USDA United States Department of Agriculture
Forest Service
Black Hills National Forest
1019 North 5th Street
Custer, SD 57730
605-673-9200
FAX: 605-673-9350

File Code: 2530
Date: June 24, 2015

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JUN 2 9 2015
WATER RIGHTS PROGRAM

JEANNE GOODMAN
CHIEF ENGINEER
WATER RIGHTS PROGRAM
FOSS BUILDING
523 E. CAPITOL
PIERRE, SD 57501

Dear Ms. Goodman:

Pursuant to paragraph three (3) of a Stipulation entered into by the U.S. Forest Service, the National Park Service, and the United Order of South Dakota, the U.S. Forest Service is required to withdraw its petition to intervene, which was submitted to you on January 16, 2015. Therefore, on behalf of the Black Hills National Forest and the U.S. Forest Service, I hereby request that the afore-mentioned petition be formally withdrawn.

Thank you for your assistance and the assistance of your counsel, Ms. Ann Mines Bailey, in addressing the novel issues presented by this matter.

Sincerely,

CRAIG BOBZIEN
Forest Supervisor

cc: Regional Forester - R2, Cheryl DuPris, Deanna Reyher, Lois Witte, Ann Mines-Bailey, Esq., Jeff Connolly

United States Department of the Interior

NATIONAL PARK SERVICE
Water Resources Division
1201 Oak Ridge Drive, Suite 250
Fort Collins, CO 80525

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JUN 2 9 2015
WATER RIGHTS PROGRAM

In reply use:
L54 (2380)
WICA/Water Rights

June 22, 2015

Ms. Jeanne Goodman, Chief Engineer
Water Rights Program
Foss Building
523 E. Capitol
Pierre, SD 57501

Re: Withdrawal of Petition to Intervene Submitted by the National Park Service in the matter of Application for Permit to Appropriate Water within the State of South Dakota No. 2730-2 by the United Order of South Dakota

Dear Ms. Goodman,

Pursuant to paragraph three (3) of a Stipulation entered into by the U.S. Forest Service, the National Park Service, and the United Order of South Dakota, the National Park Service is required to withdraw its petition to intervene, which was submitted to you on December 19, 2014, and subsequently amended on January 15, 2015. Therefore, on behalf of Wind Cave National Park and the National Park Service, I hereby request that the afore-mentioned petition and its subsequent amendment be formally withdrawn. Thank you for your assistance and the assistance of your counsel, Ms. Ann Mines Bailey, in addressing the novel issues presented by this matter.

Sincerely,

Wm. R. Hansen

William R. Hansen
Chief, Water Rights Branch

cc: Jeff Connolly (counsel for the United Order of South Dakota)
Vidal Davila (Superintendent, Wind Cave National Park)

RAPID CITY
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. Rafoth
Terry G. Westergaard
Steven R. Nolan
Gregory J. Erlandson
Eric J. Pickar
Sarah E. Baron Houy
Jacob M. Quasney
Kara L. Frankman
Benjamin D. Ironnes
Mark F. Marshall
Of Counsel

SIOUX FALLS
Victoria M. Duehr
Kathryn H. Morrison

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

BANGS McCULLEN
LAW FIRM

RECEIVED
JUN 2 9 2015
WATER RIGHTS PROGRAM

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First Interstate Gateway
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Rapid City, South Dakota
57709-2670
P. (605) 343-1040
F. (605) 343-1503

SIOUX FALLS
5919 S. Remington Place
Suite 100
P.O. Box 88208
Sioux Falls, South Dakota
57109-8208
P. (605) 339-6800
F. (605) 339-6801

Reply to Rapid City Office

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

June 24, 2015

Jeffrey R. Connolly
Gunderson Palmer Law Firm
P.O. Box 8045
Rapid City, SD 57709-8045

Re: ***In the Matter of the Application of the United Order of South Dakota, Application No. 2730-2***

Dear Jeff:

I enclose an unsigned copy of *Linda Van Dyke Kilcoin's Answers and Responses to Interrogatories and Requests for Production of Documents*. The original signature page has been sent to the client. Upon receipt of the fully executed signature page, it will be forwarded to you. Please consider this as service by mail upon you.

If you have any questions or concerns, please give me a call.

Sincerely,

BANGS, McCULLEN, BUTLER,
FOYE & SIMMONS, LLP

Michael M. Hickey

MMH:ke
Enc.
Cc: Jeanne Goodman
Matt Naasz
Rodney Freeman
William R. Hansen
Peter A. Fahmy
Craig Bobzien
Toni Martin
Rick Fox
Karl & Suzanne Von Rump
Eric Gronlund
Ann F. Mines Bailey
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Doug Lesher
Dean and Delia Johnson
Client

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JUN 2 9 2015
WATER RIGHTS PROGRAM

STATE OF SOUTH DAKOTA

BEFORE THE WATER MANAGEMENT BOARD

IN THE MATTER OF THE APPLICATION OF THE UNITED ORDER OF SOUTH DAKOTA, APPLICATION NO. 2730-2

Linda Van Dyke Kilcoin's Answers and Responses to Interrogatories and Requests for Production of Documents

---

Intervener, Linda Van Dyke Kilcoin, hereby answers and responds to the *Interrogatories and Requests for Production of Documents to Intervener, Linda Van Dyke Kilcoin* as follows:

INTERROGATORIES

INTERROGATORY NO. 1. Prior to answering these interrogatories, have you made due and diligent search of your books, records, and papers, and due and diligent inquiry of all agents of the Applicant, with a view to eliciting all information available in this action?

ANSWER: Yes.

INTERROGATORY NO. 2. Please state the identify of all the individuals who participated in or were involved in answering these Interrogatories and Requests for Production of Documents and identify which interrogatory or request for production each individual supplied information for.

ANSWER: Linda Van Dyke Kilcoin.

INTERROGATORY NO. 3. State the names and addresses of any persons who you believe have or may purport to have any knowledge or information pertaining to this matter, your intervention or the Applicant's application, and state, insofar as you know, the nature of such knowledge or information.

ANSWER: I believe the other parties to this proceeding have knowledge, the exact nature of which is unknown to me.

INTERROGATORY NO. 4. State and explain every reason you oppose Applicant's application 2730-2.

ANSWER: The request for additional water usage by the applicant will be determined at the hearing. It is my belief that the granting of this water right is not in the public interest.

INTERROGATORY NO. 5. Identify and water right you claim or ownership in any water right you claim anywhere in South Dakota.

ANSWER: Unknown to me at the present time.

INTERROGATORY NO. 6. Do you allege that there is not reasonable probability that there is unappropriated water available in the Madison Aquifer for the applicant's proposed use? If so, explain why.

ANSWER: Objection. This question is objected to as it calls for a legal conclusion. Notwithstanding this objection, as a lay person, I am not qualified to answer this question.

INTERROGATORY NO. 7. Do you allege that the proposed diversion requested in the Applicant's application can not be developed without unlawful impairment of existing rights? If so, explain how so and specifically identify what water rights would be impaired and how they would be impaired.

ANSWER: Objection. This question is objected to as it calls for a legal conclusion. Notwithstanding this objection, as a lay person, I am not qualified to answer this question.

INTERROGATORY NO. 8. Do you allege that the proposed use of water requested in the Applicant's application is not in the public interest? If so, explain why not.

ANSWER: Objection. This question is objected to as it calls for a legal conclusion. It is my belief, however, that the issuance of this permit is not in the public interest as a common law trust is not a legal entity recognized under South Dakota law capable of holding a water right and the past history of the applicant establishes a disregard for the rules and regulations of the State.

INTERROGATORY NO. 9. Do you allege that the proposed use of water sought by the Applicant is not a beneficial use as defined by SDCL § 46-1-6(3)? If so, explain why not.

ANSWER: Objection. This question is objected to as it calls for a legal conclusion. Notwithstanding this objection, if all of the information concerning applicant's density is true and accurate, then it may constitute a beneficial use.

INTERROGATORY NO. 10. List the names, addresses, official titles, if any, of all witnesses, who, it is contemplated, will be called upon to testify in support of your claim in this matter, indicate the nature and substance of the testimony which it is expected will be given by each witness, and if any such prospective witnesses are related to you, state the relationship.

ANSWER: Objection. This question is objected to as it seeks information protected by attorney work product. The identity of all witnesses and the nature of their testimony will be disclosed in accordance with the directives of the hearing officer.

INTERROGATORY NO. 11. List, identify, and describe the contents of each document which it is contemplated will be offered in support of your claim in this action.

ANSWER: Objection. This question is objected to as it seeks information protected by attorney work product. All exhibits will be disclosed in accordance with the directives of the hearing officer.

INTERROGATORY NO. 12. If it will be claimed that, after the incident in question, the defendant, its agents, or employees spoke or were heard to speak about the cause or result of the incident, state the substance of what the defendant, its agents, or employees said, to whom he, she, or they spoke, and when and where.

ANSWER: It appears that this request for production relates to an incident that has no application in the present case.

INTERROGATORY NO. 13: Please identify and state the occupation, profession and field of specialization of each person whom you expect to call as an expert witness at the hearing, and as to each such person, please state:

a. The subject matter on which the expert is expected to testify;
b. A complete statement of the facts and opinions to which the expert is expected to testify;
c. The basis and reasons for all of the opinions upon which the expert is expected to testify;
d. The facts, data or other information provided to or considered by the witness in forming the opinions;
e. Any exhibits that will be used to summarize or support the opinions; and
f. The title, author, copyright date and publisher's name and address of any book, medical or scientific treatise upon which such expert shall rely or which such expert will utilize in the preparation of and the presentation of his testimony.

ANSWER: **No expert witness will be called by me.**

INTERROGATORY NO. 14. For every residence in Custer County or Fall River County, South Dakota you reside in, or are domiciled at, please identify all your sources of water.

ANSWER: **I obtain water from various wells and springs on my property.**

REQUESTS FOR PRODUCTION OF DOCUMENTS

REQUEST NO. 1: Any and all documents requested in Interrogatories 1 through 14 above.

RESPONSE: **This question is objected to as it seeks information protected by attorney work product.**

REQUEST NO. 2: Any document relied upon to answer any interrogatory above.

RESPONSE: **This question is objected to as it seeks information protected by attorney work product.**

Dated this _____ day of _____, 2015.

_____
Linda Van Dyke Kilcoin

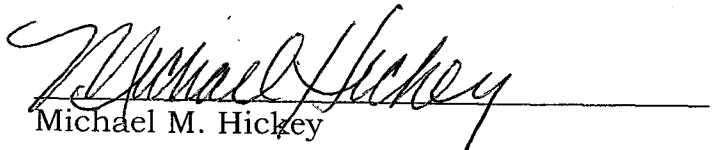
STATE OF SOUTH DAKOTA :
SS
COUNTY OF PENNINGTON :

Subscribed and sworn to before me this ___ day of _____, 2015.

_____
Notary Public, State of South Dakota
My commission expires: _____

(SEAL)

Signed as to objections this 24th day of June, 2015.



Michael M. Hickey

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 depositing copies thereof in the United States mail at Rapid City, South Dakota, postage prepaid, in envelopes addressed to said addressees, to wit:

Jeanne Goodman, Chief Engineer
DENR Water Rights Program
Foss Building
523 East Capitol
Pierre, SD 57501

Eric Gronlund
DENR Water Rights Program
Foss Building
523 East Capitol
Pierre, SD 57501

Matt Naasz
Assistant Attorney General
1302 East Highway 14, Suite 1
Pierre, SD 57501

Ann F. Mines Bailey
Assistant Attorney General
1302 East Highway 14, Suite 1
Pierre, SD 57501

Rodney Freeman
Prehearing Chair
Water Management Board
P.O. Box 176
Huron, SD 57350

Chad Comes, PE
Hearing Chair/Water Mgmt Bd.
c/o The City of Madison
116 West Center Street
Madison, SD 57042

Jeffrey R. Connolly
Gunderson Palmer Law Firm
P.O. Box 8045
Rapid City, SD 57709

William R. Hansen
Jeff Hughes
National Park Service
1201 Oak Ridge Drive, Suite 250
Fort Collins, CO 80525-5596

Cheryl Schrempp DuPris
Assistant U.S. Attorney
US Department of Justice
225 South Pierre St., Suite 337
Pierre, SD 57501

Peter A. Fahmy
National Park Service
12795 W. Alameda Parkway, Ste. 198
Lakewood, CO 80228

Lois Witte
Office of the General Counsel
Mountain Region
740 Simms St., Room 309
Golden, CO 80401-4720

Craig Bobzien
Forest Supervisor
Black Hills National Forest
1019 North 5th Street
Custer, SD 57730

Mr. & Mrs. David Albrecht
High Lonesome Ranch
26541 Stagecoach Springs Road
Custer, SD 57730-9109

Toni Martin
4141 Villa Ridge Ct #122
Rapid City, SD 57701

Doug Lesher
Stone Meadow Ranch
26699 Remington Road
Custer, SD 57730

Rick Fox
P.O. Box 35
Hermosa, SD 57744

Dean & Delia Johnson
14585 East French Creek Road
Fairburn, SD 57738

Karl R. and Suzanne K. Von Rump
11560 Farmer Road
Custer, SD 57730

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

Dated this 24th day of June, 2015.

MICHAEL M. HICKEY

RECEIVED
JUN 2 9 2015
WATER RIGHTS PROGRAM

GUNDERSON, PALMER, NELSON & ASHMORE, LLP
ATTORNEYS AT LAW
506 SIXTH STREET
POST OFFICE BOX 8045
RAPID CITY, SOUTH DAKOTA 57709-8045

TELEPHONE (605) 342-1078
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JEFFREY R. CONNOLLY
REBECCA L. MANN
ANDREW J. KNUTSON
KYLE L. WIESE
JANA SMOOT WHITE
TYLER C. WETERING
NATHAN R. CHICOINE

WYNN A. GUNDERSON
Of Counsel

Writer's E-mail Address: jconnolly@gpnalaw.com
Writer's Fax No.: (605) 342-0480

June 23, 2015

Michael M. Hickey
Bangs McCullen Butler Foye & Simmons LLP
P.O. Box 2670
Rapid City, SD 57709-2670

Re: United Order of South Dakota Re: Water Rights
GPNA File No. 12414.0002

Dear Mr. Hickey:

In follow up to my correspondence of June 22, 2015 and the documents I forwarded to you, I am enclosing an unsigned copy of *Applicant United Order of South Dakota's Supplemental Answers to Intervener Linda Kilcoin's Interrogatories and Requests for Production of Documents*. I will forward the signature pages once I have obtained my client's signature.

Sincerely yours,

Jeffrey R. Connolly

JRC:klk
Enclosure
cc: Jeanne Goodman
Eric Gronlund
Ann F. Mines Bailey
Lois G. Witte
William R. Hansen
Rick Fox
Karl and Suzanne VonRump
Cheryl Schrempp Dupris
Craig Bobzien
Mr. and Mrs. David Albrecht
Toni Martin
Doug Lesher
Dean and Delia Johnson
Rodney Freeman

919098 / 12414.0002

STATE OF SOUTH DAKOTA

BEFORE THE WATER MANAGEMENT BOARD

IN THE MATTER OF THE APPLICATION OF THE UNITED ORDER OF SOUTH DAKOTA, APPLICATION NO. 2730-2	**Applicant United Order of South Dakota's Supplemental Answers to Intervener, Linda Kilcoin's Interrogatories and Requests for Production of Documents to**

SUPPLEMENTAL ANSWERS TO INTERROGATORIES

INTERROGATORY NO. 3: As to the Applicant, please state the following:

a. The legal nature of the Applicant;
b. The state under which the Applicant is organized;
c. The date the Applicant was created;
d. The identity of the individuals who formed the Applicant;
e. The identity of the current leader, president, principal, trustee and/or beneficiaries of the Applicant; and
f. Please produce copies of all documents which show the nature of the Applicant, its creation, organizational chart, and its current internal policies, operations or bylaws.

Answer:

A. A Common Law Trust.

B. South Dakota.

C. December 23, 2009.

D. Applicant objects to this requests as it is overbroad, vague, and the information sought does not appear reasonably calculated to lead to the discovery of admissible evidence. In addition, the plaintiffs have not shown they have a substantial need for the requested materials in the preparation of their case.
***Supplement:* See bates nos. Applicant 034-046**

E. Applicant objects to this requests as it is overbroad, vague, and the information sought does not appear reasonably calculated to lead to the discovery of admissible evidence. In addition, the plaintiffs have not shown they have a substantial need for the requested materials in the preparation of their case.
***Supplement:* Notwithstanding the objection, see bates nos. Applicant 047-048.**

F. Applicant objects to this requests as it is overbroad, vague, and the information sought does not appear reasonably calculated to lead to the discovery of admissible evidence. In addition, the plaintiffs have not shown they have a substantial need for the requested materials in the preparation of their case.

Supplement: **Notwithstanding the objection, see bates nos. Applicant 034-048**

INTERROGATORY NO. 19: Has the Applicant submitted any documents to Dr. Arden Davis? If so, describe each document and produce a copy of each document that was provided and the date on which it was submitted to Dr. Arden Davis.

Answer: **Objection, Attorney-client Privilege and Work Product. Notwithstanding the objection, Arden Davis reports that he has received no documents from the Applicant by mail. Arden Davis reports that he has received the following privileged documents from the Applicant's prior attorney, David Ganje by email:**

Date	Description
03/11/2015	Zip files containing current permit and pending permit
03/13/2015	Scan of July 2007 Water Board minutes
03/17/2015	Arden Davis retainer agreement
03/18/2015	Retainer agreement signed by client
03/21/2015	Draft report by Davis with editing comments by Mr. Ganje
03/21/2015	Retainer agreement signed by all three parties
03/21/2015	Second comments by Mr. Ganje – draft report

Arden Davis reports he has received the following privileged emails from Seth Jeffs:

Date	Description
03/23/2015 through 4/17/2005	Email chain regarding report and discussing application hearing.

Supplement: **See bates nos. Applicant 049-257. Objection, SDCL § 15-6-26(b)(4)(C).**

Date	Description
03/21/2015	Draft report by Davis with editing comments by Mr. Ganje
03/21/2015	Second comments by Mr. Ganje – draft report

SUPPLEMENTAL ANSWERS TO REQUESTS FOR PRODUCTION OF DOCUMENTS

REQUEST NO. 3: Any and all documents requested in Interrogatories 1 through 20 above.

Answer: **See bates nos. Applicant 001-257.**

SIGNATURE PAGES TO FOLLOW

State of South Dakota)
) ss.
County of Pennington)

Seth Jeffs, being first duly sworn, deposes and states that he is the Water Operator for the United Order of South Dakota and is familiar with the facts and circumstances of the matters referred to hereinabove and states that these Answers to Interrogatories and Requests for Production of Documents and the facts stated therein are true and correct to the best of his knowledge and belief.

UNITED ORDER OF SOUTH DAKOTA,
A COMMON LAW TRUST

_____
By Seth S. Jeffs, Water Operator, Acting on Authority of the Board of Trustees

Subscribed and sworn to before me the _____ day of _____ 2015.

_____
Notary Public, South Dakota

(SEAL)

My Commission Expires:

AS TO OBJECTIONS:

GUNDERSON, PALMER, NELSON
& ASHMORE, LLP

By_____

Jeffrey R. Connolly
Attorneys for United Order of South Dakota
506 Sixth Street
PO Box 8045
Rapid City, SD 57709
(605) 342-1078
jconnolly@gpnalaw.com

CERTIFICATE OF SERVICE

I hereby certify on this _____ day of _____, 2015, I mailed by first-class U.S. mail, a true and correct copy of Applicant United Order of South Dakota's Supplemental Answers to Intervener, Linda Kilcoin's Interrogatories and Requests for Production of Documents to the following:

Jeanne Goodman, Chief Engineer
Water Rights Program
Foes Building
523 East Capitol
Pierre, SD 57501

Mr. and Mrs. David Albrecht
High Lonesome Ranch
26541 Stagecoach Springs Road
Custer, SD 57730-9109

Eric Gronlund
Water Rights Program
Foss Building
523 East Capitol
Pierre, SD 57501

Toni Martin
4141 Villa Ridge Ct. #122
Rapid City, SD 57701

William Hansen
Jeff Hughes
Peter A. Fahmy
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Water Resources Division
1201 Oak Ridge Drive, Suite 250
Fort Collins, CO 80525-5596

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Custer, SD 57730

Craig Bobzien
Forest Supervisor
Black Hills National Forest
1019 North 5th Street
Custer, SD 57730

Rick Fox
PO Box 35
Hermosa, SD 57744

Cheryl Schrempp Dupris
Assistant U.S. Attorney
US Department of Justice
225 South Pierre St., Suite 337
Pierre, SD 57501

Dean & Delia Johnson
14585 East French Creek Road
Fairburn, SD 57738

Michael Hickey
Bangs McCullen Butler Foye
& Simmons LLP
P.O. Box 2670
Rapid City, SD 57709-2670

Karl R. Von Rump
Suzanne K. Von Rump
11560 Farmer Road
Custer, SD 57730

CD disk attachment to Jeff Connolly's June 23, 2015 Filing

RECEIVED
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WATER RIGHTS PROGRAM

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NATHAN R. CHICOINE

WYNN A. GUNDERSON
Of Counsel

Writer's E-mail Address: jconnolly@gpnalaw.com
Writer's Fax No.: (605) 342-0480

June 12, 2015

Michael M. Hickey
Bangs McCullen Butler Foye & Simmons LLP
P.O. Box 2670
Rapid City, SD 57709-2670

Re: United Order of South Dakota Re: Water Rights
GPNA File No. 12414.0002

Dear Mr. Hickey:

I am sending you additional documents in this case subject to our discussion last week when we met and conferred regarding my client's initial responses to your client's interrogatories and requests for production. Please find enclosed Bates stamped numbers Applicant 034-257. I will prepare a formal supplement to your discovery requests and will send that in the next day or so. However, I wanted to get you these documents as soon as possible. Please let me know if you have any questions.

Sincerely yours,

Jeffrey R. Connolly

JRC:klk
Enclosure
cc: Jeanne Goodman
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JANA SMOOT WHITE
TYLER C. WETERING
NATHAN R. CHICOINE

WYNN A. GUNDERSON
Of Counsel

Writer's E-mail Address: jconnolly@gpnalaw.com
Writer's Fax No.: (605) 342-0480

June 12, 2015

Michael M. Hickey
Bangs McCullen Butler Foye & Simmons LLP
P.O. Box 2670
Rapid City, SD 57709-2670

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Jeffrey R. Connolly

JRC:klk
Enclosure
cc: Jeanne Goodman
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Cheryl Schrempp Dupris
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Mr. and Mrs. David Albrecht
Toni Martin
Doug Lesher
Dean and Delia Johnson
Rodney Freeman

919098 / 12414.0002

United States Department of the Interior

NATIONAL PARK SERVICE
Water Resources Division
1201 Oak Ridge Drive, Suite 250
Fort Collins, CO 80525

In reply use:
L54 (2380)
WICA/Water Rights

June 22, 2015

Ms. Jeanne Goodman, Chief Engineer
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523 E. Capitol
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Re: Withdrawal of Petition to Intervene Submitted by the National Park Service in the matter of Application for Permit to Appropriate Water within the State of South Dakota No. 2730-2 by the United Order of South Dakota

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Sincerely,

Wm. R. Hansen

William R. Hansen
Chief, Water Rights Branch

cc: Jeff Connolly (counsel for the United Order of South Dakota)
Vidal Davila (Superintendent, Wind Cave National Park)

USDA United States Department of Agriculture
Forest Service
Black Hills National Forest
1019 North 5th Street
Custer, SD 57730
605-673-9200
FAX: 605-673-9350

File Code: 2530
Date: June 24, 2015

JEANNE GOODMAN
CHIEF ENGINEER
WATER RIGHTS PROGRAM
FOSS BUILDING
523 E. CAPITOL
PIERRE, SD 57501

Dear Ms. Goodman:

Pursuant to paragraph three (3) of a Stipulation entered into by the U.S. Forest Service, the National Park Service, and the United Order of South Dakota, the U.S. Forest Service is required to withdraw its petition to intervene, which was submitted to you on January 16, 2015. Therefore, on behalf of the Black Hills National Forest and the U.S. Forest Service, I hereby request that the afore-mentioned petition be formally withdrawn.

Thank you for your assistance and the assistance of your counsel, Ms. Ann Mines Bailey, in addressing the novel issues presented by this matter.

Sincerely,

CRAIG BOBZIEN
Forest Supervisor

cc: Regional Forester - R2, Cheryl DuPris, Deanna Reyher, Lois Witte, Ann Mines-Bailey, Esq., Jeff Connolly

STATE OF SOUTH DAKOTA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

WATER MANAGEMENT BOARD

IN THE MATTER OF WATER APPLICATION No. 2730-2, UNITED ORDER OF SOUTH DAKOTA	))))	NOTICE OF APPEARANCE OF COUNSEL

Notice is Hereby Given of the entry of the undersigned as counsel for the above-described Petitioner in the above-entitled proceeding.

Attorney's name:	Cheryl Schrempp DuPris
Email address:	Cheryl.Dupris@usdoj.gov
Firm name:	United States Attorney's Office
Mailing address:	PO Box 7240, Suite 337, 225 South Pierre Street, Pierre, SD 57501
Attorney's name:	Peter A. Fahmy (pro hac vice May 17, 2015)
Email address:	Peter_A_Fahmy@nps.gov
Firm name:	National Park Service, Water Rights Branch
Mailing address:	1201 Oakridge Drive, Suite 250, Fort Collins, CO 80525
Attorney's name:	Lois G. Witte (pro hac vice motion pending)
Email address:	Lois.Witte@ogc.usda.gov
Firm name:	United States Department of Agriculture, Forest Service
Mailing address:	740 Simms St, Suite 309, Golden Colorado, 80401

DATED this 28 day of May, 2015.

RANDOLPH J. SEILER
ACTING UNITED STATES ATTORNEY

Cheryl Schrempp DuPris
Assistant United States Attorney
P. O. Box 7240
225 S. Pierre Street, Suite 337
Pierre, SD 57501
(605) 224-5402
FAX: (605) 224-1805
Cheryl.Dupris@usdoj.gov

CERTIFICATE OF SERVICE

I hereby certify that on this ___ day of May, 2015, a true and correct copy of the foregoing **Notice of Appearance of Counsel** and **USFS's Disclosure of Expert**, were mailed postage pre-paid in the United States Mail to:

United Order of South Dakota
PO Box 5050
Custer, SD 57730

Ann Mines-Bailey, Esq.
Assistant Attorney General
1302 East Highway 14, Suite 1
Pierre, SD 57501

Michael M. Hickey, Esq.
Bangs McCullen Law Firm
PO Box 2670
Rapid City, SD 57709

Craig Bobzien, Forest Supervisor
Black Hills National Forest
1019 North 5th Street
Custer, SD 57730

Toni Martin
4141 Villa Ridge Court, #122
Rapid City, SD 57701

Rodney Freeman, Prehearing Chair
Water Management Board
P.O. Box 176
Huron, SD 57350

Jeanne Goodman, Chief Engineer
Water Rights Program
Joe Foss Building
523 East Capitol Avenue
Pierre, SD 58501

Ann Mines-Bailey, Esq.
Assistant Attorney General
1302 East Highway 14, Suite 1
Pierre, SD 57501

Michael M. Hickey, Esq.
Bangs McCullen Law Firm
PO Box 2670
Rapid City, SD 57709

William R. Hansen, Chief
Water Rights Branch
National Park Service
1201 Oak Ridge Drive Ste 250
Ft. Collins, CO 80525

Craig Bobzien, Forest Supervisor
Black Hills National Forest
1019 North 5th Street
Custer, SD 57730

Karl R. and Suzanne K. Von Rump
11560 Farmer Road
Custer, SD 57730

Mr. & Mrs. David Albrecht
High Lonesome Ranch
26541 Stagecoach Springs Road
Custer, SD 57730

Rick Fox
PO Box 35
Hermosa, SD 57744

Toni Martin
4141 Villa Ridge Court, #122
Rapid City, SD 57701

Jeff Connolly
Gunderson, Palmer,Nelson & Ashmore
P.O. Box 8045
Rapid City, SD 57709

Dean & Delia Johnson
14585 East French Creek Road
Fairburn, SD 57738

Douglas L. Lesher
Acting Manager
Stone Meadow Ranch
26699 Remington Road
Custer, SD 57730

Rodney Freeman
Prehearing Chair
Water Management Board
P.O. Box 176
Huron, SD 57350

Lois Witte
Office of the General Counsel
Mountain Region
740 Simms St. Room 309
Golden, CO 80401-4720

And on the same date, the original was mailed to Jeanne Goodman, Chief Engineer, DENR Water Rights Program, Joe Foss Building, 523, E. Capitol Avenue, Pierre, SD, 57501.

_____

Cheryl Schrempp DuPris
Assistant United States Attorney
P. O. Box 7240, 225 S. Pierre St, Suite 337
Pierre, SD 57501
(605) 224-5402
FAX: (605) 224-1805
Cheryl.Dupris@usdoj.gov

US Department of Justice

RANDOLPH J. SEILER
Acting United States Attorney
District of South Dakota

225 South Pierre Street, Suite 337 *605.224.5402*
Pierre, SD 57501 *FAX 605.224.8305*

June 15, 2015

Ann Mines-Bailey
Assistant Attorney General
Mickelson Criminal Justice Center
1302 East Highway 14, Suite 1
Pierre, SD 57501

HAND DELIVERED

Re: Water Management Board Water Application No. 2730-2

Dear Ann:

Enclosed is an executed original and 20 copies of the Stipulation for Withdrawal of Petitions To Intervene. It is my understanding that you will offer the Stipulation as an exhibit at the July 9, 2015 hearing on the above-entitled water permit application.

By copy of this letter, I am sending one original to Jeffrey Connolly, attorney for United Order of South Dakota. We have not served the stipulation upon others, and the enclosed copies are intended for that purpose.

Please contact me with any questions or concerns.

Sincerely,

RANDOLPH J. SEILER
Acting United States Attorney

Cheryl Schrempp DuPris
Cheryl Schrempp DuPris
Assistant U.S. Attorney

Enclosure
cc: Jeffrey Connolly (letter and one original Stipulation)

STIPULATION FOR WITHDRAWAL OF PETITIONS TO INTERVENE

This Stipulation is made and entered into between United Order of South Dakota, common law trust ("United Order"), the United States Department of the Interior, National Park Service ("NPS"), and United States Department of Agriculture, Forest Service ("FS") (collectively "the Parties").

RECITALS

A. On October 14, 2014, the United Order filed an "Application for Permit to Appropriate Water within the State of South Dakota" with the South Dakota Department of Environment and Natural Resources, Water Rights Program. The application was assigned No. 2730-2. The application requested that a previously-issued permit (No. 2610-2), which is owned by the United Order, be amended to add a new point of diversion and increase the rate of withdrawal to 300 gallons per minute (gpm) of groundwater from the Madison aquifer.

B. On December 5, 2014, the Chief Engineer of the State of South Dakota (Chief Engineer) issued a Recommendation recommending approval of Application No. 2730-2.

C. On December 19, 2014, the NPS submitted a petition to intervene to the Chief Engineer, wherein the NPS advised the Chief Engineer about its concerns regarding the potential adverse effects of Application No. 2730-2 on the water rights and water-dependent resources of Wind Cave National Park.

D. On January 15, 2015, the NPS submitted an amendment to its petition to intervene to the Chief Engineer, wherein the NPS raised additional issues of concern. On the basis of its assertion that Application No. 2730 was speculative, the NPS requested that the South

Dakota Water Management Board (Water Management Board) deny Application No. 2730-2.

E. On January 16, 2015, the FS submitted a petition to intervene to the Chief Engineer, wherein the FS advised the Chief Engineer about its concerns regarding the potential adverse effects of Application No. 2730-2 on the water-dependent resources of Cascade Springs and Cascade Creek and the possible speculative nature of the application.

F. By way of a letter to the Chief Engineer, dated February 18, 2015, the United Order requested that Application No. 2730-2 be amended by reducing the maximum instantaneous diversion rate from 300 gpm to 200 gpm.

G. On June 1, 2015, the Chief Engineer issued a Revised Recommendation for Water Permit Application No. 2730-2. Among other recommendations, the Revised Recommendation included two (2) qualifications that the NPS and the FS believe should substantially reduce any adverse effects from the applicant's proposed groundwater withdrawals on the water rights and water-dependent resources of the NPS and the FS. Those qualifications are as follows:

1. Water Permit Nos. 2610-2 and 2730-2, combined, are limited to an annual volume of 60 acre-feet of water at a maximum diversion rate of 0.466 cubic feet of water per second; and,
2. A water meter shall be installed and maintained at the well sites authorized by Water Permit Nos. 2610-2 and 2730-2. The Water Permit Holder shall report to the Chief Engineer annually the amount of water withdrawn from the Madison Aquifer. The report shall be submitted each January and provide a

month by month breakdown of water withdrawn for the previous calendar year.

H. The Water Management Board has set an administrative hearing to consider the Application No. 2730-2 as amended, the Revised Recommendation of the Chief Engineer, and the petitions to intervene, which is scheduled for July 9th, 2015.

I. The Parties acknowledge that other entities and individuals have lodged petitions to intervene to the Application No. 2730-2, but such other entities and individuals are not Parties to or in any way bound or prejudiced by this Stipulation.

J. The Parties desire to resolve the issues raised by the petitions to intervene filed by the NPS and the FS according to the terms and conditions contained in this Stipulation.

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein, the Parties do agree as follows:

1. The United Order hereby expressly agrees that it shall take no actions of any kind to contest the Revised Recommendation of the Chief Engineer, dated June 1, 2015, including but not limited to refraining from interposing any objections to the Revised Recommendation during any proceedings before the Water Management Board, and shall in no way oppose the attachment of the qualifications set forth in the Revised Recommendation to Water Permit Nos. 2610-2 and 2730-2.

2. The United Order hereby expressly agrees to affirmatively support the Revised Recommendation of the Chief Engineer for Water Permit Application No. 2730-2, dated June 1, 2015, in all proceedings before the Water Management Board.

3. The NPS and FS hereby expressly agree to withdraw their petitions to intervene in the matter of the Application No. 2730-2 within five (5) business days of the complete execution of this Stipulation.

4. The Parties agree that this Stipulation shall be submitted to the Chief Engineer within five (5) business days following the complete execution of this Stipulation for submission to the Water Management Board and incorporation into the administrative record for Water Permit Nos. 2610-2 and 2730-2.

5. The Parties agree that, at any time following the complete execution of this Stipulation, the NPS and the FS, at their sole discretion, may issue press releases or other types of official statements to the general media setting forth the scientific, technical, policy, and legal reasons associated with each federal agency's determination to withdraw its petition to intervene.

6. The Parties expressly acknowledge that this Stipulation is binding only upon the Parties hereto and their successors, transferees and assigns, and shall not bind or seek to bind or prejudice any other interveners.

7. This Stipulation does not waive any authorities of the NPS and the FS or the United States of America, including any other agency or bureau not specified in this Stipulation, nor relieve the United Order from complying with any applicable state and federal laws and any and all rules and regulations thereunder.

8. The Parties expressly acknowledge that the Water Management Board has, pursuant to both statutory and case law, broad authority to administer groundwater resources in the State of South Dakota and, furthermore, that nothing contained in this Stipulation shall be construed as waiving or in any manner diminishing such authority.

9. In the event that the United Order transfers or assigns its interest in Water Permit No. 2610-2 and/or Water Permit Application 2730-2 prior to a final determination of the Water Management Board on Water Permit Application 2730-2, the United Order shall provide written notice to the NPS and FS within three (3) business days of the transfer or assignment. As a condition to any such transfer or assignment, the United Order shall obtain from the transferee and/or assignee an express written confirmation that the transferee and/or assignee is bound by all of the terms and conditions of this Stipulation and shall deliver such express written confirmation to the NPS and the FS not later than seven (7) business days following the transfer or assignment.

10. If notice is required to be sent to the NPS and the FS by the United Order, the addresses are as follows:

Chief, Water Right Branch
National Park Service
1201 Oakridge Drive
Fort Collins, CO 80525

Forest Supervisor, Black Hills National Forest
U.S. Forest Service
1019 North 5th Street
Custer, SD 57730

11. This Stipulation shall be governed in accordance with the laws of the State of South Dakota to the extent not inconsistent with federal law.

12. By entering into this Stipulation, the NPS and the FS do not become a party to any proceeding other than the administrative proceeding of the Water Management Board regarding Application No. 2730-2, nor do they waive their immunity from suit or consent to or acknowledge the jurisdiction of any other court or tribunal. Nothing in this Stipulation shall affect any state permitted or federal reserved water rights of the United

States or the United States on behalf of any Indian Tribe or individual Indian, and the NPS and the FS by entering into this Stipulation do not waive or prejudice any such rights. The NPS and the FS reserve all legal rights, of any kind, they possess pursuant to or derived from Executive Orders, Acts of Congress, judicial decisions, or regulations promulgated pursuant thereto, including but not limited to, the filing of petitions to intervene in the future in response to Recommendations of the Chief Engineer issued on any and all new applications for permits or changes to existing permits to appropriate water filed by the United Order.

13. This Stipulation may be amended by mutual agreement of the Parties.

14. This Stipulation sets forth the entire agreement of the Parties and supersedes all prior discussions, negotiations, understandings, or agreements. No alteration or variation of this Stipulation shall be valid or binding unless expressly agreed to in writing by the Parties.

15. The terms and conditions of this Stipulation shall be binding upon and inure to the benefit of the Parties hereto and their respective personal representatives, successors, transferees and assigns.

16. The Parties may execute this Stipulation in two or more counterparts, which shall in the aggregate be signed by all Parties; each counterpart shall be deemed an original as against any party who has signed it.

17. Other entities may become Parties to this Stipulation by mutual assent of the Parties.

IN WITNESS WHEREOF, the Parties hereto have executed this Stipulation as of the date(s) written below.

Date: 6/15/2015

ON BEHALF OF THE NATIONAL PARK SERVICE, DEPARTMENT OF THE INTERIOR, AND THE UNITED STATES FOREST SERVICE, DEPARTMENT OF AGRICULTURE

RANDOLPH J. SEILER
ACTING UNITED STATES ATTORNEY

Cheryl Schrempp DuPris

Cheryl Schrempp DuPris
Assistant United States Attorney
P. O. Box 7240
225 S. Pierre Street, Suite 337
Pierre, SD 57501
(605) 224-5402
FAX: (605) 224-1805
Cheryl.Dupris@usdoj.gov

Date: 6/11/2015

UNITED ORDER OF SOUTH DAKOTA, A COMMON LAW TRUST

By Seth S. Jeffs
Title: Water Operator, Acting on Authority of the Board of Trustees

State of South Dakota)
) ss.
County of Pennington)

On this 11 day of June, 2015, before me, the undersigned officer, personally appeared Seth S. Jeffs, known to me or satisfactorily proven to be the person whose name is subscribed to the within instrument and acknowledged that he executed the same for the purpose therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Notary Public

(SEAL)
My Commission Expires: February 20th 2016

ERIN A. ERNEST NOTARY PUBLIC SEAL SOUTH DAKOTA MY COMMISSION EXPIRES 2-20-2016

GUNDERSON, PALMER, NELSON & ASHMORE, LLP

ATTORNEYS AT LAW
506 SIXTH STREET
POST OFFICE BOX 8045
RAPID CITY, SOUTH DAKOTA 57709-8045

TELEPHONE (605) 342-1078
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JANA SMOOT WHITE
TYLER C. WETERING
NATHAN R. CHICOINE

WYNN A. GUNDERSON
Of Counsel

Writer's E-mail Address: jconnolly@gpnalaw.com
Writer's Fax No.: (605) 342-0480

June 12, 2015

RECEIVED
JUN 15 2015
WATER RIGHTS PROGRAM

Michael M. Hickey
Bangs McCullen Butler
Foye & Simmons LLP
P.O. Box 2670
Rapid City, SD 57709-2670

Re: United Order of South Dakota Re: Water Rights
GPNA File No. 12414.0002

Dear Mike:

Enclosed is Applicant United Order of South Dakota's Answers to Intervener Linda Kilcoin's Interrogatories and Requests for Production of Documents.

Sincerely yours,

Jeffrey R. Connolly

JRC:amb
Enclosure
cc: Jeanne Goodman
Eric Gronlund
Ann F. Mines Bailey
Lois G. Witte
William R. Hansen
Rick Fox
Karl and Suzanne VonRump
Cheryl Schrempp Dupris
Craig Bobzien
Mr. and Mrs. David Albrecht
Toni Martin
Doug Lesher
Dean and Delia Johnson
Rodney Freeman

919098 / 12414.0002

STATE OF SOUTH DAKOTA

BEFORE THE WATER MANAGEMENT BOARD

IN THE MATTER OF THE APPLICATION OF THE UNITED ORDER OF SOUTH DAKOTA, APPLICATION NO. 2730-2	**Applicant United Order of South Dakota's Answers to Intervener, Linda Kilcoin's Interrogatories and Requests for Production of Documents to**

ANSWERS TO INTERROGATORIES

INTERROGATORY NO. 1: Prior to answering these interrogatories, have you made due and diligent search of your books, records, and papers, and due and diligent inquiry of all agents of the Applicant, with a view to eliciting all information available in this action?

ANSWER: **Yes.**

INTERROGATORY NO. 2: Please state the identify of all the individuals who participated in or were involved in answering these Interrogatories and Requests for Production of Documents and identify which interrogatory or request for production each individual supplied information for.

ANSWER: **Seth Jeffs, Water Operator, United Order of South Dakota, PO Box 5050, Custer SD 57730.**

INTERROGATORY NO. 3: As to the Applicant, please state the following:

a. The legal nature of the Applicant;
b. The state under which the Applicant is organized;
c. The date the Applicant was created;
d. The identity of the individuals who formed the Applicant;
e. The identity of the current leader, president, principal, trustee and/or beneficiaries of the Applicant; and
f. Please produce copies of all documents which show the nature of the Applicant, its creation, organizational chart, and its current internal policies, operations or bylaws.

Answer:

A. A Common Law Trust.

B. South Dakota.

C. December 23, 2009.

D. Applicant objects to this requests as it is overbroad, vague, and the information sought does not appear reasonably calculated to lead to the discovery of admissible evidence. In addition, the plaintiffs have not shown they have a substantial need for the requested materials in the preparation of their case.

E. **Applicant objects to this requests as it is overbroad, vague, and the information sought does not appear reasonably calculated to lead to the discovery of admissible evidence. In addition, the plaintiffs have not shown they have a substantial need for the requested materials in the preparation of their case.**

F. **Applicant objects to this requests as it is overbroad, vague, and the information sought does not appear reasonably calculated to lead to the discovery of admissible evidence. In addition, the plaintiffs have not shown they have a substantial need for the requested materials in the preparation of their case.**

INTERROGATORY NO. 4: As of October 14, 2014, the date the Applicant filed Application No. 2730-2, how many persons were being served by the water supply system operated by the Applicant? Please produce copies of any documents reviewed or utilized by you to answer this interrogatory.

Answer: **Applicant objects to this request as it is overbroad, vague, and the information sought does not appear reasonably calculated to lead to the discovery of admissible evidence. In addition, the plaintiffs have not shown they have a substantial need for the requested materials in the preparation of their case.**

Notwithstanding the objection, the operator does not know that exact number, but it is within the number allowed by the current wastewater permits.

INTERROGATORY NO. 5: As of the date these Interrogatories and Requests for Production of Documents were served, how many persons are served by the water supply system operated by the Applicant? Please produce copies of any documents reviewed or utilized by you to answer this interrogatory.

Answer: **See Answer to Interrogatory No. 4.**

INTERROGATORY NO. 6: Are there current plans by the Applicant to increase the number of persons who may be served by the water supply system operated by the Application? If so, please state the additional number of persons who may be served within the next five (5) and ten (10) years. Please produce copies of any documents reviewed or utilized by you to answer this interrogatory.

Answer: **To the operator's knowledge, there are no current plans to increase the number of persons served by the water supply system beyond the maximum allowed by current wastewater permits.**

INTERROGATORY NO. 7: As of October 14, 2014, the date the Applicant filed Application No. 2730-2, how many head and what type of livestock were being watered using

water supplied by the water supply system operated by the Applicant? Please produce copies of any documents reviewed or utilized by you to answer this interrogatory.

Answer: **None.**

INTERROGATORY NO. 8: As of the date these Interrogatories and Requests for Production of Documents were served, how many head and what type of livestock are being watered using water supplied by the water supply system operated by the Applicant? Please produce copies of any documents reviewed or utilized by you to answer this interrogatory.

Answer: **None.**

INTERROGATORY NO. 9: As of October 14, 2014, the date the Applicant filed Application No. 2730-2, how many acres of noncommercial family gardens, trees, shrubbery, or orchards were being irrigated using water supplied by the water supply system operated by the Applicant? Please produce copies of any documents reviewed or utilized by you to answer this interrogatory.

Answer: **About 5 Acres.**

INTERROGATORY NO. 10: As of the date these Interrogatories and Requests for Production of Documents were served, how many acres of noncommercial family gardens, trees, shrubbery, or orchards are being irrigated using water supplied by the water supply system operated by the Applicant? Please produce copies of any documents reviewed or utilized by you to answer this interrogatory.

Answer: **About 5 Acres.**

INTERROGATORY NO. 11: As of October 14, 2014, the date the Applicant filed Application No. 2730-2, what was the total water storage capacity available for the water supply system operated by the Applicant? As of that date, how much water was being stored by the Applicant? Please produce copies of any documents reviewed or utilized by you to answer this interrogatory.

Answer: **About 30,000 Gallons.**

INTERROGATORY NO. 12: As of the date these Interrogatories and Requests for Production of Documents were served, what is the total water storage capacity available for the water supply system operated by the Applicant? As of that date, how much water is being stored by the Applicant? Please produce copies of any documents reviewed or utilized by you to answer this interrogatory.

Answer: **About 30,000 Gallons.**

INTERROGATORY NO. 13: As of October 14, 2014, the date the Applicant filed Application No. 2730-2, what was the total volume of wastewater that was generated as a result

of the water supply system operated by the Applicant? Please produce copies of any documents reviewed or utilized by you to answer this interrogatory.

Answer: **Applicant does not meter or record the flow into the septic systems, but applicant does not exceed the limits discussed in the Supplemental Report to the Chief Engineer, dated May 14, 2015, UOSD ## 3-4.**

INTERROGATORY NO. 14: As of the date these Interrogatories and Requests for Production of Documents were served, what is the total volume of wastewater that is being generated as a result of the water supply system operated by the Applicant? Please produce copies of any documents reviewed or utilized by you to answer this interrogatory.

Answer: **Applicant does not meter or record the flow into the septic systems, but applicant does not exceed the limits discussed in the Supplemental Report to the Chief Engineer, dated May 14, 2015, UOSD ## 3-4.**

INTERROGATORY NO. 15: As of the date these Interrogatories and Requests for Production of Documents were served, how many gallons of groundwater will the Applicant need to withdraw annually from the Madison aquifer under Application 2730-2 to meet all of the present needs of the Applicant? Please produce copies of any documents reviewed or utilized by you to answer this interrogatory.

Answer: **Unknown at this time, but within the 60 acre feet limit discussed in the Supplemental Report to the Chief Engineer, dated May 14, 2015 UOSD ## 1-6.**

INTERROGATORY NO. 16: How has the Applicant beneficially used the groundwater withdrawn pursuant to Water Permit No. 2610-2 for the purpose of suburban housing development? Please produce copies of any documents which establish the beneficial use of groundwater withdrawn or which was reviewed or utilized by you to answer this interrogatory.

Answer: **Applicant objects to this request as it calls for a legal conclusion.**

Notwithstanding the objection, the Applicant has used groundwater in the past for watering gardens, watering orchards, watering landscaping, feeding animals, drinking, washing, sanitary use, and culinary use.

INTERROGATORY NO. 17: Has the Applicant ever submitted a Subdivision Review Application to the Custer County Planning Department? If so, for which parcels owned by the Applicant and on what date(s)? Please produce a copy of any such applications or any other documents reviewed or utilized by you to answer this interrogatory.

Answer: **Applicant objects to this request as it is overbroad, vague, and the information sought does not appear reasonably calculated to lead to**

the discovery of admissible evidence. In addition, the plaintiffs have not shown they have a substantial need for the requested materials in the preparation of their case. Notwithstanding the objection, the Operator is not aware any.

INTERROGATORY NO. 18: Please identify and state the occupation, profession and field of specialization of each person whom you expect to call as an expert witness at the hearing, and as to each such person, please state:

a. The subject matter on which the expert is expected to testify;
b. A complete statement of the facts and opinions to which the expert is expected to testify;
c. The basis and reasons for all of the opinions upon which the expert is expected to testify;
d. The facts, data or other information provided to or considered by the witness in forming the opinions;
e. Any exhibits that will be used to summarize or support the opinions;
f. The title, author, copyright date and publisher's name and address of any book, medical or scientific treatise upon which such expert shall rely or which such expert will utilize in the preparation of and the presentation of his testimony;
g. The qualifications of the witness, including a listing of all publications authored in the previous ten (10) years;
h. A list of all other cases in which the witness has testified as an expert at trial or by deposition within the preceding four (4) years; A statement of the compensation to be paid for the study and testimony in this case; and
i. Please attach a copy of any report prepared by each such expert.

Answer: **See Expert Disclosure dated June 1, 2015 and attachments.**

INTERROGATORY NO. 19: Has the Applicant submitted any documents to Dr. Arden Davis? If so, describe each document and produce a copy of each document that was provided and the date on which it was submitted to Dr. Arden Davis.

Answer: **Objection, Attorney-client Privilege and Work Product. Notwithstanding the objection, Arden Davis reports that he has received no documents from the Applicant by mail. Arden Davis reports that he has received the following privileged documents from the Applicant's prior attorney, David Ganje by email:**

Date	Description
03/11/2015	Zip files containing current permit and pending permit
03/13/2015	Scan of July 2007 Water Board minutes
03/17/2015	Arden Davis retainer agreement
03/18/2015	Retainer agreement signed by client
03/21/2015	Draft report by Davis with editing comments by Mr. Ganje
03/21/2015	Retainer agreement signed by all three parties
03/21/2015	Second comments by Mr. Ganje – draft report

Arden Davis reports he has received the following privileged emails from Seth Jeffs:

Date	Description
03/23/2015 through 4/17/2005	Email chain regarding report and discussing application hearing.

INTERROGATORY NO. 20: Has the Applicant or any one acting on its behalf, prepared and/or submitted to the Custer County School District or any other local school board or other governmental entity an Application for Excuse From School Attendance for any child residing on the property for each year between 2007 and the present time? If so, please produce a copy of each such Application and Certificate of Excuse.

Answer: **Applicant objects to this request as it is overbroad, vague, and the information sought does not appear reasonably calculated to lead to the discovery of admissible evidence. In addition, the plaintiffs have not shown they have a substantial need for the requested materials in the preparation of their case.**

ANSWERS TO REQUESTS FOR PRODUCTION OF DOCUMENTS

REQUEST NO. 1: Any and all documents pertaining to the purposes, formation, composition, and operation of the common law trust known as the United Order of South Dakota.

Answer: **Applicant objects to this request as it is overbroad, vague, and the information sought does not appear reasonably calculated to lead to the discovery of admissible evidence. In addition, the plaintiffs have not shown they have a substantial need for the requested materials in the preparation of their case.**

REQUEST NO. 2: Any and all documents associated with the preparation by the United Order of South Dakota of the "2014 Drinking Water Report."

Answer: **None possessed by Applicant. Applicant submitted water samples to Energy Laboratories, who then reported testing results directly to the Department of Environmental and Natural Resources.**

REQUEST NO. 3: Any and all documents requested in Interrogatories 1 through 20 above.

Answer: **See bates nos. Applicant 1-33.**

REQUEST NO. 4: Any and all documents sent to or received from the South Dakota Department of Environment and Natural Resources between the years 2007 and the present time.

