 A. Yes.

11 Q. And do these letters deal with information the
12 Southern Black Hills was trying to obtain from Trout
13 Haven?

14 A. Yes.

15 MR. WIECZOREK: I'd like to move for the
16 admission of these two letters.

17 CHAIRMAN HOYT: And their numbers again are?

18 MR. WIECZOREK: Applicant's 5 and 6.

19 CHAIRMAN HOYT: Very well. Any objections to
20 Applicant's 5 and 6?

21 MR. HICKEY: No objection.

22 MS. BEST: No objection.

23 MR. WIECZOREK: And I have extra copies for the
24 Board.

25 CHAIRMAN HOYT: Exhibits 5 and 6 will be

1 received.

2 MR. HALLEM: Mr. Wieczorek, could you give the
3 dates on those so the Board will know which one's 5 and
4 which one's 6.

5 MR. WIECZOREK: Exhibit 5 is dated April 9 is
6 date-stamped received April 12 at my office.

7 Exhibit 6 is dated December 13, 2007. It is a
8 letter addressed to Mr. Hickey from me, and
9 Mr. Kannenberg was copied on it.

10 Q. Mr. Kannenberg, starting first with Applicant's 5,
11 which is the April 12 letter, that letter seeks
12 information from Trout Haven based on issues that were
13 raised at the deferral hearing; correct?

14 A. Yes.

15 Q. It asks for information concerning pH and clarity;
16 correct?

17 A. Yes.

18 Q. It asks for information as to water quality and
19 samples that had been taken as part of his testimony at
20 the last hearing?

21 A. Yes.

22 Q. It requests information on -- he supplements his
23 holding ponds at the well there, information so we can
24 get information on that well to see how that would impact
25 his holding ponds; correct?

1 A. Yes.

2 Q. And there's also a discussion on -- there on creek
3 flows. Did you ever obtain or do you know if Southern
4 Black Hills ever obtained that information from
5 Mr. Simpson or Trout Haven on any of these details?

6 A. No, we haven't.

7 Q. They never obtained it. Did you ever have occasion
8 to talk to Mr. Simpson about some of the information or
9 request some of the information?

10 A. I spoke with him once on the phone last summer. Not
11 last summer. The summer before. '07.

12 Q. The summer of 2007. So after this letter would have
13 went to him?

14 A. Yes. I'm not sure. I don't know whether it would
15 have been before or after this letter.

16 Q. What did Mr. Simpson tell you that the Southern
17 Black Hills could do to rectify the situation?

18 A. Well, when I called to ask him about getting that
19 information he expressed his concern that this was his
20 livelihood. He wanted me to understand that. And he
21 suggested one possible remedy is we could buy the place
22 from him. And then he also told me he would e-mail me
23 the information that we needed.

24 I think I also asked him if I should continue to
25 provide information like the geochemical report and that

1 sort of stuff to Perry Rahn, and I think he said Mr. Rahn
2 wasn't working with him any further.

3 Q. What's that?

4 A. I think he said at that point Mr. Rahn wasn't
5 working for him anymore.

6 Q. And looking into Applicant's Exhibit No. 6, this is
7 a letter you were copied on. And I'll call your
8 attention specifically to the last paragraph on that
9 first page where it states that Southern Black Hills has
10 received nothing from -- I'm paraphrasing -- received
11 essentially no input from Trout Haven on this matter.

12 After this letter went out did Southern Black Hills
13 receive any information from Trout Haven, Mr. Simpson,
14 regarding his demands or need of his business?

15 A. I as their consultant certainly didn't receive any
16 information, and I'm not aware of any other information
17 going to anybody else but the Southern Black Hills.

18 MR. WIECZOREK: Okay. That's all I'd have for
19 this witness, Mr. Chairman. Thank you.

20 MR. HALLEM: The originals, 5 and 6,
21 Mr. Wieczorek?

22 MR. WIECZOREK: They are marked.

23 MR. HALLEM: Are they up there?

24 MR. WIECZOREK: Yeah. I can get them before he
25 takes them and give them to the reporter.

1 MR. HALLEM: To the clerk, please.

2 MR. WIECZOREK: Thank you.

3 MR. HALLEM: Need to have a full record.

4 CHAIRMAN HOYT: Very well. We'll proceed.

5 Ms. Best, Mr. Fahmy, Mr. Hickey, cross-examination.

6 MS. BEST: The DENR has no cross-examination.

7 CHAIRMAN HOYT: Mr. Fahmy.

8 MR. FAHMY: Oh, I just have some questions.

9 CHAIRMAN HOYT: See if you can get your money's
10 worth from the report?

11 MR. FAHMY: I've seen the report before. It's
12 quite true. The Park Service worked with U.S.G.S. and
13 with Mr. Kannenberg.

14 CROSS-EXAMINATION

15 BY MR. FAHMY:

16 Q. I just want to understand something first off.

17 Mr. Kannenberg, are you a geochemist by trade?

18 A. No.

19 Q. Now in Mr. Buhler's testimony earlier he spoke about
20 three sources of water in this subarea. And you're
21 familiar with the subarea, are you not?

22 A. Yes.

23 Q. Could you perhaps recount what those three sources
24 of water that Mr. Buhler was referring to and where they
25 originate, how they come into the subarea, where they

1 would discharge into the subarea?

2 A. The one source is the rainfall on the local outcrop.
3 So on that map --

4 Q. Yes. If you could show us where that would
5 originate and where it would discharge?

6 A. This color, Madison Limestone is the outcrop. And
7 so rainfall that falls on it percolates through the rock.
8 And as it goes in I believe it goes this way. I don't
9 know that for sure. But professional judgment says it
10 goes that way. So that's one.

11 Q. Okay.

12 A. The second one is what they've called a regional
13 component of flow, which is -- I wish I had a bigger map
14 here.

15 Q. Well, I think we do have a bigger map, do we not,
16 right here?

17 A. We do. We have quite a few of them actually.

18 Q. Can we use this?

19 A. Do I have to hang it and point at it?

20 Q. If somebody could perhaps assist him.

21 A. That's not going to work, is it? Can I borrow this?
22 Thank you.

23 Q. Okay.

24 A. Now the regional component of flow, this blue color
25 is the Madison Aquifer. Mr. Wieczorek asked about the

1 western flanks. And the isotope data -- the lighter
2 isotopically depleted water theory is it falls on the
3 western flanks of the outcrop, and then moves down and
4 back up that direction.

5 Now the third one, Mr. Fahmy, I'm not -- in my
6 report I really only talk about those two.

7 Q. I see.

8 A. What was the -- I think the third one that
9 Mr. Buhler was referring to is just the -- as -- if we
10 had a whole picture of the Black Hills if you imagine
11 this as being the Black Hills and the Madison Aquifer
12 outcrops radially all the way around, as you get recharge
13 here, you can have a component of flow that comes both
14 south and then heads east, and that might be what they
15 call a regional component of the flow. Maybe the other
16 one that I called 2 originally might be the western
17 component of flow.

18 Q. Now in your testimony I thought you were suggesting
19 that there was a component of flow that would be coming
20 generally from the Hot Springs area; correct?

21 A. Yeah. And that's just because -- and that's maybe
22 poorly worded. It does say that in the U.S.G.S.
23 document. Naus, et al., 2001 talked about the
24 Hot Springs area.

25 Now remember this formation obviously goes out from

1 here. So as you get water that originated as
2 precipitation along the western flank it could
3 conceivably come down and around because of elevation
4 differences and that sort of thing.

5 Q. Sure. For the benefit of the Board, could you kind
6 of point to where on this map, very small scale
7 obviously, where Hot Springs is located?

8 A. Certainly (indicating).

9 Q. All right. So is it your opinion that the flow is
10 coming up along -- I believe there's an anticline just to
11 the -- that's striking north and south?

12 A. This one (indicating)?

13 Q. Yes. Is that your opinion --

14 A. I don't know that I could -- I don't believe I could
15 say it's flowing along this anticline or along this
16 anticline or through the aquifer as a whole. I don't
17 have that level of information. It's more of a general.
18 It's certainly possible.

19 Q. Yeah. But in your slide, one of your slides, you
20 said the north Streeter site would therefore be down
21 gradient of Beaver Creek Springs.

22 Do you have, in fact, any potentiometric water level
23 data that would show what the potentiometric service is
24 at the proposed well site?

25 A. Alls I have -- as I suspect you know, sir, the

1 potentiometric map produced by the U.S.G.S. which shows
2 flow direction goes radially from the Black Hills. So
3 when I'm saying down gradient, that component of flow
4 that is coming from the south and west.

5 Q. Okay.

6 A. We would certainly be down gradient of that.

7 Q. So I think we can dispense with the map for now.

8 A. Good.

9 MR. HALLEM: Excuse me, Mr. Kannenberg.

10 THE WITNESS: Yes.

11 MR. HALLEM: For the purposes of the record, was
12 that map from --

13 THE WITNESS: It's in Exhibit 1.

14 MR. HALLEM: Okay. Could you just identify that
15 map?

16 THE WITNESS: Yes. It's called Figure 1, SBH,
17 NPS, U.S.G.S., Geochemical Sampling Site Locations.

18 MR. HALLEM: Thank you.

19 Q. So, Mr. Kannenberg --

20 A. I'm not going to fold this right now.

21 Q. I guess I'm -- if your testimony is that the flow or
22 the -- would it be your testimony that the vast majority
23 of the flow that we see discharging Beaver Creek Springs
24 is from this southern flow path, regional flow path?

25 A. Let me consult -- what's making me pause is your

1 phrase "vast majority." Let me consult a table here.

2 Q. What's your opinion with regard to the proportion of
3 flow that's attributable?

4 A. Well, as you pointed out, Mr. Fahmy, I'm not a
5 geochemist. No. What I'm doing here is looking at the
6 table that the geochemists, both your geochemists and the
7 U.S.G.S., put together on the proportion of Beaver Creek
8 Springs water that's modern and not modern.

9 Q. Yes.

10 A. Find the correct table here. This will be Table 7
11 in Exhibit 1. And based on the U.S.G.S. and Park Service
12 geochemical stuff, data, water at Beaver Creek Springs is
13 anywhere from 18 to 65 percent young. So that's -- the
14 young is presumed to be local recharge. The rest would
15 be from that southern component of flow.

16 Q. Okay.

17 A. Southern and western component.

18 Q. Now I just want to follow up on your comment about
19 the north Streeter site being down gradient from Beaver
20 Springs.

21 So what proportion of water that you anticipate
22 essentially capturing at your north Streeter site would
23 be from local recharge?

24 A. I think, again, I don't -- I would -- I think quite
25 a bit of it. If the anisotropy holds true, the

1 anisotropic pattern holds true, if we go on a line
2 northwest of there, there's the Highland Creek loss zone
3 where as much -- that's rated at 10 CFS. There's rarely
4 10 CFS going in that loss zone.

5 Q. Well, given what this -- the data in this study and
6 what you anticipate would be the type of water that would
7 be captured with the sources from that, would you not
8 expect that the characteristics of the water, the
9 geochemical characteristics of the water at the north
10 Streeter site would be very similar to what you would
11 find at the lakes at Wind Cave?

12 A. Possibly. Hopefully without the arsonic, and but
13 that doesn't necessarily mean that we would have a good
14 hydraulic connection with the water in the caves.

15 Q. All right. You had mentioned earlier about the
16 transmissivity values that were generated by the test
17 that was conducted on the Park Service Well No. 2. And
18 you testified that because of the increase in that value
19 there would be less drawdown.

20 A. Right.

21 Q. But isn't it also true that as a result of that
22 higher value also the drawdown would extend further from
23 the well?

24 A. Yes.

25 Q. Okay. And are you aware that the National Park

1 Service intends to deepen for water supply purposes
2 National Park Service's Well No. 2 into the Deadwood and
3 case it off into the Madison?

4 A. I'm aware of that. I'd like to talk you out of it.
5 I'd like to use it for a monitoring well.

6 Q. But you understand the reason is because the
7 arsonic?

8 A. Yes, I do.

9 Q. With regards to the -- I'm going to ask you a little
10 bit about the costs of this well and the production that
11 you would anticipate from this proposed well.

12 Now you've heard Mr. Buhler's earlier testimony
13 about what you could expect in terms of production from
14 this well. Do you agree with his testimony?

15 A. Well, our peak discharge rate is 300 gallons per
16 minute, or we can't exceed that discharge rate.

17 Q. Uh-huh.

18 A. I do agree that we can get 300 gallons a minute out
19 of that well. I also agree with what he said that it's
20 very difficult to pump a well 24 hours a day 365 days a
21 year. So I understand what he's saying when the DENR
22 uses that 60 percent to look at -- you know, when they
23 take the peak discharge rate and multiply that by
24 60 percent or reduce it by 60 percent because of those
25 type of factors.

1 Q. Uh-huh. So you obviously have advised your client
2 in order to get to the 484 acre feet it will be necessary
3 to essentially construct a second well?

4 A. Their aware of it. The amount of water that we're
5 looking at -- and this is more of a question for the
6 engineer, for the system engineer. But the system
7 engineer, the main engineer has got -- his dad's
8 seriously ill, and he couldn't be here today. So should
9 I tackle this one, guys, or do we postpone it and let the
10 Board talk about it?

11 MR. WIECZOREK: Give it a shot, Mitch.

12 THE WITNESS: If I goof it up, you guys can fix
13 it later.

14 Q. To the extent you know.

15 A. To the extent I know, Mr. Fahmy, they're aware of
16 that. And the amount of water that we're looking at for
17 this particular phase of the project this is sufficient.

18 Now we recognize that as the project grows we'll
19 need to look at other places, other sources for water,
20 and that's why we have future -- some future use permits.

21 Q. What was the expected cost of a production well at
22 the original site in the Streeter property, 2585?

23 A. I had a -- estimates from a variety of drillers. It
24 was anywhere from 275,000 to 325,000, in that range.

25 Q. And isn't it true that the projected costs for this

1 well at the north Streeter site is \$700,000?

2 A. Yes.

3 Q. Okay. So potentially the district is looking at two
4 wells, two \$700,000 wells, to produce 484 acre feet?

5 A. Where do you get the -- oh. Right now they only
6 have plans to put one well at this location.

7 Q. I see.

8 A. So --

9 Q. But that well, as you had earlier testified, would
10 not be able to produce the entire 484 acre feet?

11 A. It would be practically impossible.

12 Q. Okay.

13 A. But it could get close. You might be able to beat
14 that 60 percent.

15 Q. Okay. I'm just curious, Mr. Kannenberg. Given this
16 report and the data contained in this report with regards
17 to the geochemistry and the difference between the
18 geochemistry at the Streeter well and Beaver Creek
19 Springs, what is your opinion as to the hydrologic
20 connection between the Streeter well, the existing
21 Streeter well, and Beaver Creek Springs?

22 A. My opinion is there's little connection there. Not
23 very much. I think there's even a possibility that
24 significant component of the flow at Beaver Creek Springs
25 is from the Minnelusa Formation. Not to throw another

1 variable into the picture.

2 Q. Yeah. I understand that. And I understand the
3 difficulties that have been discussed with regards to,
4 you know, doing a proper aquifer stress test in this
5 vicinity. But it would seem to me that given the
6 differences in the geochemistry that it would have been
7 a -- there would have been very useful information
8 produced from doing an aquifer test at the Streeter well
9 site.

10 Wouldn't you agree?

11 A. I would agree with that, yes.

12 Q. Okay. And that the production that could be
13 obtained at that site would likely be as good or even
14 greater than what you could anticipate obtaining at the
15 north Streeter site.

16 Isn't that true?

17 A. That's possible, yes.

18 MR. FAHMY: I have no further questions of this
19 witness.

20 MR. HICKEY: Just a couple.

21 CROSS-EXAMINATION

22 BY MR. HICKEY:

23 Q. You indicated that when you talked to the -- is it
24 Joyce Williamson?

25 A. Joyce Williamson.

1 Q. She said something about making a stream channel
2 profile?

3 A. Yes.

4 Q. What is that?

5 A. Basically you wade across the stream, and you just
6 draw -- you make a profile of the depth with distance.
7 So you just draw the channel so you can calculate the
8 volume of water that moves through that cross-section of
9 the stream.

10 Q. Okay. And did she do that?

11 A. No, she didn't. We did not get that far.

12 Q. Okay. And why not?

13 A. Because the system couldn't fund the pumping test.
14 I think -- I'm not sure. I think this has been in the
15 testimony before, but if I could maybe flesh that out a
16 little bit, we're looking at \$350,000 to get a production
17 well. Each monitoring well -- this is at the deferred
18 permit location. Each monitoring well would be roughly
19 \$15,000. There's \$450,000 in drilling alone. And the
20 pumping -- then we had some problems with -- it was
21 possible that we were going to maybe have to take the
22 water that we pumped from the production well and move it
23 up to the next water shed so that it didn't complicate
24 measuring the spring discharge.

25 So that's 3 miles of pipe, a fair amount of vertical

1 distance to push that water with pumps. And so the cost
2 of this pump test to get one that we thought we could
3 bring the chief engineer for his approval -- and we had
4 already been directed by them to do our best and to make
5 this pump test acceptable to all the petitioning
6 Interveners as well. To get a pump test that would
7 satisfy all those criteria was looking in the order of
8 600,000 plus.

9 And I'm not an expert on the funding. There are
10 people here that know a lot more about the funding than
11 what I did. But from what I understand, it's difficult
12 to get that kind of money if you don't have the permit.
13 So that, Mr. Hickey, was why the pump test wasn't
14 completed.

15 Q. I thought I heard some testimony along those same
16 lines that you couldn't get the funding until you had a
17 permit or something like that. Is that --

18 A. I'm really not qualified to talk about the funding.
19 That's my understanding of it. But if you want to pursue
20 the funding in greater detail, I would suggest you talk
21 to somebody else. I'm just a dumb old geologist.

22 Q. But you were kind of the principal person putting
23 this together; right?

24 A. Yes, I was. The aquifer portion of it, yes, I was.

25 Q. All right. So is it fair then the reason that was

1 not done was because of money?

2 A. I think that's a fair statement, yes.

3 Q. Okay. And you never -- when you -- when a decision
4 was made not to pursue with the aquifer test, I mean, did
5 you communicate that to people?

6 A. You know, I don't -- I think I had numerous informal
7 conversations with some of the Park Service folks. With
8 your client, no, I did not.

9 Q. Well, because the letter that Mr. Wieczorek was
10 referring to -- I think it's probably Exhibit No. 6 --
11 basically says on December 13 that Black Hills Water
12 Systems was going to establish an aquifer test without
13 the input from our client or the information that he
14 claims to have.

15 And then it goes on to state that once Southern
16 Hills has developed an adequate aquifer test, a copy of
17 the test will be provided to you. So it appears at least
18 as of December of '07 you guys were still contemplating
19 doing an aquifer test?

20 A. That's correct.

21 Q. Okay. When did that change?

22 A. I don't know if I know the exact date. Possibly --
23 any help there? March or June of this year. We
24 started -- we started looking at moving it north
25 specifically in the hopes of getting less opposition.

1 Q. Okay. And that's -- I mean, really --

2 A. I don't know the exact date. I'm sorry. I could go
3 back and --

4 Q. That's fine.

5 A. -- get it to you. The information's in my file.

6 Q. That's really -- that's really why, is it not -- the
7 reason that you moved it further north is you wanted to
8 get less opposition. You figured that maybe you wouldn't
9 have to do an aquifer test, and you could take the money
10 that you had otherwise used for those tests and put it
11 into a production well?

12 A. Well, there's altruistic reasons and practical
13 reasons. Southern Black Hills wants to be a good
14 neighbor to other people in the area, and also obviously
15 if we can get a permit, that will help the funding. So
16 yes.

17 Q. Right. Because, again, if you don't have a permit,
18 you couldn't get the funding?

19 A. As far as I know, yes. And I could be wrong on
20 that, Mr. Hickey.

21 Q. You never -- as I understand it, there were
22 provisions available for like temporary permits and
23 things like that?

24 A. Absolutely, yes.

25 Q. Did you -- did they ever pursue any of those things?

1 A. It's pretty standard procedure. We understood that
2 we could get a temporary permit from the Water Rights
3 folks to put in the production test well and a temporary
4 discharge permit. Yes, we were aware that we could get
5 those. We never got that -- we had informal discussions
6 with them on that, but we never got to the point where
7 that was needed.

8 Q. And you indicated that you had a conversation with
9 Mr. Simpson at some point in time; correct?

10 A. Yes.

11 Q. And at that time he expressed some concerns about
12 water quality and the effect that that would have on his
13 operations?

14 A. Somewhat. We didn't -- if I remember correctly, him
15 and I did not discuss that in great detail because it was
16 already part of the Findings of Fact and Conclusions from
17 the previous deal.

18 But, yes, he did express concern to me that -- he
19 was very concerned about the water quality. That's why
20 he's here today and why he was here previously.

21 Q. Right. That was going to be my point. That wasn't
22 a surprise to anybody?

23 A. No.

24 Q. That he had concerns that if you do things
25 incorrectly or inappropriately, he's out of business;

1 right?

2 A. No. That was no surprise. We knew he was concerned
3 about it.

4 Q. Okay.

5 A. We weren't going to do anything incorrectly or
6 inappropriately, however.

7 Q. Well, I guess the point is that there's been some
8 suggestion that the reason this didn't get done was
9 somehow Mr. Simpson's fault. And I just want to make
10 sure that the Board is aware that there were other
11 considerations.

12 Would you agree?

13 A. I would agree.

14 Q. Okay. I'm not even a scientist. I got my worst
15 grades in school in science so bear with me. As I
16 understand it, basically you're saying that some of the
17 water comes up from the south; right?

18 A. These questions always make me nervous when we
19 start -- when an attorney says I'm not a scientist. Yes,
20 you're absolutely right.

21 Q. And so we're not exactly sure how that all works or
22 what proportion or anything like that?

23 A. Right.

24 Q. Some comes from another direction as well. If the
25 water comes up from the south and it would go past Beaver

1 Creek Springs, right, and then it would migrate further
2 on north to the Streeter well and then further on north
3 to where your proposed well is, is that how you think it
4 happens?

5 A. No. Not necessarily. I don't know how much further
6 north it would go. At some point it's got to turn east.

7 Q. Okay.

8 A. And so it really, you know -- for obvious elevation
9 differences obviously the ground slopes off that
10 direction. It depends a lot on the aquifer anisotropy.
11 What is the orientation of those solutional conduits and
12 it's -- it's only going this way and it's not going that
13 way and have some going this way and -- I'm sorry.