Answer: **Applicant objects to this request as it is overbroad, vague, and the information sought does not appear reasonably calculated to lead to the discovery of admissible evidence. In addition, the plaintiffs have not shown they have a substantial need for the requested materials in the preparation of their case.**

REQUEST NO. 5: Any and all documents sent to or received from Custer County between the years 2007 and the present time.

Answer: **Applicant objects to this request as it is overbroad, vague, and the information sought does not appear reasonably calculated to lead to the discovery of admissible evidence. In addition, the plaintiffs have not shown they have a substantial need for the requested materials in the preparation of their case.**

SIGNATURE PAGES TO FOLLOW

State of South Dakota)
) ss.
County of Pennington)

Seth Jeffs, being first duly sworn, deposes and states that he is the Water Operator for the United Order of South Dakota and is familiar with the facts and circumstances of the matters referred to hereinabove and states that these Answers to Interrogatories and Requests for Production of Documents and the facts stated therein are true and correct to the best of his knowledge and belief.

UNITED ORDER OF SOUTH DAKOTA,
A COMMON LAW TRUST

By Seth S. Jeffs, Water Operator, Acting on Authority of the Board of Trustees

Subscribed and sworn to before me the 11th day of June 2015.

Notary Public, South Dakota

(SEAL)

ERIN A. ERNEST NOTARY PUBLIC SEAL SOUTH DAKOTA MY COMMISSION EXPIRES 2-20-2016

My Commission Expires: February 20th 2016

AS TO OBJECTIONS:

GUNDERSON, PALMER, NELSON
& ASHMORE, LLP

By
Jeffrey R. Connolly
Attorneys for United ~~Order of South~~ Dakota
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Rapid City, SD 57709
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jconnolly@gpnalaw.com

CERTIFICATE OF SERVICE

I hereby certify on this 12th day of June, 2015, I mailed by first-class U.S. mail, a true and correct copy of Applicant United Order of South Dakota's Answers to Intervener, Linda Kilcoin's Interrogatories and Requests for Production of Documents to the following:

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GUNDERSON, PALMER, NELSON
& ASHMORE, LLP

Jeffrey R. Connolly

SUPPLEMENTAL REPORT TO THE CHIEF ENGINEER
ON
WATER PERMIT APPLICATION NO. 2730-2
UNITED ORDER OF SOUTH DAKOTA C/O SETH JEFFS
MAY 14, 2015

Water Permit Application No. 2730-2 was received by the Department of Environment and Natural Resources-Water Rights Program (DENR-WR) on October 14, 2014. The application proposed authorization to complete a new well into the Madison aquifer (approximately 1100 feet deep) in the NW¼ SE¼ of Section 10, T6S-R3E, in Custer County. The application proposed to divert water from the new well and from two existing wells, authorized by Water Permit No. 2610-2, at a combined maximum diversion rate of 0.67 cfs (approximately 300 gallons per minute (gpm)). Water Permit No. 2610-2 currently authorizes diversions of up to a maximum rate of 0.21 cfs (approximately 94 gpm) from two wells located in the NW¼ SE¼ of Section 10, T6S-R3E, Custer County. Therefore, Application No. 2730-2 proposed an increased diversion rate from the Madison aquifer of 0.46 cfs (approximately 206 gpm). The water is to be used in the United Order of South Dakota's water system.

Water Permit Application No. 2730-2 was public noticed and several interveners filed petitions in opposition to granting the permit. On February 18, 2015, the Water Rights Program received a request from the applicant to modify Application No. 2730-2 to a reduced diversion rate. Application No. 2730-2, as revised, proposes to appropriate water from the Madison aquifer at an additional maximum diversion rate of 0.236 cfs (approximately105.9 gpm) and authorize a total maximum diversion rate from a new well and the two existing wells of 0.446 cfs (approximately 200 gpm).

CURRENT WATER USAGE:

Water Permit No. 2610-2 was approved August 1, 2007, and included a qualification (No. 4) that requires the applicant to report to the Chief Engineer annually the amount of water withdrawn from the Madison aquifer. A summary of the United Order of South Dakota's reported water use is shown in Table 1.

Table 1. Annual water usage associated with Water Permit No. 2610-2, as reported to the Chief Engineer (Water Rights, 2015).

Water Use Reported by United Order of South Dakota		
Year	Gallons (Reported)	Acre-feet (Converted)
2007	150,500	0.46
2008	2,813,000	8.63
2009	6,207,000	19.05
2010	8,600,900	26.40
2011	13,205,800	40.53
2012	10,635,920	32.64
2013	3,447,480	10.58
2014	8,323,600	25.54

Water Permit No. 2610-2 authorizes the use of water for the purpose of "suburban housing development" and may not exceed the amount of water needed for beneficial use. Suburban housing development use typically includes water for drinking, washing, sanitary and culinary purposes, in addition to incidental irrigation. In a February 18, 2015, letter addressed to the Chief Engineer, The National Park Service Water Resources Division and The Black Hills National Forest, Mr. Seth S. Jeffs, the United Order of South Dakota water operator, indicated the community's beneficial use of water includes "watering gardens, orchards, landscape, and feeding animals during the spring and summer months".

Drinking, washing, sanitary and culinary uses:

2014 Drinking Water Survey

An on-site evaluation at the United Order of South Dakota public water system was conducted by the Department of Environment and Natural Resources-Drinking Water Program on June 11, 2014. The evaluation report identified the system as a "Community Water System" with a total population served of 75. The on-site evaluation reported that well No.1, which was constructed in 2007, was the only well connected to the water system, and it was capable of diverting 80 gpm. The on-site evaluation reported the system was capable of supplying 95 gpm (Holan, 2014).

Watering Gardens, Orchards, Landscape, and Feeding Animals:

The areas within the United Order of South Dakota's development that appear to be cultivated or landscaped were identified by evaluating June 29, 2014, imagery available through Google Earth 7.1.2.2014. The areas, shown as polygons outlined in dark green in Figure 1, digitized using Esri® ArcGIS 10.2, total approximately seven acres. Assuming an application rate of two acre-feet per acre per year, the total annual water use at the development for watering gardens, orchards and landscape is estimated to be less than 14 acre-feet per year. Livestock watering uses cannot be estimated at this time.

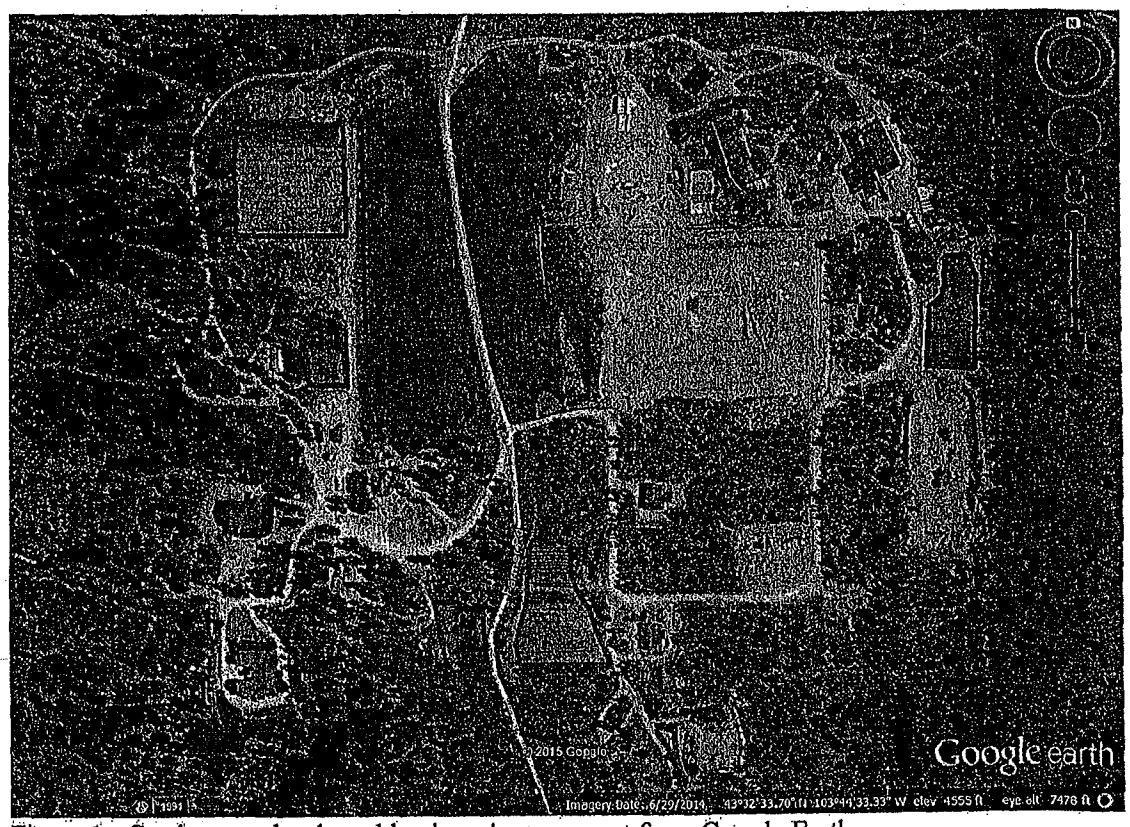

Figure 1. Gardens, orchards and landscaping apparent from Google Earth

FUTURE NEEDS:
In his February 18, 2015 letter, Mr. Jeffs stated that "the number of gardens and orchards will increase as the community is able to bring more of the land into cultivation"; "the needs for animals in the future will increase the demand for water"; and "the need for fire protection is also a great concern."

Drinking, washing, sanitary and culinary uses:
Onsite Wastewater System Approvals
The DENR has approved four onsite wastewater systems for the United Order of South Dakota community. The specifics for these systems are shown in Table 2. The wastewater systems are limited to capacities approved; therefore the total maximum daily flow (MDF) for the four systems is limited to 7,560 gallons per day (gpd). Assuming 7,560 gpd for 365 days equates to total volume of 8.47 acre-feet per year.

Table 2. Onsite wastewater systems approved by DENR for the United Order of South Dakota compound. (Hipple)

ESTABLISHMENT	APPROVAL DATE	REMARKS
United Land Management	09/14/2005	Basic system, 2,160 MDF, 18-bedroom residence
United Land Management	06/28/2007	Basic system, 1,560 MDF, 13-bedroom residence
United Land Management	09/10/2007	Basic drainfield for two duplexes, total of 14 bedrooms, 1,600 MDF
United Order of SD (United Land Management)	03/03/2010	Basic system, 2160 MDF, 18-bedroom residence
MDF=maximum daily flow		

The designed wastewater flow rate used in the review of United Land Management's residential septic systems was based on 60 gallons a person per day and a maximum of 2 persons per bedroom (Hipple, 2015). Based on the onsite wastewater systems approved for the community, (i.e. maximum daily flow of 7,560 gpd, and 63 bedrooms), the onsite wastewater system capacity is 126 people.

The total future system residential demand based on a population limited by the community's onsite wastewater system capacity (126) and a per capita demand for residential use of a maximum of 130 gallons per capita per day (Lindeburg, 2012) is estimated to be 18 ac-ft/yr.

Watering Gardens, Orchards, Landscape, and Animal needs:
Increased acreage of gardens, orchards and landscape areas is difficult to predict. However, two areas, totaling approximately 14 acres, (identified in yellow in Figure 2.) were considered potentially irrigable lands based on topography and groundcover. The addition of 14 acres of gardens, orchards and landscaping, would result in a tripling of the acreage currently estimated for that use. Assuming 21 acres of gardens, orchards and landscaping, irrigated at a rate of two acre-feet per acre per year results in an estimated "irrigation" use of 42 acre-feet per year. Future animal needs cannot be estimated with the information currently available.

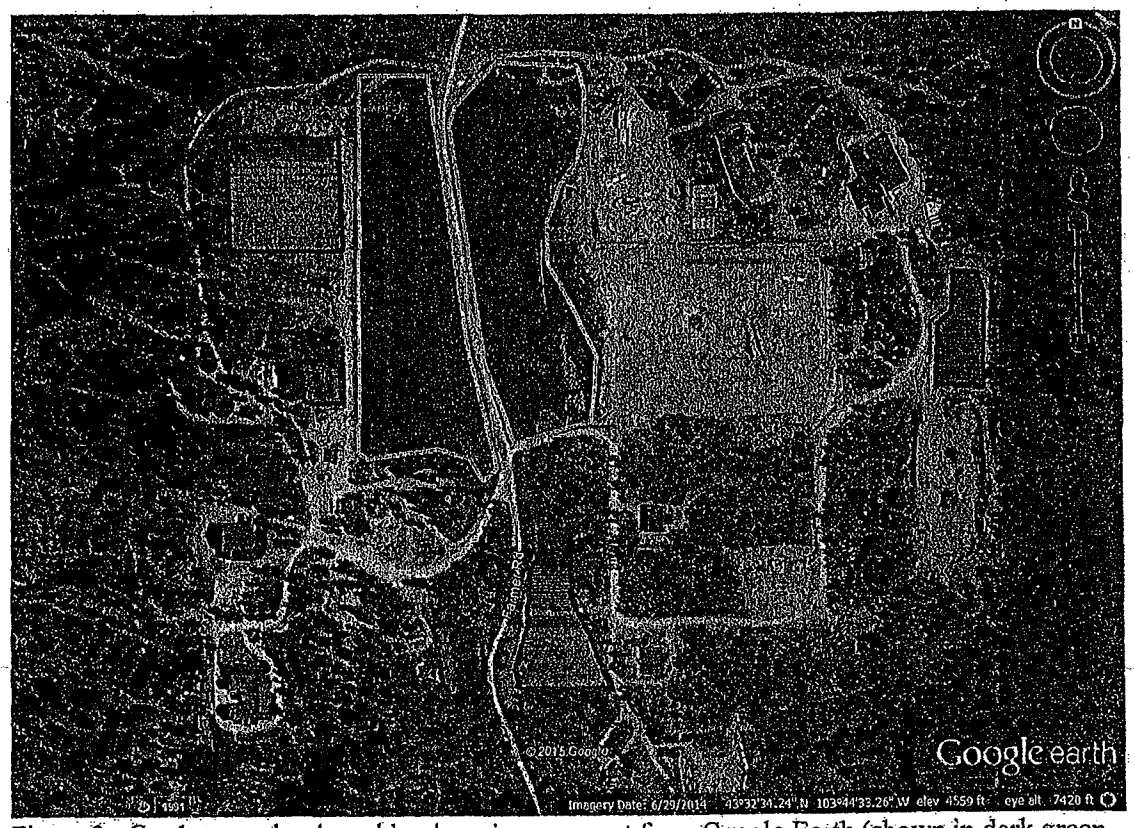

Figure 2. Gardens, orchards and landscaping apparent from Google Earth (shown in dark green polygons) and potentially irrigable acreage (shown in yellow polygons).

Fire Protection

"Based on United Order of South Dakota's Water Right Application stating that they will be constructing at least a 250,000 gal storage tank and the Insurance Service Office (ISO) minimum requirements for fire suppression of 1000gpm at 20psi for 2hours; the 250,000 gal storage will supply adequate domestic and fire suppression storage. The ISO required fire suppression storage should not affect annual drawdown" (Dreis, 2015).

Projected Total Future Water Use:

Future water use at the United Order of South Dakota community is estimated on an average per capita water use of 130 gallons per person per day for the maximum population capacity of the onsite wastewater systems (126), plus the irrigation of 21 acres at a maximum rate of two acre-feet per acre. This total demand is estimated to be less than 60 ac-ft/yr.

ESTIMATED IMPACTS:

In the report to the Chief Engineer titled "Water Permit Application No. 2730-2, United Order of South Dakota, November 12, 2014" (Buhler, 2014), the Theis Equation was used to compare the theoretical impact of an increase in the total pumping rate at the community of 0.67 cfs compared to 0.46 cfs. Drawdown 1000 feet from a pumped well would have increased with the increased diversion rate on the order of nine feet. The assumption of continuous pumping at the

maximum diversion rate, for one year, with no recharge, is an unrealistic assumption. As stated in the report, "The Theis equation requires a number of simplifying assumptions, some of which may not apply in this case; however, the solution is still useful to show that drawdown should not be significant."

The instantaneous diversion rate proposed by this application has been revised and the drawdown that would result would be less. The impact of this application's proposed withdrawals was evaluated considering well withdrawals more likely for this community. Drawdown was evaluated at a distance of 1000 feet from a production well after one year, assuming: A. a transmissivity of 10,943.2 GPD/F; B. a Storativity of 0.0002; and C. a difference between 40.53 acre-feet per year (maximum reported pumping) and 60 acre-feet per year (projected pumping). With the assumptions above and again, assuming no recharge, drawdown can be expected to be in the vicinity of 1.1 feet ("Theis Equation Calculator").

Ken Buhler
SD DENR-Water Rights Program

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WATER RIGHTS PROGRAM

STATE OF SOUTH DAKOTA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

BEFORE THE WATER MANAGEMENT BOARD

IN THE MATTER OF WATER PERMIT APPLICATION #2730-2, UNITED ORDER OF SOUTH DAKOTA	))))	**United Order of South Dakota's Disclosure of Expert Witness**

Pursuant to the Court's May 18, 2015 Scheduling Order, United Order of South Dakota hereby discloses the name of any expert that it intends to call as an expert witness as follows:

1. Arden D. Davis, Ph.D., P.E., 1014 Milwaukee Street, Rapid City, South Dakota 57701. A copy of Mr. Davis' March 27, 2015 expert report and his curriculum vitae is attached.

Dated this 1st day of June, 2015.

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CERTIFICATE OF SERVICE

I hereby certify on this 16 day of June, 2015, I mailed by first-class U.S. mail, a true and correct copy of a United Order of South Dakota's Designation of Expert Witness to the following:

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GUNDERSON, PALMER, NELSON
& ASHMORE, LLP

Jeffrey R. Connolly

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WATER RIGHTS PROGRAM

Groundwater in the Madison Aquifer

With Regard to Water Permit Application No. 2730-2

Arden D. Davis, Ph.D., P.E.
1014 Milwaukee Street
Rapid City, South Dakota 57701

March 27, 2015

Introduction

This report was prepared in regard to Water Permit Application No. 2730-2, which under the Applicant's revised application requests 0.23 cubic feet per second (cfs) of water from the Madison aquifer. The request for 0.46 cfs was modified to 0.23 cfs by the applicant in a letter of February 18, 2015. A new Madison well would be constructed to augment production from two existing wells that were authorized in a previous permit (Water Permit 2610-2). The wells are in the NW ¼ SE ¼ of Section 10, T. 6 S., R. 3 E., in Custer County, South Dakota. The new well would be about 900 feet from the existing wells at the site.

The Madison aquifer underlies much of the southern Black Hills area and contains abundant groundwater supplies. The Madison aquifer, at the site of Water Permit Application No. 2730-2, is understood by current scientific literature to be fully saturated (Carter et al., 2002), as shown on Figure 1. Groundwater in the Madison aquifer is an under-utilized and almost undeveloped resource in the vicinity of the requested withdrawals. In the S.D. DENR review of Water Permit Application No. 2730-2, Mr. Buhler

(2014) noted no other existing water rights/permits for the Madison aquifer within ten miles or more of the applicant site. Additional evidence of the under-utilized nature of the Madison aquifer, in the area of the requested permit, is available in reports of the U.S. Geological Survey. A potentiometric map of the Madison aquifer in the Black Hills (Strobel et al., 2000) showed no Madison wells for water-level contours in the entire 36 square mile area of T. 6 S., R. 3 E. (Figure 2). Therefore there are no other water permit demands for the aquifer within the 36 square miles.

Concerns Raised by the National Park Service

The National Park Service filed a petition in 2014 to intervene in the matter of Application No. 2730-2. In its petition letter, the National Park Service cited a concern about water levels in the Madison aquifer within Wind Cave National Park. The letter showed calculated values of predicted drawdown at a distance of 13 miles from the site of the requested Water Permit Application No. 2730-2. Assumptions underlying the use of the equations appear to be faulty. The petitioner's assumed values of the aquifer properties used in the calculations are quite variable. For example, the calculations used a storage coefficient value of 0.0002 in trying to predict drawdown at a distance of thirteen miles, from the site of the requested water permit to Wind Cave, even though the outcrop of the Madison Limestone (i.e., part of its recharge area) is exposed between Wind Cave and the site of Water Permit Application No. 2730-2. The aquifer would receive recharge at its outcrop area, but the Theis equation assumes that no recharge occurs during drawdown calculations. Recharge to the aquifer would reduce any drawdown from pumping.

At the outcrop area and eastward toward Wind Cave, the aquifer would be under water-table (unconfined) conditions. It is not appropriate to use a small storage coefficient value such as 0.0002 (which is typical of a confined aquifer) in such an area. The groundwater in Wind Cave and its lakes is under atmospheric pressure and is not confined by the overlying weight of rocks, because the cave is open to the atmosphere. Therefore, the Madison aquifer is not a confined (artesian) aquifer at the cave, and the water is not under pressure by an overlying confining layer. A very small storage coefficient of 0.0002 implies confined conditions (Freeze and Cherry, 1979) and is not suitable for predicting drawdowns at the Wind Cave lakes. A storage coefficient value of 0.0002 would give inappropriately large calculated values of drawdown at Wind Cave, compared to values of drawdown calculated with a storage coefficient value that would be typical of an unconfined (water-table) aquifer at the cave. For areas where an aquifer is unconfined, a storage value much larger than 0.0002 normally should be used. Accordingly, calculated drawdowns from pumping would be less.

The deep lakes at Wind Cave are mainly at the eastern and southeastern side of the cave, approximately 13 miles or more from the site of Water Permit Application No. 2730-2. This is a long distance (more than 68,000 feet) for extrapolating drawdowns; it is noted that in his review of the application, Mr. Buhler (2014) extended his extrapolated drawdowns to a distance of 2000 feet away, which is much more reasonable than a longer distance, because of variability of aquifer properties and uncertainty about hydrologic conditions.

The transmissivity and storage coefficient values of the Madison aquifer are not known with certainty in the Black Hills and can be quite

variable. It is at best speculative to assert that drawdowns of 6 to 9 feet or more would occur at Wind Cave because of pumping occurring about 13 miles away at the site from Water Permit Application No. 2730-2.

It is also important to report that the site of requested applicant withdrawals does not appear to be upgradient from Wind Cave and therefore would be less likely to result in an adverse effect at the cave.

Concerns Raised by the Black Hills National Forest

The United States Department of Agriculture, Black Hills National Forest, in January of 2015 filed a petition to intervene in the matter of Application No. 2730-2. In its letter, the National Forest expressed concern that withdrawals could over time affect the warm water spring ecosystem at Cascade Springs. However, Cascade Springs are approximately 17 miles from the site of requested applicant withdrawals from the Madison aquifer, which is a very long distance for extrapolating effects of pumping. In addition, water at the site of Water Permit Application No. 2730-2 is approximately 54° F, which is much cooler than the warm spring water at Cascade Springs (about 68° F). There is no close hydraulic connection between the applicant's site and Cascade Springs.

The Forest Service letter petition states that there are no known structural features between the area of the well and Cascade Springs that would be expected to isolate the effects of well pumping from the springs. However, U.S. Geological Survey maps by Driscoll et al. (2002) and Strobel et al. (2000) show a long, synclinal fold between the well site and Cascade Springs, which limits any hydraulic connection across this distance (see Figure 3). The axis of a synclinal fold normally is an area of compression in which fractures tend to remain closed, which would limit permeability and

thus limit hydraulic connection between the applicant's well site and Cascade Springs.

Evans Plunge is a warm-springs swimming pool (approximately 87° F) that is fed by springs along the Fall River in Hot Springs (see Figure 3). The springs at Evans Plunge are more than 15 miles from the area of the applicant's site. The source of the springs is believed to be the Madison aquifer (Carter and others, 2002). According to research by Back et al. (1983) the calculated age of water at Evans Plunge was 1,900 years before present. Back et al. (1983) did not calculate an age for the water at Cascade Springs, because of problems with possible mixing of water from the Minnelusa or other aquifers, and Cascade Springs is farther south than Evans Plunge. We can conclude that a very long travel time would be involved for water that emerges at Cascade Springs, indicating that it is extremely unlikely that pumping at the applicant's site would affect the springs.

Conclusions

Groundwater in the Madison aquifer is an under-utilized and almost undeveloped resource in the vicinity of the requested withdrawal for Water Permit Application No. 2730-2. The Madison aquifer is generally understood to be fully saturated at the site. No existing water rights for Madison aquifer wells appear to be within approximately ten miles of the applicant's site. The requested additional diversion of 0.23 cubic feet per second is not expected to have any adverse effect on other Madison wells, or the water at Wind Cave, or Cascade Springs, because of the distances (12 miles or more) that are involved. The requested withdrawals from the Madison aquifer are reasonable for their intended use.

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Theis, C.V., 1935, The relation between the lowering of the piezometric surface and the rate and duration of discharge of a well using groundwater storage: Transactions, American Geophysical Union, v. 2, p. 519-524.

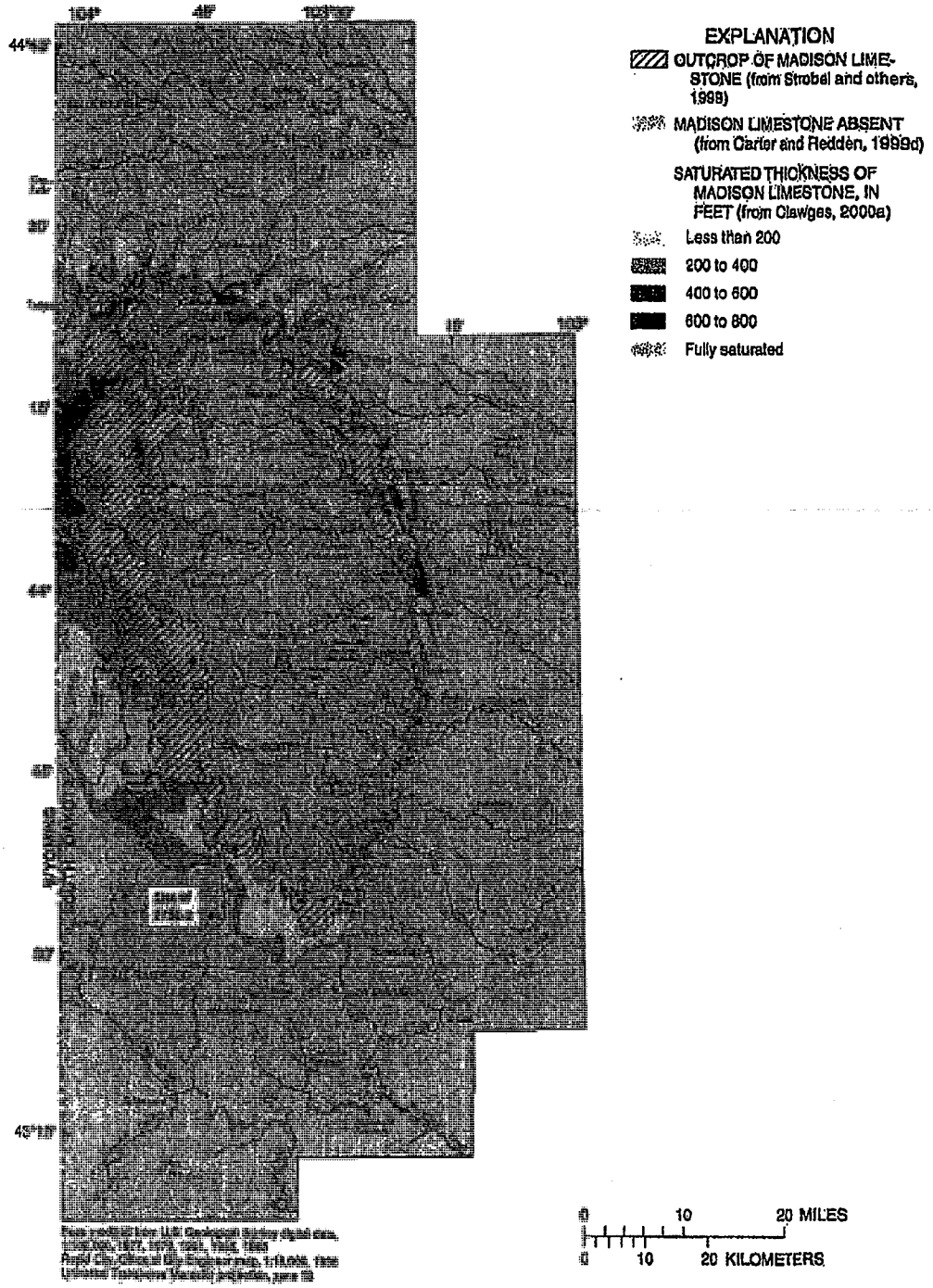

Figure 1. Saturated thickness of the Madison aquifer in the Black Hills (from Driscoll et al., 2002).

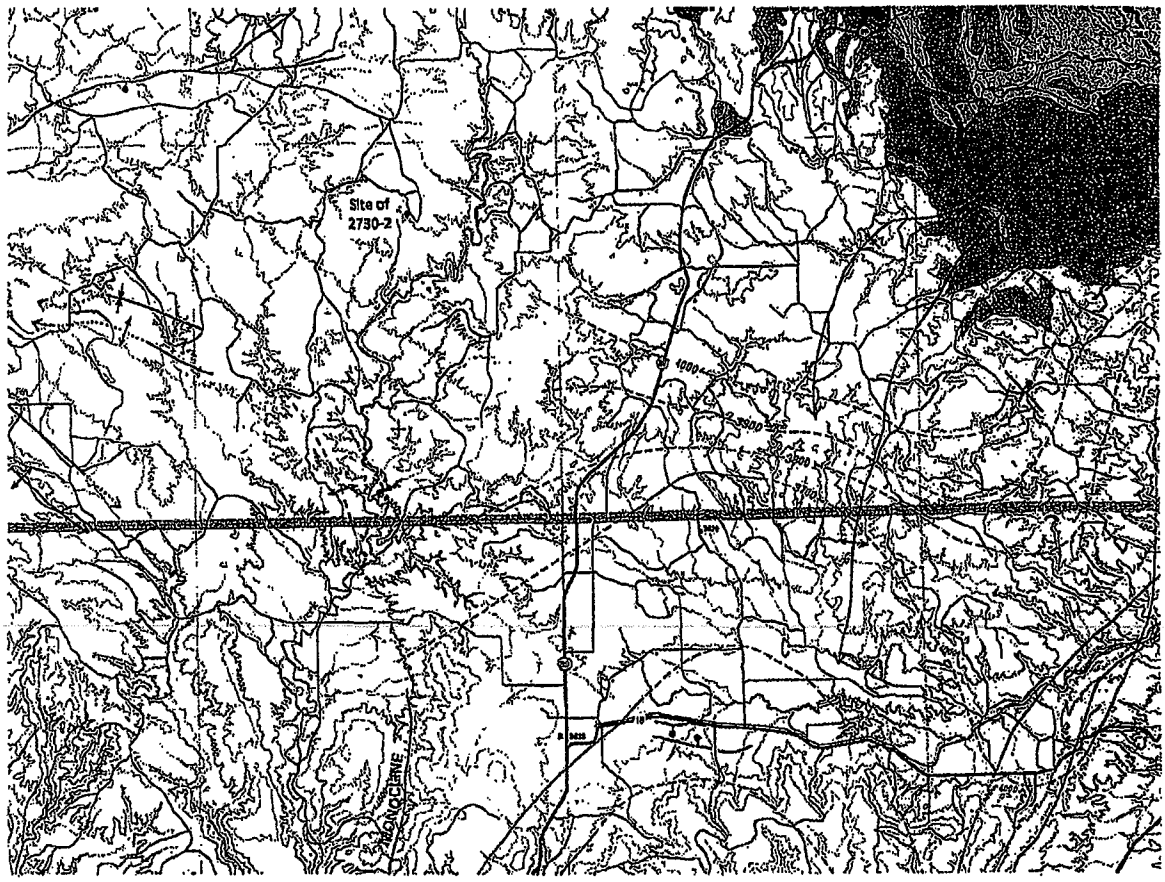

Figure 2. Potentiometric map of the Madison aquifer (from Strobel et al., 2000) showing few or no Madison wells near the site of Water Permit Application 2730-2.

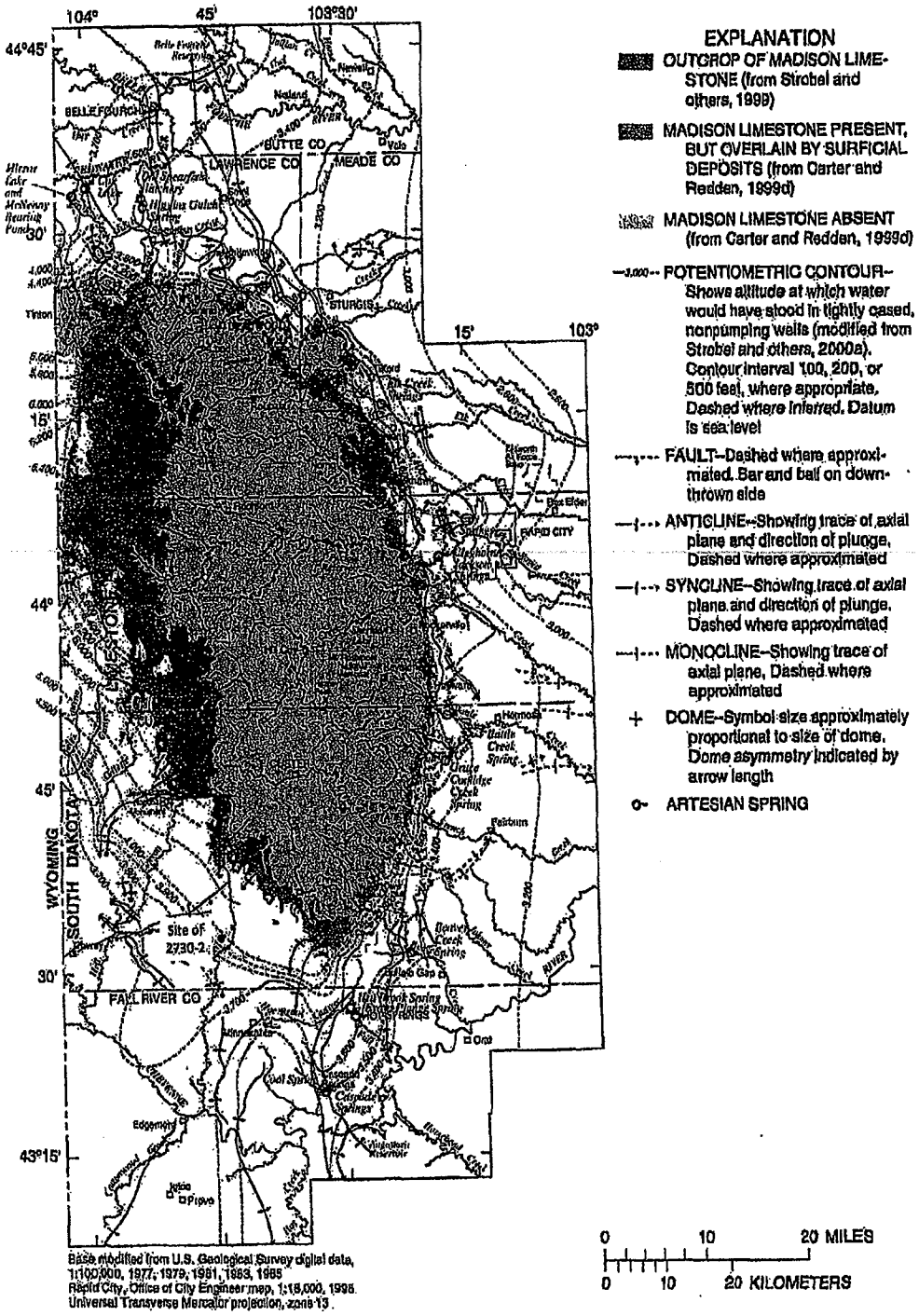

Figure 3. Madison aquifer in the Black Hills area (from Driscoll et al., 2002).

Arden D. Davis

Arden Davis received a B.A. degree in geology from the University of Minnesota and M.S. and Ph.D. degrees in geological engineering from South Dakota School of Mines and Technology.

Dr. Davis currently is Professor in the Department of Geology and Geological Engineering at South Dakota School of Mines and Technology. Since 1982 he has served as Instructor, Assistant Professor, Associate Professor, Professor, and Chairman of the Department of Geology and Geological Engineering. During that time he has worked on digital modeling of ground-water flow as well as transport and dispersion of subsurface contaminants. He teaches courses in ground water, digital modeling of ground-water flow and contaminant transport, ground-water geochemistry, analytical methods in ground water, and geological engineering design.

Dr. Davis is a Registered Professional Engineer in South Dakota. He also is a member of the Society for Mining, Metallurgy, and Exploration (SME). He has served as associate editor and reviewer for the journal of Ground Water, and as a book reviewer for the Bulletin of the Association of Engineering Geologists. He has served as chairman of the Council of Education and the Accreditation and Curricular Issues Committee of the Society for Mining, Metallurgy, and Exploration. From 2002 to 2007, Dr. Davis served on the Engineering Accreditation Commission of ABET. In 2007, he was appointed to the ABET Board of Directors and served a three-year term. In 2010, he was re-appointed to the ABET Board of Directors.

During his career at South Dakota School of Mines and Technology, Dr. Davis has worked extensively on ground-water projects and geological engineering site evaluations. He has been an investigator in more than fifty funded research projects. As a consultant he has provided expert witness testimony in cases involving environmental contamination and disposal of waste. He also has given technical assistance to the South Dakota Department of Environment and Natural Resources in the review of mining plans and ground-water contamination problems, including Superfund sites. He and his co-researchers hold a U.S. patent for removal of arsenic from water, and they have applied for a second patent for removal of metals from water.

In his service to South Dakota School of Mines and Technology, Dr. Davis has acted as Geological Engineering Program Coordinator and ABET Coordinator for geological engineering accreditation. This included revision of the geological engineering curriculum, origination and teaching of new engineering design courses, and preparation of ABET reports. He also is active in ground-water protection efforts, and in 1998 received the Virginia Simpson Award for community service in the Rapid City area. In 2007, he received the Ennenga Award for Excellence in Teaching. In 2014 he received the Ivan Rahn Education Award from SME, and in 2015 he was presented with the Distinguished Service Award of the Environmental Division of SME.

Arden D. Davis

Academic rank:	Professor, Department of Geology and Geological Engineering	
Education:	B.A. - 1971	University of Minnesota (Geology)
	M.S. - 1979	South Dakota School of Mines and Technology (Geological Engineering)
	Ph.D.- 1983	South Dakota School of Mines and Technology (Geological Engineering)

Registered Professional Engineer (South Dakota; No. 4663)

Experience:	2006 - present	Professor S.D. School of Mines and Technology
	2002 - 2006	Chairman Dept. of Geology and Geological Engineering S.D. School of Mines and Technology
	1995 - 2002	Professor S.D. School of Mines and Technology
	1989 - 1994	Associate Professor S.D. School of Mines and Technology
	1984 - 1989	Assistant Professor S.D. School of Mines and Technology
	1982	Instructor
	1976-1982	Teaching and Research Assistant
	1978	Shell Development (Shell Oil Company)

Teaching:	Digital Modeling of Ground-Water Flow Systems, Ground Water, Ground-Water Geochemistry, Geochemistry, Analytical Methods in Ground Water, Advanced Ground Water, Engineering Field Geology, Geological Engineering Design Project I
Consulting:	Ground-water hydrologist and geological engineering consultant for numerous projects over past thirty years involving ground-water contamination, aquifer evaluation, low-level radioactive waste site evaluation, spring-flow measurements, and mine site development.
Funded research:	Projects involving ground-water contamination, ground-water resource evaluation, aquifer vulnerability, water quality, and mine waste.
Community service:	Ground-water protection efforts (see following pages).
Theses:	Forty eight M.S. theses and twelve Ph.D. dissertations supervised.

APPLICANT 021

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Consulting:

2015 Siting of pipeline; water rights application
2014 Spring discharges
2013 Spring discharges
2012 Expert witness testimony – proposed pipeline
2011 Spring discharges
2010 Madison aquifer well for municipal water supply.
2009 Expert witness testimony: springs and potential effects of nearby wells.
2008 Ground-water model for permit application.
2007 Siting of new Madison wells for public water supplies in the Black Hills.
2006 Modeling of ground-water flow and biodegradation of benzene.
2005 Modeling of ground-water flow and gasoline contamination.
2004 Ethylene dibromide contamination; expert witness.
2003 Alliance of Architects and Engineers; expert witness.
2002 Alliance of Architects and Engineers; expert witness.
2001 Consolidated Engineers & Materials Testing; GeoTek; expert witness.
2000 Hillcrest Spring Water; Rapid City Landfill; expert witness.
1999 Boyd County LLW Monitoring Committee; Gill Landfill modeling.
1998 Boyd County LLW Monitoring Committee; Rapid City Landfill.
1997 Boyd County LLW Monitoring Committee; Terra, Inc., modeling.
1996 Terra, Inc., modeling; Boyd County LLW Monitoring Committee.
1995 Terra, Inc.; modeling for City of Ida Grove, Iowa; Vogel Paint and Wax.
1994 Keystone Gold Project, Keystone, South Dakota.
Dunbar Resort: proposed railroad grade, Deadwood, South Dakota.
Vogel Paint and Wax Superfund Site, Maurice, Iowa.
1993 Keystone Gold Project, Keystone, South Dakota.
Vogel Paint and Wax Superfund Site, Maurice, Iowa.
Low-level radioactive waste site evaluation and modeling.
1992 City of Rapid City: criteria for private wastewater disposal facilities.
Nitrate contamination from mine waste.
1991 Corrosion problems during geothermal heating.
1990 Low-level radioactive waste site evaluation.
South Dakota Department of Environment and Natural Resources: cyanide contamination.
1989 Wastewater facility site evaluation.
South Dakota Department of Environment and Natural Resources: review of mine plan, northern Black Hills.
1988 Expert witness: gasoline contamination of ground water.
1987 South Dakota Department of Environment and Natural Resources: modeling of gasoline contamination.
Utility Engineering Company: aquifer test evaluation.
Gasoline contamination of ground water.
1986 South Dakota Department of Environment and Natural Resources.
1985 South Dakota Department of Environment and Natural Resources: ground-water contamination.

1983 Rosebud Sioux Tribe: aquifer evaluation.
1981 Save Wyoming Water: drawdown calculations.
South Dakota Public Utilities Commission: aquifer evaluation.
1981 Evans Plunge, Hot Springs, South Dakota: spring discharges.
1979 U.S. Environmental Protection Agency; Engineering Science, Inc.

Community Service:

Assisted City of Rapid City and Pennington County in determining aquifer vulnerability in the Rapid City area. Assisted U.S. Environmental Protection Agency and South Dakota Department of Environment and Natural Resources as member of Technical Advisory Team, Gilt Edge Superfund Site.

Selected Publications:

Davis, A.D., 1986, Deterministic modeling of dispersion in heterogeneous permeable media: Ground Water, v. 24, no. 5, p. 609-615.

Davis, A.D., 1987, Determination of mean transmissivity values in the modeling of ground water flow, in Proceedings of International Conference on Solving Ground Water Problems with Models: National Ground Water Association, Dublin, Ohio, p. 1162-1174.

Davis, A.D., and Riding, D.R., 1989, A three-dimensional model of ground-water flow in the Madison aquifer at Annie Creek mine, northern Black Hills, South Dakota, in Proceedings of International Conference on Solving Ground Water Problems with Models: National Ground Water Association, Dublin, Ohio, p. 409-423.

Rizk, Z.S., and Davis, A.D., 1991, Impact of the proposed Qattara Reservoir on the Moghra aquifer of northwestern Egypt: Ground Water, v. 29, no. 2, p. 232-238.

Davis, A.D., 1992, Review of "Finite Element Techniques in Ground Water Flow Studies," in Bulletin of the Association of Engineering Geologists, v. 29, no. 4, p. 431-432.

Davis, A.D., 1994, Education of future ground-water professionals: Ground Water, v. 32, no. 5, p. 706-707.

Rahn, P.H., Davis, A.D., Webb, C.J., and Nichols, A.D., 1996, Water quality impacts from mining in the Black Hills, South Dakota, USA: Environmental Geology, v. 27, no. 1, p. 38-53.

Rahn, P.H., and Davis, A.D., 1996, An educational and research well field: Journal of Geoscience Education, v. 44, p. 506-517.

Rahn, P.H., and Davis, A.D., 1996, Gypsum foundation problems in the Black Hills area, South Dakota: Environmental and Engineering Geoscience, v. II, no. 2, p. 213-223.

Davis, A.D., Heriba, A., and Webb, C.J., 1996, Prediction of nitrate concentrations in effluent from spent ore: Mining Engineering, v. 48, no. 2, p. 79-83.

Davis, A.D., and Zabolotney, G.A., 1996, Ground-water flow simulations for the determination of post-mining recharge rates at the Belle Ayr Mine: Mining Engineering, v. 48, no. 11, p. 80-83.

Davis, A.D., and Rahn, P.H., 1997, Karstic gypsum problems at wastewater stabilization sites in the Black Hills of South Dakota: Carbonates and Evaporites, v. 12, no. 1, p. 73-80.

Webb, C.J., Davis, A.D., and Paterson, C.J., 1998, Comprehensive inventory of known abandoned mine lands in the Black Hills of South Dakota: Mining Engineering, v. 50, no. 7, p. 84-86.

Davis, A.D., Webb, C.J., and Durkin, T.V., 1999, A watershed approach to evaluating impacts of abandoned mines in the Bear Butte Creek basin of the Black Hills: Mining Engineering, v. 51, no. 9, p. 49-56.

Davis, A.D., Long, A.J., and Wireman, M., 2000, Sensitivity of the Madison aquifer to contamination in the Rapid City area of the Black Hills, in Strobel, M.L., and Davis, A.D., eds., Hydrology of the Black Hills: South Dakota School of Mines and Technology Bulletin No. 20, p. 12-19.

Davis, A.D., Capehart, W.J., Hjelmfelt, M.R., Kenner, S.J., Johnson, C.S., and Naus, C.A., 2000, Coupling of a ground-water model to atmospheric and surface-water models in the complex terrain of the Black Hills, in Strobel, M.L., and Davis, A.D., eds., Hydrology of the Black Hills: South Dakota School of Mines and Technology Bulletin No. 20, p. 65-72.

Davis, A.D., Long, A.J., and Wireman, M., 2002, KARSTIC: a sensitivity method for carbonate aquifers in karst terrain: Environmental Geology and Water Science, v. 42, no. 1, p. 65-72.

Davis, A.D., and Webb, C.J., and Beaver, F.W., 2003, Hydrology of the proposed National Underground Science Laboratory at the Homestake Mine in Lead, South Dakota: Preprint 03-59, Society for Mining, Metallurgy, and Exploration, Littleton, Colorado.

Webb, C.J., Davis, A.D., and Johnson, C.S., Environmental evaluation of the Belle Eldridge Mine near Deadwood, South Dakota: Mining Engineering.

Davis, A.D., Beaver, F.W., and Stetler, L.D., 2003, Engineering problems of gypsum karst along the Interstate 90 development corridor in the Black Hills of South Dakota, in Johnson, K., and Neal, J., eds., Evaporite Karst and Engineering Problems in the United States: Oklahoma Geological Survey Circular 109, p. 255-261.

Webb, C.J., and Davis, A.D., 2003, Arsenic remediation of drinking water using modified limestone: ACS Paper 726161, American Chemical Society.

Davis, A.D., Webb, C.J., and Nelson, K.C., 2004, Acid rock drainage and the potential for impacts at selected abandoned mine sites in the Black Hills National Forest: Preprint 04-49, Society for Mining, Metallurgy, and Exploration, Littleton, Colorado, 3 p.

Davis, A.D., and Webb, C.J., 2005, Progress toward a National Underground Science and Engineering Laboratory at the Homestake Mine in Lead, South Dakota: Preprint 05-33, Society for Mining, Metallurgy, and Exploration, Littleton, Colorado, 3 p.

Miller, S.L., Kenner, S.J., Davis, A.D., and Silva, A.J., 2005, Characterization of naturally occurring acid rock drainage and impacts to the North Forks of Rapid Creek and Castle Creek in the Black Hills near Rochford, South Dakota: Proceedings, South Dakota Academy of Science, v. 83, p. 83-89.

Davis, A.D., and Webb, C.J., Progress toward a Deep Underground Science and Engineering Laboratory at the Homestake Mine in Lead, South Dakota: Mining Engineering.

Miller, S.L., Davis, A.D., and Lisenbee, A.L., 2005, Vulnerability (risk) mapping of the Madison aquifer near Rapid City, South Dakota (abstract), in Kuniansky, E.L., ed., U.S. Geological Survey Karst Interest Group Proceedings: U.S. Geological Survey Scientific Investigations Report 2005-5160, p. 163.

Stetler, L.D., and Davis, A.D., 2005, Gypsum and carbonate karst along the I-90 development corridor, Black Hills, South Dakota (abstract), in Kuniansky, E.L., ed., U.S. Geological Survey Karst Interest Group Proceedings: U.S. Geological Survey Scientific Investigations Report 2005-5160, p. 134.

Epstein, J.B., Davis, A.D., Long, A.J., Putnam, L.D., and Sawyer, J.F., 2005, Field Trip Guide 2, Karst features of the northern Black Hills, South Dakota and Wyoming, in Kuniansky, E.L., ed., U.S. Geological Survey Karst Interest Group Proceedings: U.S. Geological Survey Scientific Investigations Report 2005-5160, p. 232-282.

Davis, A.D., Webb, C.J., Dixon, D.J., Sorensen, J.L., and Dawadi, S., 2006, Arsenic removal from drinking water by limestone-based material: Preprint 06-034, Society for Mining, Metallurgy, and Exploration, Littleton, Colorado, 3 p.

Davis, A.D., Webb, C.J., Dixon, D.J., Sorensen, J.L., and Dawadi, S., 2007, Arsenic removal from drinking water by limestone-based material: Mining Engineering, v. 59, no. 2, p. 71-74.

Davis, A.D., Webb, C.J., and Sorensen, J.L., 2007, Environmental reclamation and monitoring of the abandoned Belle Eldridge Mine near Deadwood, South Dakota: Preprint 07-39, Society for Mining, Metallurgy, and Exploration, Littleton, Colorado, 3 p.

Webb, C.J., Campbell, C., Davis, A.D., Dawadi, S., Dixon, D.J., and Sorensen, J.L., 2006, Arsenic remediation of drinking water using limestone-based material: American Chemical Society, Division of Environmental Chemistry, ACS Symposia Paper 941321.

Davis, A.D., 2006, Case 4: Geological engineer, in Baura, G.D., Engineering ethics: an industrial perspective, Chapter 16, Case studies: Elsevier Academic Press, Burlington, Massachusetts, 220 p.

Davis, A.D., Webb, C.J., Dixon, D.J., Sorensen, J.L., and Dawadi, S., 2007, Arsenic removal from drinking water by limestone-based material: Mining Engineering, v. 59, no. 2, p. 71-74.

Davis, A.D., Webb, C.J., Sorensen, J.L., and Valder, J.F., 2007, Environmental monitoring of the abandoned Belle Eldridge Mine near Deadwood, South Dakota: Preprint 07-39, Society for Mining, Metallurgy, and Exploration, Littleton, Colorado, 3 p.

Chintalapati, P.K., Davis, A.D., Hansen, M.R., Sorensen, J.L., and Dixon, D.J., 2009, Encapsulation of limestone waste in concrete after arsenic removal from drinking water: Environmental Earth Science, v. 59, no. 1, p. 185-190.

Davis, A.D., Roggenthen, W.M., Stetler, L.D., Hladysz, Z., and Johnson, C.S., 2009, Post-closure flooding of the Homestake Mine at Lead, South Dakota: Mining Engineering, v. 61, no. 3, p. 43-47.

Davis, A.D., Dixon, D.J., and Webb, C.J., 2010, Arsenic in water from mine workings and wells of the Keystone area in the Black Hills of South Dakota: Preprint 10-020, Society for Mining, Metallurgy, and Exploration, Littleton, Colorado, 5 p.

Davis, A.D., Dixon, D.J., Webb, C.J., and Betemariam, H., 2010, Removal of arsenic and heavy metals from mine drainage and ground water in the Black Hills of South Dakota: Manuscript TP-10-039, Society for Mining, Metallurgy, and Exploration, Littleton, Colorado, 4 p.

Davis, A.D., and Elifrits, C.D., 2010, The importance of ABET engineering accreditation to SME: Mining Engineering, v. 62, no. 5, p. 77.

Davis, A.D., Dixon, D.J., Webb, C.J., and Betemariam, H., 2011, Removal of arsenic and heavy metals from mine drainage and ground water in the Black Hills of South Dakota: Technical Paper 11-022, Society for Mining, Metallurgy, and Exploration, Littleton, Colorado, 4 p.

Valder, J.F., Long, A.J., Davis, A.D., and Kenner, S.J., 2012, Multivariate statistical approach to estimate mixing proportions for unknown end members: Journal of Hydrology, v. 460-461, p. 65-76.

Davis, A.D., Webb, C.J., Sorensen, J.L., Dixon, D.J., and Betemariam, H., 2013, Laboratory testing of arsenic and heavy metals removal from mine drainage and ground water in the Black Hills of South Dakota: Environmental Earth Sciences, DOI 10.1007/s12665-013-2956-0, Springer, published online 06 December 2013.

Davis, A.D., Webb, C.J., Sorensen, J.L., and Dixon, D.J., Thermodynamic constraints on arsenic and heavy metals removal from water with limestone-based material: Technical paper13-035, Society for Mining, Metallurgy, and Exploration, Littleton, Colorado, 4 p.

Betemariam, H., Stone, J.J., McCutcheon, C., Penn, M.R., DeSutter, T., Davis, A.D., and Stetler, L.D., 2013, Geochemical behavior and watershed influences associated with sediment-bound mercury for South Dakota lakes and impoundments: Journal of Water, Air, and Soul Pollution, v. 224, no. 4.

Davis, A.D., Webb, C.J., Sorensen, J.L., Dixon, D.J., and Betemariam, H., 2014, Laboratory testing of arsenic and heavy metals removal from mine drainage and ground water in the Black Hills of South Dakota: Environmental Earth Sciences, v. 72, no. 2, p. 355-361 (previously published online by Springer, 06 December 2013).

Webb, C.J., and Davis, A.D., Remediation of arsenic in drinking water (Chapter 3), in States, J.C., ed., Arsenic: Exposure Sources, Health Risks and Mechanisms of Toxicity: To be published by John Wiley and Sons in 2015.

Selected Presentations:

Rahn, P.H., and Davis, A.D., 1991, Hydrogeology of a proposed low-level radioactive waste disposal site near Butte, Nebraska: Association of Engineering Geologists, Proceedings of 34th Annual Meeting, Chicago, Illinois.

Wang, J., Hjelmfelt, M.R., Capehart, W.J., Kenner, S.J., and Davis, A.D., 1998, Coupled atmospheric-hydrologic numerical simulation of a flash flood event: Part 1. Atmospheric simulation: American Meteorological Society, Hydrology Conference, Phoenix, Arizona.

Davis, A.D., and Long, A.J., 1998, Ground-water issues in the coupling of a subsurface flow model to atmospheric and surface-water models in complex terrain: GEWEX Continental-Scale International Project, Annual Meeting, St. Louis, Missouri.

Davis, A.D., Webb, C.J., and Nelson, K.C., 2004, Acid rock drainage and the potential for impacts at selected abandoned mine sites in the Black Hills National Forest. Presented at 2004 SME Annual Meeting, Denver, Colorado.

Webb, C.J., and Davis, A.D., Arsenic remediation of drinking water using modified limestone: American Chemical Society, Anaheim, California.

Miller, S.L., Davis, A.D., and Lisenbee, A.L., Long, A.J., Putnam, L.D., Lester, J.D., and Hargrave, R.G., 2004, Vulnerability mapping of the Madison aquifer near Rapid City area, South Dakota: Western South Dakota Hydrology Conference, Rapid City, South Dakota, April, 2004.

Lisenbee, A.L., Davis, A.D., Paterson, C.J., Stetler, L.D., Miller, S.L., and Hargrave, R.G., 2004, Geologic atlas of the Rapid City West 7.5-minute quadrangle: Western South Dakota Hydrology Conference, Rapid City, South Dakota, April, 2004.

Davis, A.D., and Webb, C.J., 2005, Progress toward a National Underground Science and Engineering Laboratory at the Homestake Mine in Lead, South Dakota: Annual Meeting, Society for Mining, Metallurgy, and Exploration, Salt Lake City, Utah, February, 2005.

Davis, A.D., Webb, C.J., Dixon, D.J., and Sorensen, J.L., 2006, Arsenic removal from drinking water by limestone-based material: SME Annual Meeting, Technical Program: Limestone – Nature's Miracle Rock; March, 2006, St. Louis, Missouri.

Davis, A.D., 2006, Modeling of natural biodegradation of gasoline contamination at a site in eastern South Dakota: Presented at 18th Annual Environmental and Ground Water Quality Conference, March, 2006, Pierre, South Dakota.

Sorensen, J.L., Davis, A.D., Dixon, D.J., and Webb, C.J., 2006, Development of an agglomeration process to increase the efficiency of limestone-based material for removing metals from drinking water: Presented at 18th Annual South Dakota Ground-Water Quality Conference, March, 2006, Pierre, South Dakota.

Sorensen, J.L., Davis, A.D., Dixon, D.J., and Webb, C.J., Controlling factors on arsenic removal from water by limestone-based material: Western South Dakota Hydrology Conference, April, 2006, Rapid City, South Dakota.

Webb, C.J., Campbell, C., Davis, A.D., Dawadi, S., Dixon, D.J., and Sorensen, J.L., 2006, Arsenic remediation of drinking water using limestone-based material: American Chemical Society, Division of Environmental Chemistry, Symposium on Current Status of Research on Arsenic Remediation, 231st National Meeting, March 26-30, Atlanta, Georgia.

Davis, A.D., Dixon, D.J., and Sorensen, J.L., 2006, Fixed-bed adsorption column studies and engineering scale-up design of a limestone-based metals removal technology: Eastern South Dakota Water Conference, Brookings, South Dakota, November, 2006.

Valder, J.F., and Davis, A.D., 2006, Pumping test and assessment of the Deadwood aquifer at Jewel Cave National Monument, Custer County, South Dakota: Geological Society of America, Annual Meeting, October, 2006, Philadelphia, Pennsylvania.

Hocking, C.M., Lisenbee, A.L., and Davis, A.D., 2007, Vulnerability of the Madison aquifer, Hayward quadrangle, South Dakota: Western South Dakota Hydrology Conference, April 19, 2007, Rapid City, South Dakota.

Johnson, D., Lisenbee, A.L., and Davis, A.D., 2007, Aquifer characteristics of Precambrian basement rocks in the Pactola Dam quadrangle, South Dakota: Western South Dakota Hydrology Conference, April 19, 2007, Rapid City, South Dakota.

Lisenbee, A.L., Francisco, E.M., Davis, A.D., and Pellowski, C., 2007, Vulnerability of the Inyan Kara aquifer, Hermosa and Hermosa NW quadrangles, Black Hills Development Corridor: Western South Dakota Hydrology Conference, April 19, 2007, Rapid City, South Dakota.

Francisco, E.M., Lisenbee, A.L., and Davis, A.D., 2007, Aquifer vulnerability in the Blackhawk quadrangle, South Dakota: Western South Dakota Hydrology Conference, April 19, 2007, Rapid City, South Dakota.

Davis, A.D., Webb, C.J., Sorensen, J.L., and Valder, J.F., 2007, Environmental monitoring of the abandoned Belle Eldridge Mine near Deadwood, South Dakota: Western South Dakota Hydrology Conference, April 19, 2007, Rapid City, South Dakota.

Valder, J.F., and Davis, A.D., 2007, Pumping tests in the Deadwood aquifer at Jewel Cave National Monument, Custer County, South Dakota: Western South Dakota Hydrology Conference, April 19, 2007, Rapid City, South Dakota.

Davis, A.D., and Elifrits, C.D., 2011, ABET Geological Engineering and Mining Engineering Criteria Training: Society for Mining, Metallurgy, and Exploration, February 26, 2011, Denver, Colorado.

Davis, A.D., Webb, C.J., Sorensen, J.L., and Dixon, D.J., 2013, Thermodynamic constraints on arsenic and heavy-metals removal from water with limestone-based material: Annual Meeting, Society for Mining, Metallurgy and Exploration, Denver, Colorado, February, 2013.

Davis, A.D., Lisenbee, A.L., Price, M.H., Aurand, A., Bednar, J., and Tekle, M., 2013, Water-quality sampling of Precambrian crystalline aquifers in the central Black Hills: Western South Dakota Hydrology Conference, Rapid City, South Dakota, April 18, 2013.

Davis, A.D., and Elifrits, C.D., The importance of ABET engineering accreditation to SME: Presented to the SME Board of Directors, February, 2013.

Davis, A.D., Elifrits, C.D., Keaton, J.R., and Sweigard, R., SME Program Evaluator Training: Presented to geological engineering and mining engineering program evaluators, SME Annual Meeting, Denver, Colorado, February, 2013.

Davis, A.D., Lisenbee, A.L., and Price, M.H., Smith, G.R., Walega, E.A., and Tiruneh, H.W., Groundwater quality in Precambrian crystalline aquifers of the central Black Hills: Western South Dakota Hydrology Conference, Rapid City, South Dakota, April, 2014.

Davis, A.D., Groundwater resources and potential issues in northwestern South Dakota: New Horizons Oil and Gas Conference, Rapid City, South Dakota, April, 2014.

Davis, A.D., Elifrits, C.D., Skaggs, G.L., and Sweigard, R., SME Program Evaluator Training: Presented to geological engineering and mining engineering program evaluators, SME Annual Meeting, Denver, Colorado, February, 2014.

U.S. Patent:

Webb, Cathleen Joyce, Arden Duane Davis, and David John Dixon, "Method and composition to reduce the amounts of arsenic in water," United States Patent 7,790,653, 7 September 2010.

Provisional U.S. Patent Application:

Webb, Cathleen Joyce, Arden Duane Davis, and David John Dixon, "Method and composition to reduce the amounts of heavy metal in water," United States Patent and Trademark Office, Provisional application for patent, SDSM-1064434, Serial no. 61/393,806.

Related research:

Grainger Prize for Sustainability: HydroTech Engineering and Rohm & Haas (collaboration): Limestone-based arsenic-removal method; selected for Round II of competition.

Recent Research Funding:

National Science Foundation: SGER: Characterization of the Precambrian Aquifer at the Homestake DUSEL: Dr. Larry D. Stetler, Dr. Arden D. Davis, and Dr. Rohit Salve (Lawrence Berkeley Laboratory), $75,000.

U.S. Geological Survey 104b Grant Program / South Dakota Water Resources Institute: Acidic Leaching Tests to Determine Arsenic Mobility from Concrete-Encapsulated Limestone Waste: Dr. Arden D. Davis, Dr. M.R. Hansen, and Dr. David J. Dixon, $12,131.

U.S. Geological Survey 104b Grant Program / South Dakota Water Resources Institute: Investigation of Arsenic Removal from Water by Microbiologically Induced Calcite Precipitation: Dr. Arden D. Davis, Dr. Sookie S. Bang, and Dr. David J. Dixon, $13,983.

U.S. Bureau of Land Management: Belle Eldridge Mine Sampling and Monitoring, Phase III, $4,500 (additional); Arden D. Davis, Principal Investigator.

U.S. Geological Survey 104b Grant Program / South Dakota Water Resources Institute: Development of an agglomeration process to increase the efficiency of limestone-based material to remove metals from drinking water: Dr. Arden D. Davis and Dr. David J. Dixon, $10,897.

U.S. Geological Survey 104b Grant Program / South Dakota Water Resources Institute: Fixed-bed adsorption column studies and engineering scale-up design of a limestone-based metals removal technology for small water supply systems: Dr. Arden D. Davis and Dr. David J. Dixon, $12,918.

U.S. Geological Survey 104b Grant Program / South Dakota Water Resources Institute: Leaching tests for encapsulation of waste after arsenic removal from drinking water: Dr. Arden D. Davis, Dr. David J. Dixon, and Dr. M.R. Hansen; $11,873.

U.S. Department of the Interior, National Park Service; Jewel Cave Pumping Test; Dr. Arden D. Davis, Principal Investigator; $8,800.

U.S. Bureau of Land Management: Belle Eldridge Mine Sampling and Monitoring, Phase III, $4,500 (additional); Arden D. Davis, Principal Investigator.

West Dakota Water Development District: Determination of historic ground water pollution problems, Part II: Pactola Dam, Rapid City West, and the North One-Half of Rockerville quadrangles; $9,162; Dr. Alvis L. Lisenbee, Principal Investigator; Dr. Arden D. Davis, Co-Principal Investigator.

West Dakota Water Development District: Aquifer susceptibility study of the Pactola Dam quadrangle, South Dakota: Part II – Precambrian: $9,112; Dr. Alvis L. Lisenbee, Principal Investigator; Dr. Arden D. Davis, Co-Principal Investigator.

West Dakota Water Development District: Aquifer mapping (1:24,000) of the Hermosa NW quadrangle; $13,538; Dr. Alvis L. Lisenbee, Principal Investigator; Dr. Arden D. Davis and Dr. Larry Dr. Stetler, Co-Principal Investigators.

West Dakota Water Development District: Preliminary aquifer vulnerability and susceptibility study of the Blackhawk quadrangle; $15,988; Dr. Alvis Lisenbee, Principal Investigator; Dr. Arden D. Davis, Co-Principal Investigator.

West Dakota Water Development District: Geologic mapping of the Mt. Rushmore quadrangle, South Dakota; $14,970; Dr. Alvis Lisenbee, Principal Investigator; Dr. Arden D. Davis, Co-Principal Investigator.

West Dakota Water Development District: Aquifer vulnerability study of the Rockerville quadrangle, South Dakota; $14,763; Dr. Alvis Lisenbee, Principal Investigator; Dr. Arden D. Davis, Co-Principal Investigator.

Phase I Small Business Innovation Research Grant, U.S. Environmental Protection Agency, Limestone-Based Material for Arsenic Removal from Drinking Water: Dr. Cathleen J. Webb, Dr. Arden D. Davis, Dr. David J. Dixon, and Dr. Terrence L. Williamson; $100,000.

Phase II Small Business Innovation Research Grant, U.S. Environmental Protection Agency, Limestone-Based Material for Arsenic Removal from Drinking Water: Dr. Cathleen J. Webb, Dr. Arden D. Davis, Dr. David J. Dixon, and Dr. Terrence L. Williamson; $225,000.

National Science Foundation, Statewide Partnership to Support Technology Innovation and Entrepreneurship in South Dakota (PFI), University of South Dakota: Arsenic Removal from Drinking Water; John C. Lofberg, Dr. Arden D. Davis, and Dr. David J. Dixon; $35,826.

West Dakota Water Development District: Crystalline Aquifers of the Central Black Hills, South Dakota: Phase IV: Dr. Alvis L. Lisenbee, Dr. Arden D. Davis, and Dr. Maribeth Price; $44,000.

West Dakota Water Development District: Crystalline Aquifers of the Central Black Hills, South Dakota: Phase III: Dr. Alvis L. Lisenbee, Dr. Arden D. Davis, and Dr. Maribeth Price; $41,000.

U.S. Geological Survey 104b Grant Program / South Dakota Water Resources Institute: Investigation of the Contribution of Coliform Contamination in Runoff from Scoured Bed Sediments: Dr. Jennifer L. Benning, Dr. Scott J. Kenner, and Dr. Arden Davis, $14,913.

West Dakota Water Development District: Crystalline Aquifers of the Central Black Hills, South Dakota: Phase II; Dr. Laurie Anderson, Principal Investigator; Dr. Alvis L. Lisenbee, Dr. Arden D. Davis, and Dr. Maribeth H. Price, Co-Principal Investigators; $33, 020.

Pete Lien and Sons, Inc: Optimization and characterization of iron-loaded limestone as a medium for the removal of arsenic from drinking water; Dr. Arden D. Davis, Principal Investigator; Dr. David J. Dixon, Co-Principal Investigator; $8,800.

City of Custer, South Dakota: Water Sampling of Crystalline and Alluvial Aquifers at Custer, South Dakota: Dr. Arden D. Davis, Principal Investigator; Dr. J. Foster Sawyer, Dr. Alvis L. Lisenbee, and Dr. Maribeth H. Price, Co-Principal Investigators; $25,000.

U.S. Department of the Interior, Bureau of Land Management: Environmental Monitoring of the Belle Eldridge Mine: Dr. Arden D. Davis, Principal Investigator; $5,000.

US Department of Justice

Randolph J. Seiler
Acting United States Attorney
District of South Dakota

RECEIVED
JUN - 5 2015
WATER RIGHTS PROGRAM

225 South Pierre Street, Suite 337 *605.224.5402*
Pierre, SD 57501 *FAX 605.224.8305*

May 29, 2015

United Order of South Dakota
PO Box 5050
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Huron, SD 57350

William R. Hansen, Chief
Water Rights Branch
National Park Service
1201 Oak Ridge Drive Ste 250
Ft. Collins, CO 80525

Re: National Park Service v. United Order of South Dakota
Sixth Judicial Circuit Court / Water Permit Application No. 2730-2

Ladies and Gentlemen:

Enclosed is the 1) NPS's Disclosure of Expert, 2) Curriculum Vitae of Jeffrey C. Hughes, 3) Curriculum of Andrew J. Long, PhD, 4) Curriculum of Rod Horrocks, 5) Expert Witness Powerpoint of Jeffrey C. Hughes, 6) Expert Witness Powerpoint of Andrew J. Long, PhD, and 7) Expert Witness Poweroint of Rod Horrocks.

Please consider this as service by mail upon you. Thank you.

Sincerely,

Randolph J. Seiler
Acting United States Attorney

Cheryl A DuPris

Cheryl Schrempp DuPris
Assistant U.S. Attorney

/rla
Enclosures

Cc: Peter Fahmy
Lois Witte

RECEIVED
JUN - 5 2015
WATER RIGHTS PROGRAM

STATE OF SOUTH DAKOTA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

WATER MANAGEMENT BOARD

IN THE MATTER OF WATER APPLICATION No. 2730-2, UNITED ORDER OF SOUTH DAKOTA	))))	**National Park Service's Disclosure of Experts**

Pursuant to the Procedural and Scheduling Order dated May 18, 2015, the National Park Service discloses the following names of persons that may testify as expert witnesses at the hearing on the above-captioned matter:

1. Jeffrey C. Hughes, 3221 Honeysuckle Court, Fort Collins, CO 80521
2. Dr. Andrew J. Long, 1608 Mountain View Rd, Rapid City, SD 57702
3. Rodney D. Horrocks, 2201 Wilson Ave. Hot Springs, SD 57747

A copy of each expert's *curricula vitae* and presentation, which will be offered into evidence in the event that the expert testifies at the hearing on the above-captioned matter, is attached.

DATED this 29th day of May, 2015.

RANDOLPH J. SEILER
ACTING US ATTORNEY

Cheryl A DuPris

Cheryl Schrempp DuPris
Assistant United States Attorney
P. O. Box 7240
225 S. Pierre Street, Suite 337
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(605) 224-5402
FAX: (605) 224-1805
Cheryl.Dupris@usdoj.gov

CERTIFICATE OF SERVICE

I hereby certify that on this 29th day of May, 2015, a true and correct copy of the foregoing **NPS's Disclosure of Expert, Curriculum Vitaes of Jeffrey C. Hughes, Dr. Andrew Long, and Rodney D. Horrocks, and Expert Witness Powerpoints of Jeffrey C. Hughes, Dr. Andrew J. Long, and Rodney D. Horrocks**, were mailed postage pre-paid in the United States Mail to:

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And on the same date, the original was mailed to Jeanne Goodman, Chief Engineer, DENR Water Rights Program, Joe Foss Building, 523, E. Capitol Avenue, Pierre, SD, 57501.

Cheryl A DuPris

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Curriculum Vitae

Jeffrey C. Hughes
3221 Honeysuckle Court
Fort Collins, CO 80521

Present position: Hydrologist, National Park Service
Water Resources Division
1201 Oakridge Drive, Suite 250
Fort Collins, CO 80525
(970) 225-3527

Education: B.S. – Watershed Management, Colorado State University (1981)
M.S. – Watershed Sciences, Colorado State University (1983)

Employment:

1988 – Present	Hydrologist, GS 9/11/12, National Park Service Water Resources Division
1986 – 1988	Research Associate, Colorado State University, working for the National Park Service, Water Resources Division
1986	Hydrologist, Resource Consultants, Inc.
1985 –1986	Hydrologist, U.S. Forest Service
1984 – 1985	Research Associate, Resource Consultants, Inc.
1984	Hydrologic Technician, Simons Li, and Associates
1983	Hydrologic Technician, U.S. Forest Service
1981 – 1983	Research Assistant, Colorado State University

Honors: National Park Service Fast Track Award, 1990; Unit Award for Excellence of Service (Water Rights Branch), 1992; Special Achievement Award, 1994; Star Award, 1996; Quality Step Increase, 1999; On-the-Spot Award, 2000; Time Off Award, and On-The-Spot Awards, 2001, Individual Cash Award, 2009; Individual Time-Off Award, 2010; Star Award, 2011; Individual Cash Award, 2014; Individual Time-Off Award 2014

Current Duties: Project Leader for the National Park Service, Water Resources Division, Water Rights Branch. Responsible for evaluating water right applications near NPS units and determining if the proposed

water development will adversely affect NPS water rights and water-dependent resources. File protests and objections when necessary. Also design and conduct studies to determine and protect NPS water rights and water-dependent resources. Oversee contracts and agreements with other private entities and other Federal agencies to perform work for the NPS. Provide water rights technical assistance to parks as needed.

Groundwater-related work:

Since 1994, evaluate water right permit applications to determine if proposed groundwater withdrawals will remove groundwater hydrologically connected to surface water within five NPS units within Montana (Glacier National Park, Yellowstone National Park, Big Hole National Battlefield, Little Bighorn Battlefield National Monument, and Bighorn Canyon National Recreation Area) as required by the Water Rights Compact between the State of Montana and the United States, National Park Service. This Compact also established the Yellowstone Controlled Groundwater Area, which is a designated basin surrounding the park within Montana for the protection of the Yellowstone geothermal system. Represent the NPS, Water Resources Division in meetings with the state of Montana concerning the management of the Controlled Groundwater Area. Also responsible for evaluating applications to appropriate groundwater for potential impacts to Florissant Fossil Beds National Monument, Colorado National Monument, Bent's Old Fort National Historic Site, Wind Cave National Park, and assist other NPS hydrologists on similar evaluations for Zion National Park, Great Basin National Park, and Lake Mead National Recreation Area. File objections when required.

Manage agreements and contracts with federal agencies and private consultants for groundwater-related work to increase our understanding of groundwater flow systems important to NPS units in Nevada, Arizona, Utah and South Dakota. Evaluate claims in the ongoing water rights adjudication in Montana for potential injury to Montana NPS water rights.

Publications:

Hughes, J.C., M.G. Cavendish, and M.D. Flora. 1986. A Summary of Water Quality for the Menard Creek Corridor Unit, Lancer Rosier Unit, and Little Pine Island Bayou Unit of the Big Thicket National Preserve, Texas (1975-1983). Technical Report 86-8. National Park Service, Water Resources Division, Fort Collins, CO. 69 pp.

Hughes, J.C., M.D. Flora and J.C. Woods. 1987. Big Thicket National Preserve: Water Quality Report 1984-1986. Water Resources Report 97-2. National Park Service, Water Resources Division, Fort Collins, CO. 80 pp.

Williams, O.R., J.S. Albright, P.K. Christensen, W.R. Hansen, J.C. Hughes, A.E. Johns, D.J. McGlothlin, C.W. Pettee, and S.L. Ponce. 1996. Water Rights and Devils Hole Pupfish at Death Valley National Monument. **In** Science and Ecosystem Management in the National Parks. W.L. Halvorson and G.E. Davis, editors. University of Arizona Press, Tucson, AZ. 364 pp.

Diaz, G.E., O. Elbadawy, J.C. Hughes and J.D. Salas. 1995. In search of Hydrologic Similarity: A Case Study on Molokai, Hawaii. **In** Proceedings of the Summer Symposium, American Water Resources Association. June 25-28, 1995. Edited by R. Herrmann, W. Black, R.C. Sidle and A.I. Johnson. Honolulu, HI. 496 pp.

Ayers, P.D. and J.C. Hughes. 2010. Underwater video habitat mapping at Obed Wild and Scenic River. Park Science, Vol. 27, No 2. p 24 – 25.

Hughes, J.C., J.R. Duncan, R.R. Knight, B.C. Harrold, and W.J. Wolfe, 2014. Challenges and Opportunities in Protecting the Obed Wild and Scenic River. Presses Universitaires de Bordeaux et LGPA-Editions, Bordeaux, *Dynamiques Environmentales*, 31, pp 67 – 79

Curriculum Vitae

Andrew J. Long, PhD
Research Hydrologist
U.S. Geological Survey
South Dakota Water Science Center (SDWSC)
1608 Mountain View Rd, Rapid City, South Dakota 57702

Office: 605-355-3237
Cell: 605-381-1251
Email: ajlong@usgs.gov
https://profile.usgs.gov/ajlong

Summary

My background includes over 20 years of experience modeling groundwater flow using MODFLOW, as well as developing new models for research. Currently, I am the lead modeler for a USGS groundwater availability study of the Williston and Powder River basins[1] and Project Chief for a regional model of the Madison and Minnelusa aquifers in the Northern Great Plains[2]. My role on many projects is that of team leader, coordinating the work of as many as six hydrologists and student employees. Informally, I mentor several younger hydrologists in my office, advising them in proposal and report writing, funding strategies, and career development.

My research has involved development and computer coding of new mathematical models to better understand and simulate dual-porosity flow and transport in karst aquifers (e.g., RRAWFLOW[3]). Inverse parameter estimation is an important component of all my models, and I have great interest in uncertainty analysis. I collaborate with hydrologists, biologists, and atmospheric scientists in the USGS and several universities, including Colorado State University; University of Texas; University of Rouen, France; and South Dakota School of Mines and Technology (SDSMT). One such interdisciplinary project involves climate-change effects on species that are dependent on karst aquifers[4]. Other research includes the development of groundwater age-dating models, multivariate analysis of hydrochemical data, and heat transport in karst conduits. My data-collection experience includes geophysical methods, hydrochemical sampling, age-dating tracers, dye tracing, aquifer pumping tests, and field electronics. I am an Adjunct Assistant Professor at SDSMT and have served on several graduate advisory committees.

Education

Ph.D., Geological Engineering (hydrology), 2000, South Dakota School of Mines and Technology
M.S., Geological Engineering (hydrology), 1995, South Dakota School of Mines and Technology
B.S, Geological Engineering, 1993, South Dakota School of Mines and Technology

[1] http://wy-mt.water.usgs.gov/projects/WaPR/
[2] http://sd.water.usgs.gov/projects/BHFlowModel/BHFlowModel.html
[3] http://sd.water.usgs.gov/projects/RRAWFLOW/RRAWFLOW.html
[4] https://nccwsc.usgs.gov/display-project/4f8c652fe4b0546c0c397b4a/52d5615ae4b0f19e63da8647

Positions Held

Hydrologist, Rapid City Water Department (1994-1995)
I worked in collaboration with the USGS to simulated groundwater flow in the karstic Madison aquifer using MODFLOW.

Research assistant, South Dakota School of Mines and Technology (SDSMT) (1995–1998)
I developed and wrote the FORTRAN computer code for a three-dimensional groundwater flow model for dual-porosity karst aquifers. Related to this, I collaborated with a team of researchers on the design of a numerical model to simulate surface-water and groundwater flow, dynamically linked to atmospheric processes. Also, I designed and applied a GIS-based analysis to assess karst aquifer vulnerability.

Consultant (1994–1998)
I conducted GIS analysis and groundwater modeling with MODFLOW related to a proposed low-level nuclear-waste site in Boyd County, Nebraska for the Boyd County Monitoring Committee, a consortium of local residents. I consulted for Terra Nitrogen in Sergeant Bluff, Iowa and simulated groundwater flow and transport with MODFLOW, MOC, and GIS analysis to assess the movement of ammonia contamination.

Hydrologist, USGS South Dakota Water Science Center (SDWSC) (Jan 1999 – Oct 2009)
This largely involved numerical modeling of groundwater flow and solute transport, dye tracing experiments in karst aquifers, conducting aquifer tests, geospatial aquifer analyses, and development of new research models.

Adjunct Assistant Professor, SDSMT (Oct 2005 – present)
I have served on the graduate advisory committees for five M.S. students and three Ph.D. students. Seven of these students were employed by the USGS and did their research primarily under my direction as part of their USGS work. I frequently give guest lectures at SDSMT.

Research Hydrologist, USGS SDWSC (Nov 2009 – present)
This includes development of innovative methods to better understand, quantify, and test hypotheses related to groundwater flow and transport in karst aquifers. Groundwater age dating, lumped-parameter models, aquifer classification, hydrochemical evaluation, heat transport, and groundwater recharge are some areas of my research.

Technical Skills

Scripting and Programming

- MATLAB scripting
- R scripting
- FORTAN programming
- Microsoft shell scripting

Data Analysis and Modeling

- MODFLOW groundwater modeling

- PEST inverse parameter estimation
- MATLAB & R
- Modeling groundwater age
- Principal component analysis
- Time-series analysis
- Heat-transport and geochemical modeling
- Groundwater Vistas
- ArcGIS

Field Skills

- Microgravity surveying – Scintrex CG-5 relative gravity meter
- Hydrochemical sampling of groundwater and surface water
- Aquifer pumping tests
- Dye tracing
- Field electronics
- Sampling in caves
- Streamflow measurement
- Some experience in ground-penetrating radar, seismic, and electromagnetic surveying

Sharing of Expertise

National Research Council (NRC) (Jan 2014 – present)

Currently, I serve on a national committee of university and government scientists to evaluate the implementation of the Edwards Aquifer Habitat Conservation Plan (http://www.eahcp.org/). This will result in one or more NRC reports to document the committee's evaluation and recommendations.

National Park Service (NPS) projects and advisory roles

- *Wind Cave National Park* (2007 – present) – I was Principle Investigator for two water-quality projects and a groundwater flow model. I conducted the groundwater and surface-water flow modeling for a fourth project and collaborated with biologists and climate scientists. I regularly advise NPS on hydrologic data collection for the park.
- *Niobrara National Scenic River* – I am advising NPS on the effectiveness of an existing groundwater flow model to evaluate interaction of groundwater and surface water.
- *Yellowstone National Park* – I am advising NPS on the potential to apply geophysical methods to better understand the hydrothermal system.

University Lectures and Seminars – I regularly give guest lectures at SDSMT classes and seminars, including:

- Integration of GIS with MODFLOW, Feb 2001, Mar 2003, Jan 2004
- Dual-porosity theory and modeling, Mar 2002
- Current research on age dating and tracer methods at the USGS, Apr 2004
- New methods for modeling karst aquifers, Feb 2005
- Artificial and natural tracers for the Madison aquifer, Jan 2006
- Environmental tracers as indicators of fast groundwater flow paths and potential anthropogenic influence in the karstic Madison aquifer, Mar 2006

- Environmental tracers as indicators of subaqueous karst-conduit flow paths and anthropogenic influence, Nov 2006
- Environmental tracers and dating karst groundwater: Madison aquifer, Feb 2007
- Understanding pore networks and chemical transport in karst aquifers, Nov 2007
- Karst groundwater studies at the USGS (ecology course), Nov 2009
- Dye tracing in the Madison aquifer (undergraduate groundwater course), Nov 2010
- Convolution and heat-transfer modeling of karst aquifers, Feb 2011
- Multivariate analyses and end-member mixing to characterize groundwater flow (ecology course), Nov 2011
- Groundwater modeling approaches and classification of karst aquifers (graduate groundwater modeling), Mar 2013
- Hydrochemical multivariate analyses to characterize groundwater flow (ecology course), Nov 2013
- Principal component analysis applied to chemical and hydraulic groundwater parameters (statistics for hydrology graduate course), Feb 2014
- Time-series modeling of groundwater and surface-water flow and transport: an underused toolset, SDSMT Earth Science Seminar Series, 7 Feb 2014
- Multivariate analysis to understand groundwater flow (ecology course), Nov 2014

Journal Referee

Journal referee for Journal of Hydrology, Water Resources Research, Journal of Geophysical Research—Earth Surface, Ground Water, Hydrogeology Journal, Contaminant Hydrology, Hydrological Processes, Hydrology and Earth System Sciences, Geoscientific Model Development.

Awards

- Four-time runner up—2011, 2012, 2013, and 2014—for best USGS groundwater report from a Water Science Center (http://water.usgs.gov/usgs/ogw/best-report/). I was first author on all four publications.
- Outstanding Recent Graduate Award, South Dakota School of Mines & Technology (SDSMT), for professional achievement within 10 years after graduation, 2004.
- Edward L. Tullus Academic Award for achieving high academic standards, SDSMT Dept. of Geological Engineering. Cash award with engraved Brunton compass, 1993.
- Outstanding Participation in the Field of Academic Achievement, SDSMT, 1992.
- Addison Wesley Mathematics Award, Normandale Community College, for excellence in mathematics, 1991.

News Media Highlights

- I was interviewed for a 2014 article in the Black Hill Pioneer about regional groundwater modeling of the Madison aquifer: http://www.bhpioneer.com/local_news/article_6355536e-077f-11e4-a517-0019bb2963f4.html.
- Lead author of a 2014 USGS report that was highlighted on a national USGS web site: http://www.usgs.gov/blogs/features/usgs_top_story/water-flows-and-energy-grows/
- I was interviewed for a May 2013 story on South Dakota Public Radio concerning water

demands and possible contamination from petroleum production in the Williston basin, North Dakota.

- I was Interviewed by the Rapid City Journal in 2005 for an article concerning declining water levels in the Madison aquifer.
- I was interviewed by South Dakota Public Broadcasting for a 2007 television story highlighting USGS dye-tracing activities and environmental-tracer studies in the Black Hills area, which raised awareness of the vulnerability of Wind Cave National Park to nearby development.
- I appeared on local television news in an interview about a water-quality of Wind Cave National Park, February 2012.

Technical Training Courses

- Advanced Modeling of Groundwater Flow, USGS National Training Center (NTC), 5 days, October 2000.
- Calibration and Uncertainty of Models, USGS NTC, 5 days, March 2002.
- Statistical Methods for Data Analysis, USGS NTC, 5 days, September 2003.
- Microgravity Workshop, USGS Arizona Water Science Center, 5 days, October 2004.
- Aquatic Chemistry, USGS NTC, 5 days, January 2005.
- Principles and Applications of Estimating the Age of Young Groundwater, USGS NRP, Reston, 3 days, April 2006.
- Multivariate Analysis for Hydrological, Biological, and Chemical Data, USGS NTC, 4 days, March 2009.
- Groundwater/Surface-Water Interactions USGS NTC, 5 days, February 2014.

Memberships in Professional Societies

- American Geophysical Union (AGU), 1997-present.
- European Geosciences Union (EGU), 2010-present.
- Union of Concerned Scientists, 2007-Present.

Community Leadership

Nov 2013 – present
Founder and Chair, Scientists Advocacy League, USGS SDWSC – This group was established to facilitate collaboration, mentor and share skills, coordinate common resources, provide a forum to discuss workplace concerns, and give scientists a collective voice to influence the functioning of their organization. Accomplishments include establishing a central GIS library and a standardized file-directory tree for all projects for the SDWSC.

2002, Mar 2014 – present
Twice served on Board of Directors – Breadroot Natural Foods Co-op, Rapid City, South Dakota.

2010 – present
Black Hills Runners Club – I regularly organize and lead group trails runs in the Black Hills of South Dakota.

References

Available upon request.

Publications

Journal Articles

Long, A.J., 2015, RRAWFLOW: Rainfall-Response Aquifer and Watershed Flow Model (v1.15). Geoscientific Model Development., v. 8, p. 865-880, doi:10.5194/gmd-8-865-2015. [Link]

Long, A. J., 2014. RRAWFLOW: Rainfall-Response Aquifer and Watershed Flow Model (v1.11). Geoscientific Model Development Discuss., v. 7, 5919-5963, doi:10.5194/gmdd-7-5919-2014. [Link]

Long, A.J., and Mahler, B.J., 2013. Prediction, time variance, and classification of hydraulic response to recharge in two karst aquifers. Hydrology and Earth System Sciences, v. 17, p. 281-94, DOI: 10.5194/hess-17-281-2013. [Link]

Saller, S.P., M.J. Ronayne, and A.J. Long, 2013. Comparison of a karst groundwater model with and without discrete conduit flow, Hydrogeology Journal, v. 21 (7), p. 1555-1566, DOI: 10.1007/s10040-013-1036-6. [Link]

Valder, J.F., Long, A.J., Davis, A.D., Kenner, S.J., 2012. Multivariate statistical approach to estimate mixing proportions for unknown end members, Journal of Hydrology, 460-461, p. 65-76, DOI: 10.1016/j.jhydrol.2012.06.037. [Link]

Long, A.J. and Valder, J.F., 2011. Multivariate analyses with end-member mixing to characterize groundwater flow: Wind Cave and associated aquifers. Journal of Hydrology, v. 409, no. 1-2, p. 315-327, DOI:10.1016/j.jhydrol.2011.08.028. [Link]

Long, A.J., 2009. Hydrograph separation for karst watersheds using a two-domain rainfall–discharge model. Journal of Hydrology, v. 364, no. 3-4, p. 249–256. [Link]

Long, A.J., and Gilcrease, P.C., 2009, A one-dimensional heat-transport model for conduit flow in karst aquifers: Journal of Hydrology, v. 378, no. 3-4, p. 230-239. [Link]

Long, A.J., and Putnam, L.D., 2009, Age-distribution estimation for karst groundwater: Issues of parameterization and complexity in inverse modeling by convolution: Journal of Hydrology, v. 376, no. 3-4, p. 579-588. [Link]

Long, A.J., Sawyer, J.F., and Putnam, L.D., 2008. Environmental tracers as indicators of karst conduits in ground water, South Dakota, USA. Hydrogeology Journal, v. 16, no. 2, p 263-280. [Link]

Long, A.J. and Putnam. L.D., 2006. Translating CFC-based piston ages into probability density functions of ground-water age in karst. J. Hydrol. v. 330, no. 3-4, p. 735-747. [Link]

Long, A.J. and Putnam. L.D., 2004. Linear model describing three components of flow in karst aquifers using 18O data. Journal of Hydrology, v. 296, p. 254-270. [Link]

Davis, A.D., Long, A.J., Wireman, M., 2002, KARSTIC: a sensitivity method for carbonate aquifers in karst terrain: Environmental Geology v. 42, no. 1, p. 65-72. [Link]

Long, A.J. and Derickson, R.G., 1999. Linear systems analysis in a karst aquifer. Journal of Hydrology, v. 219, p. 206-217. [Link]

Other Publications

Mahler, B.J., Stamm, J.F., Symstad, A.J., Poteet, M.F., Musgrove, M., Long, A.J., and Norton, P.A., 2015, Effects of Projected Climate (2011–50) on Karst Hydrology and Species Vulnerability—Edwards Aquifer, South-Central Texas, and Madison Aquifer, Western South Dakota: U.S. Geological Survey Fact Sheet 2014–3046, 4 p. in review.

National Research Council, 2015, Review of the Edwards aquifer Habitat Conservation Plan: Report 1, The National Academies Press, Washington, D.C., 156 p.

Stamm, J.F., Poteet, M.F., Symstad, A.J., Musgrove, M., Long, A.J., Mahler, B.J., and Norton, P.A., 2015, Historical and Projected Climate (1901–2050) and Hydrologic Response of Karst Aquifers, and Species Vulnerability in South-Central Texas and Western South Dakota: Scientific Investigations Report 2014–5089, 62 p., in review.

Haines, S.S., Cook, T.A., Thamke, J.N., Davis, K.W., Long, A.J., Healy, R.W., Hawkins, S.J., and Engle, M.A., 2014, A framework for assessing water and proppant use and flowback water extraction associated with development of continuous petroleum resources: U.S. Geological Survey 2014–3010, 6 p.

Long, A.J., Aurand, K.R., Bednar, J.M., Davis, K.W., Mckaskey, J.D.R.G., and Thamke, J.N., 2014, Conceptual Model of the Uppermost Principal Aquifer Systems in the Williston and Powder River Structural Basins, United States and Canada: U.S. Geological Survey Scientific Investigations Report 2014-5055, 41 p.

Symstad, A. J., Long, A. J., Stamm, J. F., King, D. A. and Bachelet, D. M., 2014, Two Approaches for Planning Natural Resource Management in a Changing Climate at Wind Cave National Park: National Park Service Natural Resource Technical Report NPS/WICA/NRTR—2014/918, 87 p.

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Rod Horrocks Biography

Rod Horrocks worked as a cartographer and fossil preparator for six years while working on his Bachelor and then Master of Science degrees. The title of his thesis was, "A Comparison between Two Computer-Aided Cartographic Systems, With an Analysis of Their Work Flow ". He began his National Park Service career in 1992 and has worked for the National Park Service as a Physical Scientist for 22 years. He began his career at Timpanogos Cave National Monument, followed by a stint at Great Basin National Park in 1996. He was the first Cave Management Specialist at each of these parks. His co-lateral duties have included cartographer, museum technician, fossil preparator, geologic technician, hydrological technician, and air quality technician. In 1999, he moved to Wind Cave National Park, where he has been for sixteen years. Rod specializes in digital cave cartography, cave lighting design, paleontological field work, fossil preparation and curation, cave tour-route development, and cave restoration. He has been a member of the National Speleological Society for 32 years and is a Fellow of that Society. He was awarded the Certificate of Merit by them, and was the Chairman of the Cave Conservation and Management Section for 11 years, Chairman of the Survey and Cartography Section for two years, and Chairman of the Timpanogos Grotto for ten years. He was also the editor of the *Underground News* newsletter for 9 years, the *Utah Caver* for 6 years, and the *Inside Earth* newsletter for 6 years. He has had seven peer-reviewed articles published in journals and books and 36 other cave and karst-related articles published in newsletters, magazines, books, and conference proceedings.

Work History:

* Wind Cave National Park (Physical Scientist)	1999-Present
* Great Basin National Park (Cave Management Specialist)	1996-1998
* Timpanogos Cave National Monument (Cave Mgmt. Specialist)	1992-1996

Peer-reviewed Articles Authored:

1) 2015. *"Wind Cave, Guidebook to the Geology of the Black Hills"*. John Lufkin, Jack Redden, Alvis Lisenbee, Editors. Golden Publishers.
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National Park Service
U.S. Department of the Interior

Application 2730-2 by the United Order of South Dakota

Jeff Hughes, Hydrologist
National Park Service – Water Resources Division

TAT000

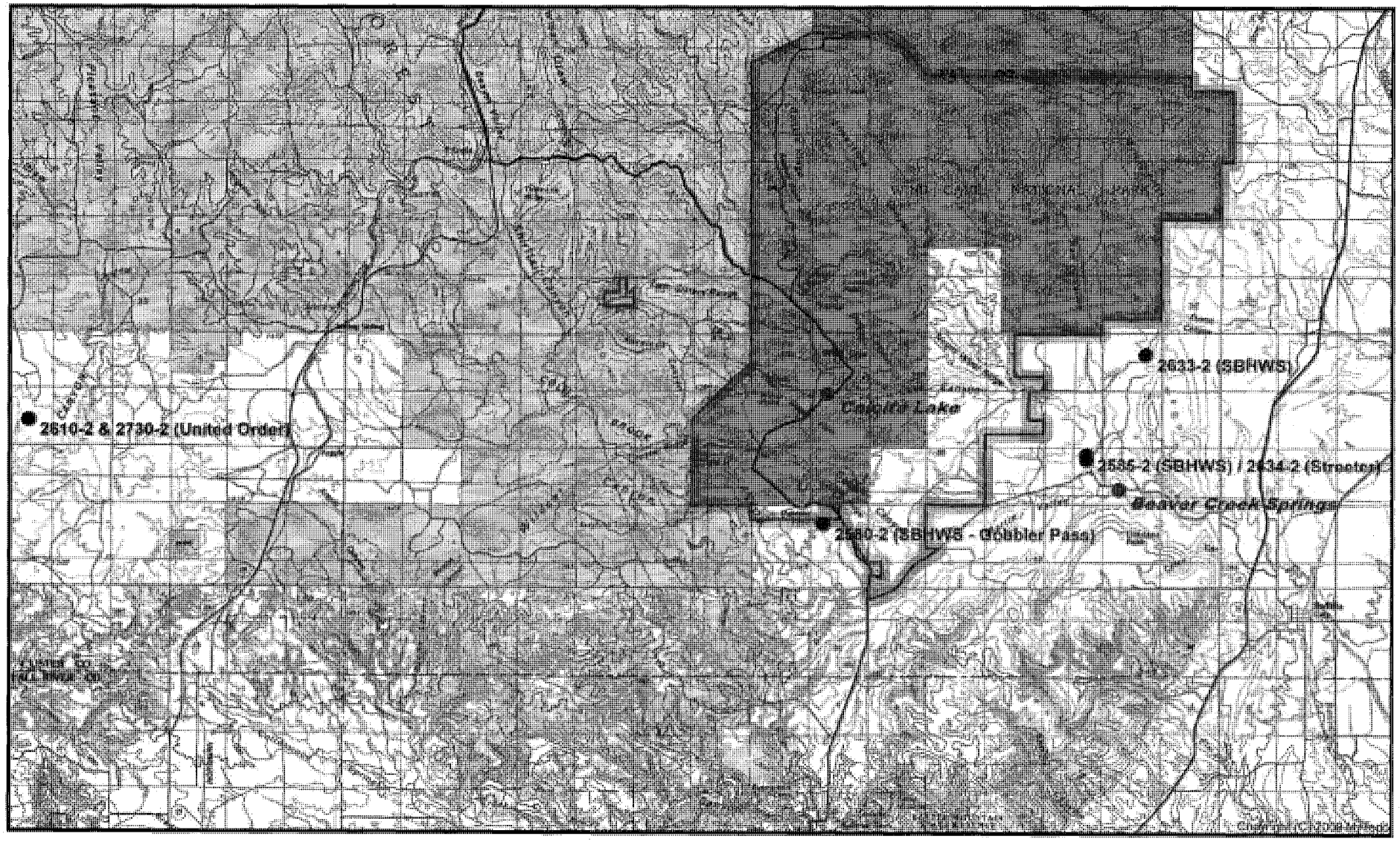


Figure 1: THWELLS Location Map

SCALE 1:140000

0 1 2 3 4 5 6

MILES

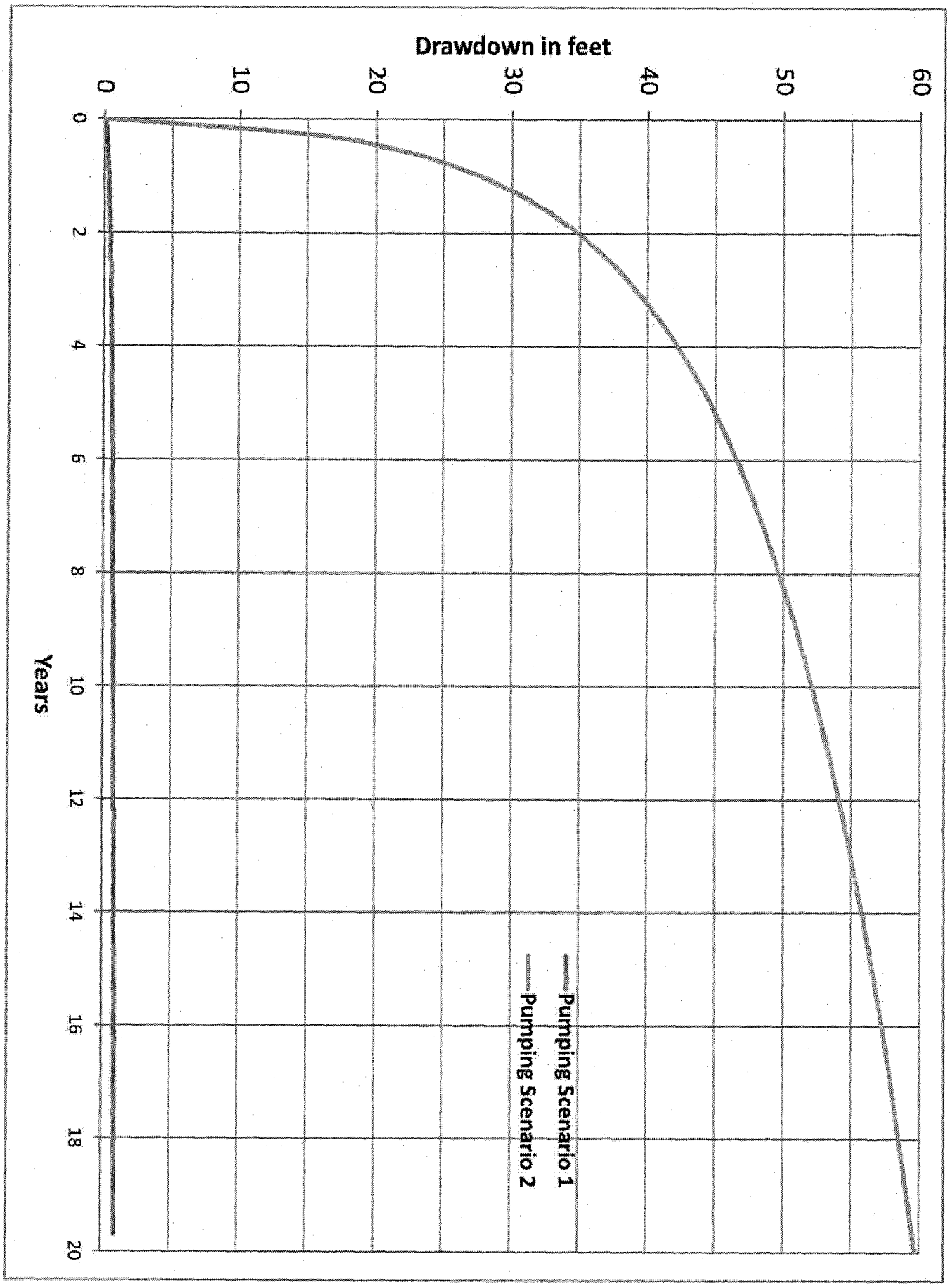
CONTOUR INTERVAL 50 METERS
NATIONAL GEODETIC VERTICAL DATUM 1929

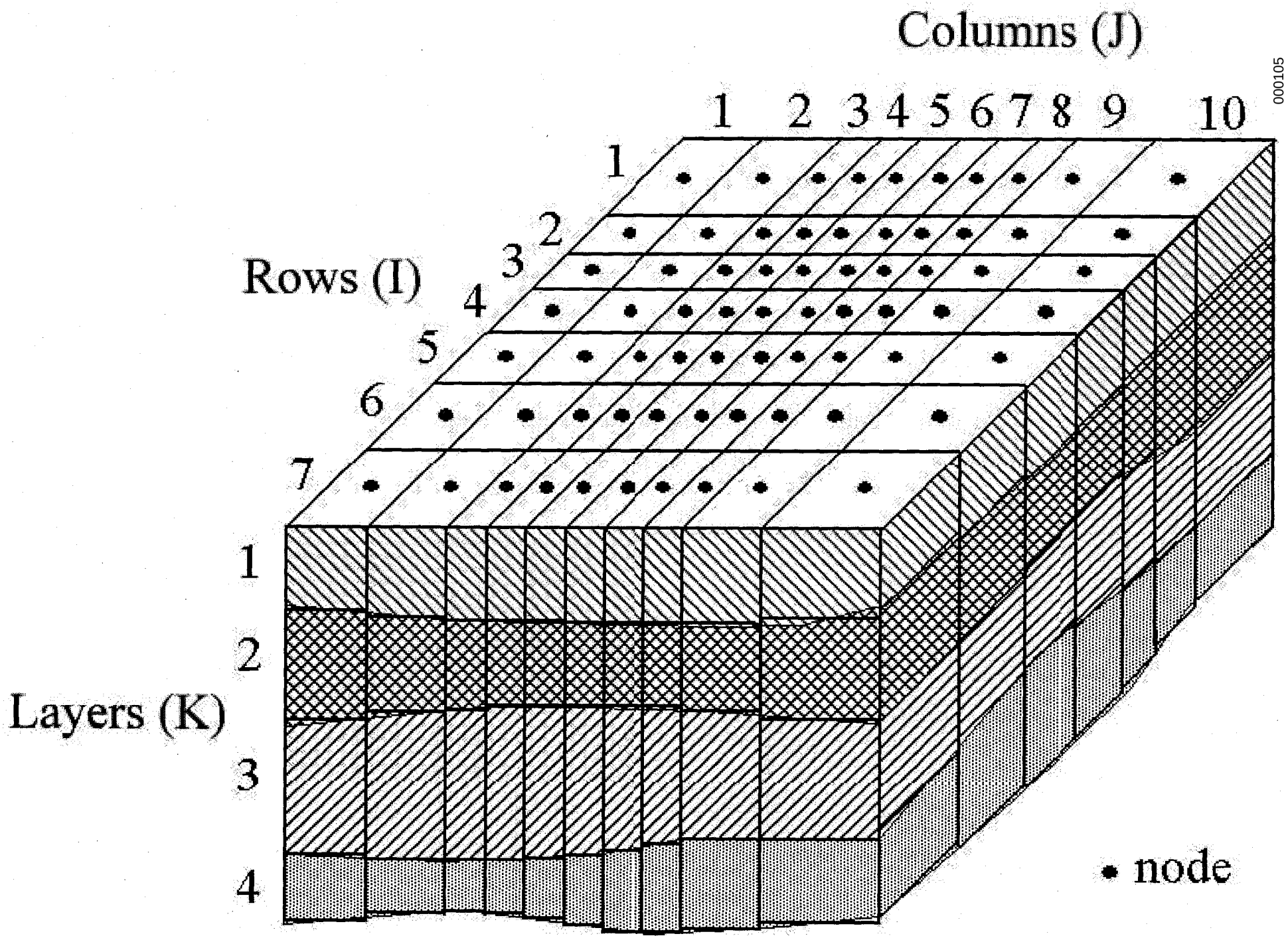
LEGEND

- Approximate Well Location
- Approximate Water Body Location
- NPS Boundary

000102

- Theis analysis
  - Scenario 1 – Existing withdrawals
    - 2610-2 (United Order of SD) 25.8 afy
    - 2634-2 (Mr. Streeter & SBHWS, Inc.) 12.5 afy
  - Scenario 2 – Potential withdrawals
    - 2730-2 (United Order of SD) 153 afy
    - 2634-2 (Mr. Streeter only) 4.08 afy
    - 2585-2 (SBHWS, Inc.) 720 afy
    - 2580-2 (SBHWS, Inc. – Gobbler Pass well) 228 afy