14 It's not only going north but some going north as
15 well as some going east.

16 Q. So, again, it wouldn't -- wouldn't you expect then
17 if that was the general pattern that the water samples
18 that you took and all of the deposits that they would be
19 somewhat consistent, I mean, if it's the same water
20 migrating, wouldn't you expect that it would be the same
21 here as it would be further north and further east or
22 not?

23 A. That's a good question. And that pertains to a
24 detail of flow paths -- the Streeter well, which is just
25 three-quarters of a mile away, that water quality

1 difference is night and day. Why is that?

2 I think it's got to do with the aquifer anisotropy.
3 It's a complex environment. That's what makes this
4 portion of the Black Hills so difficult. So it could
5 very well be the same, but if you hit an area with
6 increased -- an area where solutional conduits extend all
7 the way to local recharge, then you could have markedly
8 different water in an area not too far distant.

9 MR. HICKEY: All right. Thank you. That's all
10 I have.

11 THE WITNESS: Thank you.

12 CHAIRMAN HOYT: Any redirect, Mr. Wieczorek?

13 MR. WIECZOREK: No, Mr. Chairman.

14 CHAIRMAN HOYT: Oh, I'm sorry. Mr. Fugier and
15 Mr. Schroth. Mr. Fugier first. Any questions for this
16 witness?

17 MR. FUGIER: No.

18 CHAIRMAN HOYT: Mr. Schroth?

19 MR. SCHROTH: I would have one question.

20 CROSS-EXAMINATION

21 BY MR. SCHROTH:

22 Q. Your difference in your pH and your salinity and
23 everything you talked about there?

24 A. Yes.

25 Q. When that come up through the conduit could that

1 change that -- on Beaver Creek Springs could that be
2 your --

3 A. Could what change it, Randy?

4 Q. Your pH, your salinity, your different --

5 A. If I'm pumping -- if we're pumping at this proposed
6 well -- that's not the question? Okay. Go ahead.

7 Q. You've got this water coming along here.

8 A. Okay.

9 Q. It comes up through the Minnelusa and comes up
10 through your other formations through a conduit?

11 A. Right.

12 Q. Could that be where you're picking up all your
13 differences in your test? You could have the exact same
14 water.

15 A. Yes. Yes.

16 MR. SCHROTH: Okay.

17 CHAIRMAN HOYT: Very well. Now to redirect.

18 None?

19 MR. WIECZOREK: None, Your Honor.

20 CHAIRMAN HOYT: Very well. Ms. Best, any
21 further questions?

22 MS. BEST: No.

23 CHAIRMAN HOYT: Mr. Fahmy?

24 MR. FAHMY: I'm tempted, but no.

25 CHAIRMAN HOYT: That's extraordinary judgment.

1 Mr. Hickey.

2 MR. HICKEY: No.

3 CHAIRMAN HOYT: Nothing? Very well. Thank you,
4 Mr. Kannenberg, very much.

5 Were there additional copies of the study
6 available?

7 THE WITNESS: Yes.

8 CHAIRMAN HOYT: We're going to get to the
9 Board's questions in just a moment.

10 (Discussion off the record)

11 CHAIRMAN HOYT: Very well. The parties and
12 counsel are all present. We'll now move to any questions
13 by the Board for Mr. Kannenberg.

14 Any questions by Board members?

15 THE WITNESS: Hearing none, Mr. Chairman.

16 CHAIRMAN HOYT: Hearing none, the witness is
17 excused.

18 THE WITNESS: Thank you.

19 CHAIRMAN HOYT: And we will take a recess in
20 just a moment. It's obvious to all of you that we've
21 consumed nearly the day with the first docket. And while
22 there is a similarity of parties with the exception of
23 the Park Service in the docket scheduled for the next
24 hearing, we'll check with the Board. I know there were a
25 couple of Board members who had commitments for this

1 evening. But we'll see what we can do.

2 If we could just test this, do you have further
3 witnesses, Mr. Wieczorek?

4 MR. WIECZOREK: I was going to put on the Chair
5 just to give the basics of here's what the system is so I
6 have in the record and here's the signups we have to
7 date.

8 CHAIRMAN HOYT: And, Mr. Fahmy, do you have
9 witnesses?

10 MR. FAHMY: Yeah. We have one witness, Paula,
11 and we have a bit of a time issue because we actually
12 have a flight out of Rapid City this evening at 6:55 so
13 we would like to --

14 MR. BJORK: You're not going to make it.

15 MR. FREEMAN: Well, that's 7:55 here.

16 MR. FAHMY: So we were going to go ahead of
17 Mr. Hickey in terms of presentation of our case.

18 MR. WIECZOREK: I'm sorry, Mr. Fahmy. If he
19 wants to go before I put on my last witness, he's only
20 going to talk about signups and kind of here's basically
21 what his project is, but it's your call whether you want
22 to cross him.

23 MR. FAHMY: And Ms. Cutillo's presentation is
24 only about 12 minutes long, and I'm going to have very
25 few questions of her. The Board in the last proceeding

1 heard much of the testimony we gave regarding the
2 resources and stuff like that. We had absolutely no
3 intention of going back over that.

4 We were going to focus specifically on the
5 issues that are present with this application.

6 CHAIRMAN HOYT: Very well. Mr. Hickey, do you
7 have witnesses?

8 MR. HICKEY: I have one and a half.

9 CHAIRMAN HOYT: Very well.

10 MR. FREEMAN: A half wit?

11 MR. HICKEY: No. That's me.

12 MR. HALLEM: Also understand I've talked to both
13 the Interveners that aren't represented by counsel, and
14 both wanted to give testimony as well. So we have both
15 of them giving testimony. And I don't believe -- that
16 would be all the parties.

17 CHAIRMAN HOYT: Very well. Well, I'll suggest
18 then that following the break that Mr. Wieczorek finish
19 with his witnesses. We'll move then to Mr. Fahmy and his
20 witnesses, and then we'll proceed with the Interveners.

21 MR. FAHMY: If you don't mind, Mr. Chairman, I
22 may want to talk to Mr. Wieczorek about this. I may not
23 want to question his witness, and, therefore, we can
24 switch off.

25 CHAIRMAN HOYT: Okay. I'll let you discuss it

1 at the break. Break 10 minutes. Be back at 3:12.

2 (A short recess is taken)

3 CHAIRMAN HOYT: The Board will reconvene in the
4 matter of the hearing of Water Permit Application
5 No. 2633-2. At the moment there's only one attorney on
6 his feet. It would appear that Mr. Fahmy is going to
7 call his next witness.

8 MR. FAHMY: That's correct. Mr. Wieczorek and I
9 discussed the order of proceeding, and we agreed he would
10 allow us to have Ms. Cutillo go next. And with your
11 indulgence, Mr. Chairman, at the end of your presentation
12 and after all the questions have been asked of her I
13 would like to give a very short closing and depart this
14 august proceeding.

15 CHAIRMAN HOYT: Very well.

16 (The witness is sworn by Chairman Hoyt)

17 CHAIRMAN HOYT: Would you state your name and
18 address, please, for the court reporter, and please spell
19 your last name.

20 THE WITNESS: It's Paula Cutillo, C-U-T-I-L-L-O.
21 1201 Oak Ridge Drive, Suite 201, Fort Collins, Colorado
22 80525.

23 MR. FAHMY: Mr. Chairman, at this time I think I
24 want to go ahead and get marked the only exhibit that
25 we'll be submitting here today. It's a memorandum that

1 Ms. Cutillo offered to me and will be referred to in her
2 presentation. It will be NPS Exhibit 1.

3 (NPS Exhibit 1 is marked for identification)

4 MR. FAHMY: I've got copies for counsel and the
5 Board. I'll distribute to counsel here.

6 MR. FAHMY: Would you proceed, Ms. Cutillo, with
7 your presentation.

8 CHAIRMAN HOYT: Excuse me. Did you wish to lay
9 foundation for these exhibits now?

10 DIRECT EXAMINATION

11 BY MR. FAHMY:

12 Q. Could you, Ms. Cutillo, please explain to me, was it
13 at my direction that you prepared your memorandum of
14 December 9 regarding the analysis?

15 A. Yes.

16 Q. And will you be referring to that during your
17 presentation?

18 A. Yes, I will.

19 Q. And were you -- did you develop the work that's
20 contained therein?

21 A. Yes.

22 Q. How is it relevant to the permit here today with
23 regards to your testimony?

24 A. The Theis analysis that I did for Mr. Fahmy is I did
25 it primarily to look at the effect of moving a well a

1 certain distance from an observation point or a point of
2 concern and also the effect of changing a pumping rate on
3 drawdown at this point of concern.

4 So it's a very general analysis of -- it's a simple,
5 quick analysis, and it was done just to look at the
6 effect of moving a well and changing a pumping rate in a
7 well on drawdown in an aquifer system.

8 CHAIRMAN HOYT: That's Exhibit 1, Mr. Fahmy?

9 MR. FAHMY: Yes, it is.

10 CHAIRMAN HOYT: Any objection to Exhibit 1?

11 MR. WIECZOREK: None.

12 MS. BEST: None.

13 MR. HICKEY: None.

14 CHAIRMAN HOYT: I'm sorry. The Interveners.

15 MR. SCHROTH: No.

16 MR. FUGIER: No.

17 CHAIRMAN HOYT: Very well. Exhibit 1 will be
18 admitted. And Exhibit 2?

19 MR. FAHMY: There is no Exhibit 2.

20 CHAIRMAN HOYT: Oh, I see. Very well. Please
21 proceed.

22 A. Okay. Here's the map. I'm sorry it's small. But
23 this is the map of all the proposed and newly permeated
24 wells in the Park. This well here is the well we've been
25 talking about today in the corner of the Park. That's

1 application 2633-2.

2 The Applicant has proposed to move their point of
3 diversion from this point here near Beaver Creek Spring,
4 which is about 4 and a half miles away from Wind Cave
5 National Park, to this point here, which is about 5 miles
6 away from Wind Cave National Park.

7 Q. Excuse me, Ms. Cutillo. You said the Applicant
8 proposed to move its point of diversion. It is not a
9 change proceeding; is that correct?

10 A. That's right. The previous application, 2585-2, had
11 a point of diversion located 4 and a half miles away from
12 Wind Cave. And this current point of diversion for this
13 application, 2633, is about 5.75 miles away from Wind
14 Cave in Wind Cave National Park.

15 And when a well was proposed near Beaver Creek
16 Spring Streeter Ranch site the chief engineer recommended
17 that an aquifer test be done for the purposes of
18 calculating aquifer properties, storage, and
19 transmissivity at that site prior to issuing the permit.
20 And now that a well has been proposed at the new site to
21 the north, no aquifer or additional monitoring has been
22 recommended.

23 Now the Park Service is concerned about the
24 cumulative impacts of all of these wells, all of these
25 wells on this map. The cumulative impacts of all of

1 these wells on the pools in Wind Cave. And we believe
2 that testing and monitoring are still needed at this new
3 site to protect sensitive ground water dependent systems
4 such as Wind Cave and to protect large springs for which
5 surface water rights have been appropriated such as
6 Beaver Creek Spring.

7 Wind Cave is located in Wind Cave National Park.
8 It's the most complex cave in the world, and it has
9 over -- now over 130 surveyed passages. So 130 known --
10 130 miles of known survey passages in the cave.

11 Wind Cave also has significant water-related
12 features in the cave. And Wind Cave is the only cave
13 system that intersects the water table of the Madison
14 Aquifer.

15 So Wind Cave provides direct access to the water
16 table. And the Park Service is requesting today that the
17 Applicant be required to construct a monitoring well near
18 the proposed pumping well, that they conduct an aquifer
19 test at the site of the new pumping well, and that they
20 monitor water levels at the monitoring well during the
21 test and over the long-term and report water use on a
22 monthly basis.

23 And so you may be wondering how a monitoring well
24 5 or 6 miles away from the pools in Wind Cave can protect
25 these pools. And I think it's a valid question, and I

1 hope to answer that. And the importance and value of
2 ground water data that would be collected at any
3 monitoring well cannot be overemphasized. And I think
4 other people have spoken here today about the value of
5 ground water data.

6 Ground water data is the foundation of any serious
7 effort to evaluate ground water development and
8 management strategies.

9 More specifically, the monitoring well and the data
10 that we are requesting will be used to track changes in
11 the water budget and to improve forecasts and reduce
12 uncertainty of the future impacts of pumping.

13 And so I'm going to talk about these two objectives
14 in more detail. First I'll talk about the importance of
15 knowing how development changes components of the water
16 budget. And then I'd like to talk about how ground water
17 models and data are used to evaluate alternative
18 approaches to ground water development and management.

19 A water budget is an accounting of all the inflows
20 and outflows and changes in storage in an aquifer system.
21 Inflows are recharged to the Madison Aquifer, include
22 stream flow and precipitation.

23 And Beaver Creek is an example of an aquifer -- a
24 recharge to the Madison Aquifer. It loses all of its
25 flow as it crosses the outcrop area. So this is Beaver

1 Creek above the spring.

2 Another component and an important component of the
3 water budget is aquifer storage. The Madison Aquifer is
4 a ground water reservoir. It stores water under
5 unconfined conditions in the outcrop area, and it stores
6 water under confined conditions where the Madison is
7 overlain by more -- by other rock units.

8 If the amount of water stored in the aquifer
9 decreases, the water -- this would be observed as a
10 decrease in the water table in the unconfined portion of
11 the aquifer and a decrease in the potentiometric surface
12 in the combined portion of the aquifer.

13 So change in the aquifer storage will be observed as
14 a change in the water table or potentiometric surface.
15 Now Wind Cave intersects the water table for about 500
16 feet below the land surface. And the National Park
17 Service is concerned that changes in aquifer storage due
18 to pumping will lower the water table and the water
19 levels in the pools in Wind Cave.

20 That's another picture of the pools in Wind Cave.

21 And a third component of the water budget is outflow
22 or aquifer discharge. The natural discharge occurs at
23 springs and as leakage to other aquifers. And Cascade
24 Spring and Beaver Creek Spring are examples of aquifer
25 discharge points. And so pumping wells are also aquifer

1 discharge points. And just as pumping can decrease
2 aquifer storage, it can also decrease or capture aquifer
3 discharge.

4 Okay. So here are the three components of the water
5 budget again. It's recharge, storage, and discharge.
6 This is a simplified water budget. And it's important to
7 understand that ground water development will -- water
8 budgets will change as the aquifer system is developed.
9 And under natural conditions prior to development the
10 amount of water recharging an aquifer system is equal to
11 the amount discharging from the system. So recharge
12 equals discharge over the long-term.

13 Okay. But when someone drills a well and pumps
14 water from the well, the water withdrawn by the well must
15 be balanced by a loss of water from somewhere else in the
16 system. So this is a fundamental hydrologic principle
17 and applies everywhere. In the Madison Aquifer water
18 pumped by wells will come from either aquifer storage or
19 aquifer discharge or some combination of the two. So
20 pumping will decrease storage or decrease discharge or
21 some combination of these two.

22 And if you think of an aquifer system as a
23 reservoir, the water level in a reservoir will remain
24 constant. And the amount of water coming into the
25 reservoir is equal to the amount of water you release

1 downstream. And if you decide to take water directly out
2 of the reservoir, the water level in the reservoir will
3 decline. If you decide to take out 100 gallons a minute,
4 the water level will decline in the reservoir and will
5 continue to decline until you decrease the amount you're
6 releasing downstream by 100 gallons per minute.

7 So it's somewhat analogous to the aquifer system,
8 but aquifers are more complex. When you take water out
9 of a reservoir, the water levels go down instantly, and
10 it's a uniform decrease in an aquifer system. When you
11 remove water from storage, the water levels will decline,
12 but that will be a function of distance from the well.
13 So it won't be a uniform decrease.

14 And there's also a time line between when you pump a
15 well and when you see changes in storage and changes in
16 discharge.

17 The point I wanted to emphasize is that simply
18 knowing the amount of recharge or the amount of storage
19 in an aquifer system is not enough information to protect
20 water rights and water dependent systems from the impacts
21 of pumping. We need to understand how storage changes
22 and how discharge changes over time. And this is the
23 value of ground water data and ground water models.

24 Okay. This is a Theis, T-H-E-I-S, analysis, and
25 this is similar to the two Theis analyses that are in the

1 memo that Peter passed out.

2 So I want to talk about using ground water data and
3 models to forecast how the aquifer might respond to
4 different development scenarios. So the purpose -- we
5 talked a lot about aquifer tests today. The purpose of
6 an aquifer test is to get aquifer properties. And these
7 right here are aquifer properties.

8 Transmissivity. It's equal to 3,000 feet square per
9 day in this example and storativity equal to .0444. And
10 these are aquifer properties that you can get from an
11 aquifer test. They are useful if you apply them. It's
12 one thing to have these properties to know that they
13 represent properties of an aquifer in the area but then
14 you need to use them and mostly we use them in ground
15 water models to forecast future changes due to pumping
16 and also to just get a sense for what is the effect of
17 moving a well one or two miles away. What would happen
18 if you decrease the pumping rate.

19 And these are questions that sometimes are not
20 intuitive. The answers are not intuitive. These --
21 nonlinear equations that give you these answers. And so
22 I think there's always value in doing these analyses.
23 You're always surprised no matter how much experience I
24 think you have. You change any one of these parameters
25 and the answers change and sometimes not what -- it's not

1 what you would expect.

2 So what I did here -- the Theis method is an
3 analytical model so it's a calculation that can be used
4 to forecast water level changes due to pumping. It's a
5 simple, quick calculation. And so even though the
6 results might be a rough approximation, they're still
7 very useful -- they provide very useful information for
8 making decisions. And it's a starting point, and it's
9 the only tool we have right now to look at the timing and
10 magnitude of changes to the pumping.

11 Okay. So here I used the Theis method to estimate
12 the change in water level in an area -- in the area of
13 Wind Cave due to a pumping well located 4 and a half
14 miles away with a pumping rate of 1,600 acre feet per
15 year. And that's this bottom line here, the dashed gray
16 line on the chart.

17 And then I used the Theis method in a second
18 scenario to look at drawdown in the area of Wind Cave for
19 a pumping well that's 5.75 miles away from the cave and
20 has a pumping rate of 484 acre feet per year.

21 And so what this analysis shows is that the timing
22 of the impacts are similar but the magnitude of the
23 impacts are different and the difference in these two
24 curves is entirely due to a decrease in pumping rate and
25 not to the movement of the well. So moving the well just

1 a mile and a half away did not impact the results as much
2 as decreasing the pumping rate. So this is the value of
3 these types of analyses, I think.

4 And in both cases the pumping well affects water
5 levels in the area of Wind Cave or the point of concern
6 here because the Theis method assumes that all water
7 pumped by the well is removed from storage. It assumes
8 that you aren't inducing any recharge to the aquifer and
9 you're not capturing any discharge. All water is coming
10 out of storage. This is a major assumption of the Theis
11 equation.

12 And there are others. When you use this method
13 you're assuming that the aquifer is horizontal and that
14 its properties and thickness do not vary with depth or
15 distance. And the aquifer is horizontal -- I mean, is
16 incident in horizontal extent. That means there's no
17 boundaries. There is no outcrop area and there are no
18 recharge and discharge boundaries and you're also
19 assuming the pumping well fully penetrates the aquifer.

20 So these assumptions are made to simplify the math and
21 reduce this analysis to two simple equations. And that's
22 the only reason these assumptions are made so you have an
23 easy and quick calculation that you can make.

24 We are fully aware that the Madison Aquifer does not
25 conform to these assumptions or this idealized setup, but

1 it doesn't mean that these results are not useful for ,
2 understanding the effect of moving a well or changing a
3 pumping rate.

4 However, with the acquisition of more ground water
5 data we can improve -- we can develop better tools, more
6 reliable tools, better models to consider the impact of
7 capturing aquifer discharge or the impact on a spring or
8 to also evaluate the roles of faults and fractures. And
9 so with more data we can develop better tools and improve
10 forecasts and reduce some of the uncertainty associated
11 with this kind of a calculation.

12 Okay. This is the map again of wells newly
13 permeated and proposed wells in the area of the Park.
14 And these wells I think total up to about 4,000 acre feet
15 per year shown on the map. You can keep that.

16 Okay. This map also shows geologic structures, the
17 faults and fractures that Mitch was talking about today.
18 And they will also influence pumping. What is the role
19 that they play? Nobody knows at this time. But with
20 additional monitoring data, we might be able to better
21 understand the role that these faults and fractures play
22 in either limiting pumping or exacerbating the effects of
23 pumping.

24 And this map also shows the two State Water Right
25 observation wells. This is CU 91A and this is CU 93A.

1 Wind Cave is also on here in yellow. So Wind Cave is
2 also a monitoring point because we're monitoring -- the
3 park is monitoring water levels in the cave pools. And
4 so these sites, the cave and the two observation wells,
5 are already being used to monitor changes in aquifer
6 storage. And that's why they were included in
7 Mr. Buhler's assessment.

8 But what you see is that there is no monitoring
9 point around this new well or the proposed well here.
10 And what's more, Beaver Creek Spring right there is no
11 longer being monitored. It hasn't been monitored I think
12 since 1997. So we will not know how this new proposed
13 well will affect aquifer storage or aquifer discharge
14 over time. There's no monitoring point that's going to
15 give us that data once they start pumping or 20 years
16 from now when you reevaluate the permit.

17 Okay. And so to summarize, the Park Service --
18 well, the Park Service is asking for more monitoring data
19 because monitoring data will allow us and the Applicant
20 and the State and surface water right holders to make
21 informed resource management decisions by developing a
22 history of water levels and perhaps even stream flow over
23 time and then use this data to evaluate changes in the
24 water budget, evaluate the role of faults, and forecast
25 future impacts to pumping.

1 Okay. And the last slide, this is a summary of what
2 we're asking for. The Park Service is recommending a
3 deferral of Application 2633-2 until an observation well
4 is constructed, an aquifer test is completed, and the
5 permit, if approved, is conditioned to include monthly
6 water level and water use reporting.

7 So there are two levels of monitoring here. One is
8 an aquifer test to get aquifer properties. But then once
9 you start pumping that monitoring well becomes even more
10 valuable because now you're getting the transient
11 response of the aquifer to a stress over time. And the
12 longer the well is pumped the farther out the cone of
13 depression will advance. And if it encounters a boundary
14 such as a fault, you would see that. This monitoring
15 well would help you identify that.

16 If the cone of depression advances to the south
17 until it encounters or captures an aquifer discharge
18 point such as a spring, you might be able to detect that
19 in the monitoring well near the pumping well as well as
20 other monitoring wells. So this is a short-term and
21 long-term monitoring is what we're asking for and for the
22 purpose of evaluating the impacts over time and learning
23 more about how this aquifer system responds to pumping.

24 MR. FAHMY: Thank you, Ms. Cutillo. I have no
25 further questions.

1 CHAIRMAN HOYT: Mr. Wieczorek.

2 MR. WIECZOREK: She speaks a little soft so
3 maybe I'll go stand by the court reporter so she's
4 talking that way.

5 THE WITNESS: Oh, I'm sorry.

6 MR. WIECZOREK: That's okay. I speak a little
7 fast.

8 CROSS-EXAMINATION

9 BY MR. WIECZOREK:

10 Q. I got a couple questions for you. First I want to
11 start kind of from the last slide you had there, what the
12 Park Service wants. You stated that a monitoring well
13 actually is more beneficial if it's in place once you
14 actually start pumping and producing from it?

15 A. I didn't say it's more beneficial, but it's just as
16 important if you can use it for the aquifer test to get
17 aquifer properties. But then if you continue to monitor
18 over time, you get more data.

19 Q. Okay. So would it be an acceptable way to go about
20 this is to issue the permit but condition the permit on
21 when you sink the production well to actually at the same
22 time sinking a monitoring well so you can provide that
23 data then?

24 A. That would be one way to do it. But I think that
25 you would want to get aquifer properties before you start

1 pumping. Perhaps it would be a conservative approach to
2 do the aquifer test, get these aquifer properties, the
3 transmissivity and storage and use them to evaluate
4 future impacts. That would be a conservative approach to
5 ground water development and management and then use the
6 monitoring well also after you start pumping.

7 Q. Right.

8 A. If the permit is then approved.

9 Q. Well, you could approve the -- you wouldn't have an
10 objection to the Board approving the permit with a
11 requirement that the monitoring well be installed and you
12 do the pumping test before you hook it up to the system?

13 A. That's right.

14 Q. So there would be no objection to that.

15 A. No. Not me personally. Can I speak for the --

16 MR. FAHMY: That's --

17 A. Okay. No. There would be no objection.

18 Q. And I believe Mr. Fahmy acknowledged you could speak
19 on behalf of Wind Cave with that?

20 MR. FAHMY: Yes.

21 A. Okay.

22 Q. I want to talk a little bit about your drawdowns.
23 And if I understand that, this assumes no recharge?

24 A. No. That's not right.

25 Q. Okay. I guess I missed that because I thought when

1 you were talking about that test you assumed it was --
2 there was no -- yeah. I thought you said it was kind of
3 like a bathtub model. But maybe I'm wrong there.

4 A. It assumes that recharge is equal to discharge. So
5 the only thing that you're looking at is a change in
6 storage. It assumes that you cannot induce recharge.
7 You cannot turn a gaining stream into a losing stream.
8 And you can't capture discharge.

9 So it's not assuming that it's not raining or, you
10 know, the whole time that you're pumping. That's a
11 misunderstanding.

12 Q. Okay. So yeah. So I guess I look at the Wind Cave
13 water levels that were provided as part of the State's
14 report, and actually Calcite Lake looks like it's 10 feet
15 higher than it was in '87 than today?

16 A. Uh-huh.

17 Q. You have to answer yes or no for the court reporter.

18 A. Yes.

19 Q. And that would be because you had more water going
20 into the system recharging the aquifer than going out?

21 A. In general, yes.

22 Q. Yeah. And all this is pretty just kind of general,
23 not specific to this area. These are general analysis;
24 is that correct?

25 A. That's correct. Except that the transmissivity that

1 I used was for the aquifer test completed in the Park
2 this fall, and the storage value that I used is for
3 U.S.G.S. published report or its in the range of storage
4 values found in the Black Hills.

5 Q. Right. And you use the maximum diversion rate of
6 300 gallons when calculating drawdown; correct?

7 A. Yes. The Park Service has to assume you're going to
8 use all the water that you apply for. Again, it's a
9 conservative approach.

10 Q. So your model assumes every minute of every day all
11 year long we're pumping at the maximum rate?

12 A. That's right.

13 Q. You heard Mr. Buhler testify that generally that's
14 no more than 60 percent, and 60 percent's on the high
15 side given the State's experience in looking at
16 production wells?

17 So if you used 180 gallons a minute, what would your
18 drawdown be?

19 A. The drawdown at any point in time would be less, but
20 there would still be drawdown because, like I said, the
21 Theis analysis assumes you're taking all water from
22 storage that inevitably leads to increasing drawdown over
23 time.

24 Q. Right. But it would be less than 5 feet then?

25 A. I don't know. Like I said, I'd have to do the

1 analysis to estimate that.

2 Q. Okay. And you understand that this permit's only
3 good for 20 years. So we would have to come back in, and
4 your time chart goes out to 25; correct?

5 A. Yes. And that's just a long-term approach. The
6 Park's going to be there for many years, and so we
7 typically carry out -- any of those scenarios we'll carry
8 out to 100 or 1,000 years in other areas.

9 Q. You showed a number of production wells up there.
10 You're not implying Southern Black Hills has some
11 obligation to figure out how those other production wells
12 other people are running impact the wells, are you?

13 A. I'm not implying that, but it wouldn't hurt if
14 somebody evaluated the accumulative impacts of pumping.
15 I think the Applicant has the responsibility to evaluate
16 their own impacts, especially if there are multiple
17 applications and pumping wells proposed.

18 MR. WIECZOREK: I'm going to look at one thing
19 and make sure. I'll get my exercise at least.

20 THE WITNESS: I'll speak up.

21 Q. There was testimony by Mr. Buhler that he believes
22 the biggest impact on all these wells is just the
23 climatic changes?

24 A. Uh-huh.

25 Q. Would you agree with that?

1 A. From that observation well data to date it looks
2 like changes in recharge and aquifer storage are causing
3 those changing water levels.

4 Q. And you don't dispute the information that DENR has
5 regarding drawdown next to large capacity wells being
6 fairly minor, do you?

7 A. I'm not familiar with that data. I think it's
8 interesting that drawdown would stabilize after a certain
9 amount of pumping. If the simplest explanation for that
10 is that you've captured a discharge or a discharge point
11 and drawdown theoretically, the drawdown will cone. The
12 cone depression will advance. It will propagate until
13 you either capture discharge or induce recharge, and in
14 the Madison there aren't many places where you can induce
15 recharge.

16 So theoretically there is a reason you could explain
17 why drawdown would stabilize over time after a certain
18 amount of pumping.

19 Q. Okay. Going back to your analysis here, as I read
20 your drawdown in 20 years -- and this assumes equal
21 amount of water in, equal amount of water out.

22 A. Right.

23 Q. Given the -- that Calcite Lake is 10 feet higher
24 than it was in '87 today, if you assume this drawdown
25 after 20 years, Calcite Lake would still be higher than

1 it was in '87?

2 A. That's right.

3 Q. And did you -- like Mr. Hickey, I'm not a scientist.
4 I was asking about if this was at 180. Can you do that
5 just by proportional? If you reduce this drawdown
6 300 gallons a minute, assume it's 180, can you just take
7 60 percent of what, 180, and get a ballpark?

8 A. No. I wouldn't do that calculation. You could look
9 at how changing the drawdown from -- or the pumping rate
10 from 1,600 acre feet per year to 400 acre feet per year,
11 how that affects -- (Inaudible).

12 I said I wouldn't say -- I wouldn't guess at what
13 the -- I wouldn't make that assumption. It's not
14 proportional.

15 Q. But the 180 number would reduce the drawdown?

16 A. Yes. It would be less.

17 MR. WIECZOREK: That's all I have, Mr. Chair.

18 CHAIRMAN HOYT: Very well. I'm sorry, Ms. Best.
19 We'll entertain your questions at this time.

20 MS. BEST: I'll come over here so we get
21 directed toward the court reporter here.

22 CROSS-EXAMINATION

23 BY MS. BEST:

24 Q. Ms. Cutillo, the lakes in the Wind Cave National
25 Park do not hold State-granted water rights; correct?

1 A. I think so, yes.

2 Q. You think they do not?

3 A. They do not.

4 Q. And what -- what is the authority for the lakes, for
5 protecting the lakes in the Wind Cave Park?

6 A. I'm not a hydro geologist so I would --

7 MR. FAHMY: Excuse me. I'm going to object to
8 that. That calls for a legal conclusion. I think this
9 is a legal matter, Ms. Best, and best left to us to
10 argue.

11 CHAIRMAN HOYT: Overrule the objection. She can
12 say if she knows.

13 A. I don't know.

14 Q. Ms. Cutillo, do you know whether the general public
15 has access to the lakes in the Wind Cave Park?

16 A. It's my understanding that only under -- they need
17 to be guided. If a member of the general public wanted
18 to access the lakes, they would need to be guided by
19 someone from the Park Service.

20 Q. Okay. So if one of my relatives wanted to go look
21 at the lakes, they just call up, make an appointment, and
22 they're allowed in?

23 A. No. It's a very strenuous hike, if you will, down
24 there, and so you would have to meet with -- probably
25 talk to Rod, and they would determine if you were fit to

1 make that journey, if it was safe, and so no.

2 Q. Okay. But a person doesn't have to show a
3 scientific basis for studying the lakes, do they?

4 A. No. They do? Okay.

5 Q. You brought up Beaver Creek in your -- Beaver Creek
6 Springs in your testimony?

7 A. That's right.

8 Q. Were you involved in preparation of the Park Service
9 petition to intervene in this matter?

10 A. I think I was consulted. I was consulted.

11 Q. And at that time there was no mention of Beaver
12 Creek Springs in the petition to intervene.

13 A. No.

14 Q. So was this something that occurred to you
15 afterwards?

16 A. No. I talked about Beaver Creek Spring because it's
17 an aquifer discharge point. It's not -- it's not within
18 the Park, but if you're looking at changes to the water
19 budget and monitoring points, this is why you would be
20 concerned with how aquifer discharge changes over time.
21 If pumping eventually captures discharge from Beaver
22 Spring, then it will no longer propagate towards the
23 Park.

24 Q. Now the flow in Beaver Creek Springs is 10 times
25 greater than the flow that's requested in this

1 application? Is that a fair estimate?

2 A. That's what I've heard today.

3 Q. Do you dispute that?

4 A. No. I just don't know.

5 Q. Have you studied the affect of Beaver Creek Springs
6 on area observation wells?

7 A. In what way?

8 Q. Well, have you studied whether any changes in flows
9 to Beaver Creek Springs, whether they're climatic
10 changes, presumably climatic changes, whether there were
11 any changes in flows at Beaver Creek Springs would affect
12 any of the area observation wells?

13 A. Are you saying do I know whether if discharge
14 changes at Beaver Creek Spring whether you would see that
15 at an area observation well?

16 Q. Yes.

17 A. No. And that analysis is complicated by the fact
18 that there's not a long-term record of discharge at
19 Beaver Creek Spring.

20 Q. Now you're aware that the -- the rate of discharge
21 or rate of withdrawal that's being requested in this
22 matter is .67 cubic feet per second; correct?

23 A. I know gallons per minute and acre feet per year,
24 but if that's the conversion, I'm not sure.

25 Q. What in your opinion is a rate of discharge that

1 would not require a stress test, aquifer pump test?

2 A. I think that the purpose of the aquifer test is to
3 get aquifer properties, and I'm not managing ground water
4 and so I don't -- I wouldn't make that kind of decision.

5 Q. So if I -- if I wanted to start a car wash in the
6 approximate location of where the request has been made
7 here today and I asked for 75 gallons a minute, would
8 that require a stress test?

9 A. Well, I guess the Board is the one that -- and the
10 chief engineer decide whether an aquifer test would be
11 required.

12 Q. But in your opinion you'd come before the Board and
13 ask them to do that, wouldn't you?

14 A. I can't say that I would because this is a -- like I
15 said, a long-term view that the Park Service has taken.
16 It's not just about the cave pools. It's about ground
17 water management, conservative approach to development
18 and management in this area. And so I think you have to
19 look at the bigger picture. You shouldn't evaluate each
20 application individually. When you say it like that it
21 sounds insignificant but when you look at the bigger
22 picture of all the proposed wells and all the newly
23 permeated wells they called it a death by a thousand
24 cuts.

25 At some points you need to not look at things

1 individually but looking at either cumulative impacts but
2 have a plan for monitoring how individual wells are
3 affecting the water budget.

4 Q. So the guy with the car wash would be one more in
5 that cumulative group, and so the one with the car wash
6 would have the responsibility of doing a stress test
7 under your scenario; isn't that right?

8 A. I think that it depends on where the well is
9 located, whether you -- you know, whether -- and if there
10 are other monitoring wells near the proposed well for the
11 car wash.

12 Q. Do you agree that the further away the -- that the
13 further away the proposed well is from the Park Service
14 lakes that the less effect it would have?

15 A. No. It is not just a matter of distance. If you
16 move a well farther away as the Theis analysis shows, you
17 may delay the time that it takes for impacts to propagate
18 to that source. It also depends on whether the well's
19 located near a discharge point. The closer you are to a
20 discharge point, the less water you'll take from storage.
21 And the Park's resources, the pools, and the cave are --
22 what we're concerned about are changes in aquifer storage
23 that lower the water table in the area of the Park. It's
24 also a function of pumping rate as well.

25 Q. Which of the Water Rights Division's observation

1 well data have you examined?

2 A. The data that Ken -- Mr. Buhler has included in his
3 assessment.

4 Q. Have you ever examined the observation -- the
5 observation well data in the Rapid City area and examined
6 that as to whether it's causing area drawdowns?

7 A. No.

8 Q. Have you ever examined the observation well data in
9 the Sturgis, South Dakota area and determined whether
10 it's causing drawdowns in area wells?

11 A. No.

12 Q. Or excuse me. Whether area wells are causing
13 drawdowns in the State observation well?

14 A. No.

15 Q. And same question with regard to Spearfish.

16 A. No.

17 Q. Okay. Do you have knowledge as to why the
18 characteristics of the Madison Aquifer would be so unique
19 in this area that the heightened scrutiny should be
20 required for applications in this area as compared to
21 Rapid City, Sturgis, and Spearfish?

22 A. I would say that this area you're located -- you're
23 at a large spring for which surface water rights have
24 been appropriated and also next to a national park with
25 sensitive ground water dependent features.

1 Q. And you don't have knowledge as to whether that
2 Rapid City information also addresses -- also involves
3 springs; is that correct?

4 A. Just from what I've heard today and at the hydrology
5 conference that occurs in the spring sponsored by the
6 U.S.G.S., there has been several presentations that I
7 have attended there where people have talked about
8 declines in spring flow over time and also patterns in
9 drawdown near observation wells and pumping wells.

10 Ken gave a talk this spring about drawdown and
11 observation wells, and Dr. Perry Rahn also gave a talk
12 about changes in spring flow.

13 Q. When you did a Theis -- did you do a Theis
14 calculation here looking at 180 gallons a minute?

15 A. No, I did not.

16 Q. Do you know what the drawdown would be at
17 180 gallons a minute?

18 A. No.

19 Q. You've heard testimony here today regarding this
20 issue of if you obtain a water right to pump at a maximum
21 level, even if it can reach that peak level, the
22 sustained pumping is likely to be -- on a consistent
23 basis is likely to be around 60 percent?

24 A. Yes.

25 Q. And do you agree with that testimony?

1 A. I don't know. I don't know the history of water
2 use. And I think you would have to look at your records
3 that you have to make that.

4 Q. So you don't disagree with Ken Buhler's testimony in
5 that respect, do you?

6 A. I don't really have a basis to disagree with him.

7 Q. Well, there's been testimony regarding lack of
8 observation wells in the area. Park Service has a
9 Park Service 1 well, and does Park Service use that well
10 as an observation well?

11 A. That's a pumping well, and it's completed in the
12 Madison and Deadwood Formations. It's not ideal to use a
13 pumping well as an observation well, particularly one
14 that's screened in two aquifers.

15 Q. And it's a pumping well. And what is the water used
16 for?

17 A. It's a water supply well for the Park for visitor
18 use and administrative purposes.

19 Q. And what's the rate of pumping?

20 A. I don't know off the top of my head. Do you know?
21 In the last hearing for 2585 we did submit that
22 information. And we had a water use -- there is a record
23 of water use at that well. And we submitted that
24 information.

25 Q. And in looking at data from that well, would that

1 serve as an indicator to provide additional testimony --
2 or additional information to you to study with respect to
3 effects of pumping on the --

4 A. As Ken noted earlier, there's a lot of evidence that
5 suggests a lot of water coming out of that well is from
6 the Deadwood formation. We tried to do a pump test in
7 that well.

8 Well number 1, we did an aquifer test in that well
9 last year, and if you look at those test results, it
10 could be interpreted that most of the water coming out of
11 that well is from the Deadwood formation.

12 So I think, first of all, you don't want to use a
13 pumping well as an observation well because you're
14 changing the water level every time you pump. And,
15 secondly, it's screened to multiple aquifers. Well, it's
16 not screened. It's open to multiple aquifers.

17 Q. Well, I'm a little confused here as to Park Well 1
18 and Park Well 2. Are they both -- with both of them is
19 there a question as to whether they're in the Deadwood
20 aquifer?

21 A. No. Park Well 1 is open to both the Deadwood and
22 the Madison Park Well 2 was drilled as a backup for well
23 number 1. It's not being used for water supply at this
24 time because of high arsonic. Is that right? Arsonic?

25 There's a plan the Park is going to deepen the well

1 into the Deadwood Formation and close it off to the
2 Madison. So it would no longer serve as an observation
3 well in the Madison Aquifer. If that doesn't happen, it
4 could be used as an observation well in the future. And
5 it is being used as an observation well in the Madison
6 Aquifer right now. We are monitoring water levels. And
7 so until it's deepened we'll have a record of water
8 levels there. And that's the well we performed the
9 aquifer test at and got an updated value for
10 transmissivity.

11 Q. Are you familiar, Ms. Cutillo, with the U.S.G.S.
12 report that addresses hydrologic budgets from the Madison
13 and Minnelusa Aquifers, Black Hills of South Dakota, and
14 Wyoming water years 1987 to 1996?

15 A. Yes.

16 Q. And you're familiar then that the U.S.G.S. for the
17 purposes of that study actually took the Madison Aquifer
18 and addressed it in terms of subareas?

19 A. Uh-huh.

20 Q. Correct?

21 A. Yes. Yes.

22 Q. And in doing so it actually in the area of
23 question -- in question that we would be involved with
24 they addressed the subarea involved here would be
25 subarea 7 in that report.

1 You're familiar with that?

2 A. Yes.

3 Q. Okay. And the conclusion was is that water in
4 general flows from subarea 8 to subarea 7. They
5 concluded that, didn't they?

6 A. I'm not familiar with that particular conclusion.
7 What I thought -- my understanding at the previous
8 investigations, geochemical and geological and
9 hydrological, that a component of water flows from the
10 south from one subarea to 7. But all water.

11 Q. Okay. And a significant -- is it fair to say a
12 significant amount of the water then in your opinion
13 flows from subarea 8 north to subarea 7?

14 A. I --

15 Q. Is that a fair statement?

16 A. I don't think it's a significant. It's my
17 understanding, like I said, that a component and the
18 number that I'm familiar with is more around maybe
19 60 percent. But I wouldn't take that -- I would have to
20 look back at the geochemistry -- conclusions made on the
21 geochemistry data to refresh my memory on what, you know,
22 the component -- when you say significant, you know, it
23 would be more than 50 percent.

24 Q. So the word "significant" means something more than
25 60 percent, I take it?

1 A. Yes.

2 Q. It's true, isn't it, that if there's a change in the
3 hydraulic gradient on the inflow zone, that additional
4 water would flow into the new -- into the subarea and
5 would increase impacts -- or would increase the amount of
6 water stored in the inflow subarea; correct?

7 A. No. You can't say that. Because -- I wouldn't make
8 that generalization. You say a change in the hydraulic
9 gradient. So do you mean an increase in the hydraulic
10 gradient?

11 Q. If there was a small change by decreasing the amount
12 of water -- if there's a drawdown, your gradient will
13 change. You will have a different slope, your gradient
14 will change.

15 A. Uh-huh.

16 Q. And it will increase the inflow from one subarea to
17 another; correct?

18 A. All other things being constant, you could increase
19 flow by increasing the hydrologic gradient.

20 Q. And you're aware that Mr. Buhler indicated in his
21 report that that is likely to occur; correct?

22 A. Yes. To be honest, I don't fully understand that.

23 Q. Okay. Do you dispute Mr. Buhler in that regard?

24 A. I would like to have a conversation about it with
25 Mr. Buhler. I think that it's just the way it's phrased.

1 I don't particularly understand it. I think that if you
2 have an increase in flow, you have to have a decrease
3 somewhere else. You have to conserve mass.

4 And so it doesn't -- what I don't understand is
5 where the water's coming from. If you're going to
6 increase flow into one area, you have to decrease flow in
7 another place. And so that's what I don't understand is
8 the -- you know, where that water's going to come from.
9 Is it coming from storage, or is it coming from captured
10 discharge?

11 Q. Well, you understand that the Madison Aquifer is
12 characterized by the U.S.G.S. to have a number of
13 different subareas and that if you're -- that decreasing
14 the flow in one subarea may simply be a function of
15 causing additional inflow to that subarea from another
16 subarea.

17 You don't dispute that, do you?

18 A. Say that again. I'm sorry.

19 Q. You don't dispute that water flows from one subarea
20 to another in the Madison Aquifer, do you?

21 A. No, I don't.

22 MS. BEST: I have nothing further. Thank you.

23 CHAIRMAN HOYT: Very well. Mr. Hickey.

24 MR. HICKEY: Just a couple. I know you've got a
25 plane to catch.

CROSS-EXAMINATION

BY MR. HICKEY:

Q. When you use the term "capture" a discharge point or "pumping capture" what are you describing there?

A. What I'm describing is that a pumping well can capture water that would otherwise flow and discharge at a spring or stream.

Q. So in this case what you're talking about there is like if the well was permitted and pumped, it would capture the water that was going into Beaver Creek Springs, for example. Is that what --

A. That's a possibility.

Q. Okay. And that just depends upon the amount of pumping or the level of drawdown or --

A. Whether that occurs or not?

Q. Yeah.

A. It depends upon aquifer boundaries and the geology and aquifer properties and the pumping rate and the location of the well.

Q. Okay. Did you participate in this geochemical analysis?

A. No.

Q. Okay. Did you participate -- after the last hearing that you testified in there was going to be an aquifer stress test. Do you recall that?

1 A. Yes.

2 Q. Did you participate in the formulation of that kind
3 of test or anything like that?

4 A. At the Streeter well site?

5 Q. Yeah.

6 A. No.

7 Q. Were you ever contacted by the Applicant to --

8 A. Yes. Mitch and I discussed preliminary ideas for
9 what types of tests we could do with existing wells and
10 with new wells.