Drawdown in feet
60
50
40
30
20
10
0
0
2
4
6
8
10
12
14
16
18
20
Years
Pumping Scenario 1
Pumping Scenario 2



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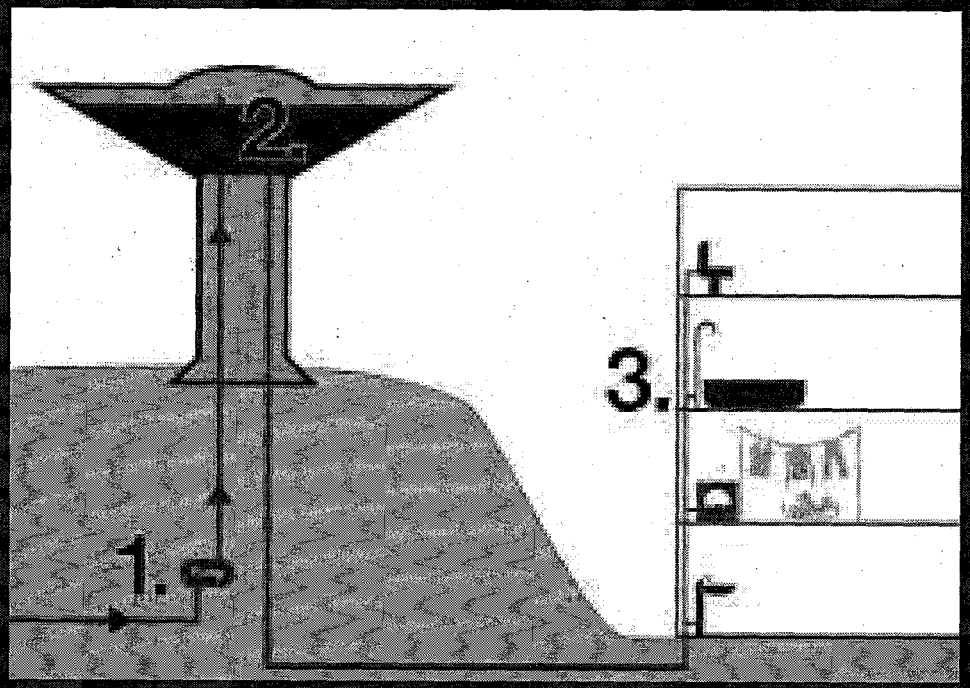
USGS
science for a changing world

Groundwater principals and the Black Hills

Andy Long, USGS

U.S. Department of the Interior
U.S. Geological Survey

Basic hydraulics



USGS

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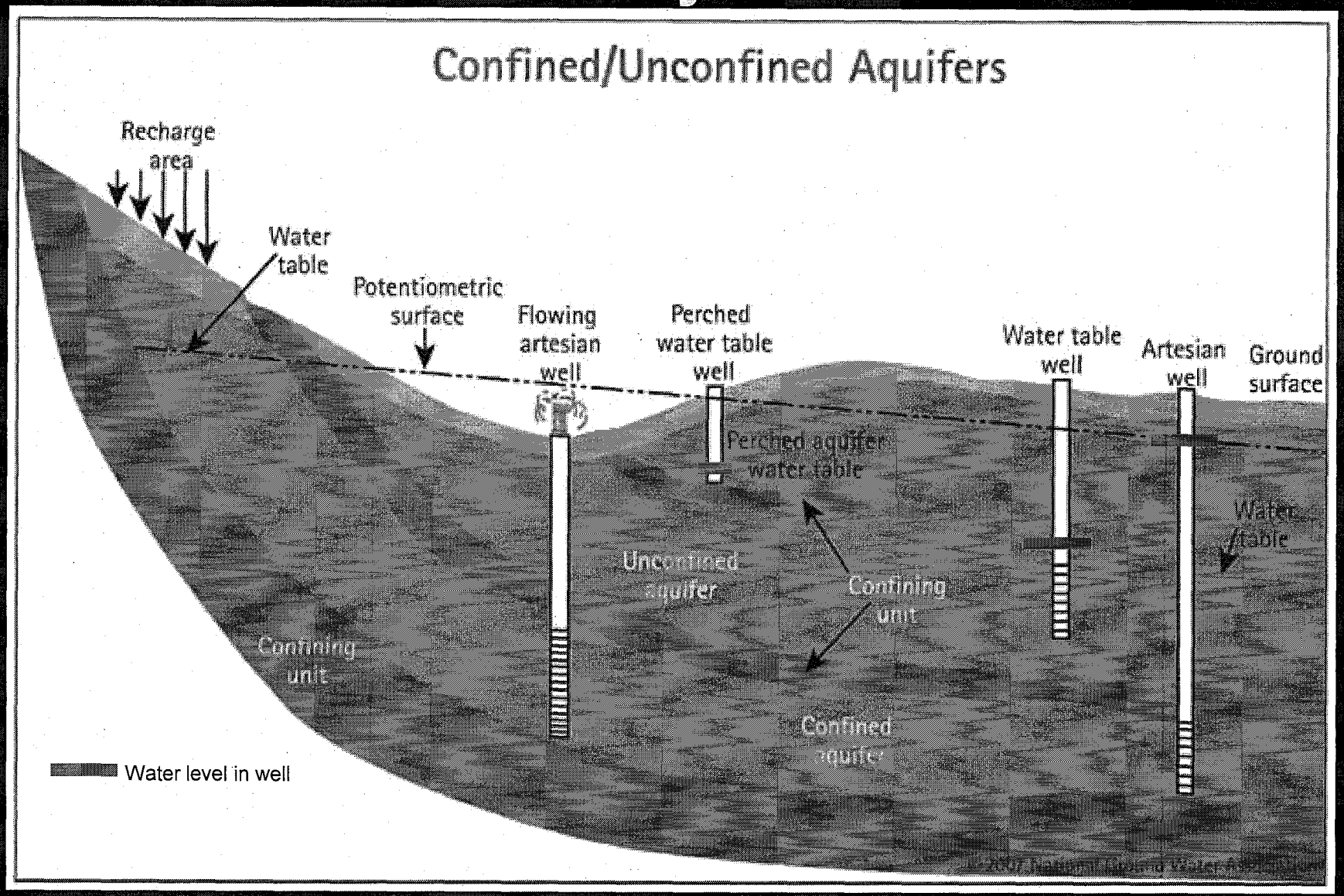
Groundwater hydraulics



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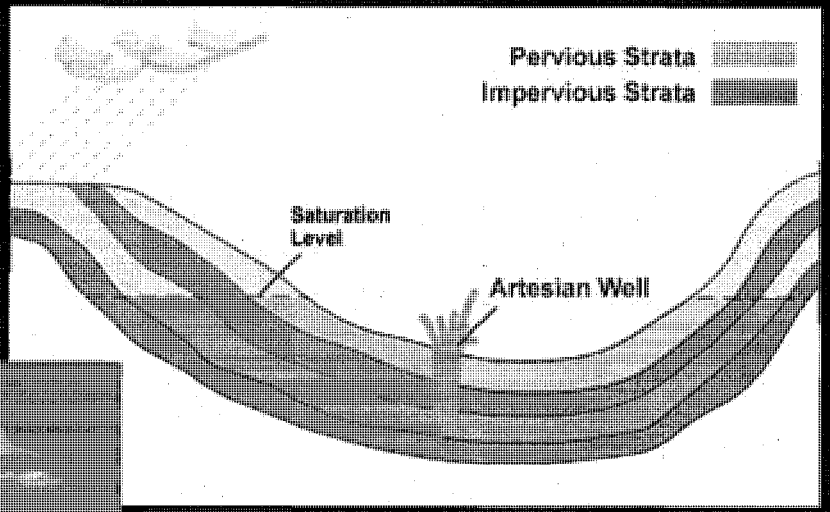
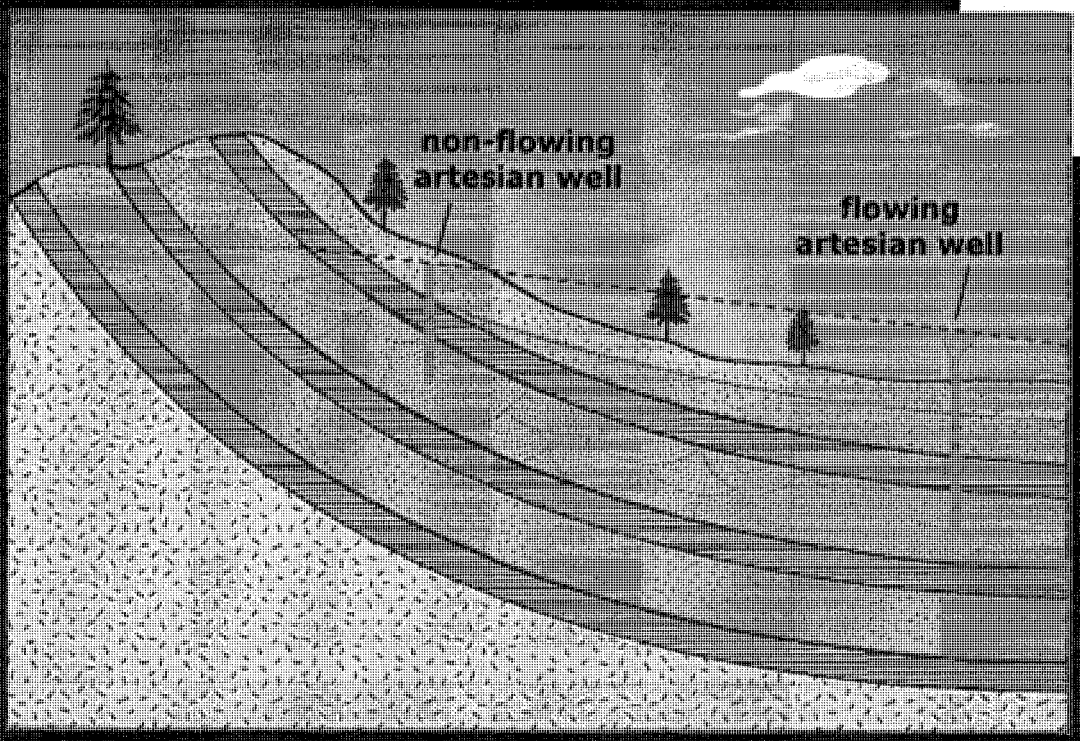
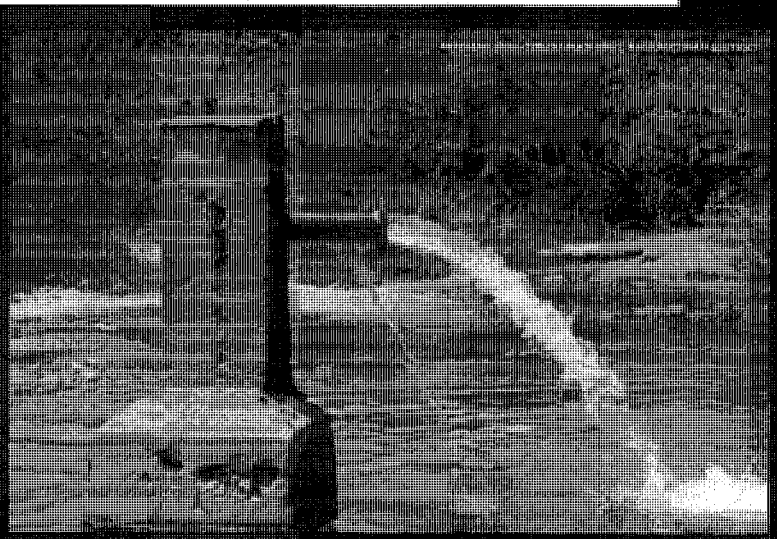
Artesian pressure

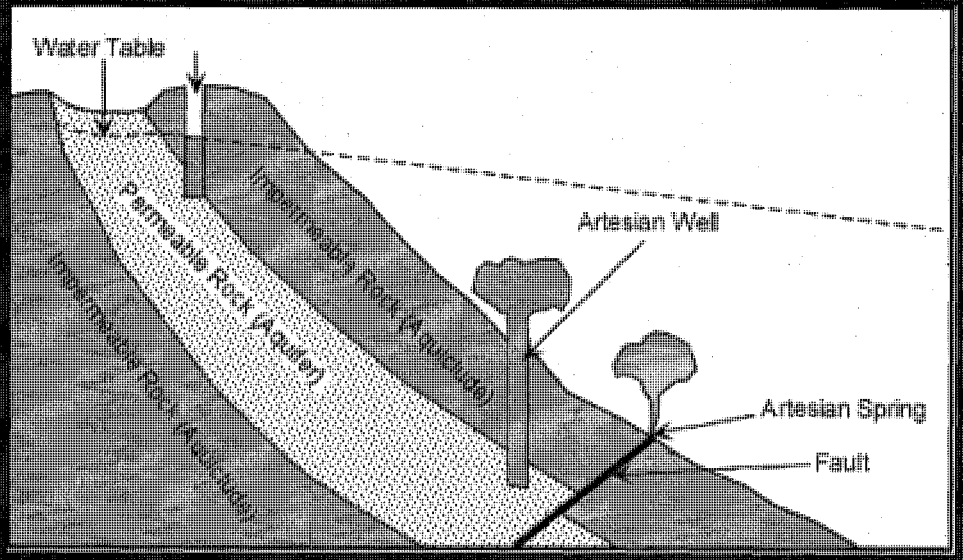


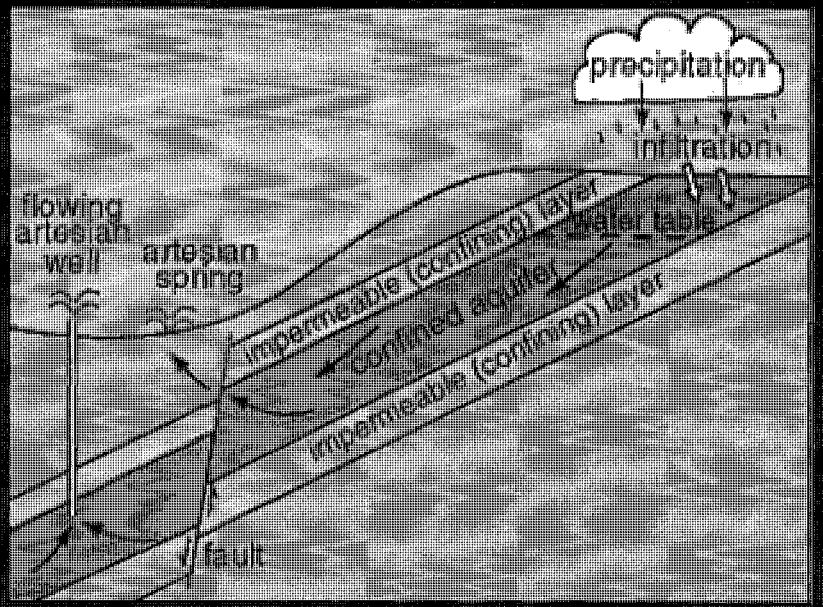




USGS

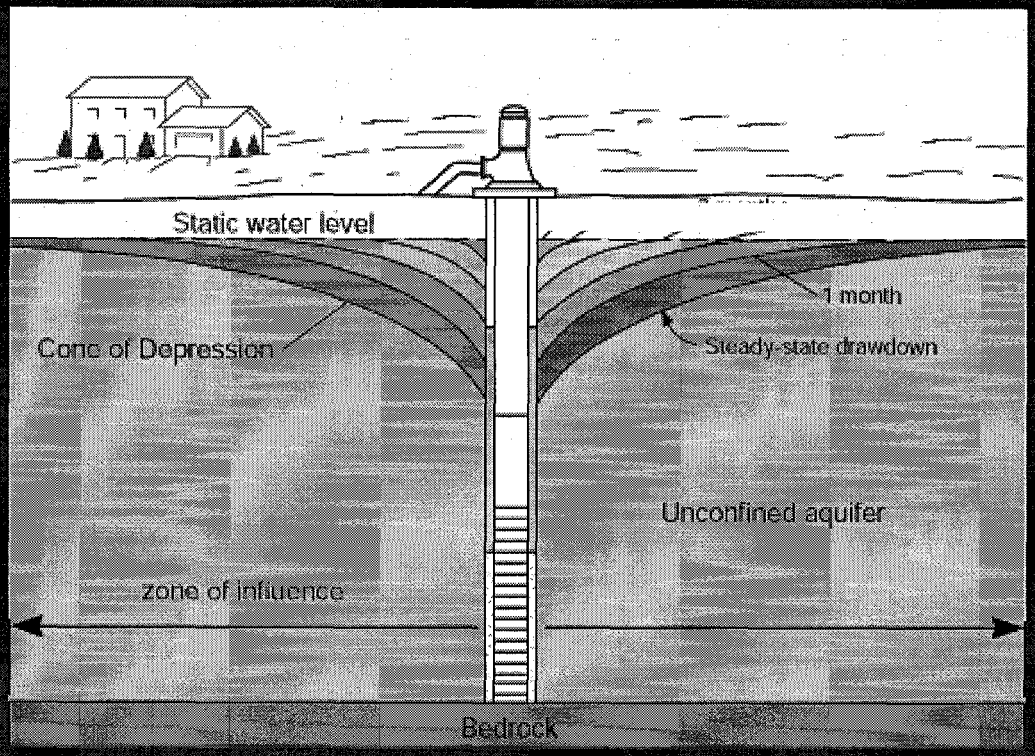
Artesian springs





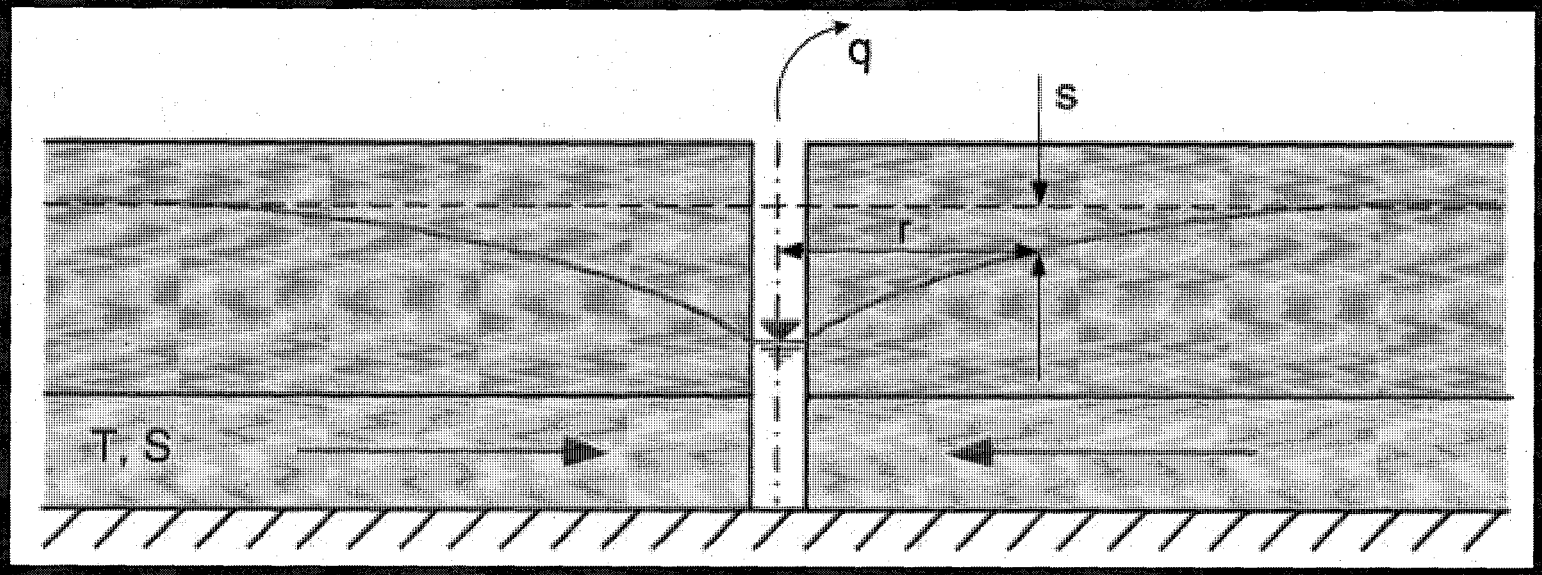
USGS

Water-table drawdown (unconfined aquifer)



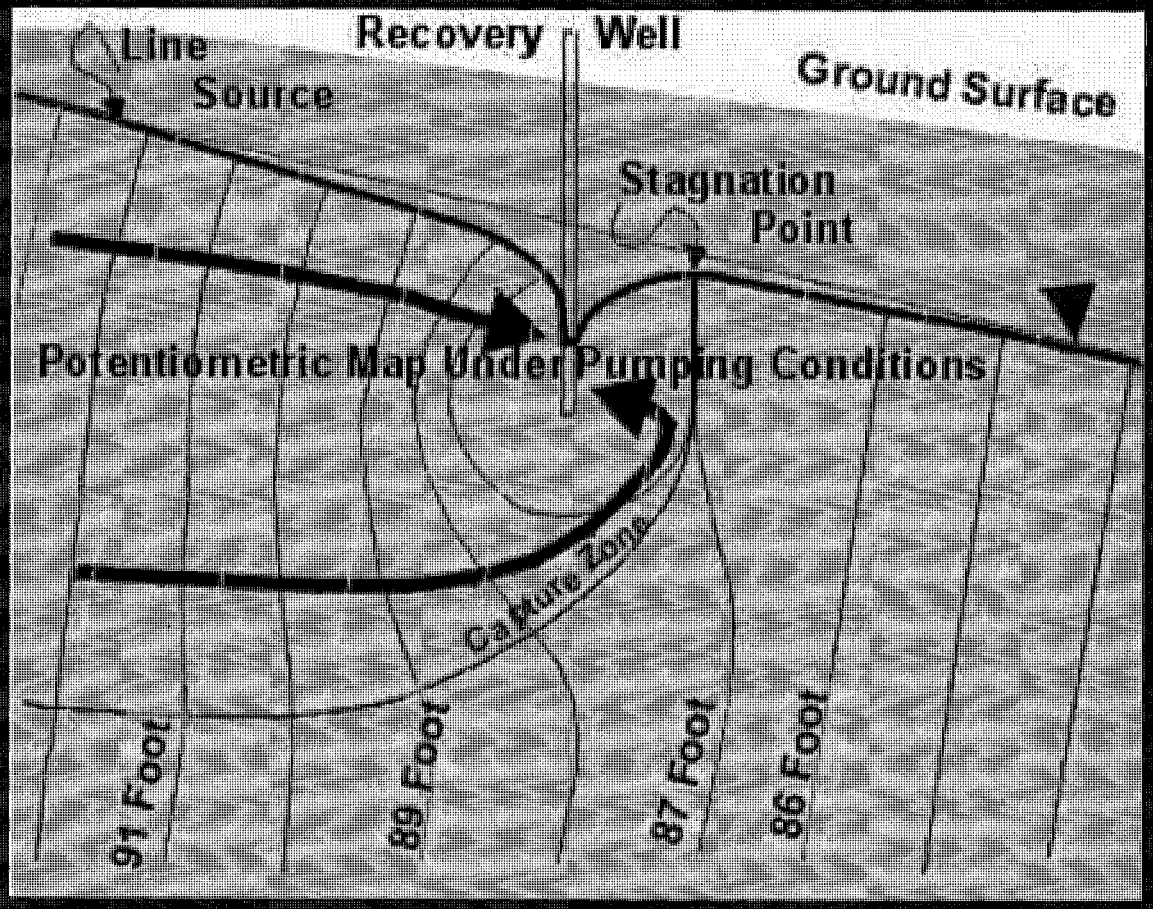
USGS

Pressure-head drawdown (confined aquifer)



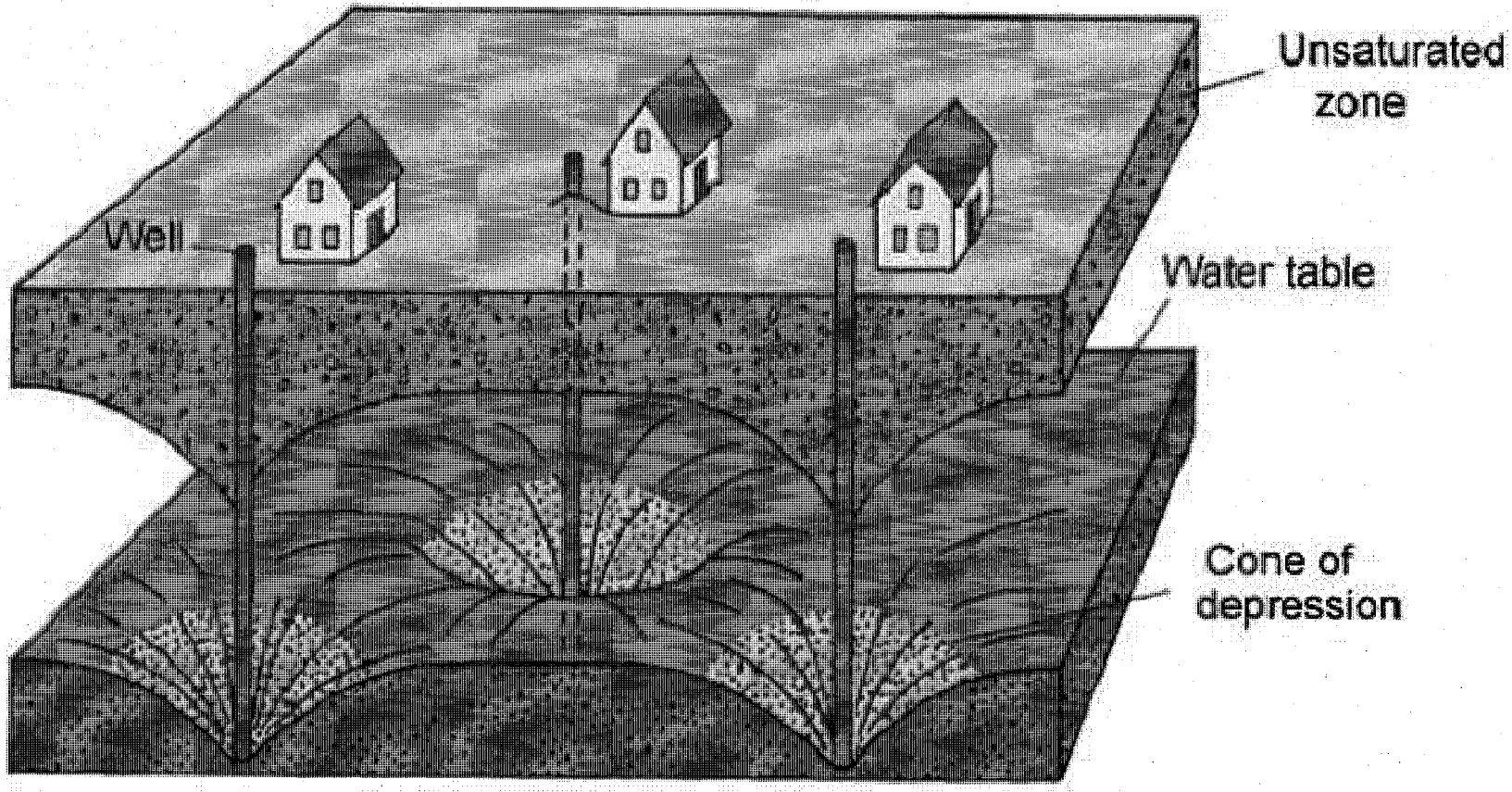
USGS

Sloping water table



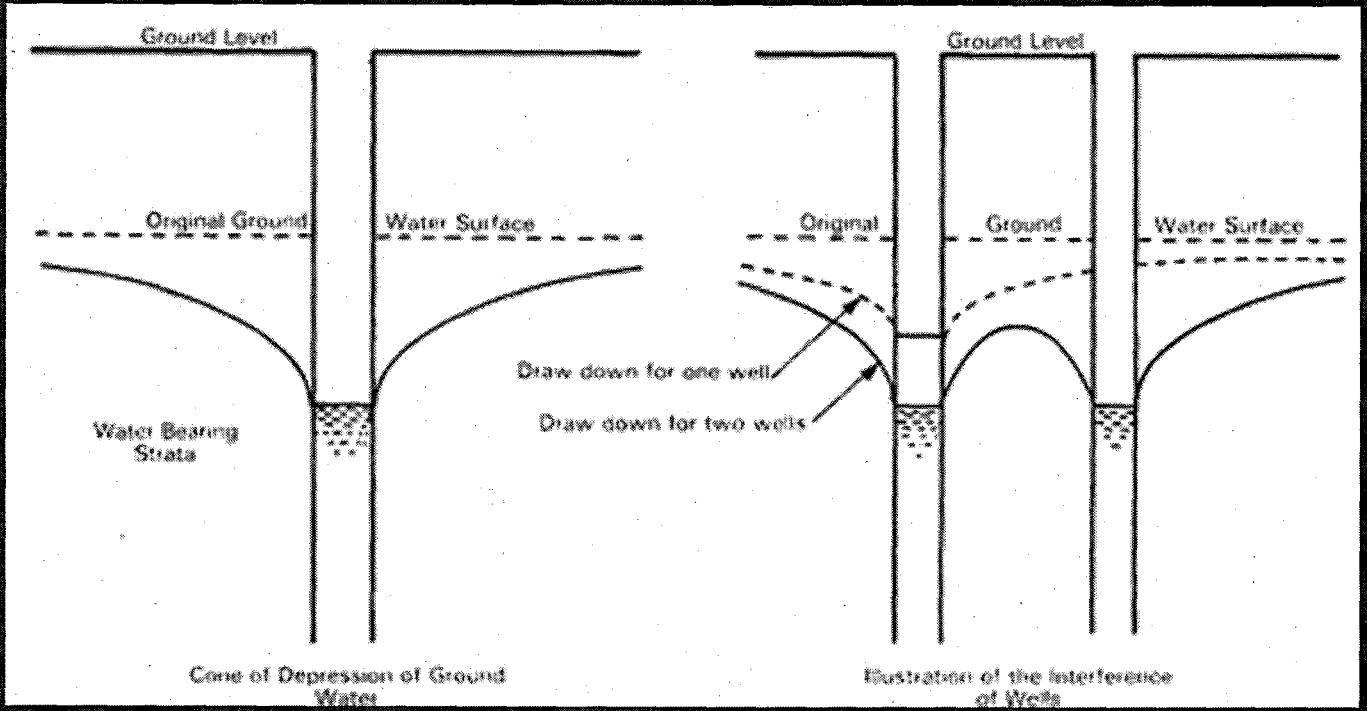
USGS

Well interference



USGS

Well interference

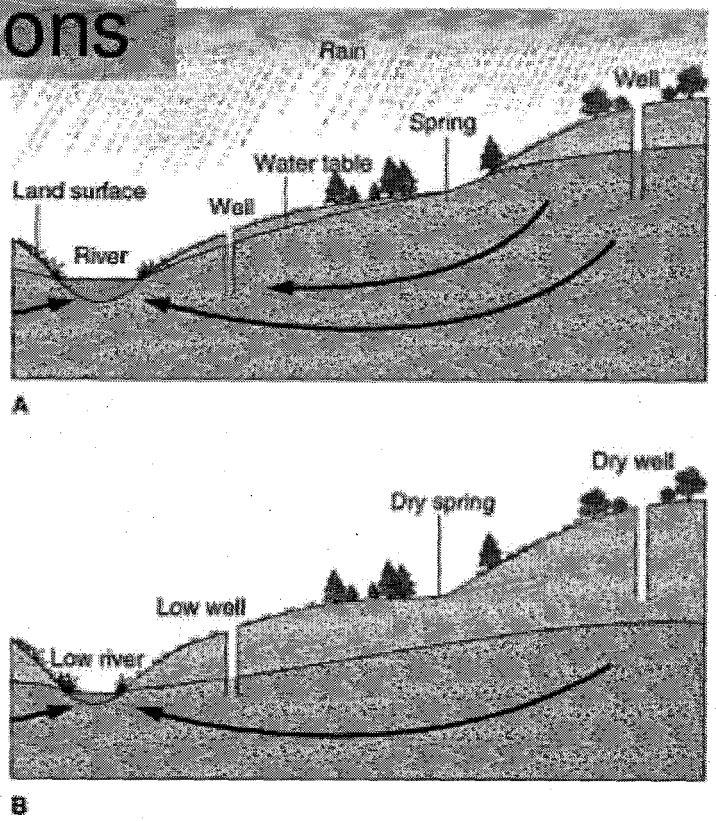


USGS

Natural water-table fluctuation

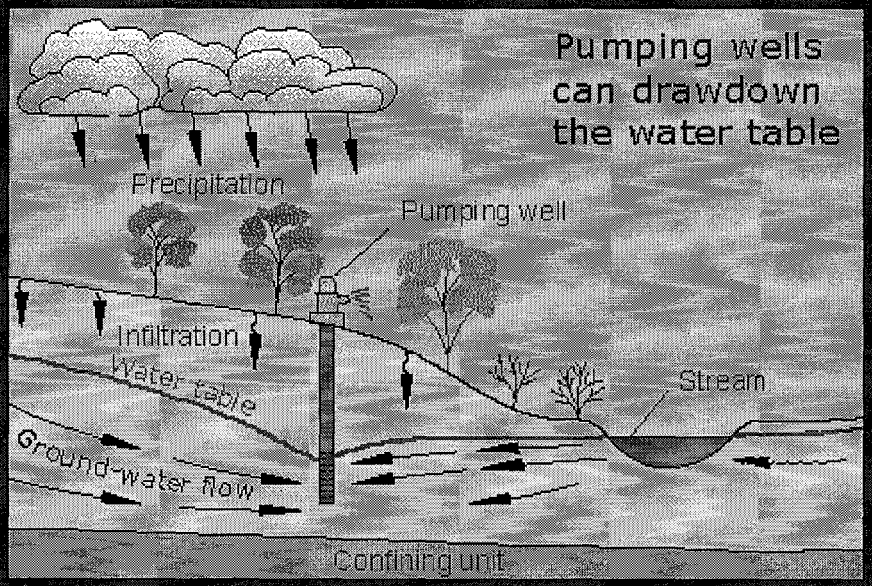
Natural Water Table Fluctuations

- Reduction of infiltration causes water table to drop
  - Wells go dry
  - Springs go dry
  - Discharge of rivers drops
- Artificial causes
  - Pavement
  - Drainage



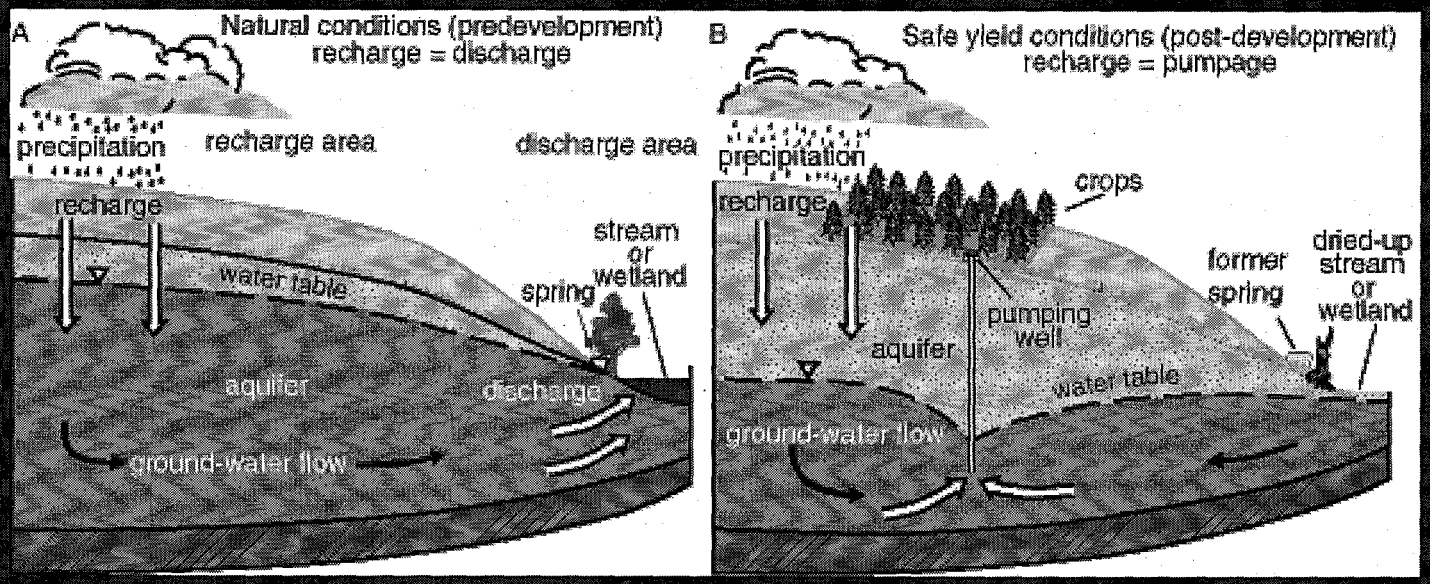
USGS

Influence of pumping



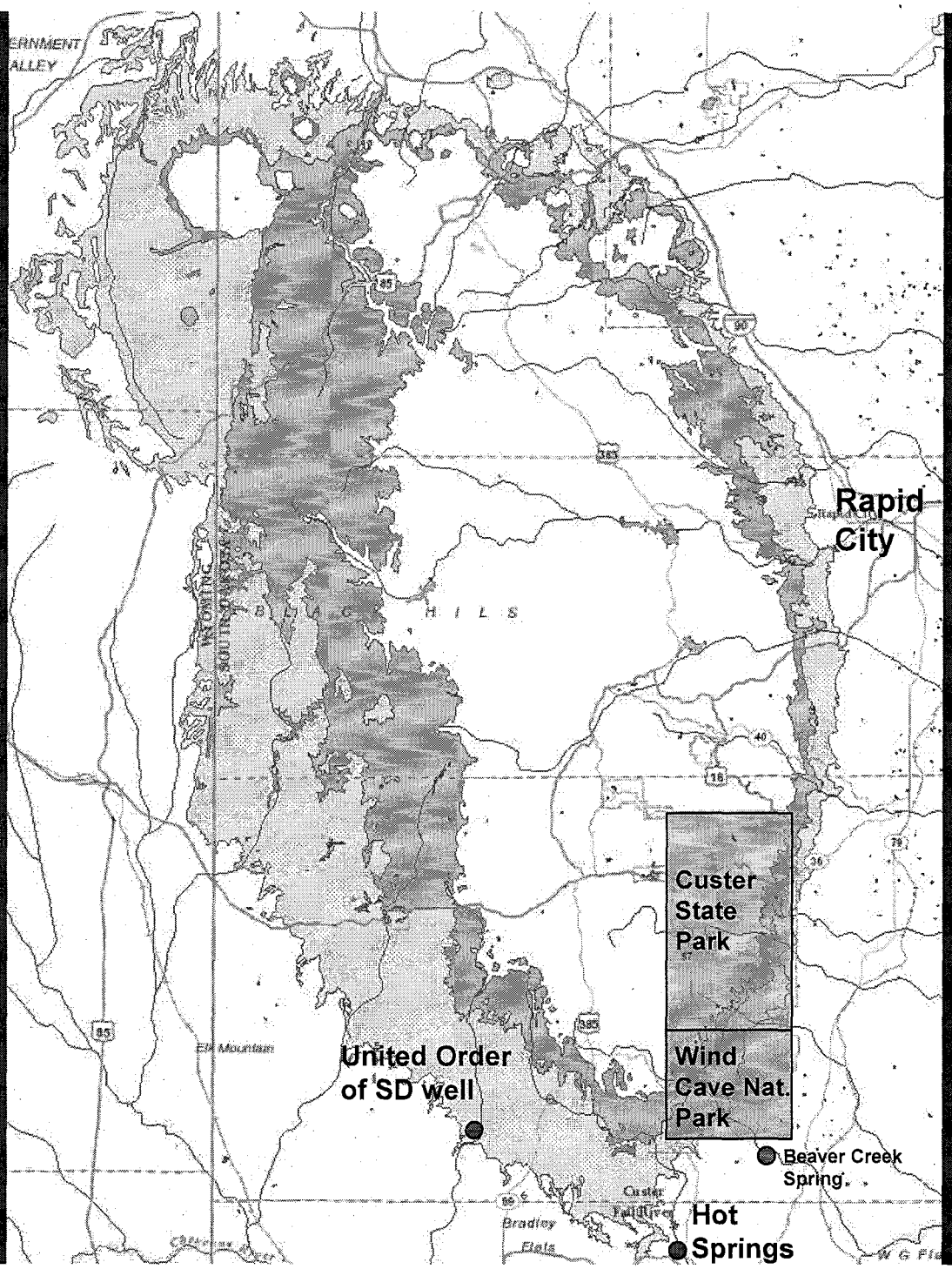
USGS

Influence of pumping



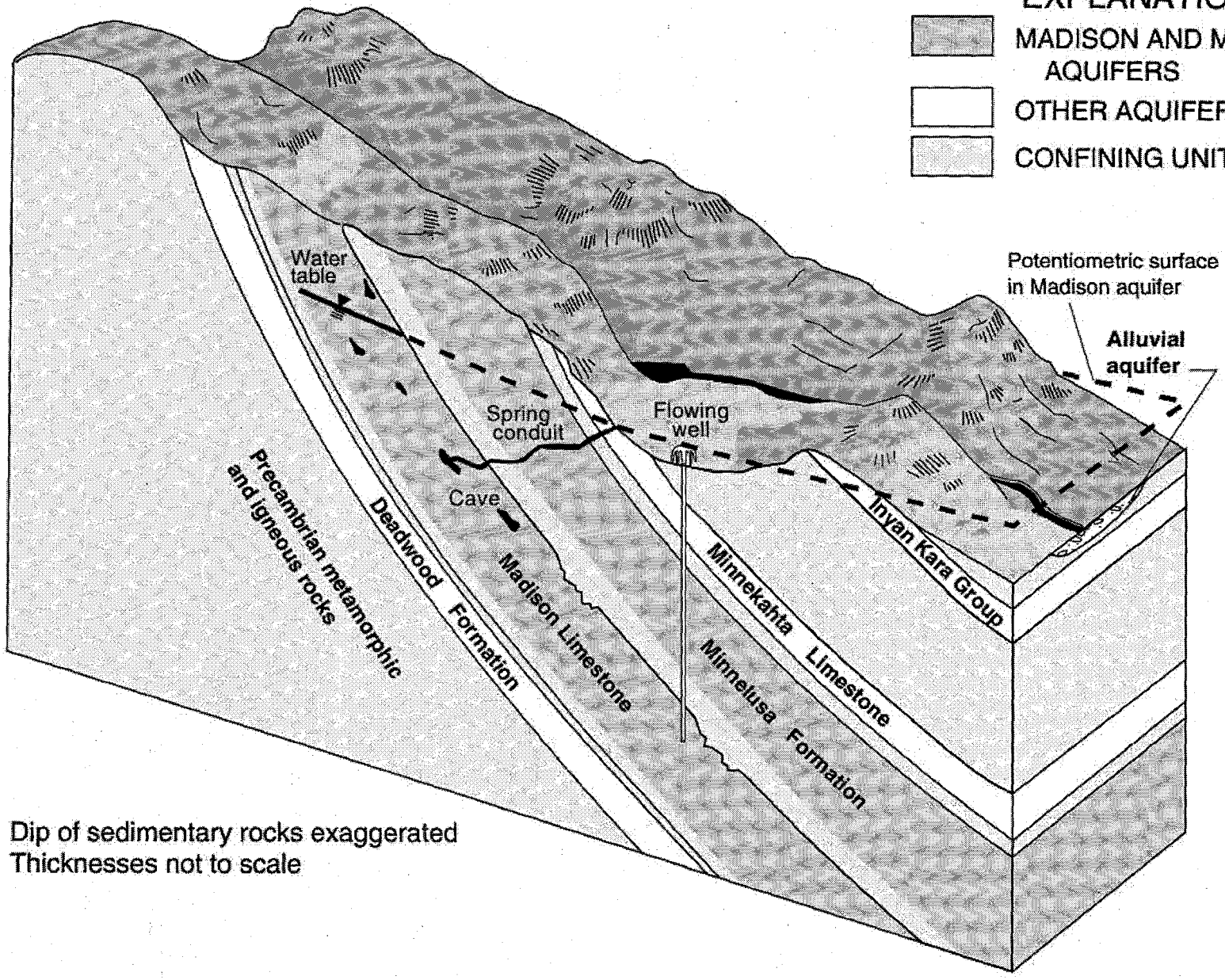
USGS

Map of Black Hills showing outcrops of the Madison and Minnelusa aquifers



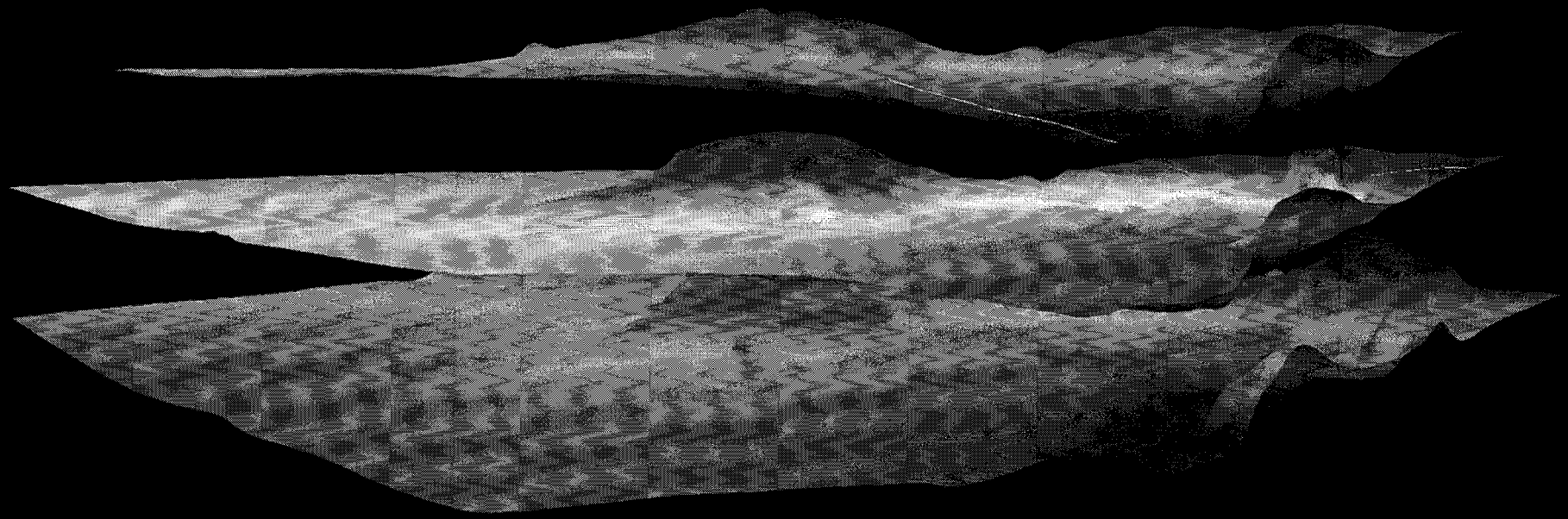
USGS

Block diagram of major aquifers



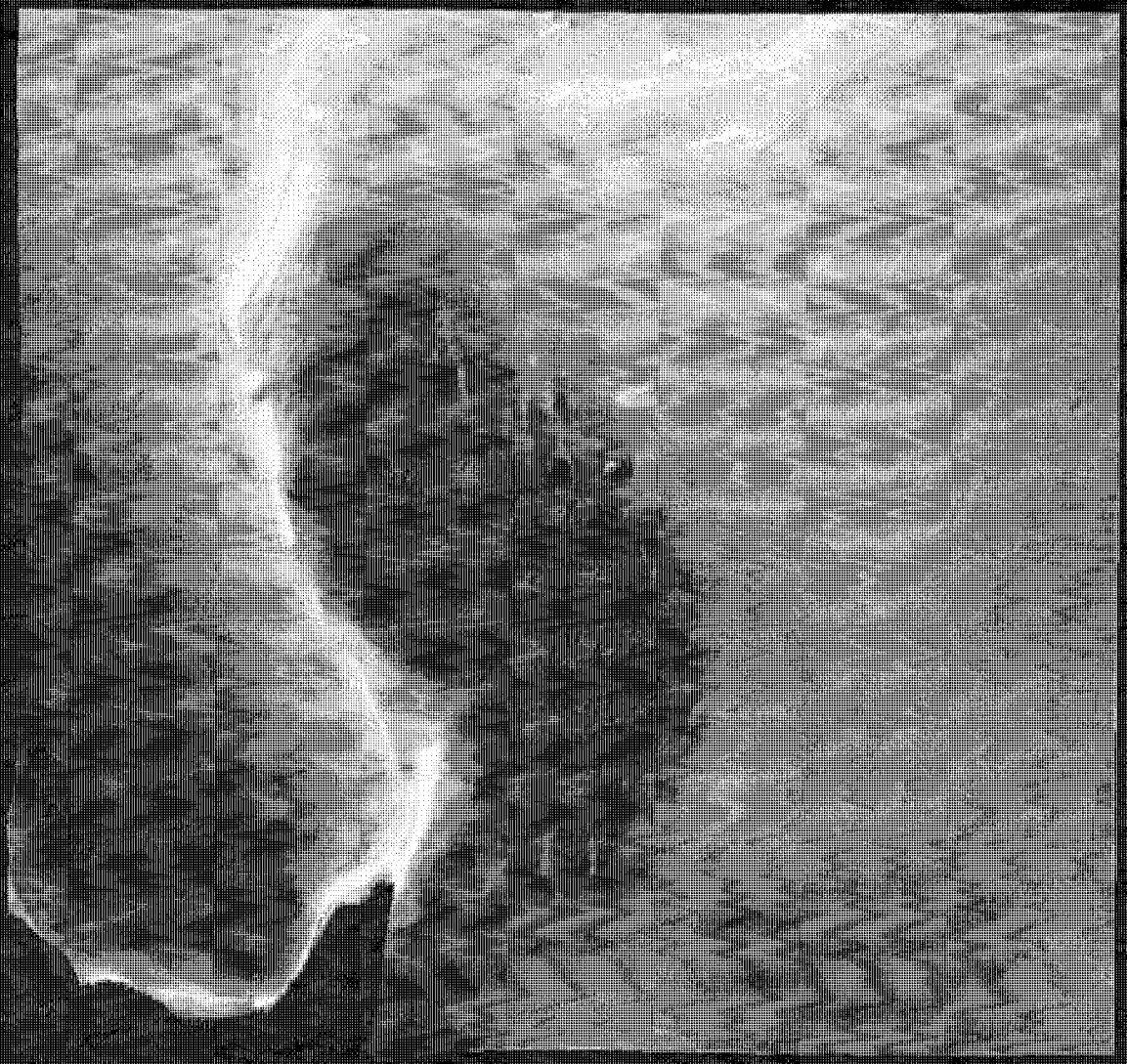
Dip of sedimentary rocks exaggerated
Thicknesses not to scale