11 Q. What's your understanding as to why that didn't
12 proceed, if you have an understanding?

13 A. It was -- I think it came down to costs.

14 Q. Okay.

15 A. The cost of performing the test.

16 Q. One other thing. Dr. Rahn told me about a test
17 that's called a finite element model.

18 A. Uh-huh.

19 Q. Are you familiar with that?

20 A. Yes. Very.

21 Q. What is that?

22 A. It's a numerical method. It's different than the
23 Theis Analysis. It's numerical models. You divide your
24 area into a grid, and you solve for head at each point in
25 the grid and with the numerical model you can simulate

1 much more complex geologic conditions. And you could,
2 for example, put in faults and fractures on an outcrop
3 area and a spring.

4 Q. He suggested that that's -- if you were going to
5 actually try to determine the impact pumping would have
6 on springs that that would really be the ultimate test
7 that you would use; correct?

8 A. Uh-huh. You would use a numerical model. A finite
9 element model is one type of numerical model.

10 Q. Okay. You're not even suggesting that that be done.
11 I guess that's more complex and costly than --

12 A. Over time if you had enough monitoring data, you
13 could do that. It would be very beneficial.

14 MR. HICKEY: Okay. Thank you. That's all I
15 have.

16 CHAIRMAN HOYT: Very well. The Interveners?
17 Mr. Fugier?

18 MR. FUGIER: No.

19 CHAIRMAN HOYT: Mr. Schroth?

20 MR. SCHROTH: No.

21 CHAIRMAN HOYT: Very well. Any redirect,
22 Mr. Fahmy?

23 MR. FAHMY: No.

24 CHAIRMAN HOYT: Very well. Does that conclude
25 the Park Service witness presentation?

1 MR. FAHMY: Yeah. We'd like to have this
2 witness excused, and I'd like to make a very short
3 closing.

4 CHAIRMAN HOYT: Very well. Pardon me. We do
5 have a couple of questions from the Board?

6 MR. HUTMACHER: I have just a couple. According
7 to the chart you have, how far away exactly do we have to
8 be before you would see no affect?

9 In other words, you're showing roughly 8 feet at
10 3 miles out or whatever.

11 THE WITNESS: You can't use that analysis to
12 answer that question.

13 MR. HUTMACHER: So no amount of distance is
14 going to matter?

15 THE WITNESS: For that analysis you're assuming
16 all water is being taken out of aquifer storage. Any
17 time you take water out of storage you're going to cause
18 drawdown. Remember this method assumes the aquifer is
19 infinite. So it might get very, very small, but there
20 will always be a measurable affect when you use the Theis
21 method.

22 MR. HUTMACHER: So the biggest effect is gallons
23 per minute with --

24 THE WITNESS: With these scenarios that's what
25 the analysis shows is it's the pumping rate. In any of

1 these two locations the pumping rate is more important is
2 those instants.

3 MR. HUTMACHER: So, in other words, a
4 10-gallon-a-minute domestic well 20 miles away could
5 still have an effect on the aquifer 30 years down the
6 road or whatever?

7 THE WITNESS: If you use that analysis, yes.
8 But, you know, it would be very small. You know, at some
9 point you get too small to measure. Also I'm not sure if
10 you would still be in the Madison Aquifer if you were
11 20 miles away. And so you probably wouldn't, you know,
12 simulate that.

13 MR. HUTMACHER: I was just trying to use a
14 hypothetical. Now I want to ask you another question.

15 What's the difference between one well at
16 300 gallons a minute here as opposed to 100 domestic
17 wells at 10 gallons a minute spread out over 10 miles?

18 THE WITNESS: What I would do is I would do that
19 scenario. I would simulate that to answer that question.
20 So I can't answer it off the top of my head. But if the
21 farther you are away, the longer it will take for impacts
22 to reach a point of concern, and so drawdown would be
23 smaller at any point in time than if you were farther
24 away.

25 So it comes down to location and pumping rate

1 and aquifer properties. And so it's not -- you know,
2 they aren't easy answers. But you could answer that
3 question with the Theis Analysis.

4 MR. HUTMACHER: Just going to take a while.

5 THE WITNESS: To do it? Yeah.

6 MR. HUTMACHER: Well, the point being, I mean,
7 they're asking for 30 gallons a minute, and according to
8 some of the --

9 THE WITNESS: 300.

10 MR. HUTMACHER: Or 300 gallons a minute. And
11 according to previous testimony there's 275 hookups going
12 to go into phase 1, and 60 percent approximately are on
13 cisterns so that leaves us about 110 lots or homes left
14 that have some type of a domestic well.

15 If those are all in the Madison Formation within
16 that first phase there and they're taking 10 gallons a
17 minute, I just round it off to 100, that's a
18 thousand-gallon-a-minute possible withdrawal from that
19 formation as opposed to 300 over here.

20 THE WITNESS: Uh-huh.

21 MR. HUTMACHER: Isn't that a bigger impact than
22 what the one would have?

23 THE WITNESS: Hypothetically, yes. If that was
24 actually going to happen.

25 MR. HUTMACHER: I mean, I understand that's

1 cowboy math, but that's, you know --

2 THE WITNESS: No. I understand. I understand.
3 Is it better to have one withdrawal point that you can
4 control than 1,000 or 10 domestic wells that are not
5 monitored or you don't know the pumping rate on? I think
6 that -- that's a tough question. And I think it's -- you
7 know, they're hard questions to answer.

8 Those -- as far as I know, they don't go up for
9 public notice, and so the Park Service, you know,
10 isn't -- would rather not protest every new well and
11 domestic well or otherwise. And what we're asking for is
12 an approach to ground water management that would avoid
13 that scenario.

14 MR. HUTMACHER: And I'll quit with this last
15 one. If we use this Theis method for withdrawal rates
16 out of the Madison Aquifer and the effect of what's going
17 to go on, what you're really trying to tell me is we
18 should drill no more wells in the Madison Aquifer,
19 domestic or permitted or nonpermitted or whatever.

20 THE WITNESS: It depends on what your goals are
21 and what -- you know, for ground water management. If
22 you want to preserve all aquifer discharge that's coming
23 out of the Madison Aquifer, that would be the prudent
24 approach.

25 You can't take it out of the aquifer and take it

1 out of the stream. You can't have it in both locations.

2 There are different approaches to ground water
3 management. I've read some from the U.S.G.S. that would
4 advise it would be prudent to rely on surface water use
5 ground water in times of drought, treat it like a
6 reservoir. It's a storage area for water that you can
7 tap into during dry times and leave it there and let it
8 replenish during wet years.

9 So there are different approaches, and it
10 depends on what consequences, what impacts are acceptable
11 to all the stakeholders. And I think that's the
12 conversation that is missing, you know, what are
13 acceptable impacts to ground water development.

14 MR. HUTMACHER: And if Park Service has a permit
15 for .15 cubic feet for their well, why doesn't that have
16 just as big or a bigger impact as close as it is to the
17 pools as opposed to this .67 that they're asking for
18 5 miles away?

19 THE WITNESS: The pumping well is also open to
20 the Deadwood Formation, and when we did an aquifer test
21 it was pretty clear that that water is coming -- a lot
22 of -- that a significant component of the water is coming
23 from the Deadwood.

24 We didn't see drawdown in the nearby Madison
25 well when we pumped that well for a long time, and so

1 that's how we came to that conclusion.

2 MR. HUTMACHER: So if they went to the Deadwood
3 Formation, we wouldn't have a problem.

4 THE WITNESS: Right. Except for -- yeah.
5 Unless it impacted the Park Service's water supply well.
6 Which we have a water -- we do have a State water right
7 for.

8 CHAIRMAN HOYT: Any other questions from the
9 Board? Questions from the Board? I guess not. I hate
10 to ask, but did that -- did those questions from the
11 Board prompt any redirect or further cross?

12 Very well, hearing none, Mr. Fahmy is about to
13 proceed to his closing argument, I understand.

14 MR. FAHMY: Thank you. This will be brief.
15 And, you know, I think the Park Service is privileged to
16 appear before the Board and make these arguments. And we
17 understand the Board has a very, very difficult task in
18 considering these applications. And we understand the
19 challenges that these applications pose for the chief
20 engineer and his staff and the assistance that the chief
21 engineer's office gives to the Board.

22 But I think I want to go back and read just an
23 excerpt from testimony from 2585 when Mr. Buhler was
24 testifying. And he said something in that with regard to
25 the aquifer test that was being discussed in that

1 context. He said what this pump test would do, according
2 to Mr. Buhler, and this is, for reference, page 11 of the
3 transcript. "What this pump test would do is provide the
4 aquifer characteristics at this site. Those
5 characteristics that we would be talking about are the
6 transmissivity and the storage coefficient, and with
7 those numbers in theory we can get an idea of how large
8 the cone of influence is going to be, how much drawdown,
9 if any, would be at Beaver Creek Spring and, therefore,
10 make some intelligent decision as to the public interest
11 and whether there would be an effect."

12 What the Park Service is asking for today is not
13 a denial of this permit. No. We're just asking for an
14 informed decision by the Board, that we think as
15 Ms. Cutillo pointed out in one of her slides in her
16 PowerPoint presentation, the excerpt from U.S.G.S.
17 Circular and I think it bears reading once again that,
18 "The foundation of any good ground water analysis,
19 including those analyses whose objective is to propose
20 and evaluate alternative management strategies with the
21 availability of high quality data."

22 There is no substitute for high quality data in
23 making tough decisions in regards to water resources,
24 allocations, and management. And that's simply what the
25 Park Service is encouraging the Board to do today is to

1 take the approach that was argued by the chief engineer
2 in 2585 to require the collection of additional data, to
3 look at that data. And you may go ahead and say, yeah,
4 go forward and go ahead and do your pumping. You know,
5 based on the analyses from the data we collected from the
6 aquifer tests and the observation well, we don't have any
7 problem giving you a permit for 20 years.

8 But at least you have some point out there that
9 that will give you some information about what the
10 effects of that withdrawal are so that when you come back
11 in 20 years you will be in a better position to evaluate
12 what the effects are.

13 As it stands now, all you would have is
14 anecdotal information from the folks on Beaver Creek or
15 from the Park -- the Park Service will still have its
16 measuring points at the lakes, but with regard to Beaver
17 Creek Springs as it stands now you won't have any
18 measurement points there. All you'll have is anecdotal
19 information about what the spring was doing, and it's
20 very difficult to discern the value of that.

21 So what the Park Service is urging is that you
22 gather the information that's really necessary to make,
23 as Mr. Buhler put it, an intelligent decision. Thank you
24 for your time and attention.

25 CHAIRMAN HOYT: Thank you, Mr. Fahmy, and those

1 of you from the Park Service for your testimony in this
2 matter. Will the entire legal staff be departing?

3 MR. FAHMY: Yes.

4 MS. DUPRIS: I'm afraid so.

5 (A short recess is taken)

6 CHAIRMAN HOYT: We'll be going back on the
7 record in Docket 2633-2. Counsel are about to propose a
8 stipulation.

9 (A hearing is held in another matter)

10 CHAIRMAN HOYT: Very well. We'll reconvene in
11 Docket 2633-2. I believe Mr. Wieczorek would call the
12 next witness.

13 MR. WIECZOREK: Yes. For the benefit of the
14 court reporter would you spell your last name.

15 MR. PEPLINSKI: My name is Robert Peplinski.
16 P-E-P-L-I-N-S-K-I. I'm chairman of the Southern Black
17 Hills Water Board.

18 MR. WIECZOREK: Bob, he's going to have to swear
19 you before you start in.

20 THE WITNESS: All right.

21 CHAIRMAN HOYT: I forgot too. You look so
22 truthful.

23 (The witness is sworn by Chairman Hoyt)

24 A. Mr. Chairman and Board members, there again, I'm
25 chairman of the Board of Southern Black Hills Water. We

1 are a nonprofit organization. We have an all volunteer
2 board, at this time six board members. I have an awful
3 lot of things I'd like to say, but because of time I'm
4 not going to go into a lot of this detail.

5 At this time we are very concerned about the water
6 issues in the Southern Black Hills, of course. For
7 health reasons there's an awful lot of people -- in fact,
8 there's hundreds of people that are hauling water on a
9 daily basis for necessities. Or having water hauled.

10 Water being dumped into cisterns is not necessarily
11 a safe way to go. There's health issues that are
12 included in that. And people, a lot of people, are
13 concerned, and a lot of people are not concerned about
14 it.

15 Well, we are. That's why we've proposed this rural
16 water system to get a good high quality water to the
17 rural America.

18 At the present time I have or the Board has -- and I
19 speak both ways here. We have 600 people that have paid
20 good intention fees of \$150 each, meaning that they want
21 to be on our rural water system. We also have about --
22 we have 185 people in our phased project, phase 1 and
23 phase 2, that have paid the \$1,500 ready for hookups.

24 With that in mind, we have -- with the Streeter
25 permit at that time we went ahead and we've talked to

1 federal agencies and the DENR and the State and the
2 Governor Rounds is supporting us quite a bit as far as
3 funding for this project.

4 We have tentatively scheduled some funding for
5 phase 1 and we're kind of working on phase 2. But this
6 water permit, both of them are going to make this thing
7 happen and bring the people into the 21st Century.

8 Moving the well to the new location, of course, is
9 going to cost us about a million extra dollars. What we
10 have tried to do, and we've been very, very conscientious
11 to the fact that we don't want to have 75, 80, \$100 a
12 month water bills for these people in rural America. You
13 know, it's tough enough. They can't drill wells because
14 they can't afford it so why not make water at a rate that
15 they can afford.

16 At this time we're talking about a price of \$60 a
17 month for rural water right to their house for tap. And
18 that includes 2,000 gallons. And then it will be so much
19 per thousand after that. You know, and the people are
20 just tickled to death about this whole unit.

21 With that, I'm not going to go into anything further
22 on this, but, there again, phase 1 and phase 2 of our
23 project, we're almost ready to go to bid if we can.
24 We've got a few things to do, but this water permit is a
25 big issue right now.

1 Okay. At this time I thank you all, and if you have
2 any questions, I'd be happy to try to answer them for
3 you.

4 CHAIRMAN HOYT: Ms. Best, any questions for
5 Mr. Peplinski?

6 MS. BEST: None. Thank you.

7 CHAIRMAN HOYT: Mr. Hickey.

8 MR. HICKEY: I have none.

9 CHAIRMAN HOYT: Members of the Board? I'm
10 sorry. Of course. Mr. Fugier.

11 MR. FUGIER: No.

12 MR. SCHROTH: No.

13 CHAIRMAN HOYT: Very well. Thank you very much.
14 Mr. Wieczorek? Further witnesses?

15 MR. WIECZOREK: We will call no other witnesses.

16 CHAIRMAN HOYT: Thank you. We'll move to
17 Mr. Hickey.

18 MR. HICKEY: We'd call Arden Davis, please.

19 (The witness is sworn by Chairman Hoyt)

20 CHAIRMAN HOYT: And would you state your name
21 and address please for the record, spelling your last
22 name.

23 THE WITNESS: Arden Davis, D-A-V-I-S.
24 1014 Milwaukee Street, Rapid City, South Dakota 57701.

25

(Trout Haven Exhibits 1 and 2 are marked for
identification)

DIRECT EXAMINATION

BY MR. HICKEY:

Q. Professor Davis, I'll show you what has been marked
as Exhibit 1. Can you identify that?

A. This is my resume.

Q. And that sets forth your academic and educational
background; is that correct?

A. Yes.

Q. And is it reasonably current and up to date?

A. Reasonably current.

MR. HICKEY: I would offer Exhibit No. 1.

CHAIRMAN HOYT: Any objection?

MR. WIECZOREK: None.

MS. BEST: None.

CHAIRMAN HOYT: Interveners, any objections to
the witness's curriculum vitae?

MR. FUGIER: No.

MR. SCHROTH: No.

CHAIRMAN HOYT: Very well. Exhibit 1 received.

Q. And just by way of background, Exhibit No. 2, can
you tell me what that is?

A. This is a report I prepared at your request,
Mr. Hickey, on the potential effects of ground water

1 withdrawals by the Southern Black Hills Water System.

2 Q. Okay. Does that contain your investigation and your
3 conclusions and recommendations in this case?

4 A. Yes.

5 MR. HICKEY: I would offer Exhibit No. 2.

6 MR. WIECZOREK: No objections from the
7 Applicant.

8 MS. BEST: No objection.

9 CHAIRMAN HOYT: Any objections, Ms. Best?
10 Interveners, any objection to Exhibit 2, the report?

11 Thank you. Exhibit 2 will be received.

12 Mr. Hickey, would appreciate just a very brief
13 explanation by the witness as to his academic and
14 professional background so we are better acquainted with
15 his qualifications.

16 Q. Professor, would you tell the Board your educational
17 background.

18 A. I have a bachelor's degree in geology from the
19 University of Minnesota and a master's and Ph.D. degrees
20 in geological engineering from the South Dakota School of
21 Mines and Technology. I currently teach at the School of
22 Mines. I've taught ground water courses there since
23 1982, and I've taught full time since 1985. I'm a
24 registered professional engineer in South Dakota, and my
25 area of practice is mainly in the areas of ground water

1 and geological engineering and environmental engineering.

2 Q. Have you ever dealt with the Madison Formation in
3 your practice and experience?

4 A. Yes, I have.

5 Q. Tell the Board some of the experiences that you've
6 had in connection with that.

7 A. Over the years I've worked with the U.S. Geological
8 Survey on some of their projects. Many of my masters and
9 Ph.D. students have gone on to work with the U.S.G.S. and
10 I was involved with the Black Hills Hydrology Study and
11 reviewed of some of the reports, and some of the masters
12 and Ph.D. theses became incorporated into the reports of
13 the Black Hills Hydrology Study on the Madison Aquifer.
14 I've also been involved in pumping tests and dye tests
15 with the Madison.

16 Q. Did Dr. Rahn introduce you and ask you to assist in
17 this file?

18 A. Correct.

19 Q. The reason he can't be here is he has some health
20 concerns. That's why he's not here today.

21 Professor, if you would, would you please --
22 basically tell the Board what you did in the preparation
23 of your Exhibit No. 2.

24 A. I reviewed the work that Perry Rahn had done and
25 discussed it with him. I also looked at the report by

1 Paula Cutillo from the earlier application. And then I
2 reviewed some of the U.S. Geological Survey's
3 publications from the Black Hills Hydrology Study.

4 One of the things that struck me is that the
5 proposed well's ground water impacts on Beaver Creek
6 Springs haven't been evaluated, although the pumping has
7 the potential to diminish spring flow and could impair
8 existing water rights.

9 So what I did was looked at some of the factors
10 involved here and then applied an analysis, a preliminary
11 analysis, to look at the range of potential impacts from
12 the pumping. I looked at a lower range of transmissivity
13 from a U.S. Geological Survey report of 90 feet square
14 per day and then a looked at an upper range of
15 transmissivity in that report of 1,400 some feet squared
16 per day and did some preliminary drawdown calculations at
17 Beaver Creek Springs.

18 My conclusions were that the calculated drawdowns
19 and related information indicate that the proposed
20 withdrawal of about 300 gallons a minute, .7 cubic feet
21 per second, could adversely affect the spring discharge
22 at Beaver Creek and could impair existing water rights
23 then downstream.

24 In addition, I have some concerns that the spring's
25 temperature and water quality could be affected. Because

1 of these unknown quantities about the transmissivity of
2 the Madison limestone, I think it would be correct and
3 appropriate to look at a pumping test to get some better
4 numbers on the transmissivity of the aquifer.

5 Long-term pumping tests I think could be conducted
6 with simultaneous monitoring of locations such as the
7 springs on Beaver Creek. I think a weir could be
8 constructed there during the pumping test so that we know
9 then if the discharge of Beaver Creek Springs is
10 affected.

11 So because of the uncertainty then I think an
12 aquifer test could more clearly identify the magnitude of
13 adverse impacts.

14 As Ken Buhler mentioned earlier, you'll never know
15 where it you pump it. And I think it's reasonable here
16 to get some background information from the pumping test.

17 Q. Now attached to your report are various charts and
18 graphs, and I guess if it's appropriate at this time, I
19 can put them up there and you can explain -- okay. I'll
20 just let you do it.

21 A. This first cross-section is a familiar one, but the
22 thing that I want to point out about it that I think is
23 really important here is that here's the Madison
24 Limestone, and here's the water table at the outcrop area
25 of the Madison Limestone where it can receive recharge.

1 So this is similar to the Wind Cave area where you have
2 windy lakes and so forth down deep in the aquifer.

3 Now the aquifer, the Madison here is dipping to the
4 east and if we look at Beaver Creek Springs, that could
5 be represented by this little spring here where you go
6 from water table conditions at the outcrop to a confined
7 or artesian aquifer over here. And here you see this
8 labeled as potentiometric surface so that's why that's a
9 dashed line there. That indicates where the aquifer is
10 confined or artesian.

11 Now it's a characteristic of confined or artesian
12 aquifers that they have a storage coefficient that's very
13 small. In this case it might be around .0004. It could
14 be less even. And that low storage coefficient means
15 that for every cubic feet of water that's pumped out you
16 can get a pretty drastic decline in the head there. In
17 other words, in the water levels.

18 And the real danger here is if that drops too much,
19 a spring such as Beaver Creek Springs could be impaired.
20 In fact, you can see from this diagram if we had a
21 flowing well that we put a pump in and then drew that
22 down a lot more, you could actually draw that eventually
23 below the land surface there and a spring could stop
24 flowing.

25 But the idea here is that the reason that water

1 rises up to that level and that flowing artesian well
2 there in this spring exists here is because of that
3 confined aquifer, because of that confining pressure in
4 there. And the pressure is very sensitive to pumping.

5 As I mentioned, the storage coefficient is very low.
6 It might be around 10 to the minus fifth. 10 to the
7 minus fourth.

8 Whereas, up here where you pump water out of water
9 table conditions, that's simply drained by gravity and
10 that value might be .2. So we're looking at several
11 orders of magnitude smaller on that number.

12 What that means again then is that for every cubic
13 foot of water pumped out here you get a pretty drastic
14 decline in head compared to pumping back here.

15 Now I'm not at all surprised that we saw a larger
16 value of transmissivity for the Madison limestone back
17 here near the Wind Cave because you have those cave
18 passages that have been enlarged, and they're more
19 permeable.

20 But as you come down gradient in this direction,
21 transmissivity gets a little bit less, and we really
22 don't know what the transmissivity is at various points
23 there. We don't know what the transmissivity is at the
24 proposed well in 2633-2. We don't know what the
25 transmissivity is at Beaver Creek Springs. We won't know

1 really until we pump it.