3-D Hydrogeologic Framework



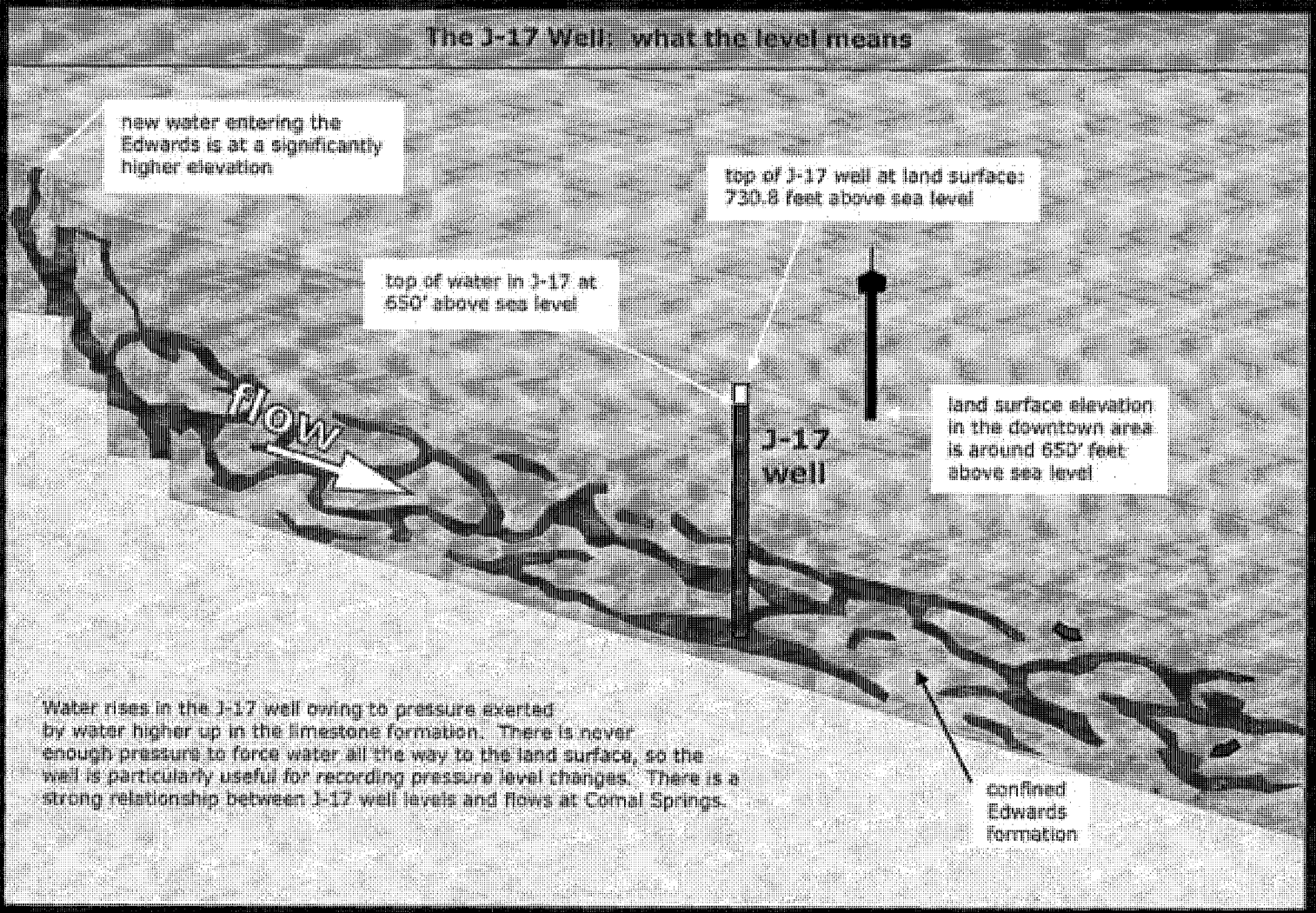
USGS

3-D Hydrogeologic Framework:



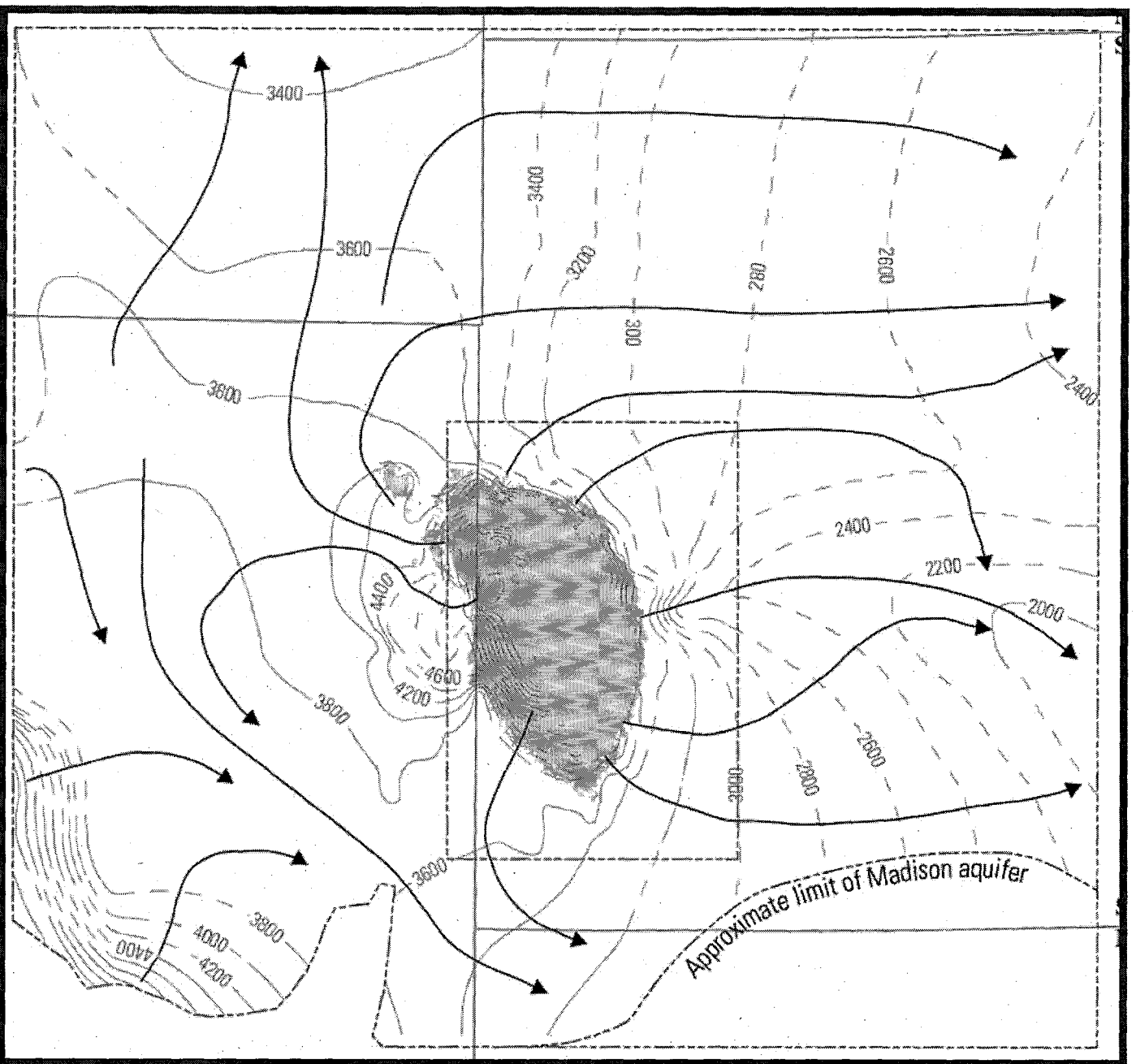
USGS

Caves, conduits, and fractures in the Madison aquifer



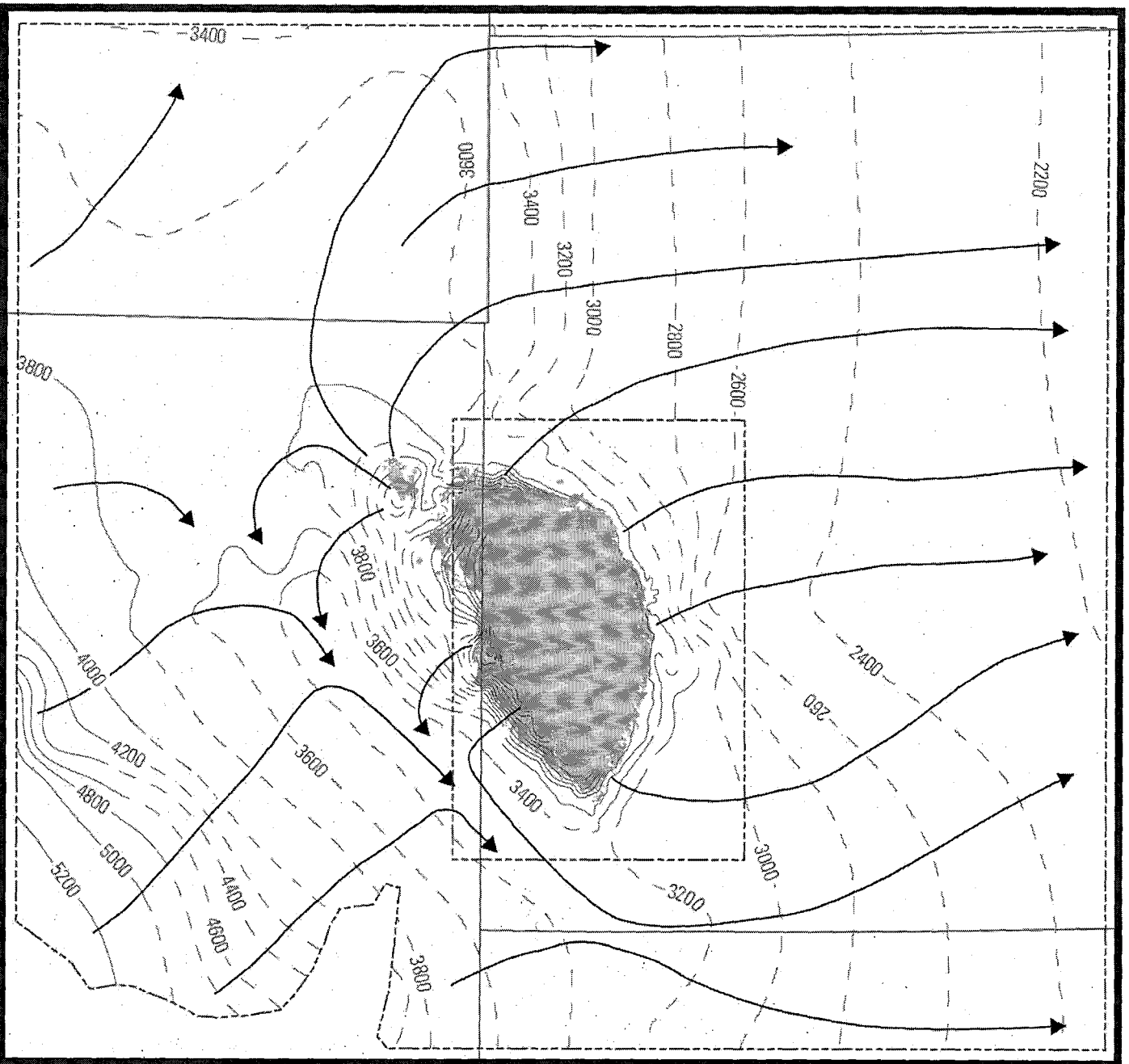
USGS

Groundwater flow in Madison aquifer



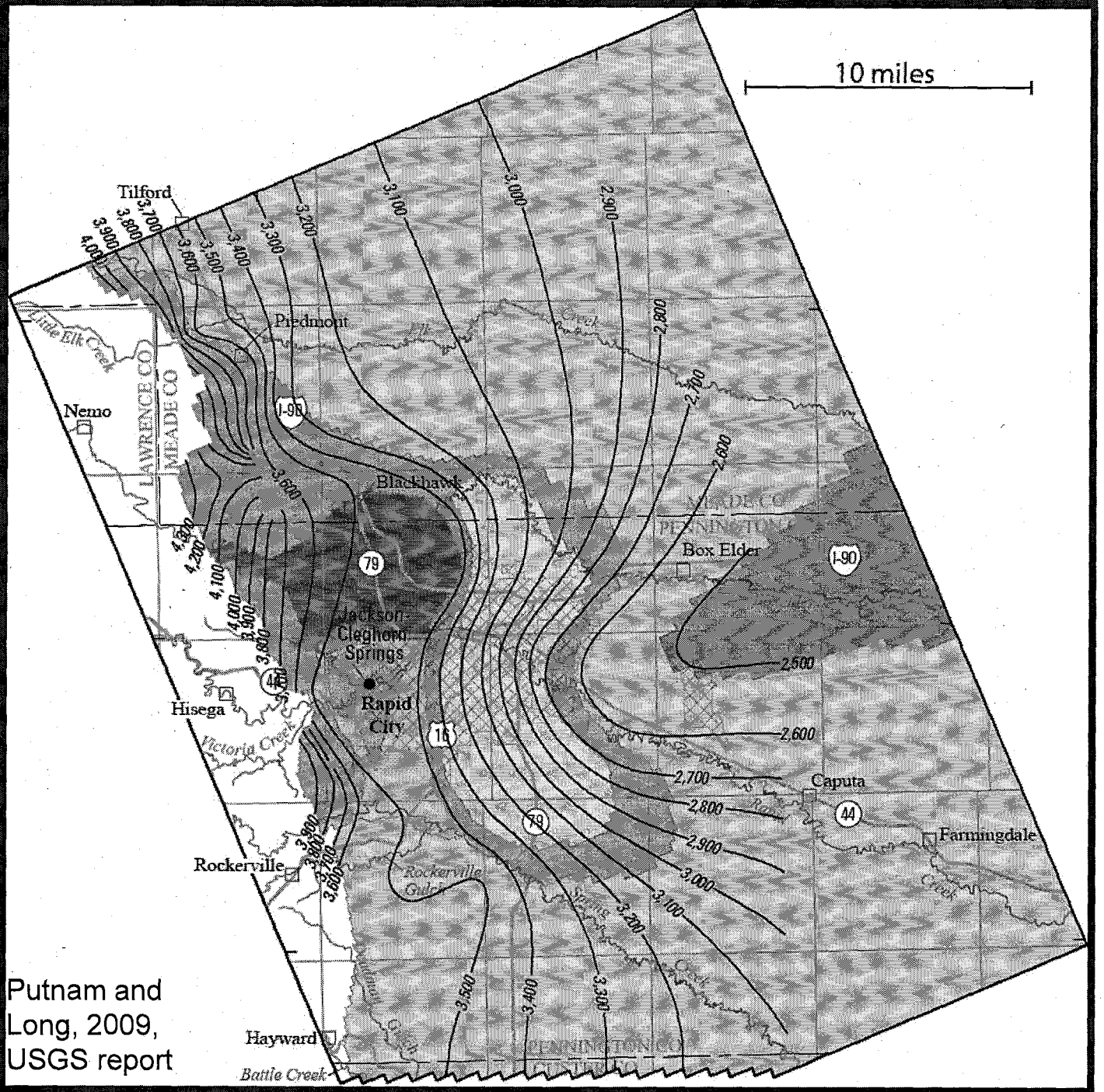
USGS

Groundwater flow in Minnelusa aquifer



USGS

Permeability is spatially variable in the Madison aquifer



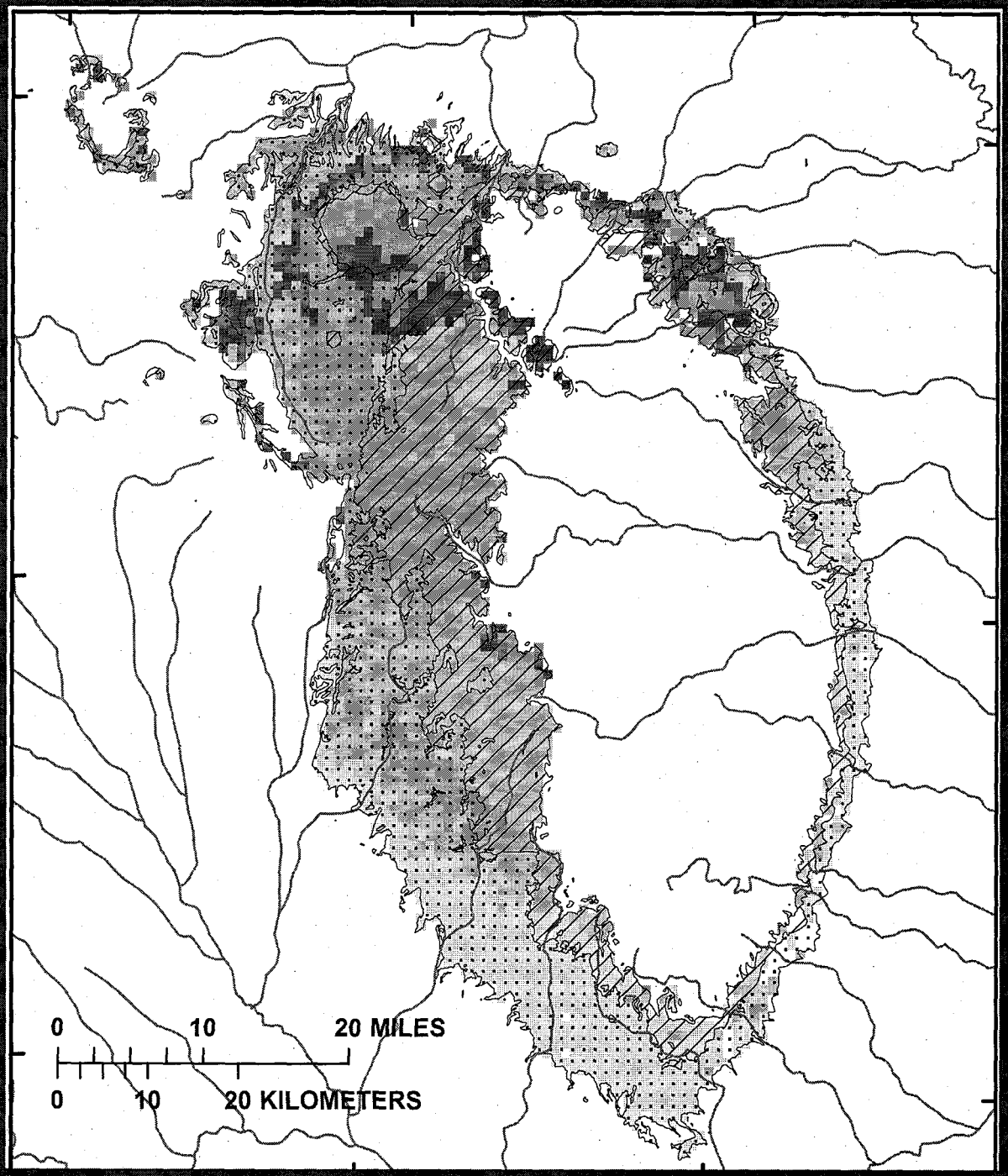
Putnam and Long, 2009, USGS report

USGS

Precipitation recharge

AVERAGE ANNUAL RECHARGE
in INCHES

- Less than 1
- Between 1 and 2
- Between 2 and 3
- Between 3 and 4
- Between 4 and 5
- Between 5 and 6
- Between 6 and 7
- Between 7 and 8
- Greater than 8



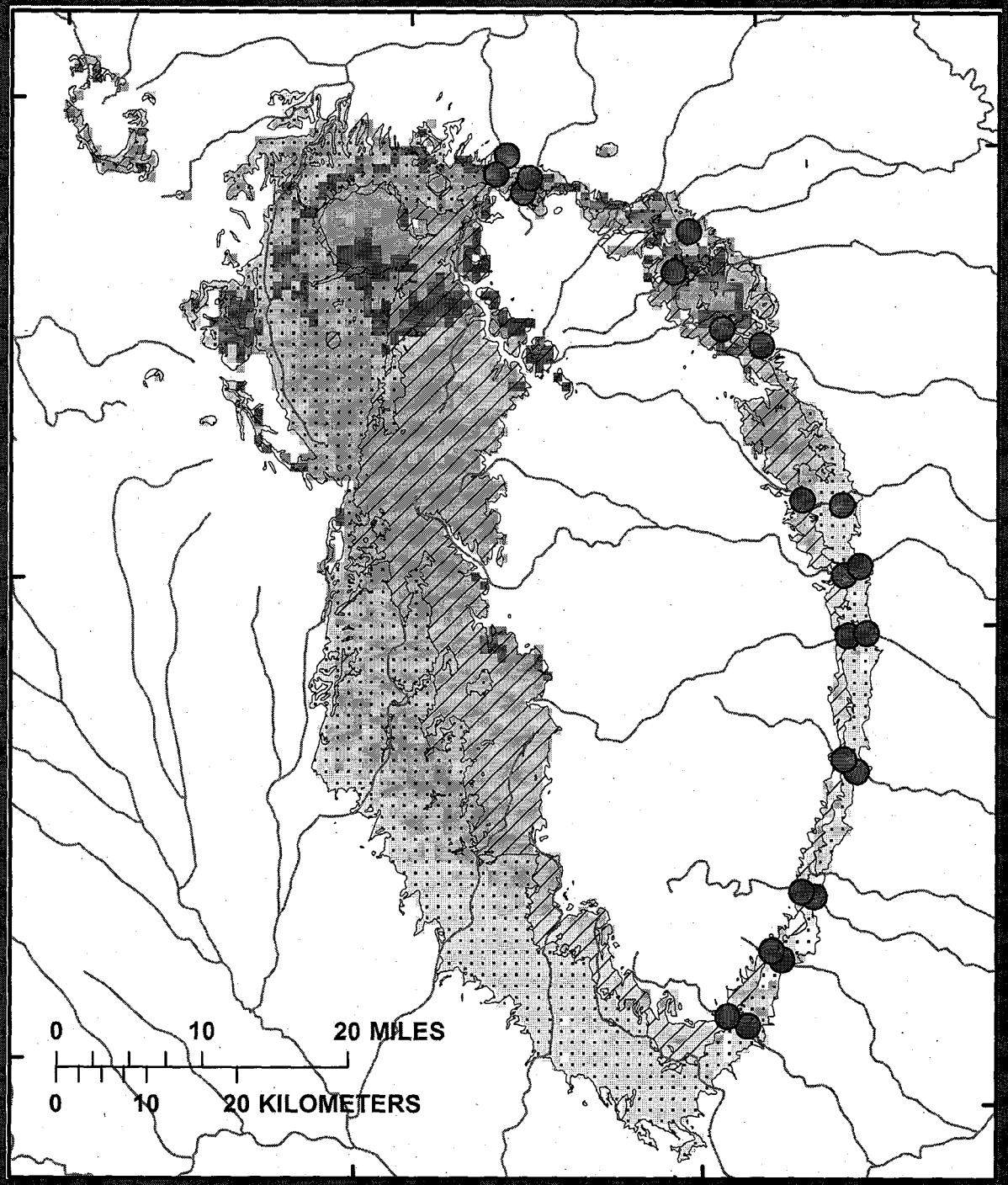
USGS

Stream recharge

AVERAGE ANNUAL RECHARGE in INCHES

- Less than 1
- Between 1 and 2
- Between 2 and 3
- Between 3 and 4
- Between 4 and 5
- Between 5 and 6
- Between 6 and 7
- Between 7 and 8
- Greater than 8

- Stream Recharge Locations
- Springs



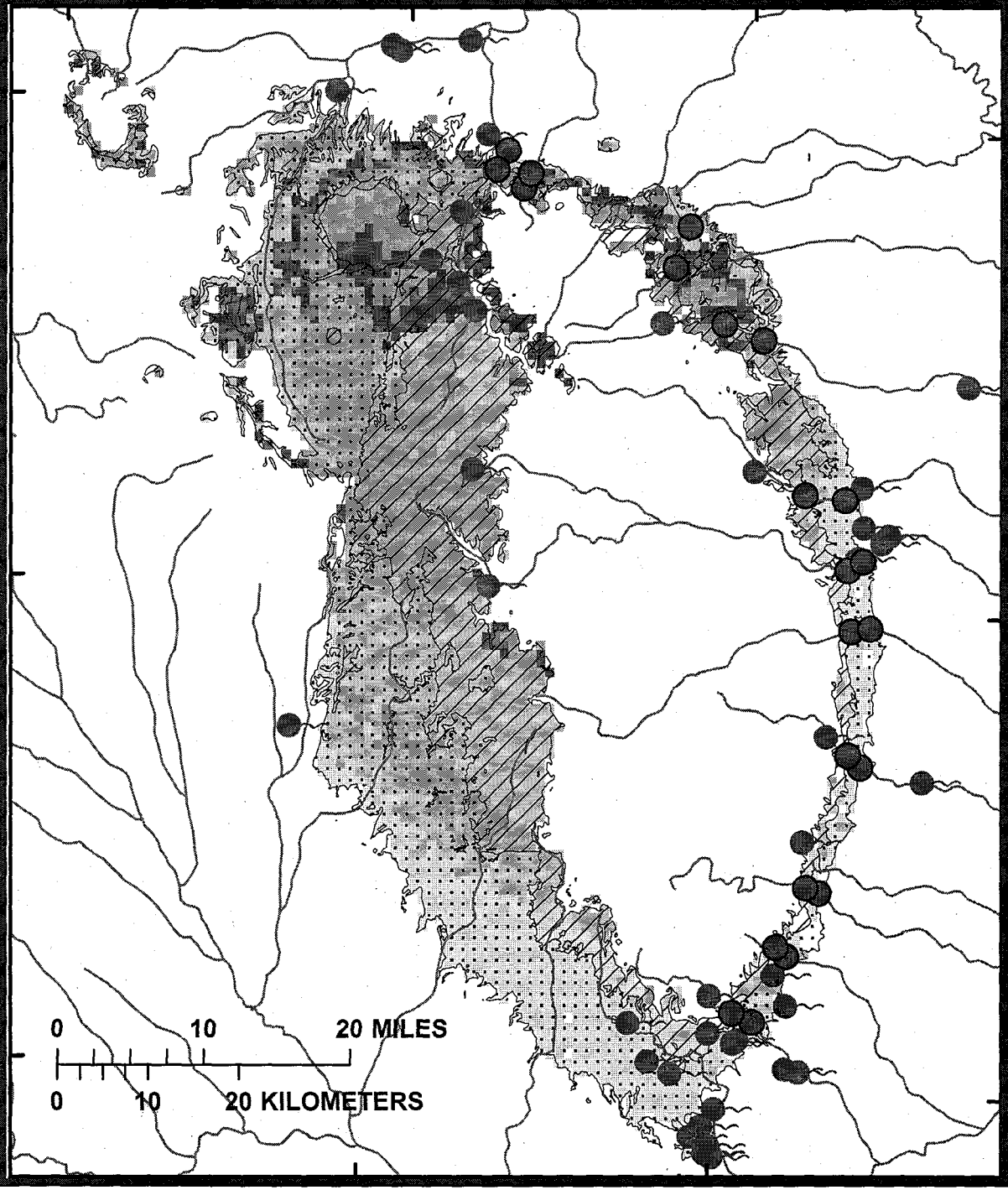
USGS

Spring discharge

AVERAGE ANNUAL RECHARGE in INCHES

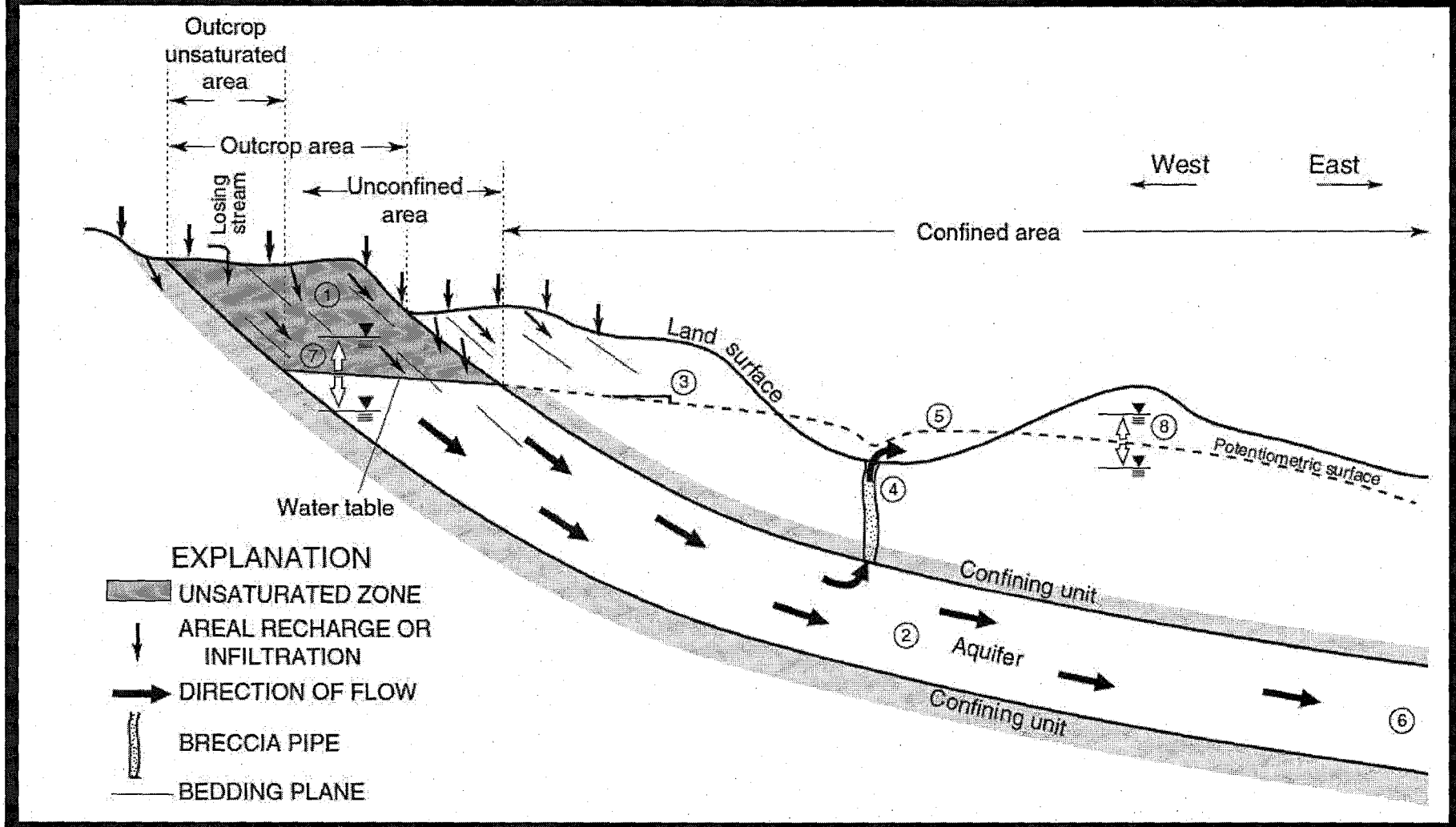
- Less than 1
- Between 1 and 2
- Between 2 and 3
- Between 3 and 4
- Between 4 and 5
- Between 5 and 6
- Between 6 and 7
- Between 7 and 8
- Greater than 8

- Stream Recharge Locations
- Springs



USGS

Profile view of an artesian spring in the Black Hills



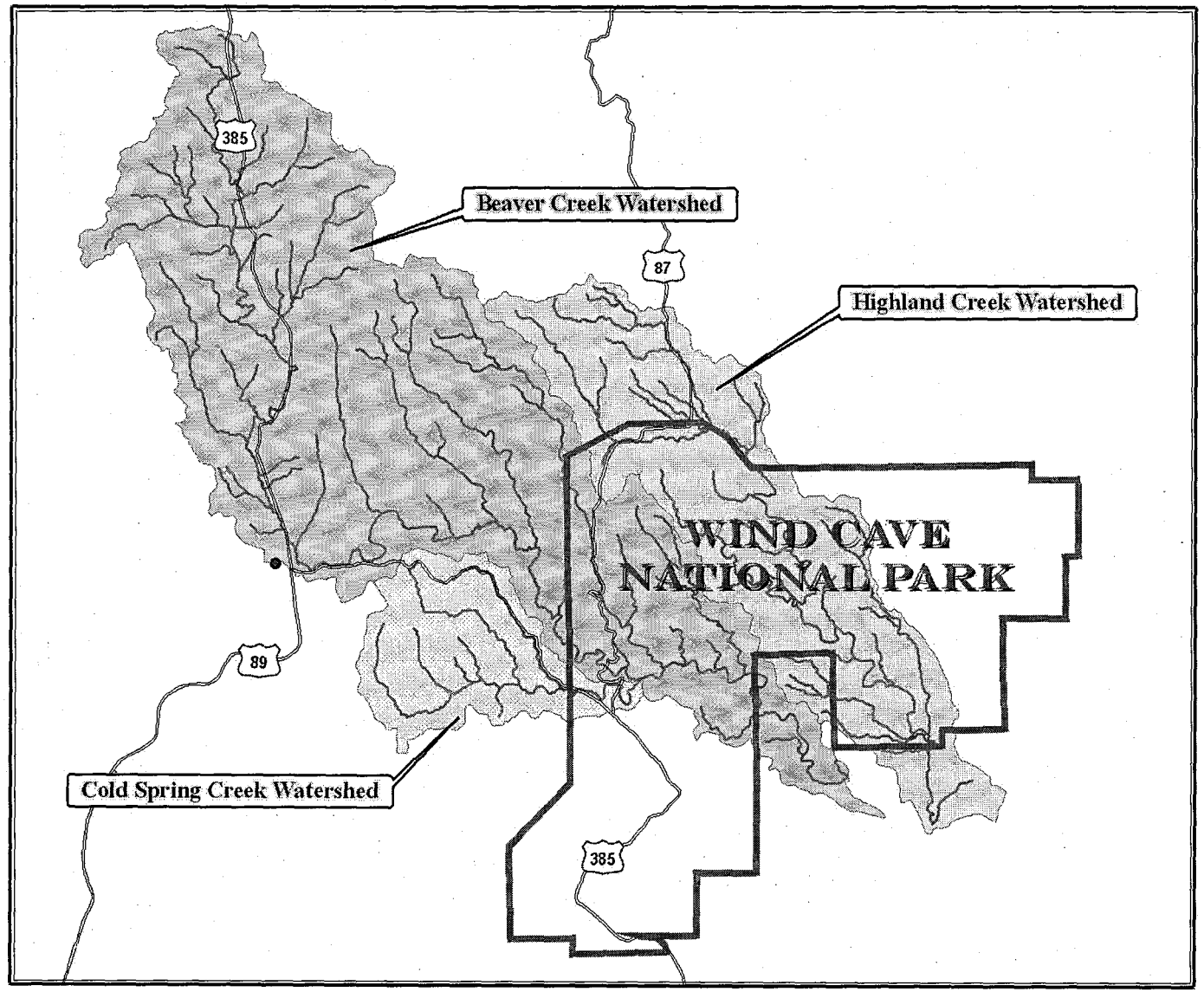
USGS

000130

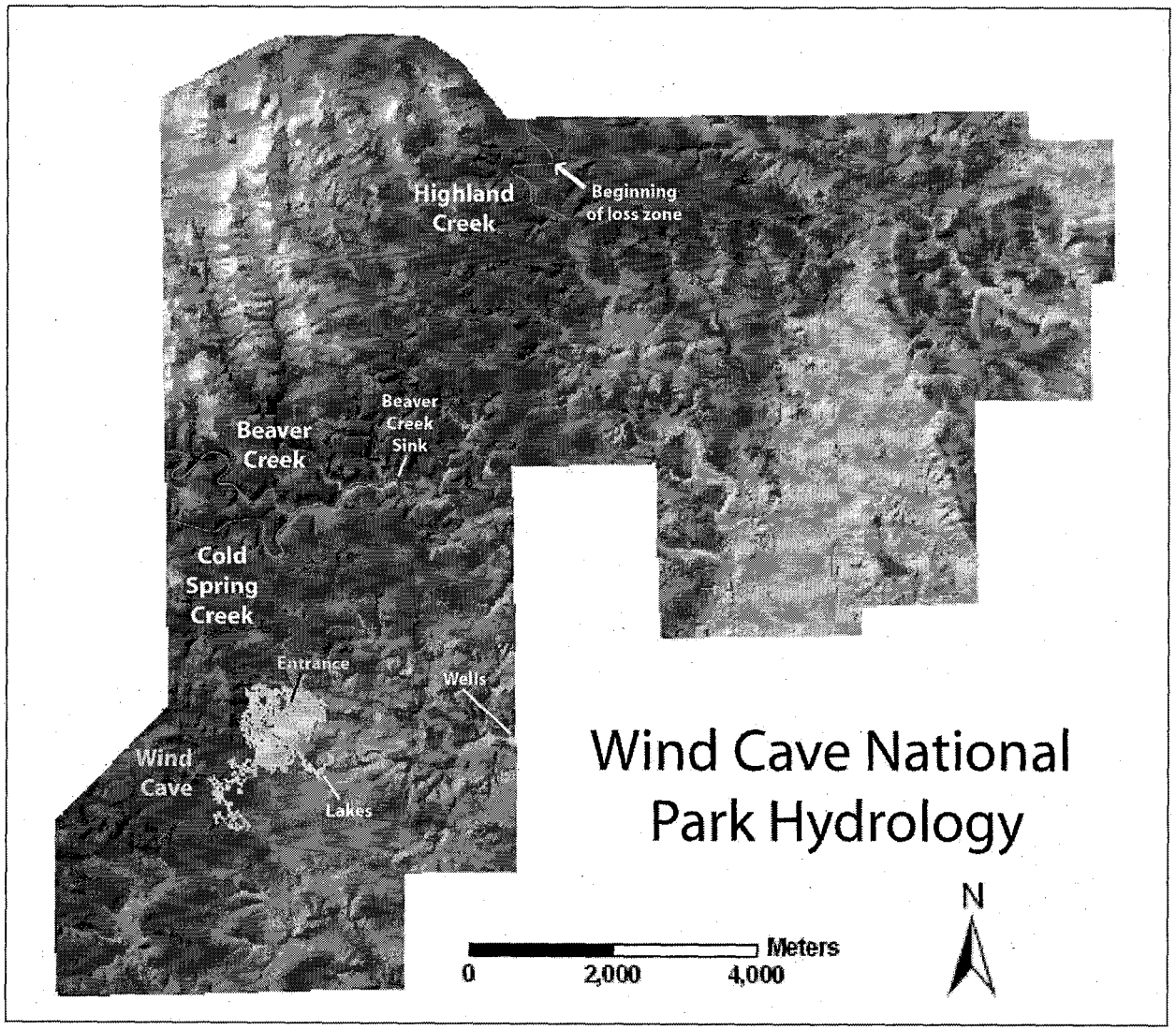
The Significance of the Wind Cave Lakes

Rodney D. Horrocks, Physical Science Specialist, Wind Cave National Park

Wind Cave National Park

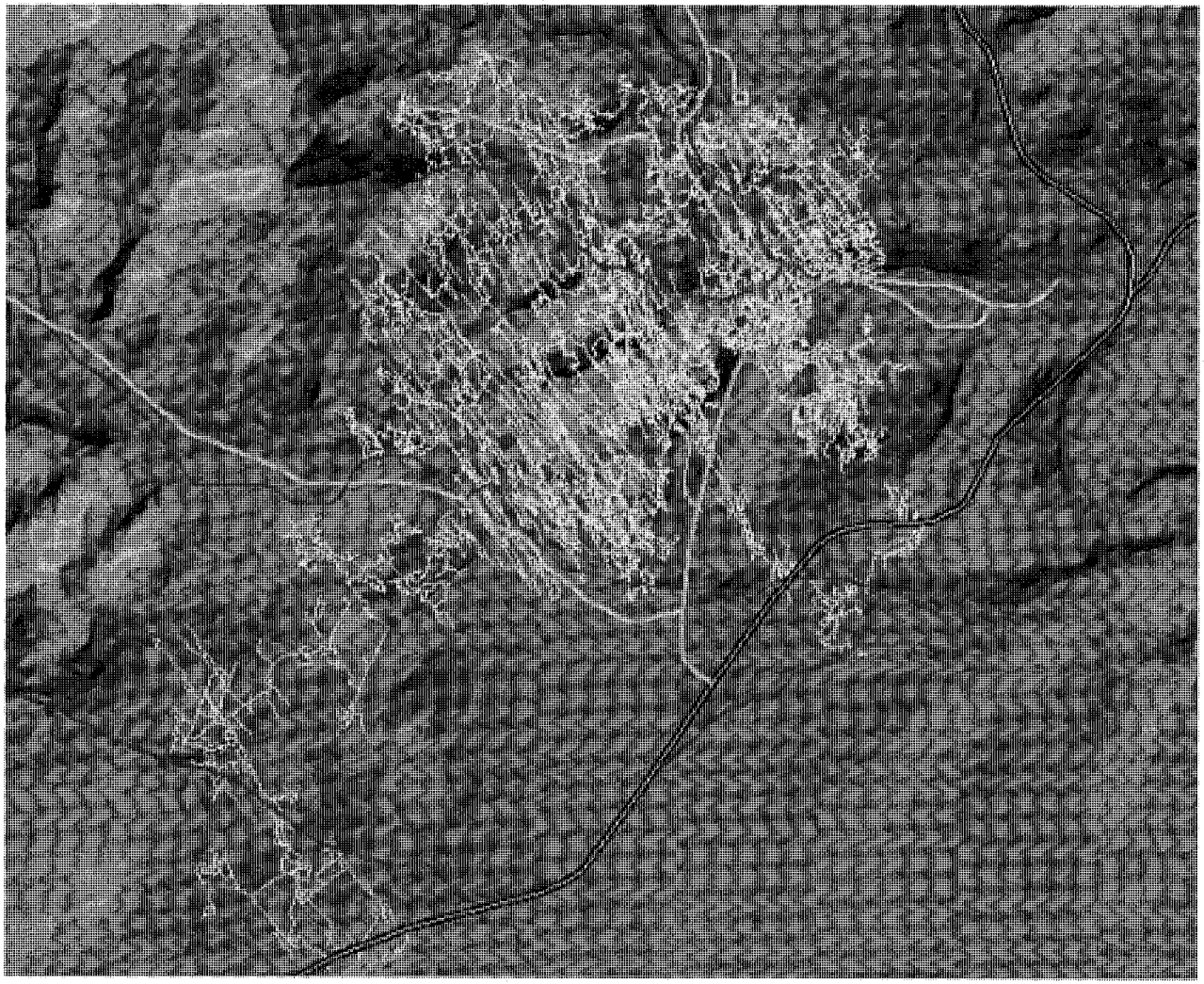


Wind Cave National Park



Wind Cave National Park

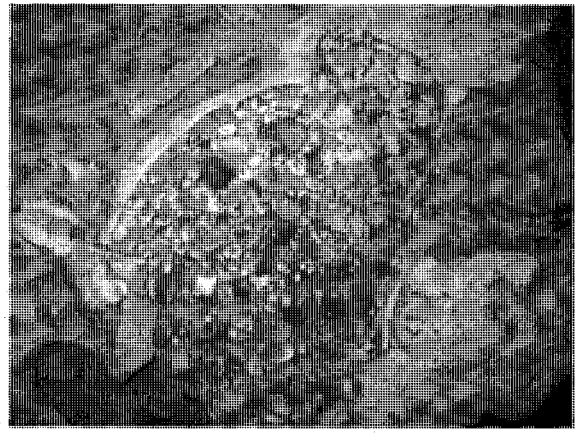
The most complex cave in the world was created by water

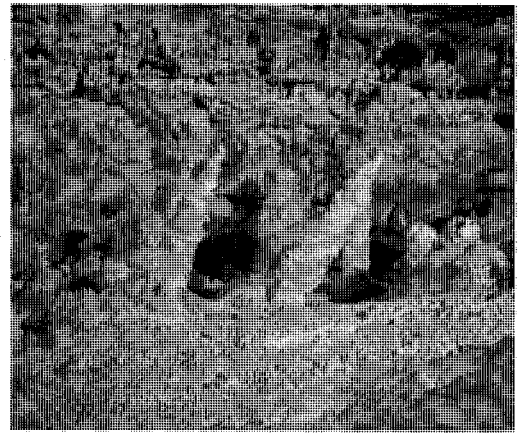


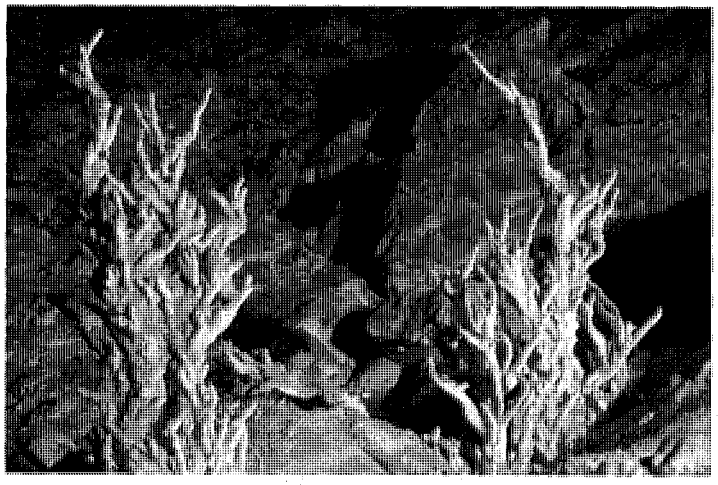
122.12 Miles of Surveyed Passage

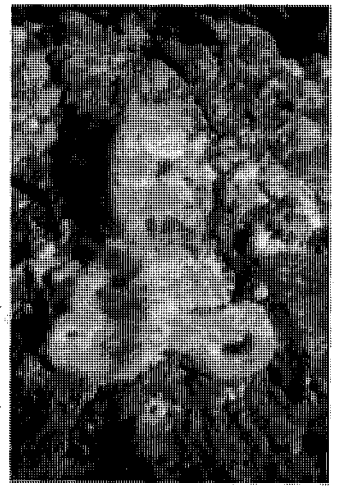
Wind Cave National Park

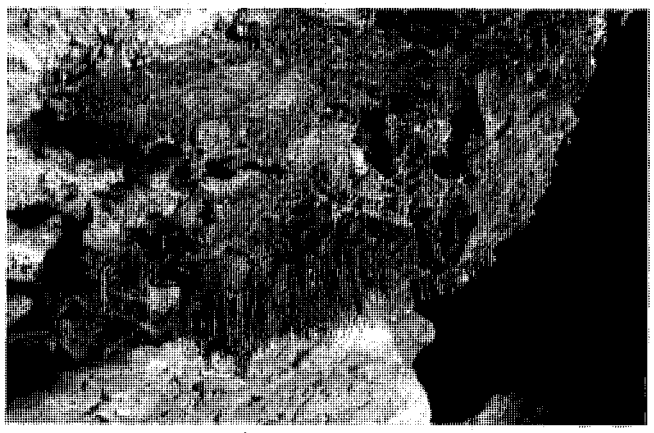
Significant Water Related Features Found in Wind Cave





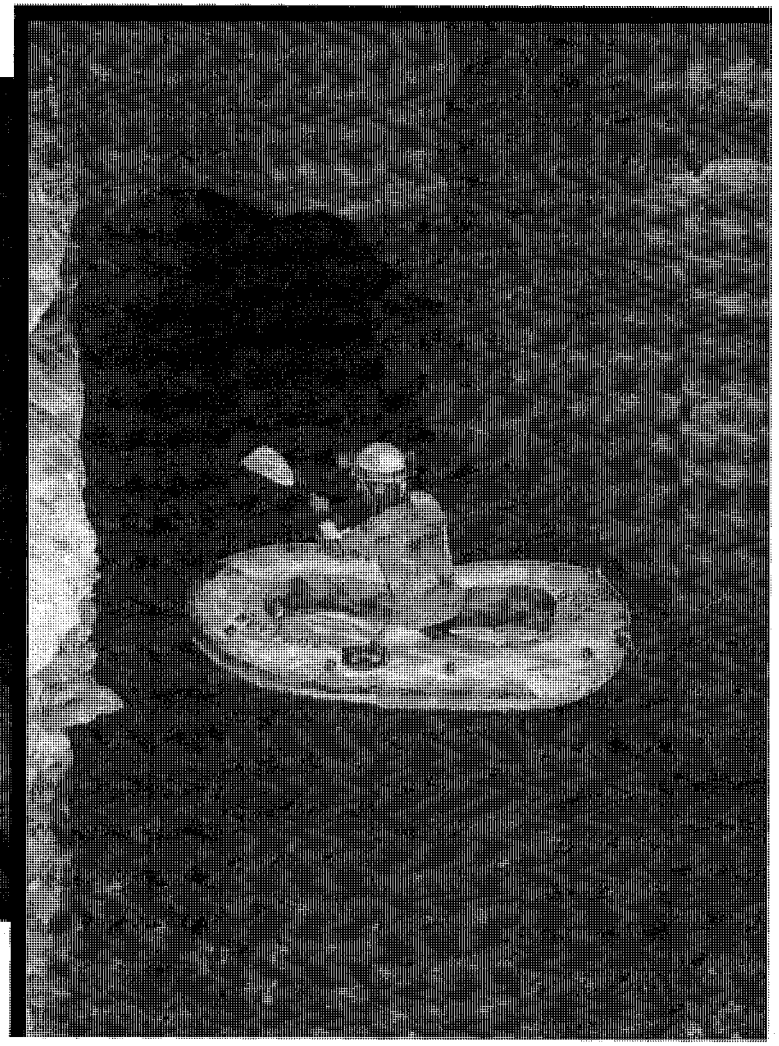






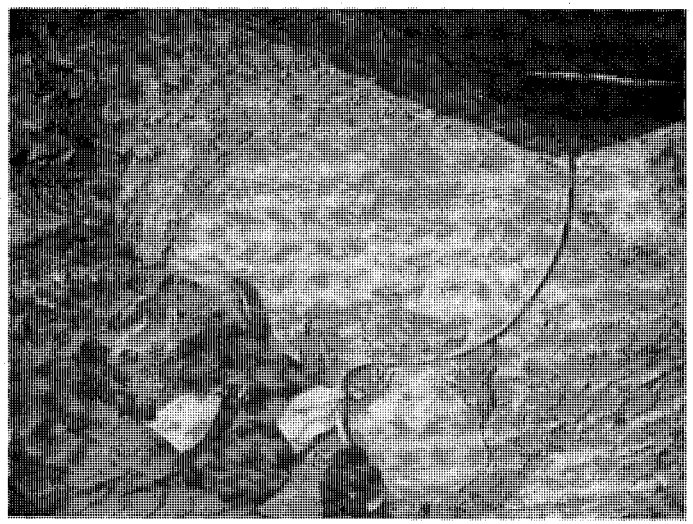
Wind Cave National Park

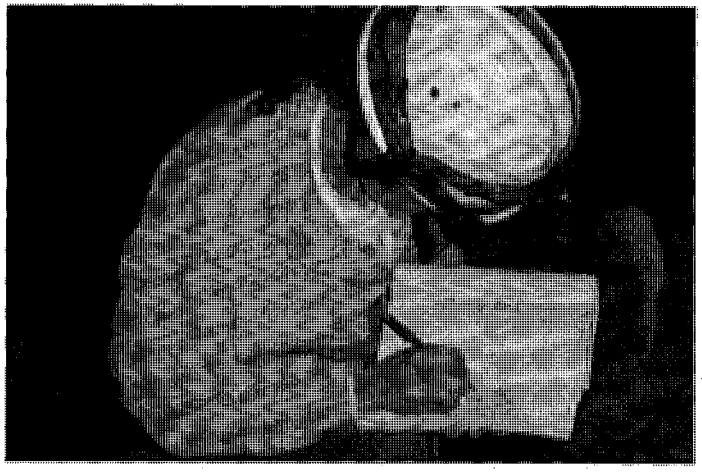
Wind Cave Currently Intersects the Water Table

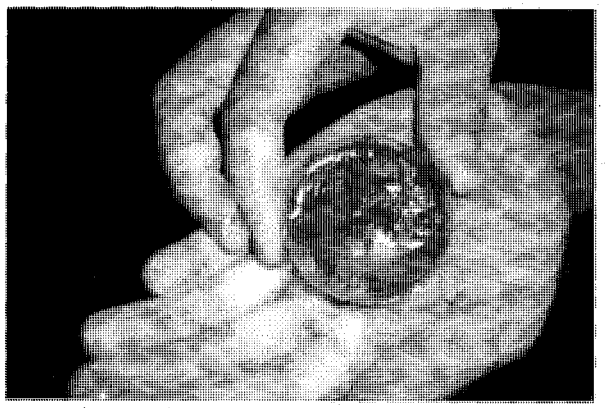


Wind Cave National Park

Hydrological Research in Wind Cave







Wind Cave National Park

Published Hydrological Research to Date:

Alexander, E. Calvin, Jr. and Davis, Marsha. 1988. Water Budget for Wind and Jewel Caves. University of Wyoming NPS Research Center: 175-179.

Gries, John Paul. 1959. Preliminary Report on the Potential Ground Water Within the Boundaries of Wind Cave National Park, Custer County, South Dakota 17 p.

Heakin, Alan J. 2004. Streamflow and Water-Quality Characteristics for Wind Cave National Park, South Dakota, 2002-2003. USGS Scientific Investigations Report 2004-5071, 68 p. with CD.

Millen, T.E. & D.N. Dickey. 1987. A Stable Isotopic Investigation of Waters and Speleothems and in Wind Cave, South Dakota: An Application Of Isotope Paleothermometry. National Speleological Society Bulletin 49: 10-14.

Miller, T.E. 1989. Evidence of Quaternary Tectonic Activity, and for Regional Aquifer Flow at Wind Cave, South Dakota. National Speleological Society Bulletin 51: 111-119.

Ford, D.C., A.N. Palmer, & others. 1993. Uranium-Series Dating of the Draining of an Aquifer: The Example of Wind Cave, Black Hills, South Dakota. *Geological Society of America Bulletin 105*: 241-250.

Schroeder, W. 1989. Report on Location and Quantitative Water Measurements of Surface Water Resources within Wind Cave National Park Fall 1987 to Winter 1988. 15 p.

Whalen, P.J. 1994. Source Aquifers for Cascade Springs, Hot Springs, and Beaver Creek Springs in the Southern Black Hills of South Dakota. MS Thesis, South Dakota School of Mines and Technology, 299 p.

Wind Cave National Park

Hydrologic Profile of Wind Cave

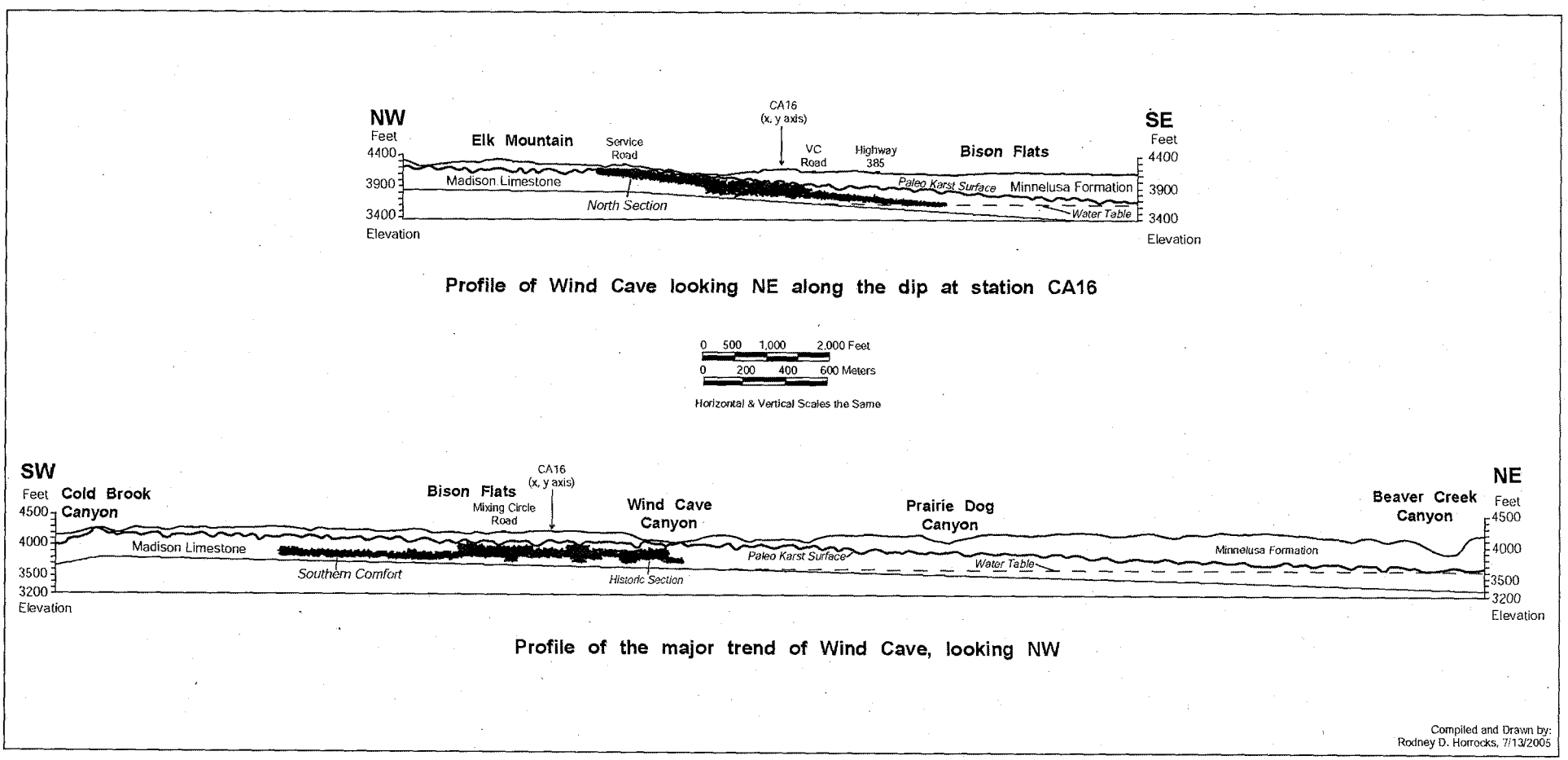
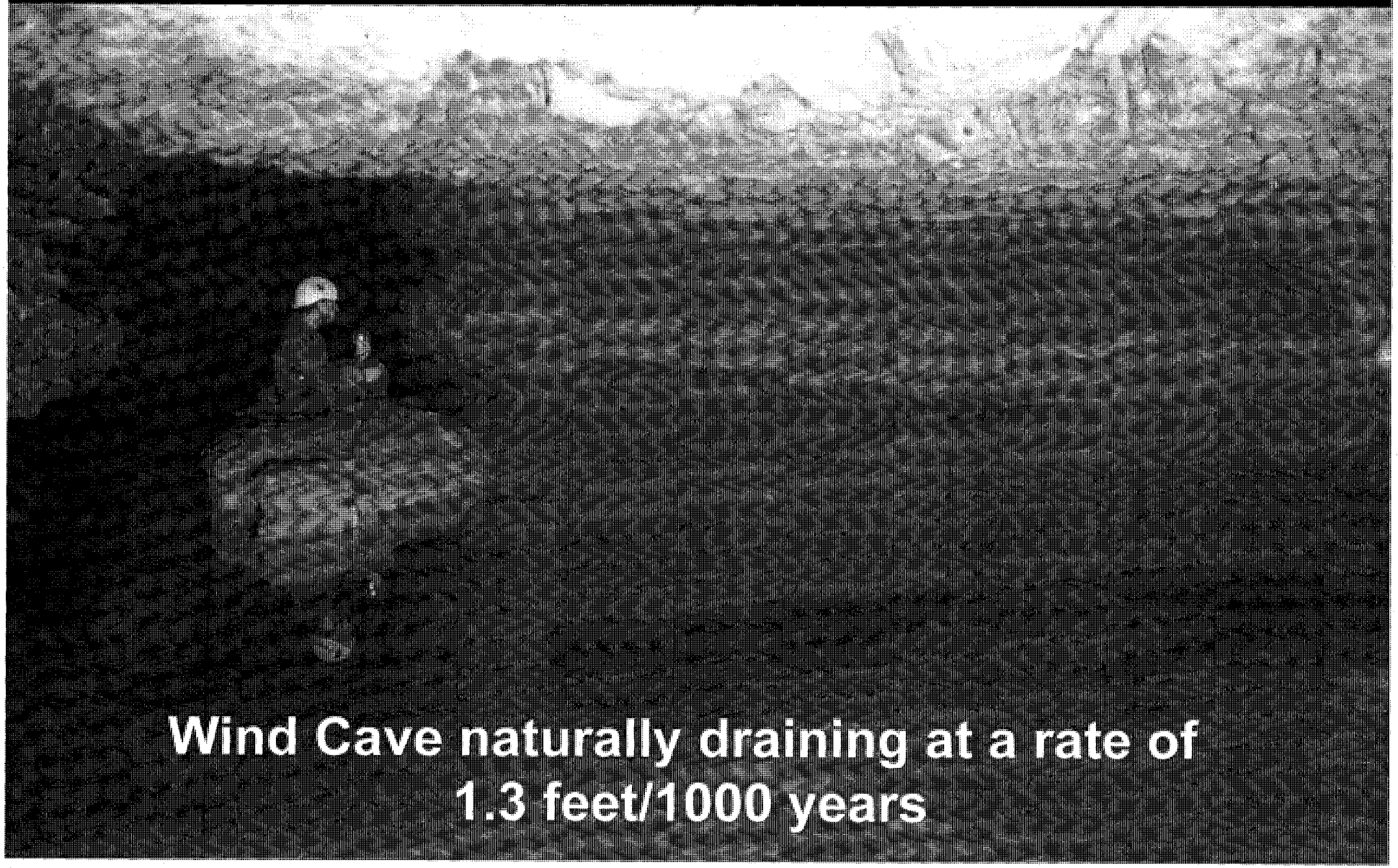


Fig. 4, Profiles showing the relationship of surveyed passages in Wind Cave with structural geological and hydrological factors.

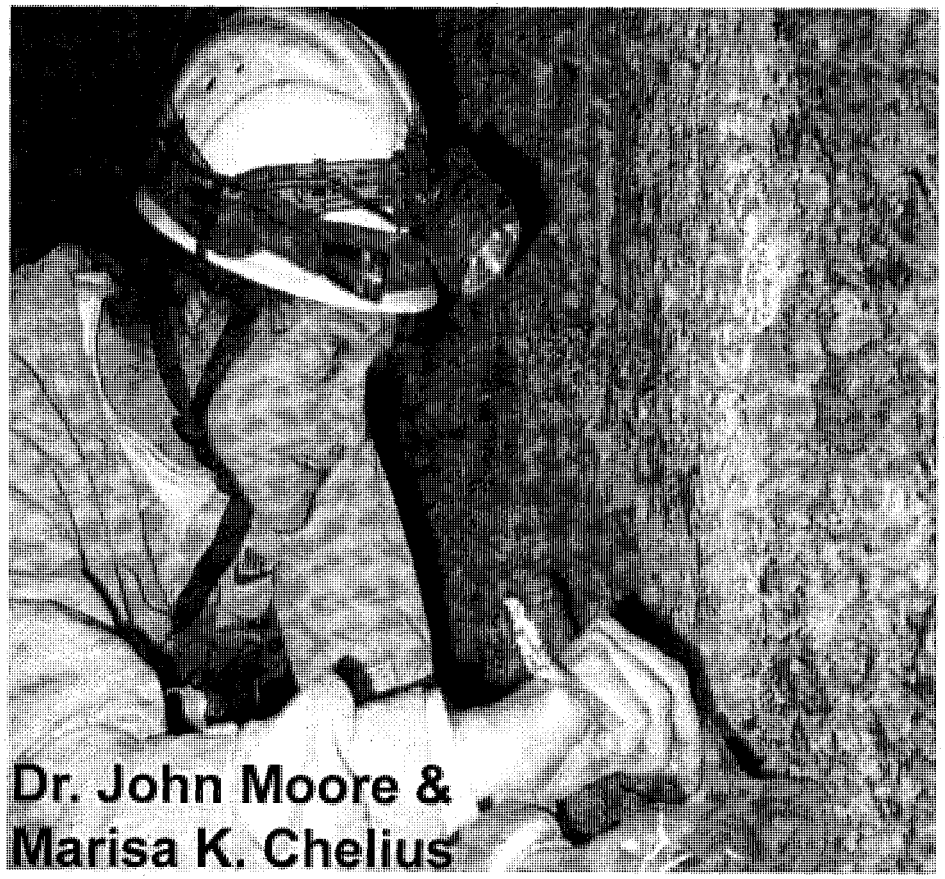
Wind Cave National Park

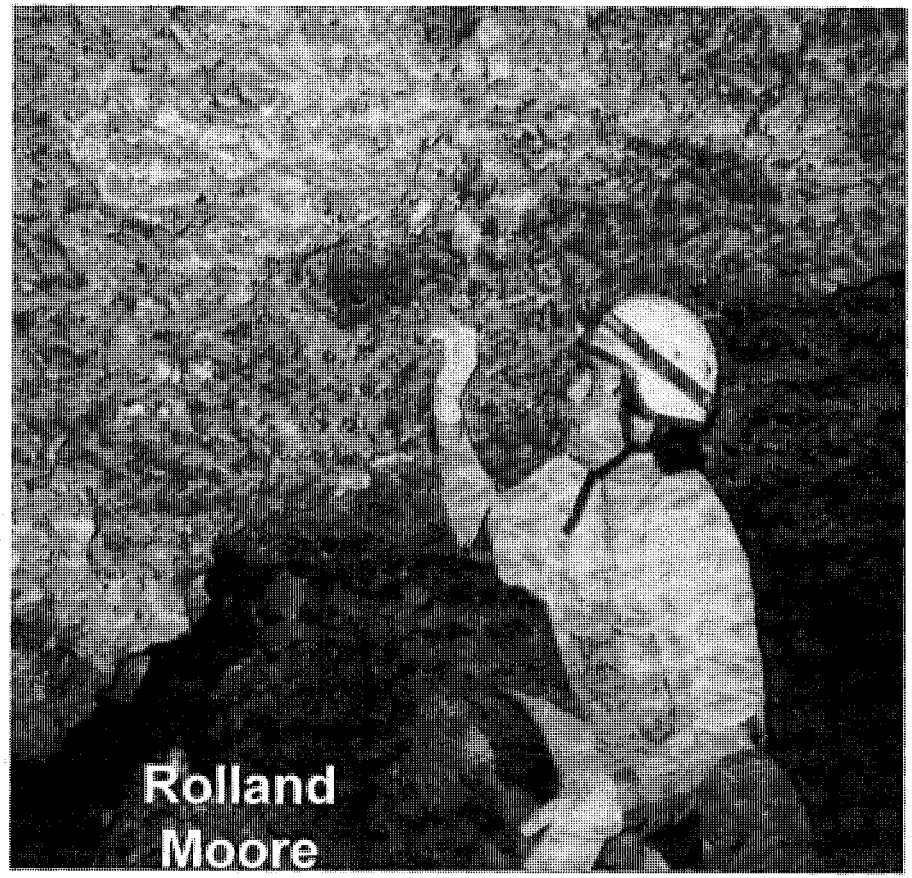


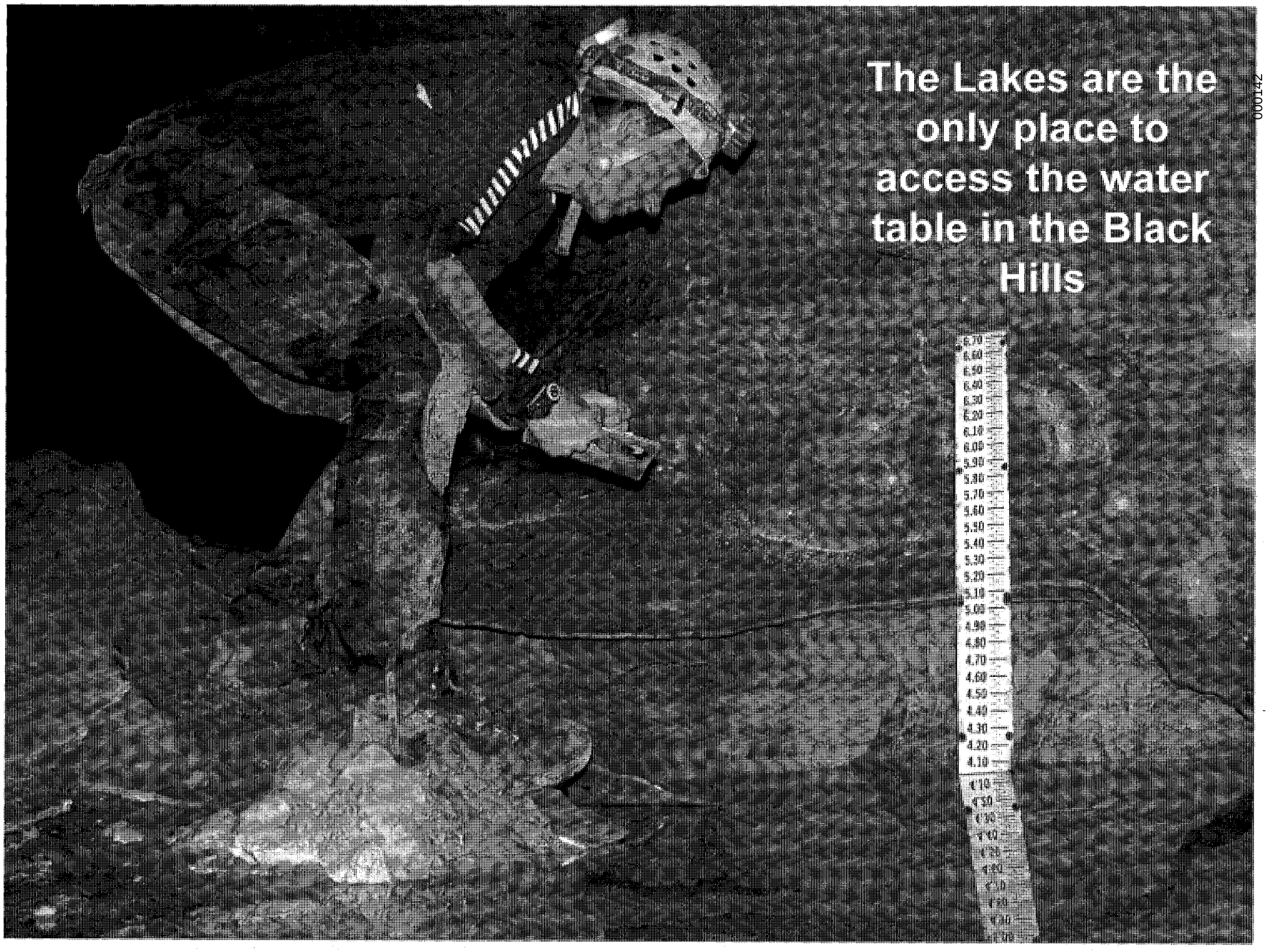
Wind Cave naturally draining at a rate of 1.3 feet/1000 years

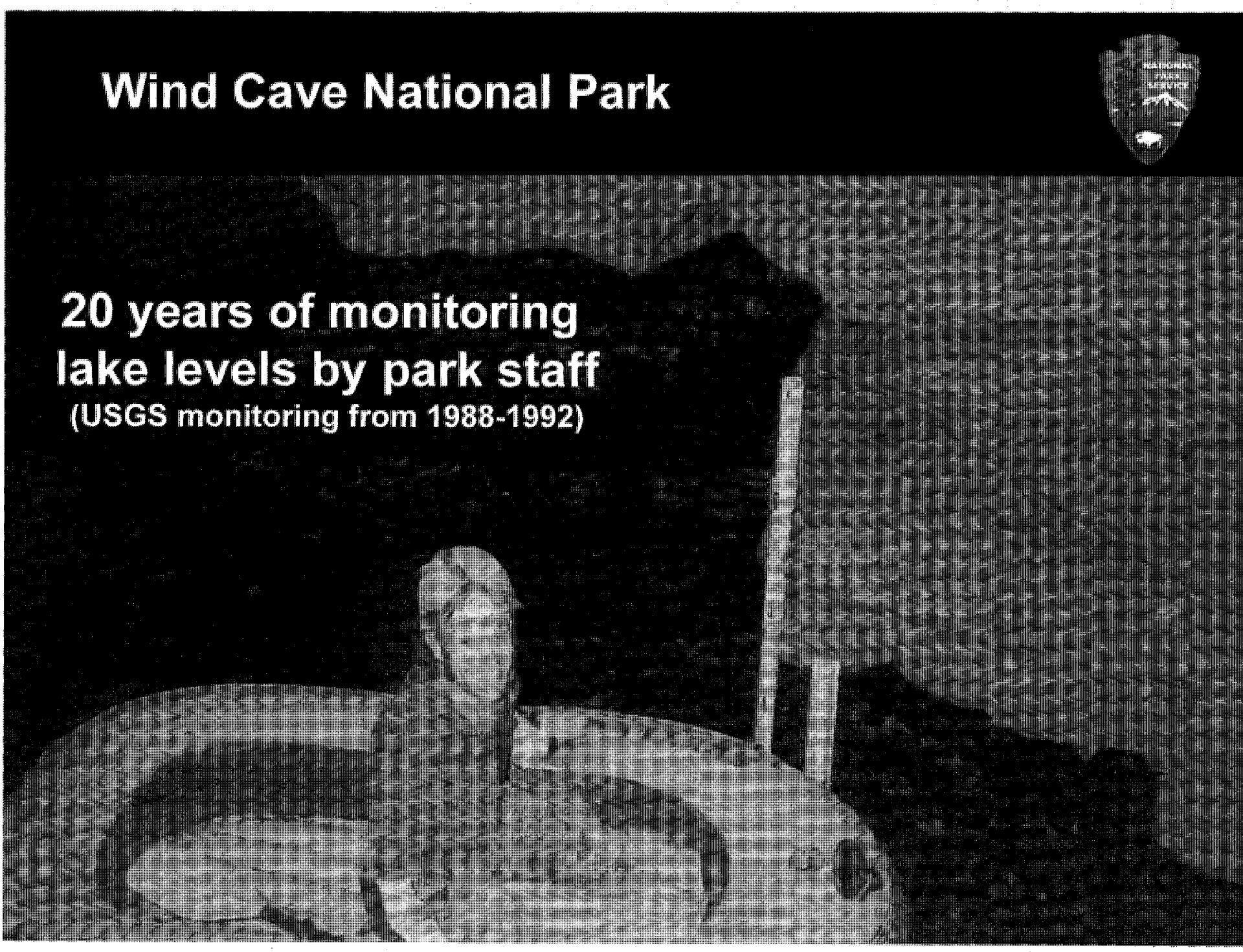
Wind Cave National Park

Microbial research started in Wind Cave, but not in the Lakes






The Lakes are the only place to access the water table in the Black Hills


Wind Cave National Park
20 years of monitoring
lake levels by park staff
(USGS monitoring from 1988-1992)

RECEIVED
JUN - 3 2015
WATER RIGHTS PROGRAM

STATE OF SOUTH DAKOTA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

BEFORE THE WATER MANAGEMENT BOARD

IN THE MATTER OF WATER PERMIT APPLICATION #2730-2, UNITED ORDER OF SOUTH DAKOTA	))))	**United Order of South Dakota's Disclosure of Expert Witness**

Pursuant to the Court's May 18, 2015 Scheduling Order, United Order of South Dakota hereby discloses the name of any expert that it intends to call as an expert witness as follows:

1. Arden D. Davis, Ph.D., P.E., 1014 Milwaukee Street, Rapid City, South Dakota 57701. A copy of Mr. Davis' March 27, 2015 expert report and his curriculum vitae is attached.

Dated this 1st day of June, 2015.

GUNDERSON, PALMER, NELSON
& ASHMORE, LLP

Jeffrey R. Connolly
Attorneys for United Order of South Dakota
506 Sixth Street
PO Box 8045
Rapid City, SD 57709
(605) 342-1078
jconnolly@gpnalaw.com

CERTIFICATE OF SERVICE

I hereby certify on this 16 day of June, 2015, I mailed by first-class U.S. mail, a true and correct copy of a United Order of South Dakota's Designation of Expert Witness to the following:

Jeanne Goodman, Chief Engineer
Water Rights Program
Foes Building
523 East Capitol
Pierre, SD 57501

Mr. and Mrs. David Albrecht
High Lonesome Ranch
26541 Stagecoach Springs Road
Custer, SD 57730-9109

Eric Gronlund
Water Rights Program
Foss Building
523 East Capitol
Pierre, SD 57501

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Jeff Hughes
Peter A. Fahmy
National Park Service
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Suzanne K. Von Rump
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Water Management Board
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GUNDERSON, PALMER, NELSON
& ASHMORE, LLP

Jeffrey R. Connolly

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JUN - 3 2015
WATER RIGHTS PROGRAM

Groundwater in the Madison Aquifer

With Regard to Water Permit Application No. 2730-2

Arden D. Davis, Ph.D., P.E.
1014 Milwaukee Street
Rapid City, South Dakota 57701

March 27, 2015

Introduction

This report was prepared in regard to Water Permit Application No. 2730-2, which under the Applicant's revised application requests 0.23 cubic feet per second (cfs) of water from the Madison aquifer. The request for 0.46 cfs was modified to 0.23 cfs by the applicant in a letter of February 18, 2015. A new Madison well would be constructed to augment production from two existing wells that were authorized in a previous permit (Water Permit 2610-2). The wells are in the NW ¼ SE ¼ of Section 10, T. 6 S., R. 3 E., in Custer County, South Dakota. The new well would be about 900 feet from the existing wells at the site.

The Madison aquifer underlies much of the southern Black Hills area and contains abundant groundwater supplies. The Madison aquifer, at the site of Water Permit Application No. 2730-2, is understood by current scientific literature to be fully saturated (Carter et al., 2002), as shown on Figure 1. Groundwater in the Madison aquifer is an under-utilized and almost undeveloped resource in the vicinity of the requested withdrawals. In the S.D. DENR review of Water Permit Application No. 2730-2, Mr. Buhler

(2014) noted no other existing water rights/permits for the Madison aquifer within ten miles or more of the applicant site. Additional evidence of the under-utilized nature of the Madison aquifer, in the area of the requested permit, is available in reports of the U.S. Geological Survey. A potentiometric map of the Madison aquifer in the Black Hills (Strobel et al., 2000) showed no Madison wells for water-level contours in the entire 36 square mile area of T. 6 S., R. 3 E. (Figure 2). Therefore there are no other water permit demands for the aquifer within the 36 square miles.

Concerns Raised by the National Park Service

The National Park Service filed a petition in 2014 to intervene in the matter of Application No. 2730-2. In its petition letter, the National Park Service cited a concern about water levels in the Madison aquifer within Wind Cave National Park. The letter showed calculated values of predicted drawdown at a distance of 13 miles from the site of the requested Water Permit Application No. 2730-2. Assumptions underlying the use of the equations appear to be faulty. The petitioner's assumed values of the aquifer properties used in the calculations are quite variable. For example, the calculations used a storage coefficient value of 0.0002 in trying to predict drawdown at a distance of thirteen miles, from the site of the requested water permit to Wind Cave, even though the outcrop of the Madison Limestone (i.e., part of its recharge area) is exposed between Wind Cave and the site of Water Permit Application No. 2730-2. The aquifer would receive recharge at its outcrop area, but the Theis equation assumes that no recharge occurs during drawdown calculations. Recharge to the aquifer would reduce any drawdown from pumping.

At the outcrop area and eastward toward Wind Cave, the aquifer would be under water-table (unconfined) conditions. It is not appropriate to use a small storage coefficient value such as 0.0002 (which is typical of a confined aquifer) in such an area. The groundwater in Wind Cave and its lakes is under atmospheric pressure and is not confined by the overlying weight of rocks, because the cave is open to the atmosphere. Therefore, the Madison aquifer is not a confined (artesian) aquifer at the cave, and the water is not under pressure by an overlying confining layer. A very small storage coefficient of 0.0002 implies confined conditions (Freeze and Cherry, 1979) and is not suitable for predicting drawdowns at the Wind Cave lakes. A storage coefficient value of 0.0002 would give inappropriately large calculated values of drawdown at Wind Cave, compared to values of drawdown calculated with a storage coefficient value that would be typical of an unconfined (water-table) aquifer at the cave. For areas where an aquifer is unconfined, a storage value much larger than 0.0002 normally should be used. Accordingly, calculated drawdowns from pumping would be less.

The deep lakes at Wind Cave are mainly at the eastern and southeastern side of the cave, approximately 13 miles or more from the site of Water Permit Application No. 2730-2. This is a long distance (more than 68,000 feet) for extrapolating drawdowns; it is noted that in his review of the application, Mr. Buhler (2014) extended his extrapolated drawdowns to a distance of 2000 feet away, which is much more reasonable than a longer distance, because of variability of aquifer properties and uncertainty about hydrologic conditions.

The transmissivity and storage coefficient values of the Madison aquifer are not known with certainty in the Black Hills and can be quite

variable. It is at best speculative to assert that drawdowns of 6 to 9 feet or more would occur at Wind Cave because of pumping occurring about 13 miles away at the site from Water Permit Application No. 2730-2.

It is also important to report that the site of requested applicant withdrawals does not appear to be upgradient from Wind Cave and therefore would be less likely to result in an adverse effect at the cave.

Concerns Raised by the Black Hills National Forest

The United States Department of Agriculture, Black Hills National Forest, in January of 2015 filed a petition to intervene in the matter of Application No. 2730-2. In its letter, the National Forest expressed concern that withdrawals could over time affect the warm water spring ecosystem at Cascade Springs. However, Cascade Springs are approximately 17 miles from the site of requested applicant withdrawals from the Madison aquifer, which is a very long distance for extrapolating effects of pumping. In addition, water at the site of Water Permit Application No. 2730-2 is approximately 54° F, which is much cooler than the warm spring water at Cascade Springs (about 68° F). There is no close hydraulic connection between the applicant's site and Cascade Springs.

The Forest Service letter petition states that there are no known structural features between the area of the well and Cascade Springs that would be expected to isolate the effects of well pumping from the springs. However, U.S. Geological Survey maps by Driscoll et al. (2002) and Strobel et al. (2000) show a long, synclinal fold between the well site and Cascade Springs, which limits any hydraulic connection across this distance (see Figure 3). The axis of a synclinal fold normally is an area of compression in which fractures tend to remain closed, which would limit permeability and

thus limit hydraulic connection between the applicant's well site and Cascade Springs.

Evans Plunge is a warm-springs swimming pool (approximately 87° F) that is fed by springs along the Fall River in Hot Springs (see Figure 3). The springs at Evans Plunge are more than 15 miles from the area of the applicant's site. The source of the springs is believed to be the Madison aquifer (Carter and others, 2002). According to research by Back et al. (1983) the calculated age of water at Evans Plunge was 1,900 years before present. Back et al. (1983) did not calculate an age for the water at Cascade Springs, because of problems with possible mixing of water from the Minnelusa or other aquifers, and Cascade Springs is farther south than Evans Plunge. We can conclude that a very long travel time would be involved for water that emerges at Cascade Springs, indicating that it is extremely unlikely that pumping at the applicant's site would affect the springs.

Conclusions

Groundwater in the Madison aquifer is an under-utilized and almost undeveloped resource in the vicinity of the requested withdrawal for Water Permit Application No. 2730-2. The Madison aquifer is generally understood to be fully saturated at the site. No existing water rights for Madison aquifer wells appear to be within approximately ten miles of the applicant's site. The requested additional diversion of 0.23 cubic feet per second is not expected to have any adverse effect on other Madison wells, or the water at Wind Cave, or Cascade Springs, because of the distances (12 miles or more) that are involved. The requested withdrawals from the Madison aquifer are reasonable for their intended use.

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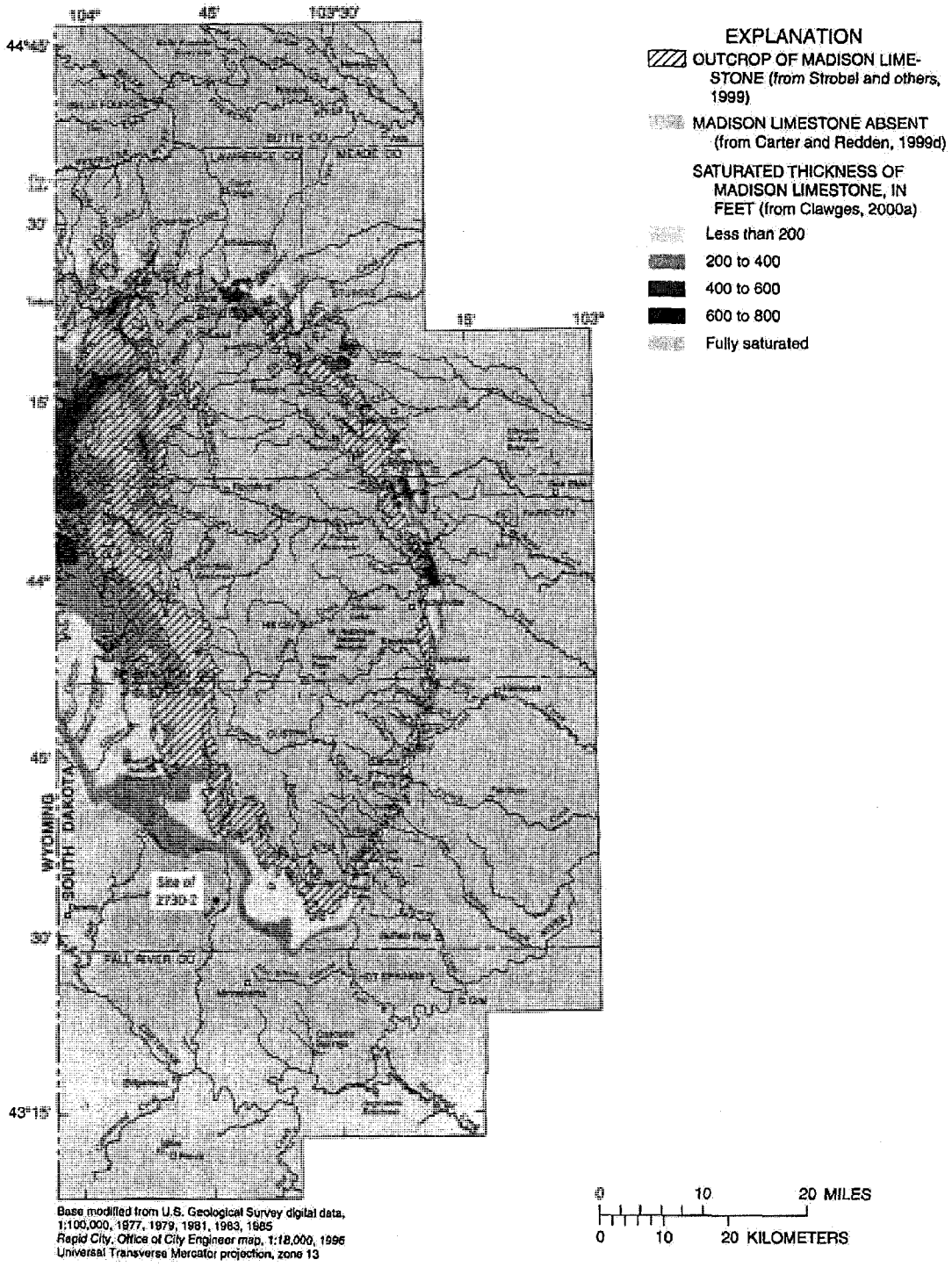

Figure 1. Saturated thickness of the Madison aquifer in the Black Hills (from Driscoll et al., 2002).

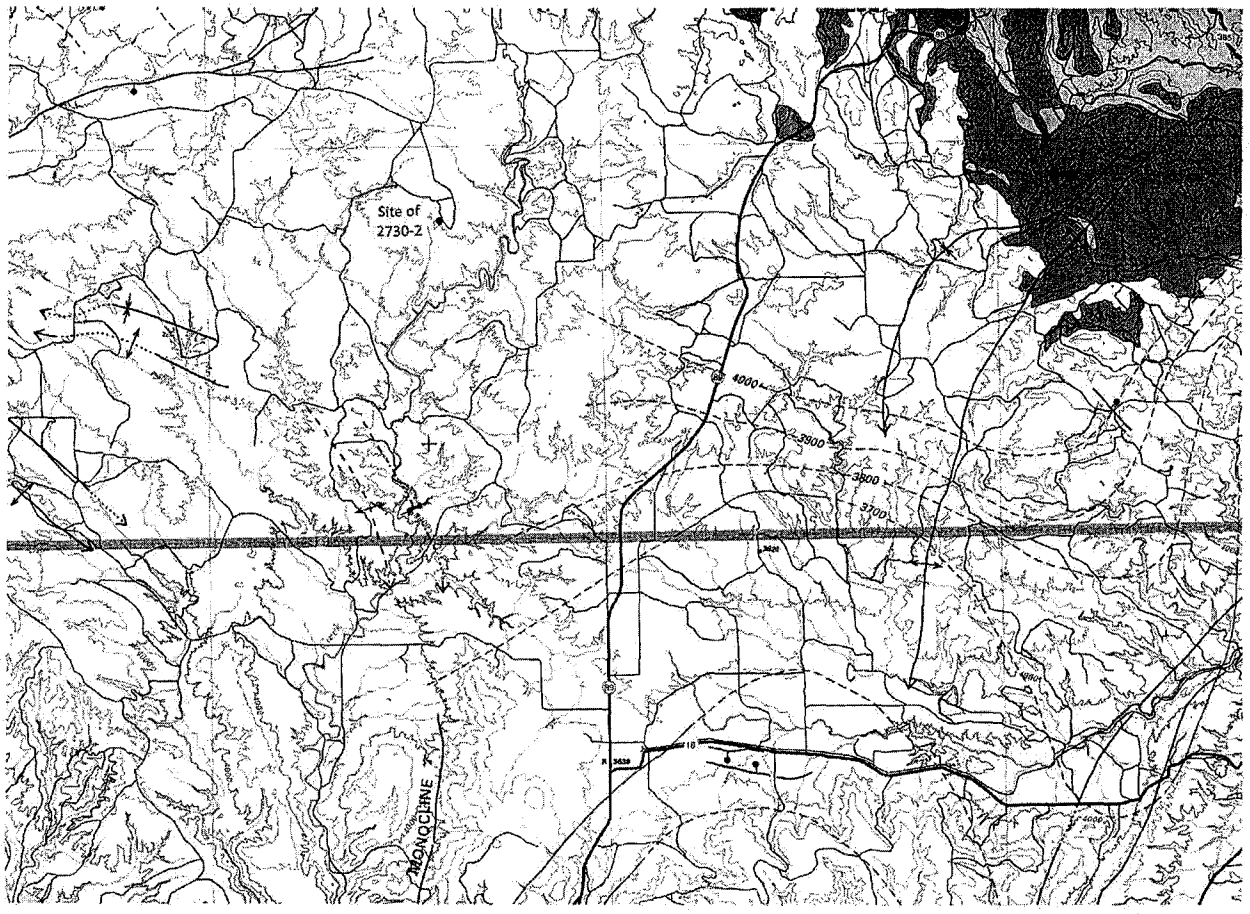

Figure 2. Potentiometric map of the Madison aquifer (from Strobel et al., 2000) showing few or no Madison wells near the site of Water Permit Application 2730-2.

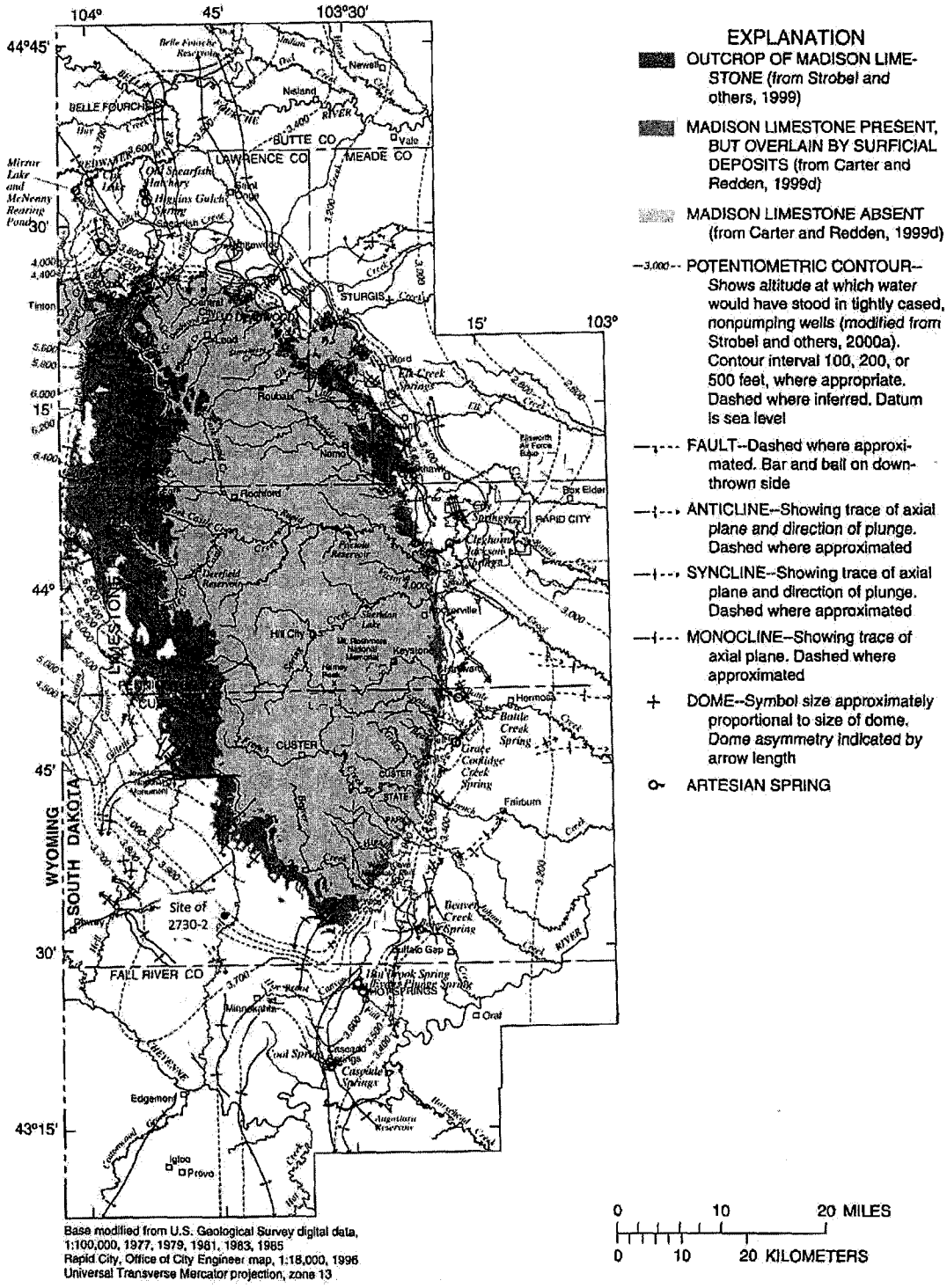

Figure 3. Madison aquifer in the Black Hills area (from Driscoll et al., 2002).

Arden D. Davis

Arden Davis received a B.A. degree in geology from the University of Minnesota and M.S. and Ph.D. degrees in geological engineering from South Dakota School of Mines and Technology.

Dr. Davis currently is Professor in the Department of Geology and Geological Engineering at South Dakota School of Mines and Technology. Since 1982 he has served as Instructor, Assistant Professor, Associate Professor, Professor, and Chairman of the Department of Geology and Geological Engineering. During that time he has worked on digital modeling of ground-water flow as well as transport and dispersion of subsurface contaminants. He teaches courses in ground water, digital modeling of ground-water flow and contaminant transport, ground-water geochemistry, analytical methods in ground water, and geological engineering design.

Dr. Davis is a Registered Professional Engineer in South Dakota. He also is a member of the Society for Mining, Metallurgy, and Exploration (SME). He has served as associate editor and reviewer for the journal of Ground Water, and as a book reviewer for the Bulletin of the Association of Engineering Geologists. He has served as chairman of the Council of Education and the Accreditation and Curricular Issues Committee of the Society for Mining, Metallurgy, and Exploration. From 2002 to 2007, Dr. Davis served on the Engineering Accreditation Commission of ABET. In 2007, he was appointed to the ABET Board of Directors and served a three-year term. In 2010, he was re-appointed to the ABET Board of Directors.

During his career at South Dakota School of Mines and Technology, Dr. Davis has worked extensively on ground-water projects and geological engineering site evaluations. He has been an investigator in more than fifty funded research projects. As a consultant he has provided expert witness testimony in cases involving environmental contamination and disposal of waste. He also has given technical assistance to the South Dakota Department of Environment and Natural Resources in the review of mining plans and ground-water contamination problems, including Superfund sites. He and his co-researchers hold a U.S. patent for removal of arsenic from water, and they have applied for a second patent for removal of metals from water.

In his service to South Dakota School of Mines and Technology, Dr. Davis has acted as Geological Engineering Program Coordinator and ABET Coordinator for geological engineering accreditation. This included revision of the geological engineering curriculum, origination and teaching of new engineering design courses, and preparation of ABET reports. He also is active in ground-water protection efforts, and in 1998 received the Virginia Simpson Award for community service in the Rapid City area. In 2007, he received the Ennenga Award for Excellence in Teaching. In 2014 he received the Ivan Rahn Education Award from SME, and in 2015 he was presented with the Distinguished Service Award of the Environmental Division of SME.

Arden D. Davis

Academic rank:	Professor, Department of Geology and Geological Engineering	
Education:	B.A. - 1971	University of Minnesota (Geology)
	M.S. - 1979	South Dakota School of Mines and Technology (Geological Engineering)
	Ph.D.- 1983	South Dakota School of Mines and Technology (Geological Engineering)

Registered Professional Engineer (South Dakota; No. 4663)

Experience:	2006 - present	Professor S.D. School of Mines and Technology
	2002 - 2006	Chairman Dept. of Geology and Geological Engineering S.D. School of Mines and Technology
	1995 - 2002	Professor S.D. School of Mines and Technology
	1989 - 1994	Associate Professor S.D. School of Mines and Technology
	1984 - 1989	Assistant Professor S.D. School of Mines and Technology
	1982	Instructor
	1976-1982	Teaching and Research Assistant
	1978	Shell Development (Shell Oil Company)

Teaching: Digital Modeling of Ground-Water Flow Systems, Ground Water, Ground-Water Geochemistry, Geochemistry, Analytical Methods in Ground Water, Advanced Ground Water, Engineering Field Geology, Geological Engineering Design Project I

Consulting: Ground-water hydrologist and geological engineering consultant for numerous projects over past thirty years involving ground-water contamination, aquifer evaluation, low-level radioactive waste site evaluation, spring-flow measurements, and mine site development.

Funded research: Projects involving ground-water contamination, ground-water resource evaluation, aquifer vulnerability, water quality, and mine waste.

Community service: Ground-water protection efforts (see following pages).

Theses: Forty eight M.S. theses and twelve Ph.D. dissertations supervised.

Consulting:

2015 Siting of pipeline; water rights application
2014 Spring discharges
2013 Spring discharges
2012 Expert witness testimony – proposed pipeline
2011 Spring discharges
2010 Madison aquifer well for municipal water supply.
2009 Expert witness testimony: springs and potential effects of nearby wells.
2008 Ground-water model for permit application.
2007 Siting of new Madison wells for public water supplies in the Black Hills.
2006 Modeling of ground-water flow and biodegradation of benzene.
2005 Modeling of ground-water flow and gasoline contamination.
2004 Ethylene dibromide contamination; expert witness.
2003 Alliance of Architects and Engineers; expert witness.
2002 Alliance of Architects and Engineers; expert witness.
2001 Consolidated Engineers & Materials Testing; GeoTek; expert witness.
2000 Hillcrest Spring Water; Rapid City Landfill; expert witness.
1999 Boyd County LLW Monitoring Committee; Gill Landfill modeling.
1998 Boyd County LLW Monitoring Committee; Rapid City Landfill.
1997 Boyd County LLW Monitoring Committee; Terra, Inc., modeling.
1996 Terra, Inc., modeling; Boyd County LLW Monitoring Committee.
1995 Terra, Inc.; modeling for City of Ida Grove, Iowa; Vogel Paint and Wax.
1994 Keystone Gold Project, Keystone, South Dakota.
Dunbar Resort: proposed railroad grade, Deadwood, South Dakota.
Vogel Paint and Wax Superfund Site, Maurice, Iowa.
1993 Keystone Gold Project, Keystone, South Dakota.
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Low-level radioactive waste site evaluation and modeling.
1992 City of Rapid City: criteria for private wastewater disposal facilities.
Nitrate contamination from mine waste.
1991 Corrosion problems during geothermal heating.
1990 Low-level radioactive waste site evaluation.
South Dakota Department of Environment and Natural Resources: cyanide contamination.
1989 Wastewater facility site evaluation.
South Dakota Department of Environment and Natural Resources: review of mine plan, northern Black Hills.
1988 Expert witness: gasoline contamination of ground water.
1987 South Dakota Department of Environment and Natural Resources: modeling of gasoline contamination.
Utility Engineering Company: aquifer test evaluation.
Gasoline contamination of ground water.
1986 South Dakota Department of Environment and Natural Resources.
1985 South Dakota Department of Environment and Natural Resources: ground-water contamination.