2 Another thing I'd like to point out is that it
3 doesn't surprise me at all that the water chemistry looks
4 a little bit different at Beaver Creek Springs than wells
5 down in the Madison because this water has come up
6 through some of the overlying layers and the chemistry
7 can change pretty quickly in a short time. But the
8 U.S. Geological Survey has said repeatedly that the major
9 source of this water appears to be Madison Limestone or
10 the Madison Aquifer with some contribution from the
11 chemistry of these overlying layers that could change it
12 a little bit.

13 But notice that a well if it were cased down here
14 into the Madison Limestone, it would have a steel casing
15 around that, and this water from the overlying formations
16 wouldn't be able to influence that. And so I'm not too
17 surprised that the water chemistry looks a little bit
18 different because it has changed somewhat coming up
19 through this spring. But I feel very strongly that the
20 source of the Beaver Creek Springs is mainly Madison
21 water.

22 Now the next thing I'd like to show is some data
23 from the U.S. Geological Survey from Cleghorn Springs in
24 Rapid City. We have more information from Cleghorn
25 Springs than we do about Beaver Creek Springs because

1 there are more wells in the Rapid City area. But one of
2 the striking things about this is is that Cleghorn
3 Springs is roughly the same discharge as Beaver Creek
4 Springs.

5 And notice here when Madison wells are pumped hard
6 in Rapid City -- and that's represented by this dashed
7 line here -- you see an unmistakable decline in the
8 discharge of Cleghorn Springs. And that's represented by
9 the stippled line.

10 You also see an unmistakable decline in head in the
11 Madison. Now I know that there was earlier testimony
12 about the importance of recharge and that climatic
13 conditions can influence that and they do but in the U.S.
14 Geological Survey's atlas of water resources they pointed
15 out that during drought periods withdrawals of water can
16 have the potential to seriously impair those springs and
17 those are more pronounced during droughts.

18 So when you have pumping going on and a very dry
19 period this can be more pronounced. But there's an
20 unmistakable relationship there I think between pumping
21 of the production wells and those are Madison wells and
22 Rapid City in the western part of town and the flow of
23 Cleghorn Springs and the head in a Madison observation
24 well that's near the Cleghorn Jackson Springs area.

25 Now in the work that I did I looked at two different

1 scenarios for predicting drawdown because of pumping from
2 a proposed well at 2633-2 and its potential effect on the
3 Beaver Creek Springs area 3 miles away.

4 In this first case I took from the U.S. Geological
5 Survey's information their more optimistic transmissivity
6 in the upper range of their publication of around 1,300
7 feet squared per day. Now this is showing drawdown on
8 the upright axis there on the Y axis against time.

9 And at one year, two years, and so forth out to
10 20 years it predicts that under the more optimistic
11 scenario at the higher end of the range of transmissivity
12 that we still could have around 18 feet of drawdown at
13 the Beaver Creek Springs area from the pumping 3 miles
14 away at the proposed well at 2633-2.

15 And the thing I want to stress is right now we don't
16 know what the transmissivity actually is at the proposed
17 well. But looking at the lower range of possible
18 transmissivity values again out of the U.S. Geological
19 Survey's report, using a value of 90 feet squared per
20 day, and that was a published value in the U.S.G.S.
21 report, and here looking at drawdown versus time notice
22 that getting out toward 20 years, which is that last
23 square dot up there, we could have up to close to
24 140 feet of drawdown if the transmissivity is in that
25 lower range.

1 So the major thing I want to try to get across today
2 is that because that's unknown, what the transmissivity
3 actually is, at least we can bracket that but in between
4 there's a big question mark until we run a pumping test
5 and get some more data.

6 And, additionally, I'd like to add that if a pumping
7 test is run, we can learn a lot more about the aquifer in
8 terms of where recharge is coming from. You can
9 sometimes see from the shape of the drawdown versus time
10 curve of what other things are going on.

11 I think if it turns out to be more productive than
12 some people fear, I think everybody will be happy. But
13 if it's less productive than we think, then we have some
14 concerns about it. And a colleague and a friend of mine
15 who's a graduate of the School of Mines that runs Taylor
16 Drilling, Randy Taylor, likes to point out that when you
17 drill a well to the Madison it's a little bit of a
18 guessing game or a crap shoot as he puts it.

19 You won't really know how permeable the aquifer is
20 down there until you actually put a well down, and
21 sometimes you get some bad surprises. Sometimes they
22 have to try to acidize a well to increase its production.
23 They might be hoping for a couple hundred gallons per
24 minute, and they might get less than 100. Other times
25 they might get a well that's very productive, might

1 produce many hundreds of gallons per minute. But it is
2 quite variable, and right now we don't know very much
3 about it in this area.

4 I think at that point partly in the interest of time
5 those are the main points I want to make, but I'd be
6 happy to take any questions.

7 Q. I have a question. You understood that in
8 Application 2585 there was a condition placed on that
9 permit that required an aquifer stress test; is that
10 correct?

11 A. Yes.

12 Q. Is that the kind of test that you're talking about
13 here?

14 A. Yes, it is.

15 Q. Now there's been -- Mr. Buhler I believe said that
16 in his mind at least the difference between that old
17 application and this application is that the amount of
18 water is different. Before they wanted 1,200 gallons per
19 minute, and now they're asking for 300, number one. And
20 the second difference is the distance from the Streeter
21 well to Beaver Creek Springs versus a current
22 application.

23 In your opinion, in your professional opinion, do
24 those two differences make a difference such that you no
25 longer believe that an aquifer stress test would be

1 needed?

2 A. In my opinion, no, that would not be enough to allay
3 my concerns.

4 Q. And why do you feel that way?

5 A. Well, partly because the Madison has some unknowns
6 about it, but also because in some cases as was mentioned
7 earlier, you could have an elliptical shape of the cone
8 of depression and it here it could spread out quite a bit
9 to the south. We don't know right now what will turn
10 out. And so that's why I think the pumping test is
11 appropriate.

12 Q. There's been some testimony I think from Mr. Buhler
13 that perhaps he believed the cone of depression will be
14 elliptical and follow the monocline or whatever that is
15 to the right there.

16 Do you tend to agree with that, or do you know?

17 A. Don't know at this point. It's a possibility, but
18 we don't know.

19 Q. Okay. That's why you think an aquifer stress test
20 would be warranted?

21 A. Yes.

22 Q. In the Findings of Fact, the Decision in 2585 there
23 were certain questions that the Board wanted answered.
24 The chief engineer was instructed to evaluate whether the
25 pumping test proposed adequately addresses Interveners'

1 concerns about reduction of flows, water quality, pH,
2 temperature, and clarity in Beaver Creek which would
3 adversely affect the operation of Trout Haven Ranch.

4 In the current application is there anything that
5 you can find that addresses those types of concerns?

6 A. No.

7 Q. Does that cause you some alarm?

8 A. It causes me concern.

9 Q. Okay. You're familiar with the Trout Haven Ranch
10 and how it operates; is that correct?

11 A. Yes.

12 Q. And the importance of those other factors?

13 A. Yes.

14 Q. It is your opinion that the source of the Beaver
15 Creek Springs and water is the Madison Formation
16 primarily?

17 A. Beaver Creek and Madison.

18 Q. There may be some contribution from other sources.
19 Is that fair or not?

20 A. I think it's possible because the Minnelusa I think
21 is also confined, although its head is less than the
22 Madison, but it can contribute some water as well. And
23 that's probably partly why the chemistry is different.
24 That plus the fact that the water is moved through the
25 Spearfish Formation which has a lot of gypsum so you can

1 get higher dissolved solids and higher sulfate
2 concentrations.

3 Q. Is there anything in the geochemical testing that --
4 I think it's the Applicant's Exhibit No. 1 that would
5 justify in your mind not doing an aquifer stress test?

6 A. No. I don't believe so.

7 Q. You still believe that that's necessary and
8 warranted?

9 A. I think so.

10 MR. HICKEY: Thank you. That's all the
11 questions I have of this witness, Your Honor.

12 CHAIRMAN HOYT: Ms. Best, cross-examination?

13 MS. BEST: I'll go up here.

14 CROSS-EXAMINATION

15 BY MS. BEST:

16 Q. Mr. Davis, is it fair to say the lion's share of
17 your consultant work has been in the area of pollution
18 control matters?

19 A. No. Not necessarily. I've done a lot of work on
20 analysis of aquifer tests as well.

21 Q. With respect to pollution matters?

22 A. Also with respect to water supply and quantity.

23 Q. And your CV lists mainly pollution control cases
24 that you've worked on; isn't that correct? Or pollution
25 control matters that --

1 A. It lists many of those. Now that is consulting
2 work. And in my teaching I concentrate a lot on aquifer
3 hydraulics.

4 Q. Have you ever testified in favor of granting a water
5 right permit?

6 A. I have not testified in favor of one, no. This is
7 the first time I've testified in front of the Board.

8 Q. And have you examined the well testing data that was
9 recently developed on the National Park Service well?

10 A. No, I haven't. I just learned today of where it's
11 located, and as I mentioned, I'm not surprised that it's
12 a little more transmissive. We found the same kind of
13 thing in the Rapid City area. Near the outcrop is where
14 it's usually the most transmissive from dye tests and
15 pumping tests.

16 Q. So you're aware then that originally Ms. Cutillo in
17 the previous proceeding had indicated that the
18 transmissivity rate was significantly different than what
19 it actually turned out to be at that well site?

20 A. I think she estimated that within that area from the
21 U.S. Geological Survey's published information that the
22 transmissivity could vary from 90 feet square per day up
23 to 1,500 feet square per day.

24 Q. And what did it actually pan out to be?

25 A. If I recall correctly, I think they said somewhere

1 around 3,000, which is not necessarily surprising. I
2 think it shows the variability within the Madison
3 Limestone.

4 Q. Mr. Davis, did you prepare the report that you gave
5 here today?

6 A. Yes, I did.

7 Q. Dr. Rahn did not prepare that report?

8 A. Dr. Rahn prepared an earlier one and I looked at
9 that but I prepared this report.

10 Q. Have you read Ken Buhler's report in this matter?

11 A. I did, yes.

12 Q. Was Mr. Buhler one of your students?

13 A. No, he was not.

14 MS. BEST: I don't know why I asked that.

15 Q. Have you looked at the South Dakota Division of
16 Water Rights well observation data?

17 A. Some of that.

18 Q. And have you looked at the observation well data at,
19 for example, observation wells near high production wells
20 near Sturgis?

21 A. No, I have not looked at those.

22 Q. Have you looked at the DENR's observation wells near
23 high production wells at Spearfish?

24 A. I've seen those briefly, but I haven't studied them
25 in detail.

1 Q. And you're not testifying here today to the Board
2 that those observation wells show significant drawdown as
3 a result of high production wells in the Madison Aquifer
4 at Spearfish, are you?

5 A. Oh, no.

6 Q. And with the Rapid City matter, you -- have you
7 looked at the DENR's observation wells that are near --
8 near the city wells at Rapid City?

9 A. I've only looked at that one observation well that
10 you saw on that graph from the U.S. Geological Survey.

11 Q. Okay. And you indicated that that graph was
12 reflective of a period of drought? Is that a fair
13 statement of your testimony?

14 A. I don't believe I testified to that. But when I
15 mentioned drought I was pointing out that as another
16 factor how water levels can decline. I'm saying that
17 there are two factors that can cause declines of water
18 levels in the Madison.

19 One, of course is the climatic conditions, wetter
20 periods, the water levels rise in Madison observation
21 wells, and dryer periods the water levels fall. But if
22 you're close enough to pumping, that can cause water
23 levels in the Madison to fall as that graph shows.

24 Q. You'd agree with me, Dr. Davis, that the single
25 greatest influence on water levels in the Madison Aquifer

1 is by far climatic influences; isn't that correct?

2 A. Well, not necessarily. It depends on where you are.
3 If there's no pumping, then that would be probably the
4 only influence, but near pumping, pumping can overwhelm
5 other factors.

6 Q. Okay. And where else have you seen -- is this
7 Cleghorn outfall graph that you presented in your report,
8 is that scenario the only instance that you're aware of
9 that shows -- that you have to show the cause and effect
10 of pumping?

11 A. Oh, no. I've looked at pumping test data from the
12 Spearfish area, from the Rapid City area, and sometimes
13 some very large drawdowns due to pumping in observation
14 wells during the pumping test when a Madison production
15 well was pumped.

16 Q. In looking at that data you know that climatic
17 influences is -- must also always be factored in when you
18 look at whether there's an influence on pumping, don't
19 you?

20 A. In a short-term pumping test we usually don't need
21 to worry about the climatic factors, but if you're
22 looking at a longer time frame and if you're trying to
23 separate that out from pumping, then that can be a bigger
24 factor. But in a short-term pumping test climatic
25 factors don't add in very much.

1 Q. So this other data you're talking about is
2 short-term pumping tests?

3 A. Yes.

4 Q. Okay. And if you're looking at -- then getting back
5 to your report here today, if you're looking at a period
6 of four years, if you're looking at influences of
7 pumping, it's critical to look at whether there are also
8 climatic influences that were -- that were the cause of
9 changing water levels; isn't that true?

10 A. Well, again, not necessarily. If you're close
11 enough to a pumped well, the climatic factors won't have
12 a very big effect.

13 Q. So it's okay to discount climatic factors if you're
14 close to --

15 A. It depends on how close you are. And I wouldn't be
16 able to say without having some hard numbers on that.

17 Q. Well, you know how close the Cleghorn outfall is to
18 Jackson Springs. You know the answer to that, don't you?

19 A. It's fairly close. Few hundred feet. A thousand
20 feet maybe.

21 Q. A few hundred feet is more accurate, isn't it?

22 A. Well, I don't know exactly. I walked out there, and
23 it seems like about a thousand feet to me.

24 Q. Okay. Now you show in your report on page 9 a
25 Theis -- a Theis graphic. What well is that that you're

1 showing?

2 A. This would be pumping at the proposed well at
3 2633-2, and it would be calculated drawdown at the Beaver
4 Creek Springs area about 3 miles away.

5 Q. So this is not intended to be any kind of an
6 analysis of an actual well pumped at the present time;
7 correct?

8 A. Well, this is intended to be the calculated drawdown
9 if the transmissivity at 2633-2 is 1,300 feet square per
10 day.

11 Q. And you've assumed the 1,300 square feet per day
12 despite the fact that a different transmissivity is
13 calculated by Ms. Cutillo in another well in the area?

14 A. I was not aware of that when I did this analysis.
15 As I mentioned earlier, that was a well farther to the
16 west toward the outcrop area where we expect it to be
17 more permeable.

18 Q. If I'm an irrigator and I want to -- if I needed
19 water for irrigation for a quarter of land, typically how
20 many cubic feet per second would I need?

21 A. I don't know.

22 Q. Okay. Let's use the car wash again. If I needed
23 75 gallons a minute to run a car wash and it's in this
24 same area, is enough data available to grant -- for this
25 Board to grant the permit without having to require that

1 the car wash Applicant undertake the effort of doing a
2 stress test?

3 A. It would depend on where the well would be located.
4 I would think if it were really close to Beaver Creek
5 Springs, I would have concerns. If it were farther away,
6 I'd have less concern. Although, at this time I wouldn't
7 be able to say how far away that could be. But I would
8 think that it all depends on the transmissivity of the
9 aquifer, which we don't know at this point.

10 Q. Mr. Davis, when you were engaged by Mr. Hickey to
11 appear in this case did he tell you in advance that you
12 would be appearing as opposition to Southern Hills Water
13 System?

14 A. That was my understanding that I was to give
15 testimony for Mr. Simpson and that the well permit
16 application had been submitted.

17 Q. Okay. And so you knew at that point that you were
18 being requested to make a recommendation that would be
19 adverse to granting that permit; correct?

20 A. Well, I don't recall that any conditions were put on
21 my testimony. I simply looked at the situation, and in
22 my professional opinion I think that pumping test is
23 appropriate here because we don't know the aquifer
24 properties.

25 Q. Okay. And you're being paid for your testimony here

1 today; correct?

2 A. Yes.

3 MS. BEST: I have nothing further.

4 CHAIRMAN HOYT: Mr. Wieczorek.

5 MR. WIECZOREK: I think I'll ask from there.

6 You're a little soft-spoken. Easier for the court
7 reporter to pick us both up.

8 CROSS-EXAMINATION

9 BY MR. WIECZOREK:

10 Q. I'm looking at your report, and you talk in terms of
11 paramount concern is that large ground water withdrawals
12 from Madison Aquifer could cause drawdown.

13 Is it your testimony that 300 gallons per minute
14 constitutes a large ground water withdrawal?

15 A. From the Madison Aquifer that is a fairly strong
16 withdrawal rate. Not every Madison well can even produce
17 300 gallons a minute.

18 Q. Yeah. So is it your testimony that any time this
19 Board's going to approve a permit in the Madison Aquifer
20 of 300 gallons they should require an in-depth pump test?

21 A. It depends on the location, I think, and the
22 existing water resources that might be threatened. In
23 this case in an arid or semi-arid region of the
24 Black Hills with a recharge rate that is only maybe about
25 a half an inch per year compared to the northwestern side

1 of the Black Hills up by Spearfish Canyon where the
2 recharge rate might be 7 or 8 inches per year, there's a
3 difference. There's also the factor of how far away the
4 pumping well is.

5 But my wording there was mainly because of the
6 existing spring that supplies water for Beaver Creek.

7 Q. Okay. At what level of withdraw would a pump test
8 not be required in this area?

9 A. I wouldn't be able to say here at this time for a
10 short answer.

11 Q. In your report on page 3 you talk about the
12 Cleghorn Springs discharge, and there was a dewatering
13 test performed at nearby Jackson Spring. I believe
14 that's the one you and Ms. Best were talking about how
15 far away that was?

16 A. Yes.

17 Q. But that was at 22 cubic feet per second, that
18 pumping was; correct?

19 A. I believe so.

20 Q. And how many gallons a minute is that?

21 A. That is around close to 10,000 gallons a minute.

22 Q. Okay. So that's a fairly large amount of water
23 getting pumped; correct?

24 A. Certainly.

25 Q. Yep. And it's not your testimony here today that

1 the City of Rapid City only pumps 300 gallons per minute
2 from the Madison?

3 A. Excuse me?

4 Q. Well, you did an analysis here on Cleghorn Springs
5 saying, hey, there's some adjustments here. You can see
6 Rapid City pumping water from the Madison.

7 But do you know at what rate Rapid City pumps the
8 Madison?

9 A. It varies throughout the year. And I'd like to also
10 point out that when they pump 22 cubic feet per second at
11 Cleghorn Springs they were pumping that out of very
12 permeable gravel, and they induced a lot of water from
13 Rapid Creek as well.

14 That's why they had to pump so hard. They had to
15 dewater this and draw the water table down so the
16 construction could proceed. And not all of that water
17 was coming from the Madison. In fact, probably most of
18 it was coming from Rapid Creek.

19 Q. And I don't think that had anything to do with my
20 question. My question was can you tell how much is
21 Rapid pumping when you did your analysis on how it
22 impacts Cleghorn Springs? How much is Rapid pumping?

23 A. Okay. Rapid City pumps somewhere I think around --
24 I think I have a figure here. It's in the millions of
25 gallons per day range from the Madison Aquifer.

1 Q. Okay. And you talk about the pumping that was done
2 in Hot Springs and how it impacted the Evans Plunge. But
3 the city well's less than 100 yards from Evans Plunge,
4 isn't it?

5 A. Yes. It's a deep Madison well.

6 Q. It's less than 100 yards from Evans Plunge?

7 A. About that far.

8 Q. And they were pumping at a rate of 2,000 gallons per
9 minute; correct?

10 A. They started out at a thousand gallons per minute.
11 I noticed a change in the discharge. They upped it to
12 1,500 gallons per minute, and then to 2,000 gallons per
13 minute. And I measured about a half an inch of drawdown
14 which corresponded to about a 45- or 50-gallon-per-minute
15 decrease in discharge almost immediately from that
16 pumping.

17 Now farther away it would take time for that to
18 happen, but eventually that type of pumping would reach a
19 spring such as Beaver Creek Springs.

20 Q. Yeah. And I guess maybe like Mr. Hickey said, I'm
21 not a scientist, but Beaver Creek Springs if it's running
22 10 cubic feet per second, my understanding, that's about
23 4,400 gallons a second -- or a minute? Is that --

24 A. Roughly.

25 Q. Okay. But so if you're only drawing out on average

1 180 gallons a minute 3 miles north, I don't see how that
2 180 gallons a minute when you're already producing 4,400
3 gallons a minute stops the springs from flowing.

4 A. Well, I don't say that it would stop the springs
5 from flowing at that pumping rate. But it has the
6 potential to affect the springs because remember the
7 aquifer is confined here. And I'd like to read a quote
8 from the U.S. Geological Survey. "These artesian springs
9 act as a relief valve."

10 Q. And that's been discussed. Do you know how much
11 higher the head at Streeter is than at Beaver Creek
12 Springs?

13 A. Probably I'm guessing maybe 50 or 60 feet higher.
14 That's a guess, though, at this point.

15 Q. And so if you're drawing down, even if you draw down
16 a couple feet, given your numbers, that would draw from
17 the top of that contained aquifer; correct, would draw
18 the pressure off the top?

19 A. It draws the pressure off. And if the pressure
20 drops too much, the spring can be diminished or can stop
21 flowing. The water will still be down there underneath
22 the land surface, but it will no longer come out at the
23 land surface.

24 Q. But given where the Streeter well is locate -- do
25 you know where the actual current Streeter well is

1 located?

2 A. Roughly.

3 Q. Okay. If there's going to be any drawdown, you'd
4 see that at the Streeter first because that's even higher
5 up in the aquifer, the head?

6 A. I'm not sure if I understand your question.

7 Q. Well, the Streeter aquifer is higher up -- or the
8 head of it is higher up there than the springs are so
9 wouldn't you see the drawdown hit the Streeter before
10 you'd see it hit Beaver Creek?

11 A. Given that distance, it would probably be almost
12 simultaneous.

13 Q. Well, and, again, not a scientist but given the fact
14 that the aquifer is actually higher at Streeter, wouldn't
15 you see the drawdown there first just because it would
16 seem to me that you'd have to start drawing down from
17 Streeter before you'd start hitting Beaver Creek?

18 A. Well, again they're fairly close compared to the
19 3 mile distance out to the proposed well at 2633 so I'm
20 not confident that that would be true.

21 Q. Would you agree that the transmissivity, the T would
22 be higher at locations of faults and folds?

23 A. Sometimes if you have tensional fractures. But also
24 if you have a fold where there's compression, the
25 transmissivity can be less, and that's I think partly why

1 the Madison is so variable in its aquifer properties. We
2 can map out where those anticlines and those folds are at
3 the surface, but we don't know for sure if they're
4 vertical or if they're dipping at some depth. So it's
5 really hard to tell until the well is drilled and it's
6 pumped what it's actually going to produce and what the
7 transmissivity is.