1983 Rosebud Sioux Tribe: aquifer evaluation.
1981 Save Wyoming Water: drawdown calculations.
South Dakota Public Utilities Commission: aquifer evaluation.
1981 Evans Plunge, Hot Springs, South Dakota: spring discharges.
1979 U.S. Environmental Protection Agency; Engineering Science, Inc.

Community Service:

Assisted City of Rapid City and Pennington County in determining aquifer vulnerability in the Rapid City area. Assisted U.S. Environmental Protection Agency and South Dakota Department of Environment and Natural Resources as member of Technical Advisory Team, Gilt Edge Superfund Site.

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Davis, A.D., and Webb, C.J., 2005, Progress toward a National Underground Science and Engineering Laboratory at the Homestake Mine in Lead, South Dakota: Annual Meeting, Society for Mining, Metallurgy, and Exploration, Salt Lake City, Utah, February, 2005.

Davis, A.D., Webb, C.J., Dixon, D.J., and Sorensen, J.L., 2006, Arsenic removal from drinking water by limestone-based material: SME Annual Meeting, Technical Program: Limestone – Nature's Miracle Rock; March, 2006, St. Louis, Missouri.

Davis, A.D., 2006, Modeling of natural biodegradation of gasoline contamination at a site in eastern South Dakota: Presented at 18th Annual Environmental and Ground Water Quality Conference, March, 2006, Pierre, South Dakota.

Sorensen, J.L., Davis, A.D., Dixon, D.J., and Webb, C.J., 2006, Development of an agglomeration process to increase the efficiency of limestone-based material for removing metals from drinking water: Presented at 18th Annual South Dakota Ground-Water Quality Conference, March, 2006, Pierre, South Dakota.

Sorensen, J.L., Davis, A.D., Dixon, D.J., and Webb, C.J., Controlling factors on arsenic removal from water by limestone-based material: Western South Dakota Hydrology Conference, April, 2006, Rapid City, South Dakota.

Webb, C.J., Campbell, C., Davis, A.D., Dawadi, S., Dixon, D.J., and Sorensen, J.L., 2006, Arsenic remediation of drinking water using limestone-based material: American Chemical Society, Division of Environmental Chemistry, Symposium on Current Status of Research on Arsenic Remediation, 231st National Meeting, March 26-30, Atlanta, Georgia.

Davis, A.D., Dixon, D.J., and Sorensen, J.L., 2006, Fixed-bed adsorption column studies and engineering scale-up design of a limestone-based metals removal technology: Eastern South Dakota Water Conference, Brookings, South Dakota, November, 2006.

Valder, J.F., and Davis, A.D., 2006, Pumping test and assessment of the Deadwood aquifer at Jewel Cave National Monument, Custer County, South Dakota: Geological Society of America, Annual Meeting, October, 2006, Philadelphia, Pennsylvania.

Hocking, C.M., Lisenbee, A.L., and Davis, A.D., 2007, Vulnerability of the Madison aquifer, Hayward quadrangle, South Dakota: Western South Dakota Hydrology Conference, April 19, 2007, Rapid City, South Dakota.

Johnson, D., Lisenbee, A.L., and Davis, A.D., 2007, Aquifer characteristics of Precambrian basement rocks in the Pactola Dam quadrangle, South Dakota: Western South Dakota Hydrology Conference, April 19, 2007, Rapid City, South Dakota.

Lisenbee, A.L., Francisco, E.M., Davis, A.D., and Pellowski, C., 2007, Vulnerability of the Inyan Kara aquifer, Hermosa and Hermosa NW quadrangles, Black Hills Development Corridor: Western South Dakota Hydrology Conference, April 19, 2007, Rapid City, South Dakota.

Francisco, E.M., Lisenbee, A.L., and Davis, A.D., 2007, Aquifer vulnerability in the Blackhawk quadrangle, South Dakota: Western South Dakota Hydrology Conference, April 19, 2007, Rapid City, South Dakota.

Davis, A.D., Webb, C.J., Sorensen, J.L., and Valder, J.F., 2007, Environmental monitoring of the abandoned Belle Eldridge Mine near Deadwood, South Dakota: Western South Dakota Hydrology Conference, April 19, 2007, Rapid City, South Dakota.

Valder, J.F., and Davis, A.D., 2007, Pumping tests in the Deadwood aquifer at Jewel Cave National Monument, Custer County, South Dakota: Western South Dakota Hydrology Conference, April 19, 2007, Rapid City, South Dakota.

Davis, A.D., and Elifrits, C.D., 2011, ABET Geological Engineering and Mining Engineering Criteria Training: Society for Mining, Metallurgy, and Exploration, February 26, 2011, Denver, Colorado.

Davis, A.D., Webb, C.J., Sorensen, J.L., and Dixon, D.J., 2013, Thermodynamic constraints on arsenic and heavy-metals removal from water with limestone-based material: Annual Meeting, Society for Mining, Metallurgy and Exploration, Denver, Colorado, February, 2013.

Davis, A.D., Lisenbee, A.L., Price, M.H., Aurand, A., Bednar, J., and Tekle, M., 2013, Water-quality sampling of Precambrian crystalline aquifers in the central Black Hills: Western South Dakota Hydrology Conference, Rapid City, South Dakota, April 18, 2013.

Davis, A.D., and Elifrits, C.D., The importance of ABET engineering accreditation to SME: Presented to the SME Board of Directors, February, 2013.

Davis, A.D., Elifrits, C.D., Keaton, J.R., and Sweigard, R., SME Program Evaluator Training: Presented to geological engineering and mining engineering program evaluators, SME Annual Meeting, Denver, Colorado, February, 2013.

Davis, A.D., Lisenbee, A.L., and Price, M.H., Smith, G.R., Walega, E.A., and Tiruneh, H.W., Groundwater quality in Precambrian crystalline aquifers of the central Black Hills: Western South Dakota Hydrology Conference, Rapid City, South Dakota, April, 2014.

Davis, A.D., Groundwater resources and potential issues in northwestern South Dakota: New Horizons Oil and Gas Conference, Rapid City, South Dakota, April, 2014.

Davis, A.D., Elifrits, C.D., Skaggs, G.L., and Sweigard, R., SME Program Evaluator Training: Presented to geological engineering and mining engineering program evaluators, SME Annual Meeting, Denver, Colorado, February, 2014.

U.S. Patent:

Webb, Cathleen Joyce, Arden Duane Davis, and David John Dixon, "Method and composition to reduce the amounts of arsenic in water," United States Patent 7,790,653, 7 September 2010.

Provisional U.S. Patent Application:

Webb, Cathleen Joyce, Arden Duane Davis, and David John Dixon, "Method and composition to reduce the amounts of heavy metal in water," United States Patent and Trademark Office, Provisional application for patent, SDSM-1064434, Serial no. 61/393,806.

Related research:

Grainger Prize for Sustainability: HydroTech Engineering and Rohm & Haas (collaboration): Limestone-based arsenic-removal method; selected for Round II of competition.

Recent Research Funding:

National Science Foundation: SGER: Characterization of the Precambrian Aquifer at the Homestake DUSEL: Dr. Larry D. Stetler, Dr. Arden D. Davis, and Dr. Rohit Salve (Lawrence Berkeley Laboratory), $75,000.

U.S. Geological Survey 104b Grant Program / South Dakota Water Resources Institute: Acidic Leaching Tests to Determine Arsenic Mobility from Concrete-Encapsulated Limestone Waste: Dr. Arden D. Davis, Dr. M.R. Hansen, and Dr. David J. Dixon, $12,131.

U.S. Geological Survey 104b Grant Program / South Dakota Water Resources Institute: Investigation of Arsenic Removal from Water by Microbiologically Induced Calcite Precipitation: Dr. Arden D. Davis, Dr. Sookie S. Bang, and Dr. David J. Dixon, $13,983.

U.S. Bureau of Land Management: Belle Eldridge Mine Sampling and Monitoring, Phase III, $4,500 (additional); Arden D. Davis, Principal Investigator.

U.S. Geological Survey 104b Grant Program / South Dakota Water Resources Institute: Development of an agglomeration process to increase the efficiency of limestone-based material to remove metals from drinking water: Dr. Arden D. Davis and Dr. David J. Dixon, $10,897.

U.S. Geological Survey 104b Grant Program / South Dakota Water Resources Institute: Fixed-bed adsorption column studies and engineering scale-up design of a limestone-based metals removal technology for small water supply systems: Dr. Arden D. Davis and Dr. David J. Dixon, $12,918.

U.S. Geological Survey 104b Grant Program / South Dakota Water Resources Institute: Leaching tests for encapsulation of waste after arsenic removal from drinking water: Dr. Arden D. Davis, Dr. David J. Dixon, and Dr. M.R. Hansen; $11,873.

U.S. Department of the Interior, National Park Service; Jewel Cave Pumping Test; Dr. Arden D. Davis, Principal Investigator; $8,800.

U.S. Bureau of Land Management: Belle Eldridge Mine Sampling and Monitoring, Phase III, $4,500 (additional); Arden D. Davis, Principal Investigator.

West Dakota Water Development District: Determination of historic ground water pollution problems, Part II: Pactola Dam, Rapid City West, and the North One-Half of Rockerville quadrangles; $9,162; Dr. Alvis L. Lisenbee, Principal Investigator; Dr. Arden D. Davis, Co-Principal Investigator.

West Dakota Water Development District: Aquifer susceptibility study of the Pactola Dam quadrangle, South Dakota: Part II – Precambrian: $9,112; Dr. Alvis L. Lisenbee, Principal Investigator; Dr. Arden D. Davis, Co-Principal Investigator.

West Dakota Water Development District: Aquifer mapping (1:24,000) of the Hermosa NW quadrangle; $13,538; Dr. Alvis L. Lisenbee, Principal Investigator; Dr. Arden D. Davis and Dr. Larry Dr. Stetler, Co-Principal Investigators.

West Dakota Water Development District: Preliminary aquifer vulnerability and susceptibility study of the Blackhawk quadrangle; $15,988; Dr. Alvis Lisenbee, Principal Investigator; Dr. Arden D. Davis, Co-Principal Investigator.

West Dakota Water Development District: Geologic mapping of the Mt. Rushmore quadrangle, South Dakota; $14,970; Dr. Alvis Lisenbee, Principal Investigator; Dr. Arden D. Davis, Co-Principal Investigator.

West Dakota Water Development District: Aquifer vulnerability study of the Rockerville quadrangle, South Dakota; $14,763; Dr. Alvis Lisenbee, Principal Investigator; Dr. Arden D. Davis, Co-Principal Investigator.

Phase I Small Business Innovation Research Grant, U.S. Environmental Protection Agency, Limestone-Based Material for Arsenic Removal from Drinking Water: Dr. Cathleen J. Webb, Dr. Arden D. Davis, Dr. David J. Dixon, and Dr. Terrence L. Williamson; $100,000.

Phase II Small Business Innovation Research Grant, U.S. Environmental Protection Agency, Limestone-Based Material for Arsenic Removal from Drinking Water: Dr. Cathleen J. Webb, Dr. Arden D. Davis, Dr. David J. Dixon, and Dr. Terrence L. Williamson; $225,000.

National Science Foundation, Statewide Partnership to Support Technology Innovation and Entrepreneurship in South Dakota (PFI), University of South Dakota: Arsenic Removal from Drinking Water; John C. Lofberg, Dr. Arden D. Davis, and Dr. David J. Dixon; $35,826.

West Dakota Water Development District: Crystalline Aquifers of the Central Black Hills, South Dakota: Phase IV: Dr. Alvis L. Lisenbee, Dr. Arden D. Davis, and Dr. Maribeth Price; $44,000.

West Dakota Water Development District: Crystalline Aquifers of the Central Black Hills, South Dakota: Phase III: Dr. Alvis L. Lisenbee, Dr. Arden D. Davis, and Dr. Maribeth Price; $41,000.

U.S. Geological Survey 104b Grant Program / South Dakota Water Resources Institute: Investigation of the Contribution of Coliform Contamination in Runoff from Scoured Bed Sediments: Dr. Jennifer L. Benning, Dr. Scott J. Kenner, and Dr. Arden Davis, $14,913.

West Dakota Water Development District: Crystalline Aquifers of the Central Black Hills, South Dakota: Phase II; Dr. Laurie Anderson, Principal Investigator; Dr. Alvis L. Lisenbee, Dr. Arden D. Davis, and Dr. Maribeth H. Price, Co-Principal Investigators; $33, 020.

Pete Lien and Sons, Inc: Optimization and characterization of iron-loaded limestone as a medium for the removal of arsenic from drinking water; Dr. Arden D. Davis, Principal Investigator; Dr. David J. Dixon, Co-Principal Investigator; $8,800.

City of Custer, South Dakota: Water Sampling of Crystalline and Alluvial Aquifers at Custer, South Dakota: Dr. Arden D. Davis, Principal Investigator; Dr. J. Foster Sawyer, Dr. Alvis L. Lisenbee, and Dr. Maribeth H. Price, Co-Principal Investigators; $25,000.

U.S. Department of the Interior, Bureau of Land Management: Environmental Monitoring of the Belle Eldridge Mine: Dr. Arden D. Davis, Principal Investigator; $5,000.

DEPARTMENT of ENVIRONMENT and NATURAL RESOURCES

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

denr.sd.gov

June 2, 2015

NOTICE OF HEARING

TO: Jeffrey R Connolly, Counsel for United Order of South Dakota
Gunderson, Palmer, Nelson & Ashmore
PO Box 8045
Rapid City SD 57709

Parties of Record (see attached list)

FROM: Jeanne Goodman, Chief Engineer
Water Rights Program

SUBJECT: Notice Scheduling Hearing and Revised Recommendation in the matter of Water Permit Application No. 2730-2, United Order of South Dakota

Seth Jeffs, Water Operator for United Order of South Dakota made a formal request on February 18, 2015, to alter permit application number 2730-2 to reflect a total peak rate of 200 gallons per minute (gpm) instead of 300 gpm. This is an addition of 106 gpm to their current permitted amount of 94 gpm authorized by Water Permit No. 2610-2. In terms of cubic feet of water per second (cfs), this is a request to appropriate 0.236 cfs which is an increase in the peak diversion rate authority from 0.21 cfs to 0.446 cfs. The application continues to request to drill an additional well (well #3).

The Water Management Board will conduct the hearing to consider Application No. 2730-2 at 8:30 AM (Central Time) on Thursday, July 9, 2015, in the Floyd Matthew Training Center, Joe Foss Building, 523 E. Capitol Avenue, Pierre SD. The agenda time is an estimate. Future notice will be provided to all parties if there is a change to the hearing time or date.

Pursuant to SDCL 46-2A-2, the Chief Engineer revised recommendation is for APPROVAL of Application No. 2730-2 for a volume of 60 acre feet of water annually with a 20 year term pursuant to SDCL 46-1-14 and 46-2A-20 because 1) evidence is not available to justify issuing this permit without a 20 year term limitation, 2) the proposed diversion can be developed without 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 revised 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 after it reaches a conclusion based on the facts presented at the public hearing.

Applicable provisions of the notices published January 7, 2015, in the Custer County Chronicle, December 31, 2014 in the Rapid City Journal and the Notice of Hearing sent to parties of record dated January 21, 2015, still apply at this hearing.

Questions regarding the hearing process may be directed to Ann Mines-Bailey, Assistant Attorney General at (605) 773-3215 or Eric Gronlund, Water Rights Program at (605) 773-3352.

c: Ann Mines-Bailey, Assistant Attorney General

PARTIES OF RECORD LIST FOR WATER PERMIT 2730-2, United Order of South Dakota

APPLICANT:
Jeffrey R. Connolly, Counsel for United Order of South Dakota
Gunderson, Palmer, Nelson & Ashmore
PO Box 8045
Rapid City SD 57709

PETITIONERS:
Peter A Fahmy, Counsel for National Park Service
National Park Service, Water Rights Branch
1201 Oakridge Drive, Suite 250
Fort Collins CO 80525

Lois Witte,Counsel for United States Forest Service
740 Simm St, Suite 309
Golden CO 80401

Cheryl Schrempp DuPris, Assistant US Attorney
225 S Pierre St, Suite 337
Pierre SD 57501

Michael M Hickey, Counsel for Linda Van Dyke Kilcoin
Bangs McCullen Law Firm
PO Box 2670
Rapid City SD 57709-2670

Karl R and Suzanne K Von Rump
11560 Farmer Road
Custer SD 57730

Mr and Mrs. David Albrecht
High Lonesome Ranch
26541 Stagecoach Spgs Rd
Custer SD 57730-9109

Toni Martin
4141 Villa Ridge Ct #122
Rapid City SD 57701

Douglas L Lesher, Acting Manager
Stone Meadow Ranch
26699 Remington Rd
Custer SD 57730

Rick Fox
PO Box 35
Hermosa SD 57744

Dean and Delia Johnson
14585 East French Creek Road
Fairburn SD 57738

CERTIFICATION

I hereby certify that on June 2, 2015, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice of Hearing dated June 2, 2015, regarding scheduling the hearing for Water Right Permit Application No. 2730-2, as addressed below and on the attached parties of record list:

Seth Jeffs
United Order of South Dakota
PO Box 5050
Custer SD 57730

Sent Inter-office to:

Ann Mines- Bailey, Assistant Attorney General
1302 East Highway 14, Suite 1
Pierre SD 57501-8501

Gail Jacobson

Gail Jacobson
Water Rights Program, DENR

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 2nd day of June, 2015

Karen Schlaak

Karen Schlaak
Notary Public
My Commission expires April 1, 2019

SEAL KAREN SCHLAAK NOTARY PUBLIC State of South Dakota SEAL

STATE OF SOUTH DAKOTA

OFFICE OF ATTORNEY GENERAL
1302 East Highway 14, Suite 1
Pierre, South Dakota 57501-8501
Phone (605) 773-3215
Fax (605) 773-4106
TTY (605) 773-6585
http://atg.sd.gov/

MARTY J. JACKLEY
ATTORNEY GENERAL

CHARLES D. McGUIGAN
CHIEF DEPUTY ATTORNEY GENERAL

RECEIVED
JUN - 1 2015
WATER RIGHTS PROGRAM

June 1, 2015

All Parties of Record Noted in Certificate of Service Mailing List

Re: *In the Matter of Water Application No. 2730-2, United Order of South Dakota*

To Whom It May Concern:

Enclosed please find true and correct copies of DENR's Disclosure of Experts including copies of said attachments, and an accompanying Certificate of Service. The originals of these pleadings are being sent to the Department.

Sincerely,

Ann Mines Bailey
Assistant Attorney General

AFM/jm
Enclosures

STATE OF SOUTH DAKOTA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

WATER MANAGEMENT BOARD

IN THE MATTER OF WATER APPLICATION NO. 2730-2, UNITED ORDER OF SOUTH DAKOTA	))))	DENR'S DISCLOSURE OF EXPERTS

Pursuant to the Procedural and Scheduling Order dated May 18, 2015, DENR hereby provides the names of its expert witnesses:

1. Ken Buhler, Engineer, South Dakota Department of Environment and Natural Resources, Water Rights Program. A copy of his initial report and the supplemental report regarding the application and upon which the Chief Engineer's recommendation is based is attached herewith.

2. Jeanne Goodman, Chief Engineer, South Dakota Department of Environment and Natural Resources, Water Rights Program. The Chief Engineer's initial recommendation and revised recommendation are attached hereto.

Dated this 19 day of June, 2015

Ann Mines Bailey
Assistant Attorney General
1302 East Highway 14, Suite 1
Pierre, SD 57501-8501
Telephone: (605)773-3215

Counsel for Water Rights Program, DENR

STATE OF SOUTH DAKOTA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

WATER MANAGEMENT BOARD

IN THE MATTER WATER APPLICATION No. 2730-2, UNITED ORDER OF SOUTH DAKOTA	))))	CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true and correct copy of the DENR's Disclosure of Experts in the above-entitled matter were served upon each of the following by enclosing the same in envelopes with first class postage prepaid and affixed thereto, and depositing said envelopes in the United States mail at Pierre, South Dakota on this 1st day of June, 2015:

Jeff Connolly
Gunderson, Palmer, Nelson & Ashmore
P.O. Box 8045
Rapid City, SD 57709

William R Hansen, Chief
Water Rights Branch
National Park Service
1201 Oak Ridge Drive Ste 250
Ft. Collins, CO 80525

Karl R and Suzanne K Von Rump
11560 Farmer Road
Custer, SD 57730

Toni Martin
4141 Villa Ridge Ct #122
Rapid City, SD 57701

Mr & Mrs David Albrecht
High Lonesome Ranch
26541 Stagecoach Springs Rd
Custer, SD 57730-9109

Michael M Hickey
Bangs McCullen Law Firm
P.O. Box 2670
Rapid City, SD 57709-2670

Douglas L Lesher, Acting Manager
Stone Meadow Ranch
26699 Remington Rd
Custer, SD 57730

Craig Bobzien, Forest Supervisor
Black Hills National Forest
1019 N 5th Street
Custer, SD 57730

Rick Fox
P.O. Box 35
Hermosa, SD 57744

Dean and Delia Johnson
14585 E French Creek Road
Fairburn, SD 57738

Cheryl Schrempp Dupris
Assistant U.S. Attorney
P.O. Box 7240
Pierre, SD 57501

Lois Witte
Office of the General Counsel
Mountain Region
740 Simms St, Room 309
Golden, CO 80401-4720

Peter Fahmy
National Park Service
12795 W Alameda Parkway, Ste 198
Lakewood, CO 80228

And on the same date, the original was filed with Jeanne Goodman, Chief Engineer, DENR Water Rights Program, Joe Foss Building, 523 E. Capitol Avenue, Pierre, SD 57501.

Ann F. Mines-Bailey
Assistant Attorney General
1302 East Highway 14, Suite 1
Pierre, SD 57501-8501
Telephone: (605) 773-3215

KEN BUHLER

EDUCATION

B.S. Geological Engineering, South Dakota School of Mines and Technology, 1981

CAREER EXPERIENCE

Engineer III - SD Dept of Environment and Natural Resources, Water Rights Program: Responsibilities: Conducting ground water investigations and investigating complaints, managing the Observation Well Network, compiling water well data, preparing and reviewing reports for new ground water permit applications, providing technical assistance to the Chief Engineer and providing expert testimony to the Water Management Board on contested water permit applications. Responsible for the management of the state's water well construction program, including licensure and regulation of well drillers operating in South Dakota and administration of the SD Well Construction Standards. Monitor water use, investigate violation complaints and conduct water permit reviews for licensing. Provide technical assistance to the Water Management Board through evaluating ground water permit applications and through interpretation of data from the statewide observation well network.

District Field Engineer – Western Company of North America: Designed oil well stimulation and cementing programs and ensured QA/QC for the District's services.

SPECIAL PROJECTS

Provided technical assistance to the Steering committees for the Black Hills Hydrology Study and the Black Hills Water Management Study.

Provided technical assistance and expert testimony before the South Dakota Water Management Board for Well Construction Rules promulgation, well construction enforcement and well driller licensing issues since 1985.

TESTIMONY

Testified as an expert witness before the South Dakota Water Management Board since 1985. Cases since March 7, 1990 include:

- Water Permit Applications form the Tulare: Western Spink Hitchcock Aquifer: Nos. 7858-3 and 7859-3-Brad Peterson; No. 7860-3-Oscar Inc; No. 7894-3-Van Buskirk Farms
- Water Permit Applications from the Tulare: East James Aquifer: Nos. 7875-3, 7876-3 and 7877-3- Lenny Peterson; Nos. 7878-3, 78779-3, 7880-3, 7881-3, 7882-3 and 7884-3- Oscar Inc.
- Water Permit Application No. 8032-3, Arthur Olsen
- Water Permit Application No. 2078A-3, Riverside Hutterian Brethren
- Water Permit Application Nos. 7369A-3, 7369B-3 and 7369C-3, Huron Hutterian Brethren
- Water Permit Application No. 8068-3, Thunder Ridge RE LLC
- Consideration of Water Permit Application No. 8013-3, Riverside Hutterian Brethren
- Consideration of Water Permit Application No. 4134-3, Bixler Farms
- Consideration of Deferred Applications from Upper Vermillion: Missouri aquifer Application

- No. 7725-3, Lenny Peterson; Nos. 7752-3, 7755-3, 7756-3, 7757-3, Lenny Peterson; Nos. 7726-3, 7727-3, 7753-3, 7754-3, 7759-3, Oscar Inc.; Nos. 7733-3, 7734-3, 7735-3, 7736-3, Van Buskirk Farms LLP
- Renewal of South Dakota Well Driller License No. 740, Brechtel & Sons Drilling
- South Dakota Well Driller License Application for RCS Construction
- South Dakota Well Pump Installer License Application for Babby Solar Pump Co.
- Well Driller License No. 473, Babby Well Drilling
- Application No. 7685-3, Michael Watson; No. 7716-3 Denis and Craig Slepikas; Nos. 7717-3, 7718-3, 7720-3, 7721-3, Terry Wieting; No. 7719-3, Marshall Brothers; Nos. 7722-3, 7723-3, 7724-3, Bren/Leland Kleinssaser; Nos. 7725-3, 7752-3, 7755-3, 7756-3, 7757-3, Lenny Peterson; Nos. 7726-3, 7727-3, 7753-3, 7754-3, 7759-3, Oscar Inc.; Nos. 7733-3, 7734-3, 7735-3, 7736-3, Van Buskirk Farms LLP
- Application No. 7747-3 Gordie Hofer
- Application No. 7551-3, Wayne Binger, Nos. 7570-3, 7571-3, 7572-3, 7574-3,7575-3, 7637-3, 7638-3, 7639-3, 7640-3, Gary Marshall; No. 7620-3, Oscar, Inc.
- Application No. 7441-3, Gary or Julie Peterson; No. 7442-3, Gary or Julie Peterson; No. 7452-3, Jerome Hult; No. 7466-3, Bethel Hagen Trust; No. 7535-3, Donald D Benson; No. 7467-3, Cleland Hagen Trust; No. 7468-3, Cleland Hagen Trust; No. 7558-3, Cleland Hagen Trust; No. 7587-3, Paul Petersen; No. 7588-3, Paul Petersen; No. 7600-3, Michael D Stevens; No. 7601-3, Michael D Stevens; No. 7602-3, Michael D Stevens; No. 7603-3, Michael D Stevens; No. 7623-3, Darrell Osborn; No. 7633-3, Brad Farrar; No. 7653-3, Jeremiah Welsh
- Application No. 7386-3, Brian Gatzke; No. 7537-3, Bret Fliehs; No. 7541-3 Roger Schuelke; No. 7555-3 Craig Bass
- Application No. 7373-3, Terry Wieting; No. 7620-3, Oscar, Inc
- Application No. 7649-3, POET
- Application No. 7295-3, William St. Clair; No. 7348-3, Wipf Acres LP; No. 7365-3, Huron Colony; No. 7366-3, Huron Colony; No. 7367-3, Huron Colony; No. 7368-3, Huron Colony; No. 7369-3, Huron Colony; No. 7370-3, Huron Colony
- Application No. 7345-3, Jack Schmidt
- Application No.7289-3, Bixler Farms; Nos. 7290-3 and 7291-3, Lee Gatzke; No. 7293-3, Jefferey Gatzke and No. 7292-3, Allen Gatzke
- Well Driller License No. 722, Stretch's Well Service
- Consider Application to renew SD Well Driller's License No. 672, Millbrook Industries
- Consider Application for a SD Well Driller's License, Ekern HomeEquipment Co. Inc
- Application No. 7165-3, Paul Buckneberg
- Appeal of Chief Engineer's Decision in the matter of a pond along Spring Creek
- Consider Application for a SD Well Driller's License, Aaron Marshall
- Application No. 2629-2, Fall River Water User District
- Application No. 2633-2, Southern Black Hills Water System
- Application No. 5156-3, Lincoln County Rural Water System, Inc.
- Application No. 2623-2, Colonial Pine Hills Sanitary District
- Application No. 6823-3, TM Rural Water District
- Application No. 1883-1, Pro Eco Energy
- Application No. 2610-2, United Land Management
- Application Nos. 2560A-2 & 2615-2, Fall River Water User District
- Application No. 6846-3, Otter Tail Corporation
- Application No. 1872-1, City of Spearfish
- Application No. 1864-1, Hay Creek Ranch
- Application No. 1858-1, Glencoe Camp Resort
- Application No. 1865-1, Jay Allen

- Application Nos. 2580-2 & 2585-2, Southern Black Hills Water System
- Application No. 2591-2, Larry and Geri Gustafson
- Application No. 1707E-1, Frawley Ranches
- Application No. 2560-2, Fall River Water Users District
- Application No. 2559-2, John Markus
- Application No. 2549-2, City of Custer
- Application No. 2544-2, Timmerman Brothers Ranch Co.
- Application No. 1707D-1, City of Spearfish
- Application No. 1803-1, Albert & Ryett Harty
- Application No. 1789-1, Sturgis Water Department
- Application No. 1779-1, City of Spearfish
- Application No. 1775-1, Alben, Inc
- Application No. 1769-1, DuWayne Mahlen
- Application No. 1772-1, Fisher Sand and Gravel Company
- Application No. 1758-1, No Name City RV & Cabins
- Application No. 2475-2, City of Rapid City
- Application No. 1756-1, Frawley Ranches, Inc
- Application No. 2466-2, Black Hills Generation
- Application No. 2461-2, Colonial Pine Hills Sanitary District
- Application No. 2459-2, Anita Cregut
- Application No. 2458-2, Red Rock Development
- Application No. 6245-2, Shamrock Colony
- Application No. 1707-1, Frawley Ranches
- Application No. 1733-1, Frawley Ranches
- Application No. 6070-3, Spencer Quarries
- Application No. 2427-2, Daniel and Gary Velder
- Application No. 6166-3, Oscar Inc.
- Application No. 1689-1, Jack Marler
- Application No. 6121-3, John Swanson
- Application No. 2418-2, Fall River RWS
- Application No. 1676-1, Stagebarn Subdivision
- Application No. 1674-1, Black Hawk Water User District
- Application No. 6094-3, Dan Christensen
- Application No. 6007-3, Bob's Resort, Inc.
- Application No. 6091-3, Brentwood Colony
- Application No. 2396-2, Flintstone Bedrock City
- Application No. 1670-1, Lyndon & Jane Kok
- Application No. 1666-1, Golden Reward
- Application No. 2400-2, Karlen Family Partnership
- Application No. 2395-2, Roy Alexander
- Application No. 6027-3, City of Brandon
- Application No. 2386-2, Town of Keystone
- Application No. 5996-3, Myrl & Roy's Paving
- Application No. 1650-1, Melvin Delzer
- Application No. 2385-2, Roger Robbins
- Application Nos. 5966-3 & 5967-3, Michael Williams
- Application No. 5965-3, Rodney Hofer
- Application No. 2313-2, Coca Cola bottling of the Black Hills
- Application No. 5797-3, Heartland Pork
- Application No. 2299-2, Custer School District 16-1

- Application No. 2235-2, The Fort
- Application No. 2204-2, Flintstone Bedrock City
- Application No. 5521-3, City of Sioux Falls
- Application No. 5522-3, City of Sioux Falls
- Application No. 5533-3, City of Sioux Falls
- Application No. 5556-3, City of Sioux Falls
- Application No. 2137-2, Frank Simpson
- Application Nos. 2155-2 & 2156-2, City of Rapid City
- Application No. 1478-1 Pete Lien & Sons, Inc
- Consideration of Alleged Seepage Problems with Hawthorne Ditch

Testified as an expert witness before the Sixth Circuit Court in the matter of Stretch's Well Service, Inc./Chuck Ross (Scattergun Lodge) well.

Testified as an expert witness before the Pierre City Council in the matter of flooding related groundwater issues

JEANNE GOODMAN, P.E.
CHIEF ENGINEER

EDUCATION

Bachelor of Science Degree in Geological Engineering, South Dakota School of Mines and Technology 1979

REGISTRATIONS, PROFESSIONAL SOCIETIES, AND AWARDS

1. South Dakota Registered Professional Engineer
2. South Dakota Engineering Society
3. Central Chapter SD Engineering Society Outstanding Engineer of 1995
4. Central Chapter SD Engineering Society Young Engineer of the Year 1986

CAREER EXPERIENCE

April 2013 – present – Chief Engineer, Water Rights Program, DENR. Administer the Program, which coordinates the appropriation of water resources in South Dakota to protect the public welfare and interest in the development of the water resources and determine in what way the water of the state should be developed for the greatest public benefit.

2000 – 2013 - Natural Resources Administrator, Surface Water Quality Program, DENR. Administer the Surface Water Quality program, which coordinates the prevention, reduction, measurement, and control of water pollutants to maintain water quality that is protective of the public's health and safety and the beneficial uses of the state's lakes and streams.

1997 – 2000 - Natural Resources Administrator, Air Quality Program, DENR. Administer the Air Quality program, which coordinates the prevention, reduction, measurement, and control of air pollutants to maintain air quality that is protective of the public's health and safety.

1987 – 1997 – Natural Resources Engineer IV, Ground Water Quality Program, DENR. Team Leader for ground-water discharge plans and enforcement of ground-water quality standards, Underground Injection Control, pesticides in Ground Water, and Wellhead Protection staff. Review storage tank plans and specifications. Supervise special water quality studies and the review of numerous regulated substance release assessments and remediations.

1981 – 1987 – Natural Resources Engineer/Hydrologist, Ground Water Quality Program, DWNR. Participated in writing Rural Clean Water Program/Comprehensive Monitoring and Evaluation proposal and workplan; reviewed mineral exploration permits for impacts to ground water; identified aquifers and compiled well data for Corps studies. Supervised staff and participated in ground water studies and investigations by installing and sampling monitoring wells; contributed sections to the Big Sioux Aquifer Water Quality study; prepared all contracts for Comprehensive Monitoring and Evaluation project, and assisted in installation of monitoring systems.

1979 – 1980 – Natural Resources Engineer I, Water Rights Program, DWNR. Investigated water rights complaints; reviewed water right applications; supervised installation of observation wells; prepared a report on flowing artesian wells.

TESTIMONY

Board of Water Management – In various capacities and responsibilities with DENR, provided testimony regarding permit application review and water use, water quality, and water monitoring relative to water right permit applications, General Water Pollution Control Permits for Concentrated Animal Feeding Operations, and ground water discharge plan applications, and proposed and modifications to Administrative Rules of South Dakota for ground water and surface water quality standards, beneficial use classifications for water bodies in South Dakota, and ground water and surface water discharge permits.

Board of Minerals and Environment – In various capacities and responsibilities with DENR, provided testimony regarding water use, water quality, and water monitoring relative to mineral and oil and gas exploration and development permits.

Court matters since 2008 - In re: *Veblen West Dairy, LLP, Chapter 11, Debtor. Bankr. No. 10-10071.* United States Bankruptcy Court, D. South Dakota (court testimony).
Storbeck, et. al. v. State of South Dakota, Third Judicial Circuit, Kingsbury County Civ. No. 07-69 (deposition).

MAJOR PUBLICATIONS

1. "South Dakota Ground-Water Quality" w/ Koch and Lawrence -USGS USGS Open-file Report 87-0752, Goodman and Pirner - SDDWNR
2. "Agricultural Sources of Nitrate Contamination in a Shallow Sand and Gravel Aquifer in Eastern South Dakota", in Perspectives on Nonpoint Source Pollution, EPA 440/5-85-001.
3. "Non-Point Source Pesticide Contamination of Shallow Ground Water', ASTM Paper No. 892529, St. Joseph, Missouri, Kimball and Goodman.
4. "Nitrate and Pesticide Occurrence in Shallow Groundwater During the Oakwood Lakes-Poinsett RCWP Project", in The National Rural Clean Water Program Symposium, EPA/625/R-92/006.
5. "Coordination is the Project Cornerstone", in The National Rural Clean Water Program Symposium, EPA/625/R-92/006, Kuck and Goodman.
6. "Ground Water Monitoring – A Guide to Monitoring for Agricultural Nonpoint Source Pollution Projects", USDA-FSA, Huron, SD. Goodman, German, and Bischoff, January 1996.

DEPARTMENT OF ENVIRONMENT and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT APPLICATION NO. 2730-2, United Order of South Dakota

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. 2730-2, United Order of South Dakota, c/o Seth Jeffs, 11571 Farmer Rd, Pringle SD 57773.

The Chief Engineer is recommending Approval of Application No. 2730-2 with a 20 year term pursuant to SDCL 46-1-14 and 46-2A-20 because 1) evidence is not available to justify issuing this permit without a 20 year term limitation, 2) the proposed diversion can be developed without 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. 2730-2 is issued for a twenty year term. Pursuant to SDCL 46-2A-21, the twenty year term may be deleted at any time during the twenty year period or following its expiration. If the twenty 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. 2730-2 may also be cancelled for non-construction, forfeiture, abandonment or three permit violations pursuant to SDCL 46-1-12, 46-5-37.1 and ARSD 74:02:01:37.

2. The new 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 new well authorized by Permit No. 2730-2 shall be constructed by a licensed well driller and construction 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 Water Permit Holder shall report to the Chief Engineer annually the amount of water withdrawn from the Madison aquifer that is authorized by Water Permit Nos. 2610-2 and 2730-2.

See report on application for additional information.

Jeanne Goodman

Jeanne Goodman, Chief Engineer
December 5, 2014

WATER PERMIT APPLICATION NO. 2730-2
UNITED ORDER OF SOUTH DAKOTA
NOVEMBER 12, 2014

Water Permit Application No. 2730-2 proposes to appropriate water from the Madison aquifer at a maximum diversion rate of 0.46 cubic feet of water per second (cfs). Water is to be diverted from two existing wells which were authorized by Water Permit No. 2610-2, and a proposed well. Water Permit No. 2610-2 authorizes diversions of up to 0.21 cfs from two wells located in the NW¼ SE¼ of Section 10, T6S-R3E, Custer County. This application proposes to authorize the construction of a third well, also located in the NW¼ SE¼ of Section 10, T6S-R3E, and authorize a total maximum diversion from the three wells of 0.67 cfs. The water will be used in the United Order of South Dakota's water system.

AQUIFER: Madison aquifer (MDSN)

Aquifer Characteristics:
The Madison aquifer is a regionally extensive aquifer contained within the Madison Limestone, locally known as the Pahasapa Limestone, and the Englewood Limestone. The aquifer underlies portions of North Dakota, South Dakota, Montana, Wyoming, Saskatchewan, Manitoba and Alberta. The Madison aquifer underlies most of western South Dakota and parts of Eastern South Dakota (Figure 1). The Madison aquifer contains an estimated 644,827,200 acre-feet of recoverable water in storage in Western South Dakota (Allen and others, 1985) and 51,512,300 acre-feet of recoverable water in storage in Eastern South Dakota (Hedges and others, 1982).

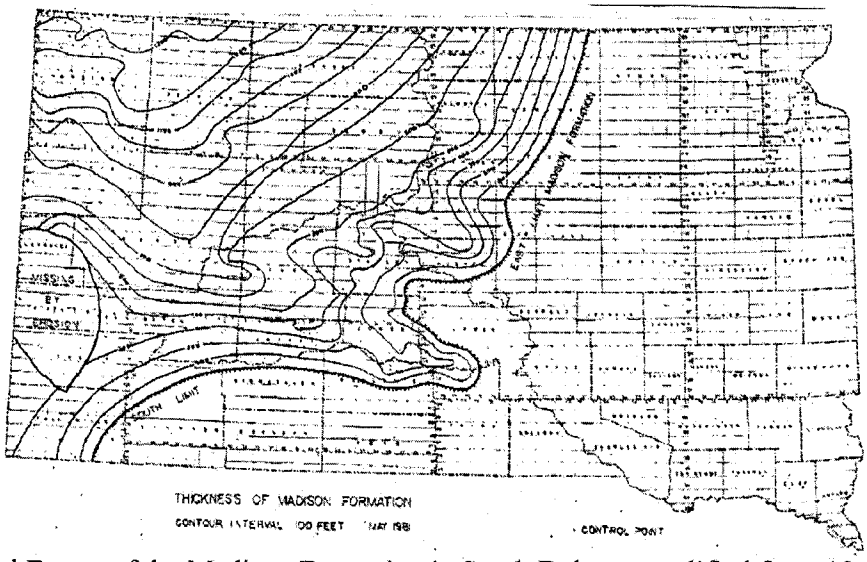

Figure 1. Areal Extent of the Madison Formation in South Dakota: modified from (Gries, 1981).

The Madison aquifer is considered a "mature karst aquifer" (Long and others, 2012) and is composed of a fine to medium crystalline, cavernous limestone and dolomite. The Madison is expected to be approximately 300 feet thick in this area (Carter and Redden, 1999a); and (Carter and Redden, 1999b). The upper portion of the Madison Limestone is karstic, therefore it contains randomly distributed zones of secondary porosity and permeability formed by weathering of

exposed surfaces, groundwater solution and fracturing. The lower part of the Madison Limestone and the Englewood Limestone generally have lower permeability than the upper part of the Madison aquifer in the Black Hill (Greene, 1993). The average porosity of the Madison is estimated to be 11%, and the effective porosity from which recoverable water can be obtained by wells is assumed to be 5% (Rahn, 1979).

The well site proposed by this application is located approximately five miles southwest of the Madison Limestone outcrop (Strobel and others, 1999). In this area, the Madison Limestone dips to the southwest at approximately 240 feet per mile (approximately three degrees) (Carter and Redden, 1999a). The DENR-Water Rights Program has record of three existing wells constructed for the United Order of South Dakota. The top of the Madison was reported to be 785 feet below grade in one well log, 715 feet below grade in a second well log and is inferred to be 719 feet below grade in the third log (Water Rights, 2014c). The static water level of the wells was reported to be 650' (06/05/2005), approximately 800' (10/20/2010) and approximately 800' (10/15/2007) respectively.

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 availability of unappropriated water 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." The statute provides that "An application may be approved, however, for withdrawals of groundwater from any groundwater formation older than or stratigraphically lower than the greenhorn formation in excess of the average estimated annual recharge for use by water distribution systems." Water Permit Application No. 2730-2 proposes to appropriate water from the Madison aquifer, a water source that is older than the Greenhorn Formation, and the water is to be used by a water distribution system. Therefore, the Board need not consider the recharge versus withdrawal issue.

Existing Rights:

This applicant has been utilizing wells completed into the Madison aquifer that were authorized by Water Permit No. 2610-2 since 2007 with no significant impact. The additional diversion rate proposed by this application is relatively low and will not likely have a noticeable effect to the Madison aquifer. There are 64 completion reports on file with the DENR-Water Rights Program within approximately five miles of the wells that are to be used to supply this appropriation (Water Rights, 2014c). The majority of these domestic wells appear to be completed into the Minnelusa aquifer and at least two are completed into the Deadwood aquifer. Wells completed into aquifers that are either stratigraphically above or below the Madison aquifer (i.e. Minnelusa and Deadwood respectively) are not expected to be affected by this proposed appropriation since the lower Minnelusa formation can be considered a confining bed that isolates the Madison hydraulically from shallower aquifers, and the bottom portion of the Madison isolates the Madison from lower

aquifers. Only three of the domestic wells on file appear to be completed into the Madison aquifer. Based on the legal location provided on the completion reports, the Madison aquifer wells are all located over three and three quarter miles from the site(s) of Application No. 2730-2.

The diversion point locations for existing water rights and future use permits appropriating water from the Madison aquifer in this area are shown in Figure 2 and identified in Tables 1 and 2.

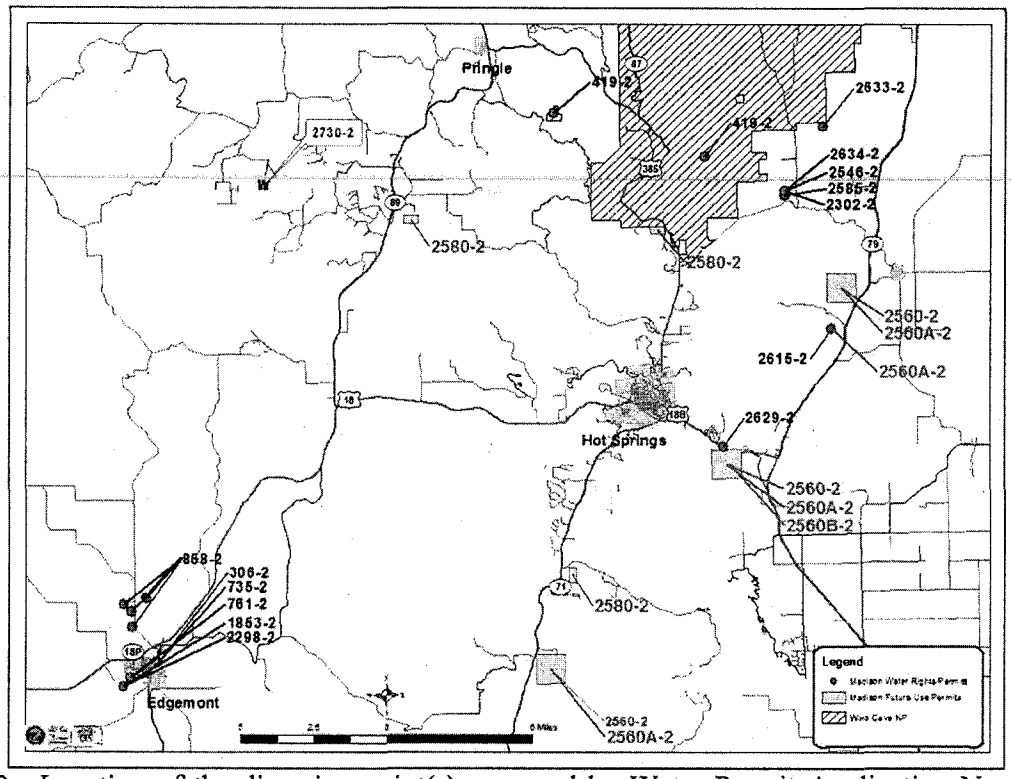

Figure 2. Location of the diversion point(s) proposed by Water Permit Application No. 2730-3, diversion points for existing Madison aquifer water rights/permits, and areas of Madison aquifer future use permits in the vicinity (Water Rights, 2014b).

Table 1. Water Rights/Permits appropriating water from the Madison aquifer in the vicinity of the diversion points proposed by Application No. 2730-2(Water Rights, 2014b).

PERMIT NO	NAME	PRIORITY DATE	STATUS	USE	CFS	ACRES	AC-FT /YR
306-2	CITY OF EDGEMONT	12/14/1945	LC	MUN	0.31		
419-2	WIND CAVE NATIONAL PARK	12/29/1955	LC	COM/IRR	0.15		
735-2	TENNESEE VALLEY AUTHORITY	12/26/1961	LC	IND	0.66		
761-2	CITY OF EDGEMONT	04/09/1962	LC	MUN	0.41		
858-2	WYOMING DAKOTA RAILROAD PROPERTIES INC	02/05/1965	LC	IRR	9.36	655.75	
1853-2	CITY OF EDGEMONT	08/23/1983	IL	MUN			
2298-2	CITY OF EDGEMONT	08/28/1993	LC	REC/MUN	1		
2302-2	EBEN W STREETER	02/07/1994	LC	RWS	0.033		
2546-2	EBEN STREETER	01/03/2005	PE	RWS	0.21		
2615-2	FALL RIVER WATER USERS DISTRICT	05/16/2005	PE	RWS	0.67		
2629-2	FALL RIVER WATER USERS DISTRICT	05/16/2005	PE	RWS	1		
2585-2	SOUTHERN BLACK HILLS WATER SYS	05/08/2006	DF	RWS	2.67		1600
2610-2	UNITED ORDER OF SOUTH DAKOTA	02/09/2007	PE	SHD	0.21		
2633-2	SOUTHERN BLACK HILLS WATER SYSTEM	06/20/2008	PE	RWS	0.67		
2634-2	STREETER FAMILY LIMITED PARTNERSHIP	07/17/2008	PE	RWS	0		

LC= Water License, IL= Incorporated, PE= Water Permit, DF= Deferred, MUN= municipal, COM= Commercial, IRR= Irrigation, IND= Industrial, REC= Recreational, RWS= Rural Water System, SHD= Suburban Housing Development

Table 2. Future Use Permits reserving water from the Madison aquifer in the vicinity of the diversion points proposed by Application No. 2730-2(Water Rights, 2014b).

FUTURE USE PERMIT NO.	NAME	ORIGINAL RESERVATION (AC-FT/YR)	REMAINING RESERVATION (AC-FT/YR)
2560-2	FALL RIVER WATER USERS DISTRICT	750	0
2580-2	SOUTHERN BLACK HILLS WATER SYSTEM	1474	1474
2560A-2	FALL RIVER WATER USERS DISTRICT	*	0
2560B-2	FALL RIVER WATER USERS DISTRICT	*	0

* FUTURE USE PERMIT NOS. 2560A-2 AND 2560B-2 AMEND FUTURE USE PERMIT NO. 2560-2 TO EXPAND THE FUTURE USE AREA AND DO NOT RESERVE ADDITIONAL WATER

Since the Madison is under artesian conditions in this area, drawdown from pumping a well may extend over a fairly large area. The transmissivity of the aquifer is very heterogeneous with values that range over several orders of magnitude (Putnam and Long, 2007). In addition, the aquifer characteristics of the Madison can vary considerably within a short distance (Greene, 1993).

Carter and others (2001) developed hydrologic budgets for the Madison and Minnelusa aquifers combined, using nine subareas to cover the Black Hills. The subareas were identified on the basis

of hypothetical flow paths and were selected with the intent of minimizing flow across the boundaries. The well(s) that is/are to be used to supply this appropriation is/are located in Carter and others' (2001) subarea 8. Carter and others (2001) estimated the transmissivity of the Madison aquifer on the border of the subarea near the well site at 1,463 feet squared per day (ft^2/d). Applying this estimated transmissivity and assuming a storage coefficient of $S= 2x10^{-4}$, the drawdown 1,000 feet from a well pumping 0.46 cfs would be less than 19 feet after one year of continuous pumping based on the Theis Equation (see Figure 3) ("Theis Equation Calculator").