8 MR. WIECZOREK: That's all I have, Mr. Chairman.

9 CHAIRMAN HOYT: Intervenors, do you have any
10 questions for Dr. Davis?

11 MR. FUGIER: No.

12 MR. SCHROTH: No.

13 CHAIRMAN HOYT: Okay. Very well. Mr. Hickey,
14 redirect?

15 MR. HICKEY: Just a couple.

16 REDIRECT EXAMINATION

17 BY MR. HICKEY:

18 Q. Do you agree that you can't tell the amount of
19 drawdown that would occur because the Madison Aquifer
20 characteristics vary so much and fluctuate so much?

21 A. Before I answer I want to make sure that I
22 understand your question.

23 Q. Well, you were asked a number of questions, well,
24 what about Spearfish, what about Sturgis, what about
25 Rapid City.

1 I mean, are the characteristics of Sturgis and Rapid
2 City and those wells into the Madison, do we know are
3 they the same characteristics as you're going to find in
4 this particular situation?

5 A. Well, they're probably much different.

6 Q. Okay. And so what may be true up there may not be
7 true in the Southern Hills. Is that fair?

8 A. I think that's reasonable.

9 Q. And is that why one of the things that you think
10 there should be a pump test so that we can get actual
11 data on site?

12 A. That is correct.

13 MR. HICKEY: That's all I have, Your Honor.

14 CHAIRMAN HOYT: Thank you. I don't believe the
15 redirect opened any new areas, Mr. Hickey.

16 Thank you, Dr. Davis, very much.

17 MS. BEST: I did have a couple of questions I'd
18 like to ask Dr. Davis, if I may.

19 CHAIRMAN HOYT: Is there something new that was
20 brought up at redirect?

21 MS. BEST: Well, it pertains to head pressure.
22 I thought it came up on redirect -- or on redirect.

23 CHAIRMAN HOYT: Very well. We will be flexible
24 as we are.

25 MS. BEST: I'll try and keep it short.

RECROSS-EXAMINATION

1
2 BY MS. BEST:

3 Q. You are aware, Dr. Davis, are you not, that the
4 Streeter well is located at 3,606 feet main sea level?

5 A. Could you repeat that?

6 Q. Excuse me. I'm sorry. The potentiometric surface
7 at the Streeter well is 3,606 feet?

8 A. I don't recall the exact number.

9 Q. Well, you'd agree with me, wouldn't you, that there
10 would be a different potentiometric surface, a greater
11 potentiometric surface at the Streeter well than at the
12 Beaver Creek well?

13 A. I don't know necessarily that they would be in
14 conflict. I would have to look at the information and
15 analyze it.

16 Q. Okay. When you -- what I'm trying to get to,
17 Dr. Davis, is when you look at the Streeter well -- the
18 Streeter well of the potentiometric surface and you look
19 at the Beaver Creek Springs you have to look at the
20 ground elevation, do you have -- there's a difference in
21 elevation there; correct?

22 A. Some.

23 Q. Okay. And do you know how much that would be?

24 A. Not exactly off the top of my head.

25 Q. If I represented to you that it was 140 feet, would

1 you dispute that?

2 A. I don't know if it's quite that much. I'm not
3 confident about that.

4 Q. Assuming it to be -- well, can we say you assume
5 it's 100 feet?

6 A. Not necessarily.

7 Q. Well, let's assume it's 140 feet. Can you tell me
8 what that would be in terms of head pressure at Beaver
9 Creek Spring?

10 A. I think about 40, 45 pounds per square inch.

11 MS. BEST: If I may, just a second.

12 Q. Your report referred to -- I'm trying to figure this
13 out in terms of -- I have to apologize. I never saw this
14 report until today so I -- I'm trying to figure out where
15 he's coming from on one of these points here.

16 On page 5 of your report when you look at -- you
17 were talking about drawdown being approximately 19 feet
18 at Beaver Creek Springs on the top of page 5 of your
19 report. And when you made that analysis did you look at
20 all at this issue of -- just a second here.

21 Okay. So you'd had a reduction of 19 feet of head.
22 What would be -- what would the reduction of 19 feet of
23 head pressure do to the discharge?

24 A. It would diminish it somewhat, but I'm not prepared
25 at this point to say how much it would diminish it.

1 Q. Okay. You don't know how much it would diminish it?

2 A. Not at this point. I don't think we would know for
3 sure until we pumped because of the variable nature of
4 the Madison Limestone.

5 MS. BEST: I have nothing further.

6 CHAIRMAN HOYT: Any further questions by -- all
7 right. Very well. Thank you, Dr. Davis.

8 Oh, excuse me. We might have a couple questions
9 from the Board yet. Any questions from the Board?

10 Hearing none, thank you very much, Dr. Davis.

11 THE WITNESS: Thank you.

12 CHAIRMAN HOYT: Mr. Hickey, other witnesses?

13 MR. HICKEY: I have one very brief. This is my
14 half witness, Steve Simpson.

15 (The witness is sworn by Chairman Hoyt)

16 CHAIRMAN HOYT: Please state your name and --

17 THE WITNESS: Steve Simpson, Buffalo Gap.

18 CHAIRMAN HOYT: That's S-I-M-P-S-O-N?

19 THE WITNESS: Yes.

20 (Trout Haven Exhibit 3 is marked for identification)

21 MR. HICKEY: Your Honor, in the interest of time
22 I would ask that the commission just take official notice
23 of Mr. Simpson's testimony in file 2585. I will not
24 repeat that. I think you all can remember that.

25

DIRECT EXAMINATION

BY MR. HICKEY:

Q. But I will show you what has been marked as Exhibit No. 3, and you can tell the Board what that is?

A. It's bragging rights is what it is. The new world record Rainbow Trout was raised by us and stocked when it was about 6 inches long in a lake in Canada. And it was 43 pounds 6 ounces. And have the top 4 Rainbow Trout in the world. We have hatched 3 of the 4. The number 2 was caught in Alaska back in the '40s so who knows what it really weighed.

But I guess the only reason I'm saying that is to let you know that our trout hatchery is an important trout hatchery. And if you're not a fisherman, this won't mean a whole lot to you, but a world record is kind of to me a cool thing.

I guess my whole concern is, you know, 10 or 20 years from now I'm not going to be raising fish, and I'll be lucky to still be around. My concern is this, my real concern. The valley I live in is -- year-round has elk and deer and turkeys, a beautiful stream to fly fish and a beautiful spring. It's a wonder of the Black Hills. It's part of the Black Hills. And I just think it's almost sacrilegious to take a chance of hurting that spring and that stream, especially where we are in the

1 Southern Hills where it's so dry.

2 I guess that's really the main thing I want to say
3 is I just hope that whatever you decide that you decide
4 to protect the stream.

5 So many times in the west the streams and the
6 springs have lost out to whatever, some type of
7 developments. I'm not against developments. I signed
8 off on Fall River Water User's big well, 300 some gallons
9 a minute to the southeast of us. That's enough from our
10 area.

11 I believe if they want to put water north or west,
12 they ought to look north or west, more in a regional area
13 than -- I think our neighborhood's put out enough water.
14 That's really all I have to say, I guess.

15 MR. HICKEY: I would offer Exhibit 3. You're
16 not going to object to that, are you, Wieczorek?

17 MR. WIECZOREK: Is there foundation as to
18 whether it was on steroids, growth hormones?

19 MR. HICKEY: These are disease-free fish. I can
20 tell you.

21 THE WITNESS: It was caught full of eggs. I
22 guess you can see that. Otherwise, it would have weighed
23 a little less. But its girth was 36 inches.

24 CHAIRMAN HOYT: Cross-examination.

25 MS. BEST: None. Thank you.

1 CHAIRMAN HOYT: Mr. Wieczorek?

2 Questions from the Board.

3 Very well. Thank you very much, Mr. Simpson.

4 I'm sorry. Interveners, did you have questions
5 for Mr. Simpson?

6 MR. FUGIER: No.

7 MR. SCHROTH: No.

8 MR. HICKEY: We rest.

9 I have no further witnesses, Your Honor.

10 CHAIRMAN HOYT: Very well. Mr. Fugier, you
11 indicated that you had some testimony for the Board.

12 MR. FUGIER: Yes.

13 (The witness is sworn by Chairman Hoyt)

14 CHAIRMAN HOYT: Thank you. State your name and
15 address, please, for the record, spelling your last name.

16 THE WITNESS: Shawn Fugier, F-U-G-I-E-R. It's
17 27094 Beaver Valley Road, Buffalo Gap, South Dakota
18 57722.

19 CHAIRMAN HOYT: I'm sorry. Your first name is?

20 MR. FUGIER: Shawn. S-H-A-W-N.

21 If I could, a neighbor wasn't able to make it
22 today, and he just sent a short little letter along to
23 present to the Board.

24 CHAIRMAN HOYT: Very well. Do you have copies?

25 MR. FUGIER: I don't. This is all I have. This

1 is just what she gave me.

2 MR. HALLEM: If you want to show that to the
3 attorneys to see if there's any objections, and then we
4 can get it marked.

5 MR. FUGIER: It just states that they're in
6 agreement with our cause on the creek here.

7 MR. WIECZOREK: Just for the Board's
8 information, there's a letter from her as part of the
9 submitted file of Mr. Buhler. She's submitted a letter
10 already.

11 MR. FUGIER: Yes.

12 MR. WIECZOREK: And it's part of the record
13 already. Lois Emery Bowker.

14 Her comments are already in the record.

15 MR. HALLEM: Is it the same comment?

16 MR. WIECZOREK: It just says that she agrees
17 with --

18 MR. FUGIER: Do you want me to read it to you?
19 Would that be easier?

20 MR. HALLEM: If nobody has an objection.

21 MR. WIECZOREK: No objection.

22 MS. BEST: No objection.

23 MR. HICKEY: No objection.

24 MR. HALLEM: If we could just mark it as an
25 exhibit.

1 (Exhibit Fugier 1 is marked for identification)

2 THE WITNESS: It just reads, "To whom it may
3 concern: I am unable to attend the hearing on Water
4 Permit Application No. 2633-2 on Wednesday, December 10.
5 The position of the appointed Bowker Trust in this matter
6 is in agreement with that of our neighbor, Shawn Fugier.
7 As trustee of this trust I respectfully request that you
8 consider his presentation on our behalf as well as his
9 own."

10 And it's signed Lois Emery, trustee of the Lyda
11 Bowker Trust.

12 I'll try and keep this pretty short. I guess --

13 CHAIRMAN HOYT: You've been very patient, Shawn.
14 Take whatever time you need.

15 MR. FUGIER: Okay. I did write a letter. I
16 hope that you have that and reviewed it. And that pretty
17 much sums up my concerns with this application.

18 Myself and my folks operate a ranch southeast of
19 Buffalo Gap and we utilize the water from Beaver Creek to
20 irrigate hay fields in order to feed our cattle in the
21 wintertime. And we've done this for many, many years.
22 Our ranch is a -- I'm fifth generation. It's never been
23 out of the family. It's a homestead place.

24 We've put in water conserving measures. We've
25 put in pipeline. I buried irrigation pipeline from

1 Beaver Creek at a diversion point on Beaver Creek to our
2 ranch and several other ranches in the area so as to
3 eliminate any seepage and evaporation, any kind of water
4 loss.

5 Most of us have done -- including myself, have
6 done a lot of land leveling of those fields to use that
7 water efficiently. And I guess in our case we only have
8 five days a month to irrigate. That's not a very long
9 time. And we rely on that water heavily to make our
10 cattle operation work.

11 My concern is with a lot -- there's -- seems to
12 be a big target on that spring. They want to drill wells
13 around that thing. And I suppose that's because the
14 water's coming out of the ground in there. There's a
15 well south of that that's going in, as Steve had said.
16 And I'm afraid there's just going to be too much pressure
17 on that spring.

18 You've got one north, one south, another one
19 right next to it there, the Streeter well itself. I
20 think that's plenty. You know, we've got enough wells
21 there taking water out of that area.

22 If I'm understanding the Southern Hills, where
23 that water is going, it's going to be just north of
24 Hot Springs. And I guess the question was raised in my
25 mind if the water's coming down around that Hot Springs

1 area, why don't they put their well there and save
2 themselves a lot of money than running a big pipe for
3 several miles to get to where they need to go?

4 I guess the other thing is in the information --
5 it's all in the information that DENR has sent me in --
6 as a matter of this permit, this Water Permit Application
7 No. 2633-2. You know, on page 4, the second paragraph it
8 says, It is likely that a second water permit application
9 for an increased diversion rate or for an additional well
10 will be necessary to pump the entire volume of water that
11 would be appropriated if this application is approved.

12 To me, they're just getting their foot in the
13 door and here we go. There's going to be more wells in
14 that area and no provisions, no protection for the creek
15 and its flow and the users of that creek.

16 You know, I can go on through here. There's --
17 on page 6 at the very bottom, you know, it says, Drawdown
18 from pumping a well may extend over a fairly large area.
19 You get -- again you got a well being drilled now south
20 of the spring and this proposed one approximately the
21 same distance north, and I guess what really concerns me
22 is the cone of depression from any of these wells that
23 they're going to overlap at the spring and it's going to
24 diminish the flow at least.

25 I guess in the matter of time I'm not going to

1 go through everything else I had outlined in here. I
2 mean, it's spelled out in this stuff that was sent to me
3 from DENR. I believe you guys have the same information
4 there. We're just very concerned for the -- for that
5 creek and our livelihoods. And I guess that's all I
6 have.

7 Thank you.

8 CHAIRMAN HOYT: Ms. Best, do you have any
9 questions for Mr. Fugier?

10 MS. BEST: I do not. I will defer to
11 Mr. Wieczorek.

12 CHAIRMAN HOYT: Mr. Wieczorek,
13 cross-examination?

14 MR. WIECZOREK: Just a couple.

15 CROSS-EXAMINATION

16 BY MR. WIECZOREK:

17 Q. That well to the south, that's Fall River Water
18 Users' well?

19 A. Correct.

20 Q. And you're on that Board?

21 A. Yes.

22 Q. So you didn't oppose that well?

23 A. None of us. I was not on that Board at the time
24 that that well -- that all took place. But Fall River
25 Water Users did come to us. The people that do use that

1 creek, they came to us and addressed our concerns, and
2 they moved their -- the proposed well site another --
3 roughly it was a mile, over a mile further away from the
4 spring.

5 We all felt that we would be able to deal with Fall
6 River and if there is a problem with the flows of that
7 creek, that we could deal with them and they would make
8 it right with us. Because we are in -- within their
9 boundaries of their district as users. And I don't think
10 they want to be fighting with their own customers.

11 Q. There was no pump test done for that well; correct?

12 A. No.

13 Q. There was no pump test; correct? It's correct there
14 was no pump test required on that well?

15 A. Not that I'm aware of, no.

16 MR. WIECZOREK: That's all I have then.

17 MR. HICKEY: I have no questions.

18 CHAIRMAN HOYT: Mr. Schroth, any questions?

19 MR. SCHROTH: No.

20 CHAIRMAN HOYT: Any questions? Questions from
21 the Board?

22 MR. HUTMACHER: Mr. Chairman, I have a couple.
23 You said you only irrigate five days a month?

24 THE WITNESS: That's all we are allowed.

25 MR. HUTMACHER: Why? Because other users are

1 using it or --

2 THE WITNESS: Yes. That's just what our water
3 right calls for is five days a month.

4 MR. HUTMACHER: Okay. I just wondered. I
5 wanted to make sure I heard that right.

6 THE WITNESS: Yeah.

7 MR. HUTMACHER: The other thing, if Fall River
8 is -- you're on the Fall River Users District or part of
9 that, why haven't those two systems gotten together? And
10 why are we doing this?

11 THE WITNESS: Pardon?

12 MR. HUTMACHER: Why do we have two systems that
13 are side by side?

14 MR. WIECZOREK: I'm sorry. If you've -- I was
15 going to offer up the record last time there was
16 discussion that Fall River is not going to go to the same
17 areas that Southern Black Hills is. And that's that Fall
18 River is -- if I'm correct and correct my direction --
19 southeast of the springs and I think there's been some
20 discussion of them maybe coming up 79 but not north of
21 the Hot Springs area. And I think that's all in the
22 record from the last time, that discussion last time.

23 THE WITNESS: And I believe that the way that
24 Fall River is set up they don't go out and pursue
25 additional customers. If the customers come to them and

1 ask to be included into their district and they vote on
2 it and whatever to get them annexed into their district
3 to serve water and as far as I know no one had ever
4 approached Fall River from their north boundary to be
5 annexed into it or I'm sure it would have been considered
6 that they did that with the north expansion area and the
7 Buffalo Gap area.

8 MR. HUTMACHER: Why would you not expect a pump
9 test from Fall River Water Users and you would expect one
10 from Southern Hills?

11 THE WITNESS: Well, they moved their well site
12 further away, and they're looking -- they have other
13 sources of water that are further away. So they're not
14 going to be taking, you know, all of their water use out
15 of that particular well.

16 Also, you know, we -- like I said before, we
17 felt like we could deal with them. They were in
18 communication with us. No one from Southern Black Hills
19 ever contacted us about any of our issues. It's always
20 been a hearing.

21 MR. HUTMACHER: Okay.

22 MR. HOLZBAUER: Mr. Chairman, with your family's
23 history of the Beaver Creek down there and you said these
24 three or four wells you thought that was enough up there,
25 have you seen a decrease? Has your family seen a

1 decrease over the years of Beaver Creek's flow through
2 your ranches?

3 THE WITNESS: No. But the well that's being
4 drilled now is -- you know, they're not pumping it. Not
5 yet. It's being drilled.

6 MR. HOLZBAUER: But how old are these three or
7 four wells? Have they been there for years?

8 THE WITNESS: Well, the existing well at
9 Streeters has been there for years, but it's not pumped.

10 MR. HOLZBAUER: It just flows.

11 THE WITNESS: It's got a valve on it. It's shut
12 off. And that's actually where we get our water now.
13 And my neighbors' is from that well.

14 MR. HOLZBAUER: You mean for your house?

15 THE WITNESS: Yeah. We have a tank on our
16 truck, thousand gallon tank. We go up, crack the valve,
17 fill it up, and go home.

18 MR. HOLZBAUER: Who set the time on the
19 irrigation of five days a month? Who set that?

20 THE WITNESS: I believe it was the Water
21 Management Board.

22 MR. HOLZBAUER: And that's what you guys all
23 felt could be utilized out there; right?

24 THE WITNESS: We work together and make it work.
25 Five days I'm on -- two of the ranches have 10 days each

1 so you have 20 days. And then our place and another one
2 have five days each to make a month. And that's because
3 our ranch was divided by my granddad and his brother so
4 they split the water right.

5 And that five days I'm moving. I'm really
6 hustling. I can get it done, and it makes a huge
7 difference in our operation.

8 MR. HOLZBAUER: So you're saying when you use it
9 you take all the water then out of the creek?

10 THE WITNESS: No. There's just a 12-inch pipe
11 that's buried, that we buried, and whatever I can get to
12 come down that. Then it comes out. I've bought gated
13 aluminum pipe, leveled the ground so basically it's
14 whatever I can get out of a 10-inch pipe.

15 MR. HOLZBAUER: Thank you.

16 CHAIRMAN HOYT: Further questions from the
17 Board?

18 Thank you very much, Mr. Fugier.

19 THE WITNESS: Thank you.

20 CHAIRMAN HOYT: Appreciate it.

21 I believe -- Mr. Schroth, I believe you had a
22 statement for the Board.

23 MR. SCHROTH: Yes, sir.

24 (The witness is sworn by Chairman Hoyt)

25 CHAIRMAN HOYT: Would you state your name and

1 address, spelling your last name.

2 MR. SCHROTH: Randy Schroth, Buffalo Gap.

3 S-C-H-R-O-T-H. And my family ranches in Buffalo Gap. In
4 fact, where the springs come up is on our place. And we
5 irrigate off that same creek.

6 I guess one of my biggest concerns is this Board
7 is my only alternative. I've listened to Ken Buhler tell
8 me that our existing water rights are not protected.
9 Some of these water rights go back to the 1800s, early
10 1900s. This water Board is our only -- you're it.

11 So, I mean, we're dependent an awful lot on you,
12 and there's a lot of places I'd rather be today than
13 here, as I'm sure all of you would be. But Bob Peplinski
14 commented that we need to move into the 21st Century.
15 And we do. But at what cost?

16 You know, I mean, do we for go our whole
17 environment down there, creek, the fishing, the ranches?
18 I think we could all work together and make something
19 work. To date Mitch is the only one from Southern Black
20 Hills that's ever come out to the house and tried to talk
21 to us, work something out. Down to the pump test, he was
22 down to the house. And I don't know. I hope you guys --
23 I really appreciated your last decision on 2585, which I
24 thought was very good. I'm sure we'll probably be back
25 here again, whether they get this or they don't. I'm

1 sure that it will all come up again. The size of this
2 system this water isn't going to be enough to keep it
3 going. Even this.

4 You know, there's a large percentage of that
5 water I'm sure that it's completely leaving that whole
6 area. And I wonder how much they want to take from that
7 area before they figure they're done.

8 I don't -- I don't totally understand your
9 existing water rights. Because water rights go way back.
10 And Mr. Buhler said that we cannot control hydraulic head
11 pressure. So these water rights I guess I don't totally
12 understand how you can say you're not affecting existing
13 water rights when if you drop the spring, you are
14 affecting existing water rights.

15 That's probably my greatest concern with the
16 whole thing. I don't know. I would like somebody --
17 Ken, maybe somebody, to get it through my head. I'm kind
18 of slow. I do believe it does affect existing water
19 rights.

20 I guess that's it.

21 CHAIRMAN HOYT: Thank you, Mr. Schroth. Any
22 questions from DENR?

23 MS. BEST: None. Thank you.

24 MR. WIECZOREK: None.

25 CHAIRMAN HOYT: Mr. Hickey?

1 MR. HICKEY: None.

2 CHAIRMAN HOYT: Shawn?

3 MR. FUGIER: No.

4 CHAIRMAN HOYT: From the Board?

5 Apparently not.

6 Thank you very much, Mr. Schroth.

7 Is there any further evidence, rebuttal evidence
8 to come before the Board?

9 DENR?

10 MS. BEST: Well, it's 20 minutes after
11 6 o'clock, and I -- I'm going to let it go.

12 CHAIRMAN HOYT: Very well. Mr. Wieczorek for
13 the Applicant?

14 MR. WIECZOREK: No.

15 CHAIRMAN HOYT: Mr. Hickey?

16 MR. HICKEY: No, Your Honor.

17 CHAIRMAN HOYT: Mr. Fugier.

18 MR. FUGIER: No.

19 CHAIRMAN HOYT: Mr. Schroth?

20 MR. SCHROTH: No.

21 CHAIRMAN HOYT: Very well. The record that is
22 the evidentiary record in Application 2633-2 is now
23 complete and closed. We'll entertain discussion --
24 excuse me. We'll give counsel an opportunity to make any
25 closing argument that they would like to make in this

1 matter.

2 Ms. Best.

3 MS. BEST: Yeah. I will just be very short. As
4 I indicated during opening statements, there's a
5 four-part test that must be met under 46-2A-9 in order to
6 grant a new permit for a water right. It's undisputed
7 here that water use for a rural water system is a
8 beneficial use. In fact, most of the people here have
9 some relationship with a rural water system. If it's not
10 this one, it's the Fall River Water Users one.

11 I don't think there's really any dispute
12 regarding that.

13 Then we get into availability of water. We're
14 talking the Madison Aquifer there really isn't a serious
15 question about water availability in the Madison Aquifer.
16 You get into this impairment of existing rights question,
17 and that really is whether you're going to -- whether the
18 water permit application -- water permit is granted would
19 operate to impair existing water rights and the issue I
20 think was -- is very succinctly put in writing in
21 Ken Buhler's report. In the interest of time I'll refer
22 you to that.

23 The issue is is to the extent that others have
24 obtained the ability to rely on head pressure, for
25 example, irrigators for their surface water rights, they

1 aren't guaranteed a source -- you haven't guaranteed a
2 source -- or you haven't guaranteed a method of delivery,
3 I guess, is how Ken typically puts it in his testimony
4 and how he put it in his report.

5 As painful as that sounds, the philosophy behind
6 it is that if you said, look, I'm going to go ahead and
7 let you use head pressure, you're basically saying we
8 can't develop into the aquifer below it. And, you know,
9 water needs to be put to maximum beneficial use. That's
10 the mission for this Board.

11 The mission for this Board was written by the
12 State Legislature that water should be put to beneficial
13 use to the fullest extent of which its capable. And we
14 would submit that it meets that -- that this water use
15 meets that mission.

16 Now obviously the -- the other side of that coin
17 is a ground water application cannot be approved if
18 there's more water coming out of the aquifer than what's
19 going in in terms of recharge under 46-6-3.11, our mining
20 statute. And that isn't even close to an issue here in
21 this case.

22 Water needs to be put to maximum beneficial use
23 and, of course, this water right application does that.

24 The real issue, I think, here is this public
25 interest issue of protecting springs because there's

1 springs and protecting the National Park Service lakes.
2 There's been a lot of testimony offered today. There's
3 been four ground water experts that have testified.

4 And I would submit to you that Ken Buhler is the
5 person who has significant knowledge in this matter.
6 He's thoroughly reviewed the issue. He reviewed previous
7 Southern Hills applications. He's reviewed Fall River
8 Water User applications. He's the guy that drills
9 observation wells, looks at well data every day, is
10 intimately familiar with what's happening in the Madison
11 Aquifer. He was on the steering committee for a large
12 study that was just completed. And I would submit to you
13 that his report with respect to that matter ought to
14 carry the day.

15 And so I have nothing further other than to say
16 that I understand the testimony of others. They're well
17 meaning, and they're sincere. But I would ask that the
18 Board not stop water development in this area, and I
19 think that by imposing -- by -- certainly by denying this
20 type of permit but also by imposing conditions such as is
21 requested for a permit of this size you would be looking
22 at having a serious curtailment on development of water
23 resources in the area.

24 You have heard the Interveners, and they can't
25 tell you when they'll stop. If it's 25 gallons a minute

1 or 75 gallons a minute, how far these conditions go. So
2 I would urge you to not ignore the size and the distance
3 involved in this case and to do the right thing with
4 respect to this permit.

5 That's not to say that the previous aquifer
6 tests ordered -- that the Board granted is wrong. We
7 don't believe that to be the case. We actually asked for
8 that. Much larger permit.

9 So with that, I guess I'll close and give
10 somebody else the time. Appreciate your time today.
11 Thank you.

12 CHAIRMAN HOYT: Thank you, Ms. Best.

13 Mr. Wieczorek, closing for the Applicant.

14 MR. WIECZOREK: Yes. Thank you, Board. I
15 appreciate your time and patience today. I want to clear
16 up something right out of the box. There was a lot of
17 confusion over this 300-gallon-per-minute, what does that
18 really mean.

19 You know, South Dakota Law's a little different
20 than some other states where your maximum diversion rate
21 means that's the most that can ever be taken out of the
22 ground at one time. Some states have a maximum volume
23 rate. I think that might have caused confusion. Some of
24 the experts might be familiar with other states.

25 Essentially you're looking at probably 180

1 gallons a minute on average at best. And that was
2 causing some confusion as to the second well to maximize
3 that, as to increasing that.

4 And so I did talk to Southern Black Hills Board
5 during one of the recesses, and these pump tests, these
6 extra wells, are going to become a significant cost.

7 What I asked the Board and the Board would be
8 willing to stipulate this be put into the order is that
9 should we be granted the permit at the 300 gallons per
10 minute, prior to coming back to ever request another hole
11 or an additional appropriation at that site we would
12 perform before that -- before we even came back, that
13 we'd sink a monitoring well and do a pump test.

14 Now I think that provides adequate protection
15 given the fact that this is a 300-gallon-per-minute
16 maximum diversion, which is probably going to average
17 about 180 gallons at the high end. You know, 180 gallons
18 sounds like a lot, but as the testimony was today, the
19 creek's naturally producing close to 4,500 gallons per
20 minute.

21 I think Mr. Buhler's testimony and
22 Mr. Kannenberg's testimony was strong that you're just
23 not going to get that impact 3 miles down at that rate.
24 Southern Black Hills -- and there's been a lot of
25 discussion about this deferred permit -- given what you

1 heard today, I think it becomes obvious that no matter
2 what we did at that site even if we would have had the
3 money to do the pump test, we weren't going to satisfy
4 probably anybody, just given where that site was and what
5 rate they were asking for.

6 Southern Black Hills went out. They talked to
7 some people. Their comments were get further away from
8 the creek and decrease their demand. That's what they've
9 done here.

10 I would ask that you approve the permit with
11 that stipulation if we want more, we'd have to do that
12 pump test up front.

13 The other thing is the permit has that 20-year
14 maximum on it. And even Ms. Cutillo's numbers when you
15 started looking at the 20-year maximum life of that
16 permit she even admitted, well, that cave drawdown, the
17 cave would still be at a level higher -- the cave level
18 would still be at a level higher than they were in 1987
19 assuming her drawdown. And she postulated a couple of
20 feet for Beaver Creek, but she clearly didn't take into
21 consideration any influence coming from the south because
22 she simply assumed you've got to pool the water, all
23 things being equal. And there's no separate influences
24 there.

25 So we'd ask that the Board find the public

1 interest is served by providing for -- all these people
2 have already signed up for hookups, providing for that
3 domestic use.

4 I understand and appreciate -- the Hills are
5 kind of my adopted home. I grew up in the Mitchell area.
6 I understand and appreciate watching development come,
7 but I'll tell you this, living north of Rapid City
8 development comes. It's whether it comes smart or it
9 comes in kind of a haphazard way.

10 There are already hundreds of homes out there
11 running on cisterns or smaller wells. There's going to
12 be that development. It's just going to be cisterns and
13 wells and, you know, more points of -- without control of
14 those water sources. Regionalization is a much better
15 bet, much safer for the Hills in the long run.

16 And I thank again the Board's time and patience
17 today. It's getting stuffy and hot in here.

18 CHAIRMAN HOYT: Thank you, Mr. Wieczorek.

19 Mr. Hickey.

20 MR. HICKEY: Thank you.

21 Real briefly, thank you all for your time. I
22 appreciate it very much.

23 From Trout Haven's standpoint this is not in the
24 public interest. If you recall the testimony of
25 Mr. Simpson at the last hearing, which is part of the

1 record in this proceeding, he's a second generation
2 farmer, fish farmer on Beaver Creek. He serves and sells
3 fish in over 16 states, three provinces. He's got about
4 the best product in the world in all candor.

5 He sells disease-free fish. And the reason he's
6 able to do that is because the water is absolutely
7 perfect in terms of clarity, in terms of pH, in terms of
8 temperature, and in terms of volume.

9 I understand where Southern Hills is coming
10 from. You know, they're saying to you approve this one
11 and then the next one we'll do a pump test. If they're
12 wrong, my guy's out of business. I mean, he doesn't have
13 a second chance. And so I'd ask you to factor that in.

14 This Board has previously put some conditions on
15 permits that they not adversely affect springs. And in
16 Application 2585 you specifically gave some protections
17 in terms of water quality, temperature, and pH that
18 certain questions had to be answered. Those questions
19 were never answered. They were never addressed. And if
20 my client was somehow partially responsible for that, I
21 apologize. But the fact of the matter is they didn't go
22 ahead with that because of money.

23 And now they're asking you to go ahead and
24 approve this again because of money. But the next time
25 we'll do a pump test. I don't think that's the standard

1 that we should apply in this situation.

2 I think that with all due respect, I would ask
3 that you consider requiring just like you required in the
4 previous application that they not adversely impact that
5 spring and that creek by requiring certain things like a
6 weir and like an adequate pump test and that there be
7 some protections for my client. Because when it's gone,
8 it's gone, and it's not going to do any good to him to
9 come in and say, well, it's -- you know, I wished you
10 would have listened to me.

11 We're not trying to stop development, but we
12 think that's a reasonable condition. And, as I
13 understand it, and Mr. Wieczorek can correct me if I'm
14 wrong, but if you put a condition on the permit that they
15 do a pump test, I think that they can get their -- they
16 can still get their funds, as long as it's a condition
17 that you place on the permit. So it's not going to stop
18 them from going ahead and getting the money that they
19 need.

20 I think that's a reasonable thing to do in view
21 of the special nature of this resource and the import to
22 my client. And that's a -- you know, he's tried to
23 express in his own words how important that property is
24 and how important that springs are. And I wish -- I hope
25 that you will respect that and grant some protections.

1 And if they can come in with a different test
2 that, you know, that's satisfactory to the Board and to
3 the other Interveners in terms of some kind of pump test
4 or flow test or -- I think they talked about some
5 alternatives. We'll certainly look at that. But just
6 please don't give them cart blanche to go in and
7 potentially ruin my client's fish farm. Because there's
8 not even a weir. There's not even a measuring device on
9 Beaver Creek, and there hasn't been one since 1997.

10 Nobody knows how much water's there's, how much
11 is flowing, what the temperature is, and things like
12 that. I would ask you to please consider that in your
13 deliberations and place those conditions. I think
14 they're reasonable. I think they're fair. And I think
15 that the application can go forward if they would just
16 meet those conditions.

17 And with that, I will close. Thank you.

18 CHAIRMAN HOYT: Thank you, Mr. Hickey.

19 Mr. Fugier, any closing comments?

20 MR. FUGIER: Yeah. Just briefly here. With the
21 well that Fall River is drilling 3 or 4 miles south of
22 the springs there was a condition put on that that they
23 had to pay particular attention to the flows of Beaver
24 Spring, Cascade Spring, and Hot Springs. And I just
25 respectfully request that the Water Management Board look

1 out for our irrigation rights.

2 That's all I have. Thank you.

3 CHAIRMAN HOYT: Thank you.

4 Mr. Schroth, closing comments?

5 MR. SCHROTH: No.

6 CHAIRMAN HOYT: None? Thank you. Well, thank
7 you all for your participation today, and those of you
8 who testified, the testimony that you offered to the
9 Board. And we're now in a position to entertain
10 discussion by the Board in this matter.

11 MR. HUTMACHER: Mr. Chairman.

12 CHAIRMAN HOYT: Mr. Hutmacher.

13 MR. HUTMACHER: First of all, I have a little
14 problem treating like customers unlike. And by that I
15 mean we didn't require pump tests for Fall River, yet
16 Southern Hills we're going to turn around and require
17 that. I don't think that's actually fair.

18 They come up with a proposal to come back and
19 put a stipulation in if they ask for another permit that
20 they're going to do their pump test.

21 But I also believe that there should be a weir
22 installed at Beaver Creek Springs. And I would like to
23 see U.S.G.S. go in there and be able to install that weir
24 without no liability and hassle from Mr. Simpson. In
25 other words, they can put their weir in and I'm sure

1 they're going to be as careful as they can be putting the
2 weir in. And I'd like to make that part of this proposal
3 because I think that's probably the fairest thing for
4 everyone involved is to be able to monitor the flow out
5 of Beaver Creek Springs and what is really taking place.

6 If you stop and look at this situation, I'm
7 having trouble convincing myself that there's going to be
8 a depletion to Beaver Creek Springs when you're talking
9 about 300 gallons a minute and we're talking about 4,400
10 roughly at the spring. If you went directly into that
11 spring, you're looking at 6 or 7 percent of the water
12 flow you're going to take out, you wouldn't be able to
13 tell by looking that you had depleted it that much. And
14 we're going to be miles away from there, and I can't
15 believe that depletion is going to affect it.

16 But, Mr. Chairman, if I could make a motion that
17 we grant the permit with the stipulation of anymore
18 permits for Southern Hills have to have the pump test
19 done and that U.S.G.S. can put a weir in at Beaver Creek
20 Springs without any liability to Mr. Simpson and Trout
21 Haven Ranch.

22 MR. FREEMAN: Can we discuss that before you
23 call for a second? Or do you want a second,
24 Mr. Chairman?

25 CHAIRMAN HOYT: Actually I would prefer more

1 Board discussion before we get to the context of a
2 motion. I think, and might I suggest perhaps that we
3 would couch our phrases in I would be prepared or I would
4 support a motion that would address the issue in this way
5 so that we are not as formalized in our discussion.

6 MR. HUTMACHER: That's fine with me.

7 CHAIRMAN HOYT: I know you didn't mean to
8 preempt discussion.

9 MR. HUTMACHER: No. I wouldn't. I'd like to
10 have a motion and a second for discussion so --

11 CHAIRMAN HOYT: Well, it's the feeling of the
12 Board that we ought to discuss this matter and then move
13 to -- and then accept the motion. However, if you feel
14 strongly about presenting that motion, we'll do so.

15 MR. HUTMACHER: Mr. Chairman, that's just the
16 rules I've always run by.

17 CHAIRMAN HOYT: So I take it your interests are
18 fairness, monitoring the flow from Beaver Creek Springs.

19 MR. HUTMACHER: Exactly.

20 CHAIRMAN HOYT: Okay. Mr. Freeman.

21 MR. FREEMAN: Well, in the first place I don't
22 think we have jurisdiction over the United States
23 Government in order to tell them to install the weir. I
24 know we don't have any jurisdiction to make a
25 determination as to liability if a weir is installed.

1 That's my concern there.

2 And if we tell Southern Hills that we're not
3 going to grant this permit unless there is a weir
4 established, Mr. Simpson quite frankly can hold up the
5 project for the next 20 years would be my guess because
6 he's just going to create one hurdle after another for
7 anybody who attempts to put that weir on the springs.

8 And, I mean, Jim, I've got concerns also,
9 especially about the irrigators and Trout Haven. But I
10 think we could amend paragraph 2 of the qualifications to
11 add where it says "or inadequate wells having prior water
12 rights" and simply add "or so as to impede prior water
13 rights on Beaver Creek." And that way I believe Trout
14 Haven is protected and I believe the downstream
15 irrigators are protected.

16 I also think we could change qualification 4 to
17 make the reporting of the amount of water withdrawn at
18 least semi-annual, which I think would give people a
19 heads up if it looks like there may be some problem
20 developing rather than just annually. I don't think that
21 would create a real burden for Southern Hills.

22 But I just don't think qualification number 2 as
23 written protects Trout Haven necessarily or the --
24 especially the irrigators on Beaver Creek that aren't
25 using wells.

1 And I'm also not nuts about -- I know it was
2 suggested by the Applicant. I'm not real crazy about
3 requiring them to do a pump test before they come back
4 and apply for more or a different diversion rate. It
5 just appears to me that that's something the Department
6 can say, boy, we're going to have a tough time approving
7 this if you don't do such and such. I think we're
8 removing their discretion. We may be putting an
9 unnecessary burden on Southern Hills because it just may
10 not be absolutely necessary based on what we're granting
11 today if we do.

12 And I think if this Board thinks we want a prior
13 test, we want the pump test before we're going to approve
14 it, we can tell them. But to make it a condition that
15 they have to do it, I just think we're trying to look
16 into the future to see what may happen four, five, six,
17 seven years from now. And I just think it ties the hands
18 of the Department and ties the hands of Southern Hills.
19 It may not be necessary and everybody may agree it may
20 not be necessary.

21 So that's my thoughts on it. But I've got a
22 real problem, Jim, with saying U.S.G.S. must do it and
23 there's not going to be any liability.

24 MR. HUTMACHER: Well, Mr. Chairman, if I could
25 respond just a little bit, I think my intent was -- my

1 understanding was U.S.G.S. wanted to go in and do it.
2 They didn't want to accept the responsibility that, you
3 know, if something happened to the fish that day it was
4 going to be their problem or down the road that long.
5 And if they're willing to go in and do that and -- with
6 no liability so that they didn't have that to worry about
7 and Mr. Simpson had let them in there to Trout Haven to
8 put that weir in buffalo springs -- or Beaver Creek
9 Springs, then if he didn't want to do that, the permit
10 would go on without any type of a monitor to it.

11 But I think it's important to put that in there
12 because if we don't have any data down the road,
13 there's -- you know, how are you going to determine that
14 this well affected it or it was the one that -- that Fall
15 River's well was the one that affected it?

16 MR. FREEMAN: Well, don't we have the flow
17 records from Mr. Simpson? As part of his qualifications
18 he's supposed to be keeping those. I think we probably
19 have many years of flow records.

20 MR. HUTMACHER: Yeah. I don't know the answer
21 to that.

22 MR. HOLZBAUER: How is he recording them?

23 MR. FREEMAN: I mean, I'm not sure. If we put
24 that as a qualification on his permit, why do we need a
25 weir up at the springs?

1 MR. HUTMACHER: We don't if we're getting that
2 data. I mean, I just want the data.

3 MR. BJORK: Can anybody answer that question?

4 MR. HOLZBAUER: How is Mr. Simpson getting that
5 information? The flow record.

6 MR. FREEMAN: Well, my guess is -- I mean, the
7 evidentiary hearing is closed. If somebody had wanted to
8 present that, they probably would have. We were -- we
9 were told by Mr. Buhler of DENR that that is a
10 qualification on their permit. Nobody challenged it. So
11 I -- if it's not being complied with, perhaps it ought to
12 be complied with. And if it will be complied with in the
13 future, then why do we need a weir?

14 I mean, we must have had a valid reason when we
15 put it on his permit, and I would guess it had something
16 to do with the downstream users.

17 MR. HUTMACHER: Yeah. We don't need it -- as
18 far as I'm concerned if we have a way to monitor it and
19 he turns the records in and he's supposed to turn records
20 in, then I have no problem.

21 MR. FREEMAN: Well, I'm not sure he was required
22 to turn records in. Nobody gave us the exact
23 qualification. We haven't seen it. But Mr. Buhler said
24 he's supposed to be keeping records on flow. So I would
25 assume we can get them any time the division thought they

1 were necessary.

2 CHAIRMAN HOYT: Other comments by the Board?

3 MR. BJORK: I have a question, Mr. Chairman. Is
4 my understanding correct that we do not have an
5 obligation as a Board to protect surface water quality
6 rights in this situation?

7 Is that what statute says?

8 CHAIRMAN HOYT: I don't believe so. I believe
9 that under the public interest doctrine the Board has the
10 ability to protect the spring. And from that spring
11 flows down -- flows the landowner's appropriation rights
12 and downstream water rights from that spring. But while
13 I think there was a clear expression of legislative
14 intent in the statutes that we talked today to afford
15 protection to springs, apparently there is no direct
16 statute other than the public interest criteria.

17 MR. BJORK: Okay. Well, my concern is here
18 we've got however many irrigators downstream and Trout
19 Haven and those kind of things. And they have prior
20 water rights here. And we've talked a lot about prior
21 water rights. But in this situation it seems to me that
22 ground water rights take precedence over surface water
23 rights. Is that indeed the case?

24 Is ground water a precedent here? I mean, I
25 don't know the answer to this question. That's why I'm

1 throwing it out.

2 MR. HOLZBAUER: Is this artesian head coming
3 out? Is this artesian head?

4 MR. HUTMACHER: Yes.

5 MR. BJORK: Apparently.

6 MS. BEST: Would you like additional argument
7 from any other parties?

8 MR. BJORK: No. My concern here is that we're
9 not -- we're not here to impede the Applicant. But I
10 think we need to provide some kind of safeguard to the
11 existing water rights in this situation. We can't just,
12 to use the common phrase, blow them off. We can't just
13 walk away from existing water rights. I just don't think
14 that's right.

15 We don't know. I mean, we've heard all the
16 experts here today and they've contradicted each other.
17 As far as I'm concerned, we've heard two different
18 things. One says yes, one says no, or both of them say
19 maybe is what I'm hearing.

20 So I think in the interest of a safeguard for
21 the existing water rights we need to have a way to
22 measure not only the quantity but also the quality of
23 Beaver Creek Springs to determine if there are any
24 adverse effects. That's not a -- well, maybe it is. It
25 seems to me that's not a difficult request.

1 Understanding the argument that it could impede the
2 permit if Mr. Simpson decides he doesn't want to have
3 that weir put in there.

4 I would recommend that we put in the stipulation
5 that we have -- we measure the quality and the quantity
6 of water at Beaver Creek Springs to determine if there is
7 any adverse impact over the 20-year period of this
8 permit. And then we determine as a Board if any action
9 needs to be taken.

10 CHAIRMAN HOYT: Well, Mr. Bjork, your position
11 comes close to mine, but it doesn't -- mine would take it
12 a step farther. Let me give you a little background, if
13 I might. I think Mr. Peplinski and the Board and your
14 consultants are, once again, men of good intention. And
15 I think I heard Mr. Buhler testify once we want to
16 develop the water but we don't intend to do harm to our
17 neighbors. And I believe that's what you're trying to do
18 and that's why you've looked for another location and
19 that's why you're back here.

20 At the same time while we want to move into the
21 21st Century we can't do that, I don't feel, by stomping
22 on the ones that were here in the 19th Century. I think
23 the risk of development by those who have come more
24 recently has been clear to them. Water is a scarce
25 commodity in this area, and if I build my home here I

1 might need a cistern. I might need to pay to have water
2 delivered to my cistern.

3 So to me it's a matter of where do we assign
4 risk and who is best able to bear that risk. I think
5 that the testimony that we've heard from at least two of
6 the witnesses, expert witnesses today, has indicated to
7 the Board that in their professional opinion to a certain
8 degree of reasonable professional certainty they do not
9 believe that there will be an adverse impact on Beaver
10 Creek Springs and the Interveners.

11 And our experts are quite firm in that opinion.
12 Some are. So my feeling is if that's the case, if that's
13 the case, then perhaps we need a condition here that
14 expresses that. If you're willing to bet the development
15 at this site, the cost of development at this site,
16 against harm to the Interveners, you should do so at your
17 expense, at your risk.

18 And I hope -- I believe that the expert
19 testimony in this case is accurate and that this well can
20 be developed without significant risk of impact to Beaver
21 Creek Springs. And I would like to see that embodied in
22 a condition in this permit.

23 MR. BJORK: It seems to me that all of the
24 experts that have talked to us here today have said we
25 certainly would like more data, if we can get it, we'd

1 love it because it would help us make your decisions
2 easier. Here's a chance to get some.

3 Otherwise, we're going to have another permit
4 application come to this Board for another whatever
5 amount, and we're going to go through the same argument
6 every time, over and over. If we can every time we do
7 this provide ourselves with more information, we will
8 have better knowledge every time we do it and every
9 decision will get easier. I'm for easy.

10 CHAIRMAN HOYT: Further discussion by the Board?

11 MR. HOLZBAUER: Well, this artesian head thing
12 bothers me a little bit because of the law but we also
13 got Randall -- not Randall. That's my hometown. We got
14 Rapid Creek irrigators and stuff like that going down
15 there how they control that, you know what I mean,
16 irrigators and stuff like that.

17 But if we've given those folks a license to
18 irrigate down there by the use of Beaver Creek, they
19 should be able to use it. That's kind of my thinking.
20 Artesian head, you're saying we -- it's artesian water
21 and that that ain't -- the flowing of the well does not
22 determine the amount of water and you got to be to the
23 bottom of the aquifer to say that they've affected the
24 use of that water. That's kind of where our state law
25 is.

1 I just wish we knew if Mr. Simpson had those
2 records and was -- was reporting those records to know
3 where we was at with the water flow down Beaver Creek.

4 But like we said, 300 gallons a minute versus
5 what, 44 or 4,200 gallons a minute is a drop in the
6 bucket. I pump a lot of water myself. And so with that,
7 I feel -- I feel development could come but yet they
8 still have to be protected.

9 And it's kind of got it in here in number 2.
10 It's kind of got it in there in their provisions. You
11 know what I mean? So that's kind of where I'm at,
12 Chairman. Protect them downstream people.

13 CHAIRMAN HOYT: By protecting the spring.

14 MR. HOLZBAUER: By protecting that water flow,
15 yes. Boy, you're going to shoot me now, but, I mean, if
16 the water don't flow, then someone, to keep those people
17 from not having water to water their livestock and run
18 Trout Haven and irrigate their fields, I mean, then there
19 should be somewhere a community pump to keep that Beaver
20 Creek flowing.

21 Do you see what I'm trying to say? It ain't any
22 one person's fault. It's everybody's. And they should
23 be assigned the cost of making that creek flow some way
24 if it don't flow naturally.

25 I don't think development -- and unless I'm

1 picturing this wrong, I think we got development down
2 there of a lifetime -- or of lifetimes down there and now
3 we got more development because people just love that
4 area. They want to build their house there. They want
5 to live there. They're maybe not making a living off of
6 that ground there. They want to live there, and these
7 people are doing that. We got to work together on that.

8 MR. BJORK: Mr. Chairman, I agree with your
9 statement -- support your statement that those who
10 potentially are adversely affected by this action should
11 not have to prove the effect but those who may affect
12 them should have to show that they're not going to.

13 In other words, the risk should not be incumbent
14 upon the opposition here but it should be incumbent on
15 the Applicant to show that there is no adverse effect.

16 MR. HOLZBAUER: You mean, they're guilty before
17 they're --

18 MR. BJORK: No. I'm sorry, Leo, if I misstated
19 that. I didn't mean that at all. I didn't mean to say
20 that they're guilty in fact. I mean to say that they
21 should show that they're not going to have an adverse
22 impact.

23 CHAIRMAN HOYT: That they have not had an
24 adverse --

25 MR. BJORK: That they have not adversely

1 impacted that stream. And if they're willing to bet on
2 this, as you said, and take the risk you should be
3 willing to show it.

4 CHAIRMAN HOYT: Let me be more succinct in my --
5 this is not a motion. Let me be more succinct in my
6 suggestion as it would relate to an additional condition
7 on the permit. Add language something to this effect in
8 the condition: The well approved by this permit will be
9 located in the vicinity of Beaver Creek Springs. The
10 well owner under this permit shall control withdrawals
11 from the wells so that there is not an adverse impact on
12 water flow from Beaver Creek Springs or adverse change in
13 water quality and character in Beaver Creek Spring.

14 I would like to add something to provide for a
15 measurement of flow. I'm not certain what Mr. Simpson
16 does based on a record in terms of that and whether his
17 change in proposed -- his notification of the Department
18 of a change in flow would be accepted by the permittee or
19 by the Department. And that's my conundrum. But I do
20 feel that an additional condition to protect the flow and
21 the quality of the water should be placed on this permit.

22 MR. FREEMAN: Mr. Chairman, if I might be so
23 bold, I would move approval of 2633-2 subject to the
24 qualifications of the chief engineer as well as the
25 additional qualification so well put by the Chairman.

1 MR. BJORK: Second.

2 CHAIRMAN HOYT: It's been moved and seconded. I
3 didn't mean to preempt further discussion. But because
4 the additional qualification is not in writing anywhere,
5 we'll ask the court reporter to please read that
6 qualification that I discussed.

7 (Reporter reads back requested portion)

8 MR. FREEMAN: I was going to say we've included
9 flow in the language of a qualification. I would think
10 it would be incumbent on the Applicant to some way design
11 a way to measure the flow simply to protect themselves.
12 But to tell them exactly what type of gauge they have to
13 have, I'm not sure -- you know, then we get into all the
14 competing landowners' issues.

15 MR. HOLZBAUER: Well, they had talked something
16 about against these rocks -- don't you remember this
17 morning?

18 MR. FREEMAN: Well, I think there are a lot of
19 things they can do, but why are we going to dictate it
20 has to be a weir as the only way to measure the flow?

21 MR. BJORK: I agree, it doesn't have to be that.
22 It has to be measured.

23 MR. HUTMACHER: Mr. Chairman.

24 CHAIRMAN HOYT: Yes, Mr. Hutmacher.

25 MR. HUTMACHER: My only question about that,

1 Rod, and I understand what we're trying to do here but if
2 Trout Haven Ranch isn't going to grant them access to go
3 in there without some type how are they going to obtain
4 flow, or does it have to be right at Beaver Creek Springs
5 or is there another area to access that? That's the
6 thing I don't understand.

7 MR. FREEMAN: Well, I would assume if nobody
8 will grant them permission -- I mean, Beaver Creek
9 Springs is on somebody else's land I think it's been
10 testified. If people won't give them access, then I
11 think they can bring that to the Department's attention
12 and the Department can certainly bring it to our
13 attention. And at that point we can maybe decide.

14 But I just think it's premature. I think -- I
15 just don't think it's our place to tell them how they
16 should measure the flow. I think we will tell them that
17 they've got to protect it. And how are they going to
18 protect it if they don't know what the starting point is.
19 So I think everybody knows what we want them to do. If
20 for some reason someone else creates roadblocks, I think
21 they can bring it to our attention and we can deal with
22 it at that time.

23 MR. HOLZBAUER: Rodney, how far do they have to
24 protect it to?

25 MR. BJORK: What do you mean by that?

1 MR. FREEMAN: We said no adverse impact. I
2 believe that's the term used in the motion.

3 MR. HOLZBAUER: Okay.

4 MR. FREEMAN: I mean, it's the same as we say in
5 our standard. There's not a -- a reduction of needed
6 water supplies, inadequate domestic wells, or inadequate
7 wells having prior water rights. I mean, we're always
8 somewhat vague about that language. I think we need to
9 be.

10 MR. HOLZBAUER: So if people think they are,
11 they'll bring it to our attention.

12 MR. FREEMAN: I would bet on it.

13 MR. BJORK: I guess the point I was trying to
14 make in some of this is why do we have to say wells? Why
15 can't we say prior water rights?

16 CHAIRMAN HOYT: Because they're depending on a
17 spring which might not be protecting their surface water
18 rights.

19 MR. BJORK: Which means we would be obligated to
20 protect their water right no matter what happened,
21 potentially?

22 CHAIRMAN HOYT: I don't know what all those
23 hypotheticals might be, but I think for the purposes of
24 this application we know what it is. It's the impact
25 from the well that's proposed to be drilled -- or

1 permitted and drilled.

2 MR. WIECZOREK: Mr. Chairman, if I could make a
3 comment on this, I don't want to get into -- the only --
4 I want to just kind of raise an issue. The difficulty I
5 see with the avenue is you could argue there's a taking
6 where you're saying, you know, you can't force somebody
7 to allow us to have access. You can put all these
8 conditions on there.

9 You know, if this is the procedure the Board
10 wants to go through, it would seem the -- rather than --
11 directly measuring streams is probably something better
12 for the governmental entities because who knows who's
13 supposed to be monitoring it, how much you measure it.

14 If it's concern about encroachment on the creek,
15 it's almost easier to say we're going to give you the
16 well but we're going to install a monitoring well between
17 you and the creek and monitor that well to see when
18 the -- report any drawdown on that monitoring well so if
19 they think it's going to endanger the creek, they can
20 come back and shut us down.

21 Because you're not necessarily measuring the
22 stream flows, but then what you do is you're getting into
23 direct measuring. I gave you the permit but the permit
24 requires you to put a monitoring well between you and the
25 springs but then you know if you're getting encroachment

1 towards the creek before it ever gets there.

2 And that's probably going to be in the long run
3 frankly easier for us to do and much less of a hassle.
4 Because the first question you're going to get is if
5 there's a reduction in the creek level, is it us or is it
6 Fall River? And if you put a monitoring well between us
7 and the creek, let's say you have your permit but you
8 have to install a monitoring well and monitor the
9 encroachment, then you will know whether it's coming from
10 us before it gets there. And I think if that's the
11 avenue the Board is heading, to me that makes probably
12 much more sense than getting into trying to negotiate
13 deals when we can get on there and how we're going to do
14 it, what's the best way.

15 MR. BJORK: Mr. Chairman, I don't think we're
16 telling anybody how to do this. We're just saying it
17 needs to be done.

18 MR. WIECZOREK: And all I'm saying is if you're
19 going to say we have to have something on the creek it
20 might be a much easier way to monitor so we know before
21 we ever even get there.

22 MR. FREEMAN: And that's what I was trying to
23 avoid is telling you how you have to do it. I think we
24 leave it up to you. And if you can use the monitoring
25 well to demonstrate, hey, we haven't touched the flow,

1 here's our monitoring well data, period, you're off the
2 hook, they can look somewhere else.

3 CHAIRMAN HOYT: Thank you, Mr. Wieczorek. My
4 own preference would be to have some sort of facility
5 designed by mutual consent, which may be difficult and
6 certainly we would like to have our professionals in the
7 communication loop as this is done. And which was the
8 reason, as Mr. Freeman said, that we'll let you guys
9 decide how you want to come to us knowing that you have
10 the burden of proof in the future as it relates to an
11 impact on the flows, whether we would accept evidence by
12 any party as to a reduction in flow or causation.

13 So certainly we would like to have our
14 professional staff involved in that discussion. I'm not
15 certain how to accomplish that.

16 It looked as though we had set that up for last
17 time but then the proceedings took a detour for whatever
18 reason and now we have a different application.

19 I had at one time considered an additional
20 sentence or so that would have asked the parties to meet
21 with the chief engineer to devise a method, a suitable
22 method, to measure flows, but I -- I don't know that
23 that's going to work.

24 I think perhaps all of you know the sentiment of
25 the Board. And Mr. Freeman's suggestion I think is there

1 for all of you to consider. Mr. Wieczorek, I appreciate
2 what you've offered and your position, and I think that
3 bears further discussion if possible amongst the parties
4 and with our engineering staff.

5 Let me say then I think that though we haven't
6 voted on this motion, you may not hear it, let me say
7 that I think everyone here is aware of the sentiment of
8 the Board. And as I say, I think you're all people of
9 good intention. And we want to resolve at least this
10 Beaver Creek Springs issue so that we have some certainty
11 as we move forward.

12 So it behooves the parties to get together and
13 come up with ways in which we can satisfy what is
14 expressed at least in this motion which has been
15 seconded.

16 MR. HICKEY: May I?

17 CHAIRMAN HOYT: Mr. Hickey.

18 MR. HICKEY: I've just visited with my client.
19 We'll agree to a condition that we would meet with the
20 chief engineer, Mr. Buhler, on the construction of a weir
21 and do it in accordance with their recommendations and
22 what have you. Is that right, Mr. Simpson?

23 MR. SIMPSON: (Nods head)

24 MR. HICKEY: So if you want to put that in
25 there, we would agree to that.

1 MR. BJORK: Mr. Chairman, I do then have another
2 question. Do we get to see this before it happens? Do
3 we as a Board get to see what their proposal is before it
4 happens, or are we just saying go for it?

5 MR. HALLEM: Not under the current motion.

6 MS. BEST: If I may. May I suggest a weir
7 monitoring well or other measuring device?

8 MR. FREEMAN: I don't think we need another
9 qualification. I think we're covering it with don't
10 monkey with the quality or the flow and you guys figure
11 out the best way to make sure that doesn't happen.

12 MS. BEST: I misunderstood. I thought you were
13 headed toward --

14 MR. FREEMAN: I'm not.

15 MS. BEST: The rest of the Board.

16 MR. FREEMAN: The first and second aren't.

17 CHAIRMAN HOYT: To be redundant, but I think
18 it's perfectly clear if Mr. Simpson were to come before
19 this Board and say I'm suffering harm because of a
20 reduction in flow and we say how did you measure that and
21 he says I walked out in my yard and I took a look at it
22 from 100 yards away and it looked like it was low, that
23 just isn't going to cut it.

24 We need to understand that. We need to have
25 some professional method to measure and monitor flows.

1 And I think the Department is central to that discussion.
2 So that if there is a purported violation, that the
3 method selected and implemented for measuring flows will
4 be one that is accepted in the professional community.
5 And on which this Board can rely.

6 MR. HOLZBAUER: I think the motion covered that,
7 didn't it?

8 CHAIRMAN HOYT: It certainly is strongly
9 implied.

10 MR. HUTMACHER: Mr. Chairman, I have a technical
11 question then. Under the chief engineer's
12 recommendation, number 2 is still in there and your
13 addition to that is 2A or --

14 MR. FREEMAN: It could just be number 5.

15 CHAIRMAN HOYT: So the motion and second would
16 be added as qualification 5.

17 Are there -- let us vote first on the motion --
18 if there's no further discussion, let us vote first on
19 the addition of qualification 5 as represented in the
20 motion, and then we'll see whether there are any
21 additional qualifications or any other changes in
22 language that Board members would suggest by motion.

23 Is there any further discussion as it relates to
24 the motion before us? That is, to add qualification 5
25 which would read "The well approved by this permit will

1 be located in the vicinity of Beaver Creek Springs. The
2 well owner under this permit shall control withdrawals
3 from the well so that there is not an adverse impact on
4 water flow from Beaver Creek Spring or adverse change in
5 water quality and character in Beaver Creek Spring."

6 Again, is there any further discussion by the
7 Board? Hearing none --

8 MS. BEST: I know it's completely out of order,
9 but I really ask that if you're considering this to
10 include the words "with due regard for climatic
11 conditions"?

12 MR. BJORK: No.

13 CHAIRMAN HOYT: There's the motion and seconded.
14 Any further discussion by the Board?

15 Hearing none, those in favor of the motion to
16 add qualification number 5 as stated signify by saying
17 aye.

18 (All indicate aye)

19 CHAIRMAN HOYT: Opposed, same sign.

20 (No audible response)

21 CHAIRMAN HOYT: Motion is carried.

22 Qualification 5 will attach to the permit, if the permit
23 is eventually approved.

24 Are there any other changes proposed to the
25 recommended approval and qualifications by the chief

1 engineer?

2 MR. HUTMACHER: Mr. Chairman?

3 CHAIRMAN HOYT: Mr. Hutmacher.

4 MR. HUTMACHER: There was some discussion
5 earlier about on condition number 4 that they
6 semi-annually report. I don't know that that's necessary
7 now or if it would be real burdensome or --

8 MR. FREEMAN: I talked about it, Jim, and I
9 don't think it's necessary because we've added the number
10 5. I think they're protected.

11 CHAIRMAN HOYT: Very well. Are there further
12 qualifications to consider?

13 MR. HOLZBAUER: What if there was an earthquake?
14 See what I'm trying to say?

15 CHAIRMAN HOYT: I'm not sure.

16 MR. HOLZBAUER: Climatic -- an atmospheric
17 condition that did it that no one was responsible for.
18 Otherwise, you're saying that these guys are doing it;
19 right?

20 CHAIRMAN HOYT: No. No. I think we're just --
21 we're just saying this is a condition of the permit.

22 MR. HOLZBAUER: Okay.

23 CHAIRMAN HOYT: That there not be a reduction by
24 their use under the permit. If we have an earthquake, it
25 wouldn't be covered by the permit.

1 MR. HOLZBAUER: Yeah. Okay. You see what I'm
2 trying to say? Something out of their control. It's
3 just under their control? That's what we're talking
4 about?

5 MR. FREEMAN: Right.

6 MR. BJORK: Yes.

7 MR. HUTMACHER: But I think, Leo, you have your
8 data from rainfall, you have the data from the
9 observation wells that are there. You're going to be
10 able to tell whether climatic conditions have changed the
11 level in that observation well and if it does, it's
12 changed the level in the spring. Then you know that's
13 going on.

14 MR. HOLZBAUER: Okay. But if that does happen,
15 do they have to stop pumping?

16 MR. HUTMACHER: They're going to do something.

17 MR. HOLZBAUER: See what I mean? That's my
18 question.

19 CHAIRMAN HOYT: Are there any further comments
20 as it relates to the chief engineer's recommendation?
21 Any further qualifications, any changes that you'd like
22 to discuss or propose?

23 If not, we're ready to entertain a motion as to
24 Water Permit Application No. 2633-2.

25 MR. FREEMAN: Mr. Chairman, I'd move approval of

1 the permit subject to the qualifications as set forth by
2 the chief engineer and, of course, subject to the
3 qualification that was just approved by this Board's
4 motion.

5 CHAIRMAN HOYT: You've heard the motion. Is
6 there a second?

7 MR. HUTMACHER: Second.

8 CHAIRMAN HOYT: It's been moved and seconded
9 that the permit be -- the application be approved, the
10 permit issued subject to the qualifications of the chief
11 engineer and this Board.

12 Is there any further discussion?

13 Hearing none, those in favor of the motion
14 signify by saying aye.

15 (All indicate aye)

16 CHAIRMAN HOYT: Those opposed, same sign.

17 (No audible response)

18 CHAIRMAN HOYT: Thank you very much, Board
19 members. And, again, thank you all for your
20 participation.

21 We do need proposed findings and conclusions,
22 proposed decision. The Applicant, we would like you to
23 prepare proposed findings and conclusions in the
24 decision, if you would.

25 MR. WIECZOREK: Okay.

1 MR. HALLEM: Consistent with -- just a second
2 here. That consistent with ARSD 74:02:01:13:01 that
3 Applicant prepare proposed Findings of Fact and
4 Conclusions of Law on the final decision for the Board's
5 consideration not less than 20 days before the next
6 hearing, which is March 11. And then 10 days thereafter
7 whenever the submission is received, Interveners and the
8 Department prepare any objections or proposals. If
9 somebody would convey that to the Park Service. I mean,
10 it will go out.

11 MS. BEST: That will go out in the standard.

12 MR. HALLEM: In the standard one, but 10 days
13 after receipt of Applicant's proposed --

14 CHAIRMAN HOYT: I'd like to go off the record
15 for just a moment.

16 (Discussion off the record)

17 CHAIRMAN HOYT: Let's go back on the record as
18 it relates to findings and conclusions and proposed
19 decision by the Applicant. Are you going to work out a
20 schedule with the parties for that?

21 MR. HALLEM: Well, yes. I guess what the notice
22 would be then is that the Applicant will submit proposed
23 Findings of Fact and Conclusions of Law. And within
24 there, if you're going to request an earlier hearing --
25 earlier decision by the Board please send it in and the

1 Board will consider that. And then any responses would
2 be due 10 days thereafter.

3 And the Board will act upon your request then,
4 Mr. Wieczorek, we'll have a conference call, and then act
5 on your request, you know, give notice for that. If
6 there's no objections to the earlier one, please include
7 that in your responses.

8 MR. WIECZOREK: Okay.

9 MR. HALLEM: Does that work for counsel?

10 MR. HICKEY: Sure.

11 MS. BEST: So it's to submit anytime but no
12 later than the 20 days?

13 MR. HALLEM: Correct. If he submits it earlier,
14 the responses are 10 days from whenever, and the latest
15 is 20 days before the hearing.

16 MR. WIECZOREK: Right.

17 MR. HALLEM: Now I believe, Mr. Chairman, if we
18 could also move back over to the Streeter one, we may
19 have some additional ones if you want to open up the
20 hearing for the second matter.

21 (A hearing is held in another matter)

22

23 STATE OF SOUTH DAKOTA)

24 :SS

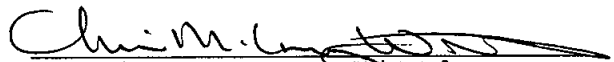
CERTIFICATE

25 COUNTY OF HUGHES)

1
2 I, CHERI MCCOMSEY WITTLER, a Registered
3 Professional Reporter, Certified Realtime Reporter and
4 Notary Public in and for the State of South Dakota:

5 DO HEREBY CERTIFY that as the duly-appointed
6 shorthand reporter, I took in shorthand the proceedings
7 had in the above-entitled matter on the 10th day of
8 December, 2008, and that the attached is a true and
9 correct transcription of the proceedings so taken.

10 Dated at Pierre, South Dakota this 20th day of
11 January, 2009.

12
13
14 

15 Cheri McComsey Wittler,
16 Notary Public and
17 Registered Professional Reporter
18 Certified Realtime Reporter
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