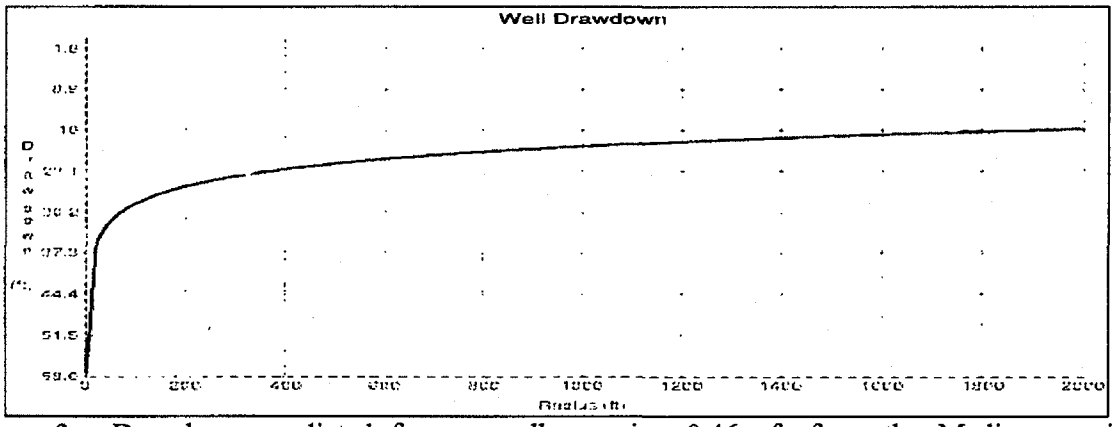

Figure 3. Drawdown predicted from a well pumping 0.46 cfs from the Madison aquifer, continuously for one year, assuming T= 1,463 ft^2/d, S= $2x10^{-4}$. (modified from ("Theis Equation Calculator"))

Assuming the combined diversion rates of Water Permit No. 2610-2 and Water Permit No. 2730-2 (if approved) are pumped from a single well, a transmissivity of 1,463 ft^2/d and a storage coefficient of $S= 2x10^{-4}$, the drawdown 1,000 feet from a well pumping 0.67 cfs would be less than 28 feet after one year of continuous pumping based on the Theis Equation (see Figure 4) ("Theis Equation Calculator").

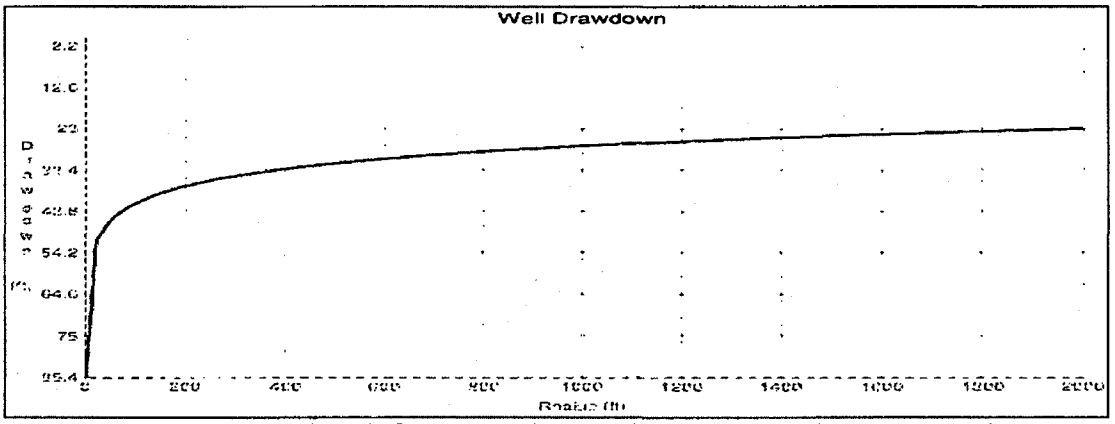

Figure 4. Drawdown predicted from a well pumping 0.67 cfs from the Madison aquifer, continuously for one year, assuming T= 1,463 ft^2/d, S= $2x10^{-4}$. (modified from ("Theis Equation Calculator"))

The Theis equation requires a number of simplifying assumptions, some of which may not apply in this case; however, the solution is still useful to show that drawdown should not be significant.

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, 2014a).

Given the distance between the well(s) that is/are to supply this appropriation and existing Madison wells well interference is not expected to be adverse.

The well sites proposed by this application are located approximately five miles west of the "Argyle" well site proposed by Future Use Permit No. 2580-2. Approval of this application should not hinder development of the future use permit due to the distance involved.

Beneficial Use:
Pursuant to SDCL 46-1-6 (3) beneficial use is defined as:

> "any use of water within or outside the state, that is reasonable and useful and beneficial to the appropriator, and at the same time is consistent with the interests of the public of this state in the best utilization of water supplies;

The applicant has the burden of proof in establishing that an application is a beneficial use of water.

Public Interest Issues:
In the past, there have been two "public interest" issues raised that could potentially be obstacles to developing the Madison aquifer in the Southern Black Hills: 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). Major springs in the area identified by Naus and others (2001) are shown in Figure 5.

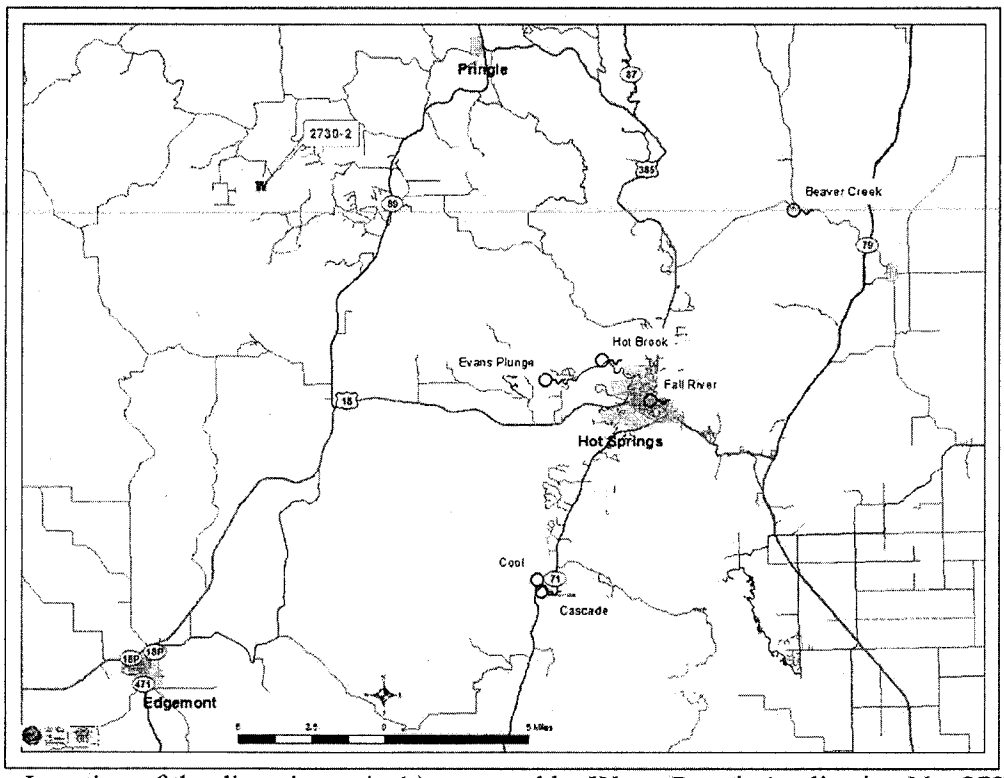

Figure 5. Location of the diversion point(s) proposed by Water Permit Application No. 2730-2, and the location of major springs in the vicinity.

The discharge of one of these springs, Beaver Creek Spring, is measured by National Park Service personnel. The spring is located approximately two and one-quarter miles east of SD DENR-Water Rights' Observation Well CU-91A. A comparison of the discharge of Beaver Creek Springs and the potentiometric surface of the Madison aquifer suggests a relationship may exist between the two (see Figure 6). At this time it is not possible to determine if a cause and effect relationship exists between the Madison aquifer potentiometric surface and the spring flow or if the two have similar responses to the same hydrologic conditions. If a cause and effect relationship exists between the Madison aquifer potentiometric surface and the spring discharge, a decline of the potentiometric surface in the vicinity of the springs could decrease spring discharge.

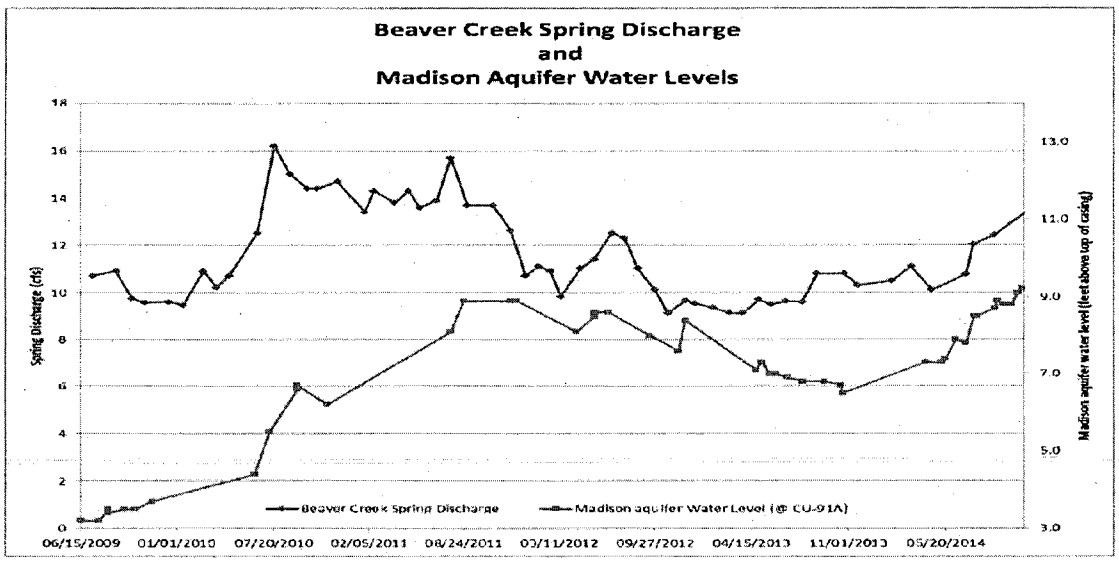

Figure 6. Beaver Creek Spring Discharge compared to Madison aquifer potentiometric surface measured at observation well CU-91A ("Aquarius Web Data Portal."; Water Rights 2014a)

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, 2014b)

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."

The well site(s) proposed by this application is/are located over eleven miles from the nearest major spring (Evens Plunge). 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, (0.67 cfs maximum), it is unlikely that drawdown from this well would have a measurable impact on spring discharge.

Wind Cave National Park:

The National Park Service (NPS) has intervened in matters of water permit applications from the Madison aquifer in the past. In 2007, the NPS filed a petition to intervene in the matter of Water Permit Application No. 2610-2. The NPS was concerned that "the Application No. 2610-2, over time and in combination with senior water right applications ... will adversely impact Wind Cave National Park (Wind Cave NP) senior water rights and water-dependent resources." The water-related resources cited by the NPS include: lakes and pools in the lower reaches of Wind Cave, three perennial streams (Cold Springs, Beaver, and Highland Creeks), many intermittent and ephemeral stream courses, and over 95 seeps and springs. The NPS later withdrew their opposition to granting the water permit but restated its concerns about the potential impacts of appropriations from the Madison aquifer.

Lakes and Pools:

The lakes and pools in Wind Cave National Park are in hydraulic connection with the Madison aquifer and the water table of the Madison aquifer is accessible at the deepest part of the cave (Long and others, 2012) . The stages of the lakes fluctuate in response to climatic conditions similar to fluctuations in the Madison potentiometric surface measured in DENR-Water Rights' Observation Well CU-91A, (see Figure 7).

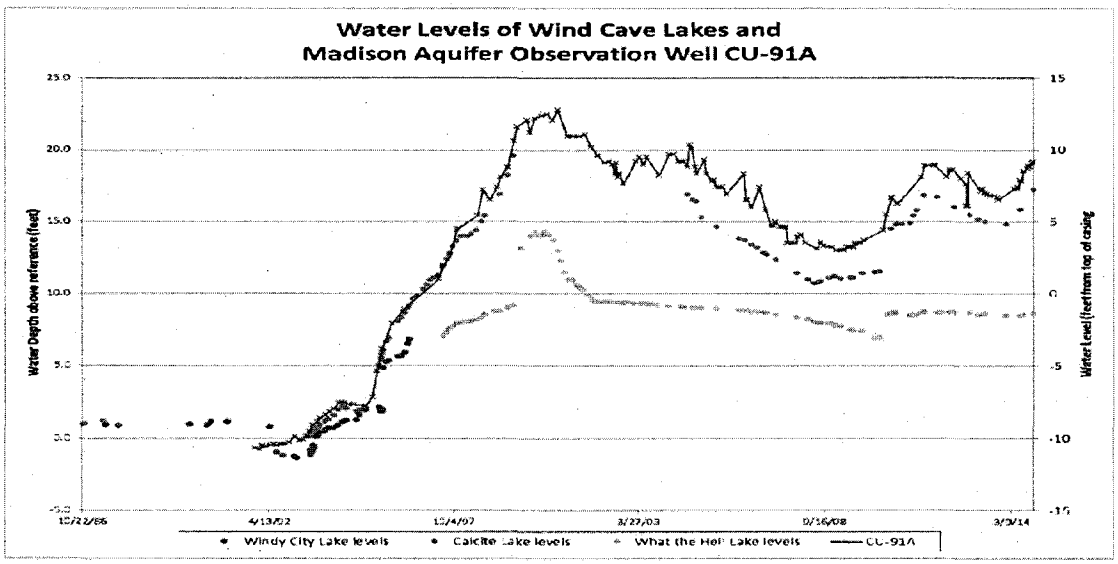

Figure 7. Water Levels of Wind Cave National Park Lakes compared to Madison aquifer potentiometric surface measured at observation well CU-91A (Hughes; Water Rights 2014a)

The lakes and pools in Wind Cave are located approximately thirteen miles east of the well site(s) proposed by this application (see Figure 8).

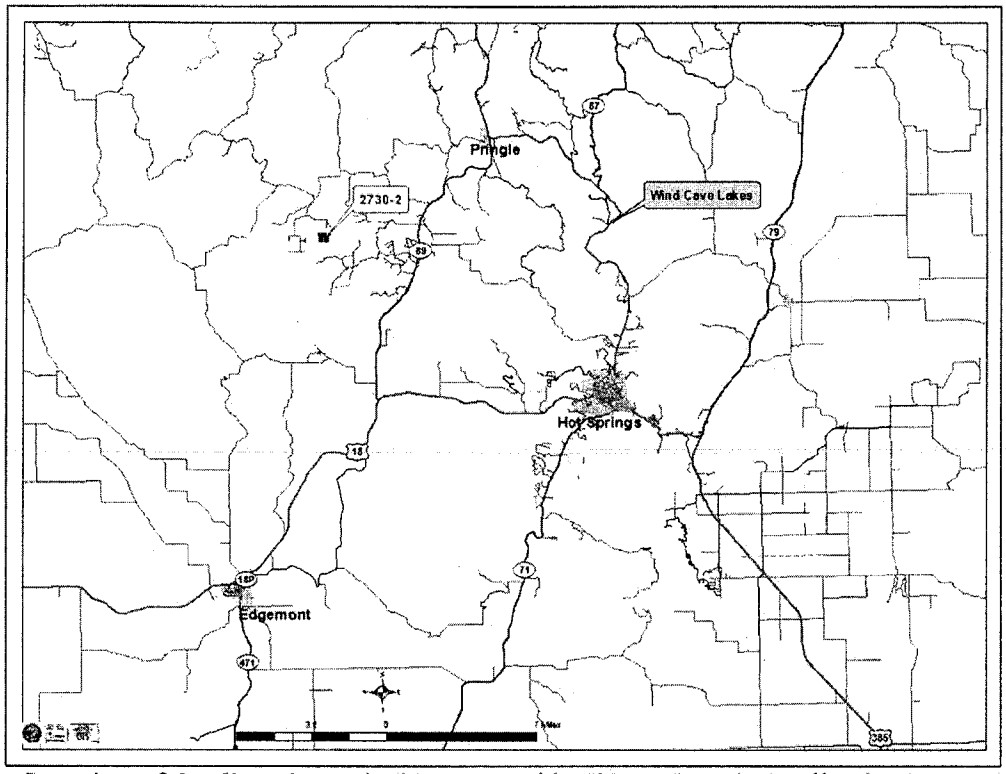

Figure 8. Location of the diversion point(s) proposed by Water Permit Application No. 2730-3, and the location of lakes and pools in Wind Cave National Park.

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 (>5 miles) and the relatively small diversion rate proposed (0.67 cfs maximum).

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". The entire length of Cold Spring Creek is located on formations that are geologically lower than the Madison and therefore are not expected to be influenced by Madison aquifer withdrawals. Beaver and Highland Creeks are typically dry in their reaches downstream from the loss zone (Madison, Minnelusa and Minnekahata aquifer outcrops) because the upstream flow is usually insufficient to meet or exceed the streams' loss thresholds. Since loss thresholds are assumed to be generally constant (Hortness and Driscoll, 1998), any fluctuations of the groundwater levels caused by pumping 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 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."

Evidence is not available to justify issuing this permit without a term limitation of 20 years.

Conclusions:

1. The Madison aquifer is a viable aquifer in this area.
2. This diversion will not adversely impair existing water rights.
3. Information is not available to approve this application without a 20 year term limit

Ken Buhler
SD DENR-Water Rights Program

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REVISED RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT APPLICATION NO. 2730-2, United Order of South Dakota

Pursuant to SDCL 46-2A-2, the following is the revised recommendation of the Chief Engineer, Water Rights Program, Department of Environment and Natural Resources concerning Water Permit Application No. 2730-2, United Order of South Dakota, c/o Seth Jeffs, 11571 Farmer Rd, Pringle SD 57773.

The Chief Engineer is recommending APPROVAL of Application No. 2730-2 with a 20 year term pursuant to SDCL 46-1-14 and 46-2A-20 because 1) evidence is not available to justify issuing this permit without a 20 year term limitation, 2) the proposed diversion can be developed without 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. 2730-2 is issued for a twenty year term. Pursuant to SDCL 46-2A-21, the twenty year term may be deleted at any time during the twenty year period or following its expiration. If the twenty 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. 2730-2 may also be cancelled for non-construction, forfeiture, abandonment or three permit violations pursuant to SDCL 46-1-12, 46-5-37.1 and ARSD 74:02:01:37.

2. The wells approved under Permit Nos. 2610-2 and 2730-2 will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under these Permits 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 new well authorized by Permit No. 2730-2 shall be constructed by a licensed well driller and construction 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. Water Permit Nos. 2610-2 and 2730-2, combined, are limited to an annual volume of 60 acre feet of water at a maximum diversion rate of 0.446 cubic feet of water per second.

5. A water meter shall be installed and maintained at the well sites authorized by Water Permit Nos. 2610-2 and 2730-2. The Water Permit Holder shall report to the Chief Engineer annually the amount of water withdrawn from the Madison aquifer. The report shall be submitted each January and provide a month by month breakdown of water withdrawn for the previous calendar year.

See report on application for additional information.

Jeanne Goodman

Jeanne Goodman, Chief Engineer
June 1, 2015

SUPPLEMENTAL REPORT TO THE CHIEF ENGINEER
ON
WATER PERMIT APPLICATION NO. 2730-2
UNITED ORDER OF SOUTH DAKOTA C/O SETH JEFFS
MAY 14, 2015

Water Permit Application No. 2730-2 was received by the Department of Environment and Natural Resources-Water Rights Program (DENR-WR) on October 14, 2014. The application proposed authorization to complete a new well into the Madison aquifer (approximately 1100 feet deep) in the NW¼ SE¼ of Section 10, T6S-R3E, in Custer County. The application proposed to divert water from the new well and from two existing wells, authorized by Water Permit No. 2610-2, at a combined maximum diversion rate of 0.67 cfs (approximately 300 gallons per minute (gpm)). Water Permit No. 2610-2 currently authorizes diversions of up to a maximum rate of 0.21 cfs (approximately 94 gpm) from two wells located in the NW¼ SE¼ of Section 10, T6S-R3E, Custer County. Therefore, Application No. 2730-2 proposed an increased diversion rate from the Madison aquifer of 0.46 cfs (approximately 206 gpm). The water is to be used in the United Order of South Dakota's water system.

Water Permit Application No. 2730-2 was public noticed and several interveners filed petitions in opposition to granting the permit. On February 18, 2015, the Water Rights Program received a request from the applicant to modify Application No. 2730-2 to a reduced diversion rate. Application No. 2730-2, as revised, proposes to appropriate water from the Madison aquifer at an additional maximum diversion rate of 0.236 cfs (approximately105.9 gpm) and authorize a total maximum diversion rate from a new well and the two existing wells of 0.446 cfs (approximately 200 gpm).

CURRENT WATER USAGE:

Water Permit No. 2610-2 was approved August 1, 2007, and included a qualification (No. 4) that requires the applicant to report to the Chief Engineer annually the amount of water withdrawn from the Madison aquifer. A summary of the United Order of South Dakota's reported water use is shown in Table 1.

Table 1. Annual water usage associated with Water Permit No. 2610-2, as reported to the Chief Engineer (Water Rights, 2015).

Water Use Reported by United Order of South Dakota		
Year	**Gallons (Reported)**	**Acre-feet (Converted)**
2007	150,500	0.46
2008	2,813,000	8.63
2009	6,207,000	19.05
2010	8,600,900	26.40
2011	13,205,800	40.53
2012	10,635,920	32.64
2013	3,447,480	10.58
2014	8,323,600	25.54

Water Permit No. 2610-2 authorizes the use of water for the purpose of "suburban housing development" and may not exceed the amount of water needed for beneficial use. Suburban housing development use typically includes water for drinking, washing, sanitary and culinary purposes, in addition to incidental irrigation. In a February 18, 2015, letter addressed to the Chief Engineer, The National Park Service Water Resources Division and The Black Hills National Forest, Mr. Seth S. Jeffs, the United Order of South Dakota water operator, indicated the community's beneficial use of water includes "watering gardens, orchards, landscape, and feeding animals during the spring and summer months".

Drinking, washing, sanitary and culinary uses:

2014 Drinking Water Survey

An on-site evaluation at the United Order of South Dakota public water system was conducted by the Department of Environment and Natural Resources-Drinking Water Program on June 11, 2014. The evaluation report identified the system as a "Community Water System" with a total population served of 75. The on-site evaluation reported that well No.1, which was constructed in 2007, was the only well connected to the water system, and it was capable of diverting 80 gpm. The on-site evaluation reported the system was capable of supplying 95 gpm (Holan, 2014).

Watering Gardens, Orchards, Landscape, and Feeding Animals:

The areas within the United Order of South Dakota's development that appear to be cultivated or landscaped were identified by evaluating June 29, 2014, imagery available through Google Earth 7.1.2.2014. The areas, shown as polygons outlined in dark green in Figure 1, digitized using Esri® ArcGIS 10.2, total approximately seven acres. Assuming an application rate of two acre-feet per acre per year, the total annual water use at the development for watering gardens, orchards and landscape is estimated to be less than 14 acre-feet per year. Livestock watering uses cannot be estimated at this time.

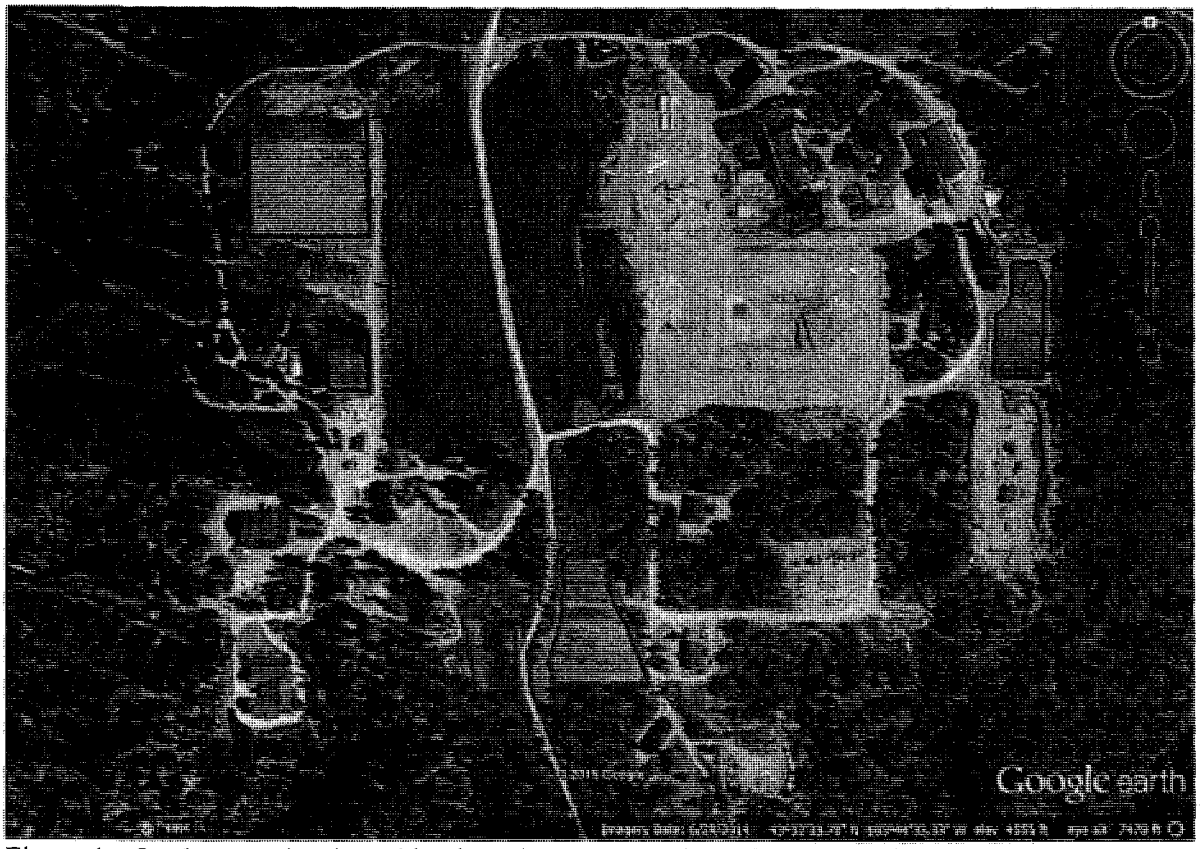

Figure 1. Gardens, orchards and landscaping apparent from Google Earth

FUTURE NEEDS:
In his February 18, 2015 letter, Mr. Jeffs stated that "the number of gardens and orchards will increase as the community is able to bring more of the land into cultivation"; "the needs for animals in the future will increase the demand for water"; and "the need for fire protection is also a great concern."

Drinking, washing, sanitary and culinary uses:
Onsite Wastewater System Approvals
The DENR has approved four onsite wastewater systems for the United Order of South Dakota community. The specifics for these systems are shown in Table 2. The wastewater systems are limited to capacities approved; therefore the total maximum daily flow (MDF) for the four systems is limited to 7,560 gallons per day (gpd). Assuming 7,560 gpd for 365 days equates to total volume of 8.47 acre-feet per year.

Table 2. Onsite wastewater systems approved by DENR for the United Order of South Dakota compound. (Hipple)

ESTABLISHMENT	APPROVAL DATE	REMARKS
United Land Management	09/14/2005	Basic system, 2,160 MDF, 18-bedroom residence
United Land Management	06/28/2007	Basic system, 1,560 MDF, 13-bedroom residence
United Land Management	09/10/2007	Basic drainfield for two duplexes, total of 14 bedrooms, 1,600 MDF
United Order of SD (United Land Management)	03/03/2010	Basic system, 2160 MDF, 18-bedroom residence
MDF=maximum daily flow		

The designed wastewater flow rate used in the review of United Land Management's residential septic systems was based on 60 gallons a person per day and a maximum of 2 persons per bedroom (Hipple, 2015). Based on the onsite wastewater systems approved for the community, (i.e. maximum daily flow of 7,560 gpd, and 63 bedrooms), the onsite wastewater system capacity is 126 people.

The total future system residential demand based on a population limited by the community's onsite wastewater system capacity (126) and a per capita demand for residential use of a maximum of 130 gallons per capita per day (Lindeburg, 2012) is estimated to be 18 ac-ft/yr.

Watering Gardens, Orchards, Landscape, and Animal needs:
Increased acreage of gardens, orchards and landscape areas is difficult to predict. However, two areas, totaling approximately 14 acres, (identified in yellow in Figure 2.) were considered potentially irrigable lands based on topography and groundcover. The addition of 14 acres of gardens, orchards and landscaping, would result in a tripling of the acreage currently estimated for that use. Assuming 21 acres of gardens, orchards and landscaping, irrigated at a rate of two acre-feet per acre per year results in an estimated "irrigation" use of 42 acre-feet per year. Future animal needs cannot be estimated with the information currently available.

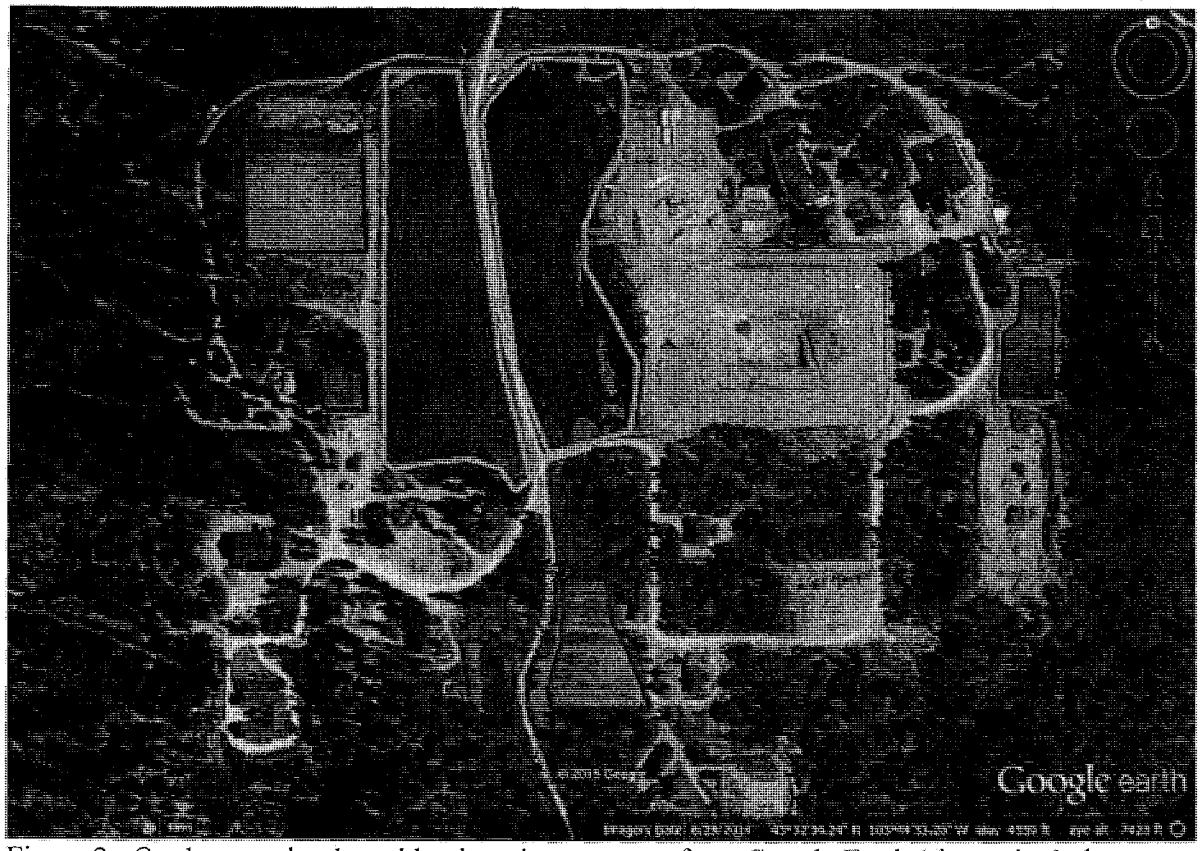

Figure 2. Gardens, orchards and landscaping apparent from Google Earth (shown in dark green polygons) and potentially irrigable acreage (shown in yellow polygons).

Fire Protection

"Based on United Order of South Dakota's Water Right Application stating that they will be constructing at least a 250,000 gal storage tank and the Insurance Service Office (ISO) minimum requirements for fire suppression of 1000gpm at 20psi for 2hours; the 250,000 gal storage will supply adequate domestic and fire suppression storage. The ISO required fire suppression storage should not affect annual drawdown" (Dreis, 2015).

Projected Total Future Water Use:

Future water use at the United Order of South Dakota community is estimated on an average per capita water use of 130 gallons per person per day for the maximum population capacity of the onsite wastewater systems (126), plus the irrigation of 21 acres at a maximum rate of two acre-feet per acre. This total demand is estimated to be less than 60 ac-ft/yr.

ESTIMATED IMPACTS:

In the report to the Chief Engineer titled "Water Permit Application No. 2730-2, United Order of South Dakota, November 12, 2014" (Buhler, 2014), the Theis Equation was used to compare the theoretical impact of an increase in the total pumping rate at the community of 0.67 cfs compared to 0.46 cfs. Drawdown 1000 feet from a pumped well would have increased with the increased diversion rate on the order of nine feet. The assumption of continuous pumping at the

maximum diversion rate, for one year, with no recharge, is an unrealistic assumption. As stated in the report, "The Theis equation requires a number of simplifying assumptions, some of which may not apply in this case; however, the solution is still useful to show that drawdown should not be significant."

The instantaneous diversion rate proposed by this application has been revised and the drawdown that would result would be less. The impact of this application's proposed withdrawals was evaluated considering well withdrawals more likely for this community. Drawdown was evaluated at a distance of 1000 feet from a production well after one year, assuming: A. a transmissivity of 10,943.2 GPD/F; B. a Storativity of 0.0002; and C. a difference between 40.53 acre-feet per year (maximum reported pumping) and 60 acre-feet per year (projected pumping). With the assumptions above and again, assuming no recharge, drawdown can be expected to be in the vicinity of 1.1 feet ("Theis Equation Calculator").

Ken Buhler
SD DENR-Water Rights Program

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REVISED RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT APPLICATION NO. 2730-2, United Order of South Dakota

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See report on application for additional information.

Jeanne Goodman

Jeanne Goodman, Chief Engineer
June 1, 2015

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ON
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Figure 1. Gardens, orchards and landscaping apparent from Google Earth

FUTURE NEEDS:

In his February 18, 2015 letter, Mr. Jeffs stated that "the number of gardens and orchards will increase as the community is able to bring more of the land into cultivation"; "the needs for animals in the future will increase the demand for water"; and "the need for fire protection is also a great concern."

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ESTIMATED IMPACTS:

In the report to the Chief Engineer titled "Water Permit Application No. 2730-2, United Order of South Dakota, November 12, 2014" (Buhler, 2014), the Theis Equation was used to compare the theoretical impact of an increase in the total pumping rate at the community of 0.67 cfs compared to 0.46 cfs. Drawdown 1000 feet from a pumped well would have increased with the increased diversion rate on the order of nine feet. The assumption of continuous pumping at the

maximum diversion rate, for one year, with no recharge, is an unrealistic assumption. As stated in the report, "The Theis equation requires a number of simplifying assumptions, some of which may not apply in this case; however, the solution is still useful to show that drawdown should not be significant."

The instantaneous diversion rate proposed by this application has been revised and the drawdown that would result would be less. The impact of this application's proposed withdrawals was evaluated considering well withdrawals more likely for this community. Drawdown was evaluated at a distance of 1000 feet from a production well after one year, assuming: A. a transmissivity of 10,943.2 GPD/F; B. a Storativity of 0.0002; and C. a difference between 40.53 acre-feet per year (maximum reported pumping) and 60 acre-feet per year (projected pumping). With the assumptions above and again, assuming no recharge, drawdown can be expected to be in the vicinity of 1.1 feet ("Theis Equation Calculator").

Ken Buhler
SD DENR-Water Rights Program

REFERENCES:

Buhler, K.A., 2014, "Water Permit Application No. 2730-2 United Order of South Dakota November 12, 2014": DENR-Water Rights Program, Joe Foss Building, Pierre, SD 57501

Dreis, E., "Pringle" Email to Ken Buhler. 18 May 2015

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Hipple, S., "Wastewater flow" Email to Ken Buhler. 18 May 2015

Holan, J., 2014, South Dakota Department of Environment and Natural Resources Drinking Water Program Public Water System On-Site Evaluation Report: DENR-Drinking Water Program, Joe Foss Building, Pierre, SD

Lindeburg, M.R., 2012, Civil Engineering Reference Manual for the PE Exam, Thirteenth Edition, Belmont, CA:Professional Publications

McIntire, M., "Book1.xlsx" Email to Ken Buhler. 18 May 2015

"Theis Equation Calculator." i·calcul[8] 27May 2015 <http://www.icalcul8.com/theis.php"

Water Rights, 2015, Non-irrigation Yearly Reports, DENR-Water Rights Program, Joe Foss Building, Pierre, SD 57501

US Department of Justice

Randolph J. Seiler
Acting United States Attorney
District of South Dakota

225 South Pierre Street, Suite 337
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May 28, 2015

United Order of South Dakota
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Douglas L. Lesher
Acting Manager
Stone Meadow Ranch
26699 Remington Road
Custer, SD 57730

Rodney Freeman
Prehearing Chair
Water Management Board
P.O. Box 176
Huron, SD 57350

Re: National Park Service v. United Order of South Dakota
Sixth Judicial Circuit Court / Water Permit Application No. 2730-2

Ladies and Gentlemen:

Enclosed is the 1) Notice of Appearance of Counsel, and 2) USFS's Disclosure of Expert.

Please consider this as service by mail upon you. Thank you.

Sincerely,

Randolph J. Seiler
Acting United States Attorney

Cheryl A DuPris

Cheryl Schrempp DuPris
Assistant U.S. Attorney

/mkp
Enclosure

Cc: Peter Fahmy
Lois Witte

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STATE OF SOUTH DAKOTA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

WATER MANAGEMENT BOARD

IN THE MATTER OF WATER APPLICATION No. 2730-2, UNITED ORDER OF SOUTH DAKOTA	))))	NOTICE OF APPEARANCE OF COUNSEL

Notice is Hereby Given of the entry of the undersigned as counsel for the above-described Petitioner in the above-entitled proceeding.

Attorney's name:	Cheryl Schrempp DuPris
Email address:	Cheryl.Dupris@usdoj.gov
Firm name:	United States Attorney's Office
Mailing address:	PO Box 7240, Suite 337, 225 South Pierre Street, Pierre, SD 57501
Attorney's name:	Peter A. Fahmy (pro hac vice May 17, 2015)
Email address:	Peter_A_Fahmy@nps.gov
Firm name:	National Park Service, Water Rights Branch
Mailing address:	1201 Oakridge Drive, Suite 250, Fort Collins, CO 80525
Attorney's name:	Lois G. Witte (pro hac vice motion pending)
Email address:	Lois.Witte@ogc.usda.gov
Firm name:	United States Department of Agriculture, Forest Service
Mailing address:	740 Simms St, Suite 309, Golden Colorado, 80401

DATED this 28 day of May, 2015.

RANDOLPH J. SEILER
ACTING UNITED STATES ATTORNEY

Cheryl S DuPris

Cheryl Schrempp DuPris
Assistant United States Attorney
P. O. Box 7240
225 S. Pierre Street, Suite 337
Pierre, SD 57501
(605) 224-5402
FAX: (605) 224-1805
Cheryl.Dupris@usdoj.gov

CERTIFICATE OF SERVICE

I hereby certify that on this 28th day of May, 2015, a true and correct copy of the foregoing **Notice of Appearance of Counsel** and **USFS's Disclosure of Expert**, were mailed postage pre-paid in the United States Mail to:

United Order of South Dakota
PO Box 5050
Custer, SD 57730

Ann Mines-Bailey, Esq.
Assistant Attorney General
1302 East Highway 14, Suite 1
Pierre, SD 57501

Michael M. Hickey, Esq.
Bangs McCullen Law Firm
PO Box 2670
Rapid City, SD 57709

Craig Bobzien, Forest Supervisor
Black Hills National Forest
1019 North 5th Street
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Toni Martin
4141 Villa Ridge Court, #122
Rapid City, SD 57701

Rodney Freeman, Prehearing Chair
Water Management Board
P.O. Box 176
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Jeanne Goodman, Chief Engineer
Water Rights Program
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William R. Hansen, Chief
Water Rights Branch
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Stone Meadow Ranch
26699 Remington Road
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Lois Witte
Office of the General Counsel
Mountain Region
740 Simms St. Room 309
Golden, CO 80401-4720

And on the same date, the original was mailed to Jeanne Goodman, Chief Engineer, DENR Water Rights Program, Joe Foss Building, 523, E. Capitol Avenue, Pierre, SD, 57501.

Cheryl A DuPris

Cheryl Schrempp DuPris
Assistant United States Attorney
P. O. Box 7240, 225 S. Pierre St, Suite 337
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STATE OF SOUTH DAKOTA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

WATER MANAGEMENT BOARD

IN THE MATTER OF WATER APPLICATION No. 2730-2, UNITED ORDER OF SOUTH DAKOTA	))))	**US Forest Service's Disclosure of Experts**

Pursuant to the Procedural and Scheduling Order dated May 18, 2015, the United States Forest Service discloses the names of any experts that party intends to call as a witness at the hearing on this matter as follows:

1. Jerome A. Krueger, Deputy Forest Supervisor, Black Hills National Forest, 1019 N. Fifth St., Custer, SD 57730 (605) 673-9202

A copy of the expert's curricula vitae, along with copies of any expert report, if any, the party intends to offer is attached.

DATED this 28th day of May, 2015.

RANDOLPH J. SEILER
ACTING US ATTORNEY

Cheryl S DuPris

Cheryl Schrempp DuPris
Assistant United States Attorney
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DANIEL E. ASHMORE
DONALD P. KNUDSEN
PATRICK G. GOETZINGER
TALBOT J. WIECZOREK
JENNIFER TRUCANO
DAVID E. LUST
TERRI LEE WILLIAMS
SARA FRANKENSTEIN
JASON M. SMILEY

QUENTIN L. RIGGINS
RONALD G. SCHMIDT
JEFFREY R. CONNOLLY
REBECCA L. MANN
ANDREW J. KNUTSON
KYLE L. WIESE
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NATHAN R. CHICOINE

WYNN A. GUNDERSON
Of Counsel

Writer's E-mail Address: jconnolly@gpnalaw.com
Writer's Fax No.: (605) 342-0480

May 22, 2015

Michael M. Hickey
Bangs McCullen Butler Foye & Simmons LLP
P.O. Box 2670
Rapid City, SD 57709-2670

Re: United Order of South Dakota Re: Water Rights
GPNA File No. 12414.0002

Dear Mike:

Enclosed and intended as service by mail is a true and correct copy of Interrogatories and Requests for Production of Documents to Intervener, Linda Van Dyke Kilcoin.

Sincerely yours,

Jeffrey R. Connolly

JRC:amb
Enclosure
cc: Jeanne Goodman
Eric Gronlund
Ann F. Mines Bailey
Lois G. Witte
William R. Hansen
Rick Fox
Karl R. VonRump
Cheryl Schrempp DuPris
Craig Bobzien
Mr. and Mrs. David Albrecht
Toni Martin
Doug Lesher
Dean and Delia Johnson

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WATER RIGHTS PROGRAM

STATE OF SOUTH DAKOTA

BEFORE THE WATER MANAGEMENT BOARD

IN THE MATTER OF THE APPLICATION OF THE UNITED ORDER OF SOUTH DAKOTA, APPLICATION NO. 2730-2	**Interrogatories and Requests for Production of Documents to Intervener, Linda Van Dyke Kilcoin**

TO: INTERVENER, LINDA VAN DYKE KILCOIN, AND HER ATTORNEY, MICHAEL HICKEY:

Be Advised that the Applicant, United Order of South Dakota in the above matter, pursuant to SDCL §§ 15-6-33 and 15-6-34, Rules of Civil Procedure, and any acts amendatory thereof, demands answers, under oath, to the following written Interrogatories and Request for Production of Documents within thirty (30) days of service upon you of said Interrogatories and Request for Production of Documents.

These Interrogatories shall be deemed to be continuing, and, if information is discovered by or becomes known to Applicant, United Order of South Dakota, its Attorney, or to anyone acting on Applicant's behalf after answering the same and before hearing which would change or add to the answers given, and such additional or supplemental information is not timely furnished to the undersigned, then, and in that event, at the hearing or during the course thereof, the undersigned will move the Hearing Officer for an order suppressing the testimony of undisclosed witnesses and the use of undisclosed evidence should you, or any of you, attempt to use the same. WHEN DOCUMENTS ARE IDENTIFIED (AS DEFINED BELOW), THERE IS HEREBY AN AUTOMATIC DEMAND FOR PRODUCTION, MADE PURSUANT TO SDCL § 15-6-34, WITH AN OPTION TO YOU TO PRODUCE COPIES IN LIEU OF THE FORMAL INSPECTION.

DEFINITIONS AND INSTRUCTIONS

These interrogatories and requests for production shall be deemed to be continuing. If information is discovered by or becomes known to Intervener Linda Van Dyke Kilcoin, Intervener Linda Van Dyke Kilcoin's attorneys, or to anyone acting on Intervener Linda Van Dyke Kilcoin behalf, after answering and before the hearing, which would change or add to the answers given, you are hereby directed and requested to furnish the information, under oath, to undersigned in a timely manner. It is intended that any

information held by any persons acting on behalf of Intervener will be revealed in the answers hereto.

Demand is also made that when any document is identified in your answers to these interrogatories, you produce the document for inspection and copying at a mutually agreed upon time, date, and place after service of your response hereto. In lieu of such formal inspection, you may submit a legible copy of such document with your answers, and we shall pay you the reasonable cost of reproduction of such document.
In this document:

1. "You" and "your" means the Intervener Linda Van Dyke Kilcoin and her predecessors in interest, if any, and all other persons acting or purporting to act on behalf of Intervener Linda Van Dyke Kilcoin.

2. "Document" includes any written, recorded, or graphic matter, however produced or reproduced; including, but not limited to, correspondence, e-mails, telegrams, or other written communications, photographs, drawings, contracts, agreements, notes, memorandums, work papers, diaries, minutes of meetings, or any other writing.

3. "Identify" means, with respect to a document, to set forth the following information:

a. Its nature (e.g., letter, memorandum, report, etc.);
b. The date it bears, or if undated, the date it was written or created;
c. The identity of the person(s) who wrote or created it;
d. The identity of the person(s) who received it;
e. Its file number or other identifying mark or code;
f. Its general subject matter; and
g. Its present or last-known location and custodian.

In all cases where identification of a document is requested, in lieu of such specification, you may supply a legible copy of such document.

4. "Identify" means, with respect to a natural person, to set forth the following information:

a. Full name and home address;
b. Present or last-known job title and business address;
c. Present or last-known employer; and
d. If not now the same as shown in items b. and c., his/her job title and employer at the time of the events involved in this lawsuit.

5. "Identify" means, with respect to an entity other than a natural person, to set forth the full name or title of the entity and the address and principal business or activity of such entity.

6. "Identify" means, with respect to an oral communication or other event, to set forth the following information:

a. Its general nature (e.g., telephone call, conference, luncheon):
b. The date it occurred and the time;
c. The place it occurred;
d. For a communication, the identity of each originator and recipient; for an event, the identity of each person present; and
e. The identity of all persons present when the communication or event occurred.

7. "Date" means the exact day, month, and year if ascertainable; if not, the closest approximation.

8. The term "property" means real property, buildings, fixtures and other improvements located at 11571 Farmer Road, Custer County, South Dakota.

INTERROGATORIES

INTERROGATORY NO. 1: Prior to answering these interrogatories, have you made due and diligent search of your books, records, and papers, and due and diligent inquiry of all agents of the Applicant, with a view to eliciting all information available in this action?

INTERROGATORY NO. 2: Please state the identify of all the individuals who participated in or were involved in answering these Interrogatories and Requests for Production of Documents and identify which interrogatory or request for production each individual supplied information for.

INTERROGATORY NO. 3. State the names and addresses of any persons who you believe have or may purport to have any knowledge or information pertaining to this matter, your intervention or the Applicant's application, and state, insofar as you know, the nature of such knowledge or information.

INTERROGATORY NO. 4. State and explain every reason you oppose Applicant's application 2730-2.

INTERROGATORY NO. 5. Identify and water right you claim or ownership in any water right you claim anywhere in south Dakota.

INTERROGATORY NO. 6. Do you allege that there is not reasonable probability that there is unappropriated water available in the Madison Aquifer for the applicant's proposed use? If so, explain why.

INTERROGATORY NO. 7. Do you allege that the proposed diversion requested in the Applicant's application can not be developed without unlawful impairment of existing rights? If so, explain how so and specifically identify what water rights would be impaired and how they would be impaired.

INTERROGATORY NO. 8. Do you allege that the proposed use of water requested in the Applicant's application is not in the public interest? If so, explain why not.

INTERROGATORY NO. 9. Do you allege that the proposed use of water sought by the Applicant is not a beneficial use as defined by SDCL § 46-1-6(3)? If so, explain why not.

INTERROGATORY NO. 10. List the names, addresses, official titles, if any, of all witnesses, who, it is contemplated, will be called upon to testify in support of your claim in this matter, indicate the nature and substance of the testimony which it is expected will be given by each witness, and if any such prospective witnesses are related to you, state the relationship.

INTERROGATORY NO. 11. List, identify, and describe the contents of each document which it is contemplated will be offered in support of your claim in this action.

DEMAND IS HEREBY MADE TO PRODUCE COPIES OF ANY AND ALL SUCH DOCUMENTS.

INTERROGATORY NO. 12. If it will be claimed that, after the incident in question, the defendant, its agents, or employees spoke or were heard to speak about the cause or result of the incident, state the substance of what the defendant, its agents, or employees said, to whom he, she, or they spoke, and when and where.

INTERROGATORY NO. 13: Please identify and state the occupation, profession and field of specialization of each person whom you expect to call as an expert witness at the hearing, and as to each such person,

please state:

a. The subject matter on which the expert is expected to testify;
b. A complete statement of the facts and opinions to which the expert is expected to testify;
c. The basis and reasons for all of the opinions upon which the expert is expected to testify;
d. The facts, data or other information provided to or considered by the witness in forming the opinions;
e. Any exhibits that will be used to summarize or support the opinions; and
f. The title, author, copyright date and publisher's name and address of any book, medical or scientific treatise upon which such expert shall rely or which such expert will utilize in the preparation of and the presentation of his testimony.

INTERROGATORY NO. 14. For every residence in Custer County or Fall river County, South Dakota you reside in, or are domiciled at, please identify all your sources of water.

REQUESTS FOR PRODUCTION OF DOCUMENTS

REQUEST NO. 1: Any and all documents requested in Interrogatories 1 through 14 above.

REQUEST NO. 2: Any document relied upon to answer any interrogatory above.

Dated May 22, 2015.

GUNDERSON, PALMER,
NELSON & ASHMORE, LLP

By_____

Jeffrey R. Connolly
Attorneys for Defendants
P.O. Box 8045
Rapid City, SD 57709
(605) 342-1078
jconnolly@gpnalaw.com

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 depositing copies thereof in the United States mail at Rapid City, South Dakota, postage prepaid, in envelopes addressed to said addressees, to wit:

Michael M. Hickey
Bangs McCullen Butler Foye & Simmons, L.L.P.
P.O. Box 2670
Rapid City, SD 57709-2670
Attorney for Intervener, Linda Van Dyke Kilcoin
Also via Email to: *mhickey@bangsmccullen.com*

Jeanne Goodman, Chief Engineer
Water Rights Program
Foss Building
523 East Capitol
Pierre, SD 57501

Eric Gronlund
Water Rights Program
Foss Building
523 East Capitol
Pierre, SD 57501

Ann F. Mines Bailey
Assistant Attorney General
Mickelson Criminal Justice Center
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Lois G. Witte
U.S.D.A. Forest Service
740 Simms St. Suite 309
Golden, CO 80401

William R. Hansen
Jeff Hughes
Peter A. Fahmy
National Park Service
Water Resources Division
1201 Oak Ridge Drive, Suite 250
Fort Collins, CO 80525-5596

Cheryl Schrempp DuPris
Assistant U.S. Attorney
US Department of Justice
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Pierre, SD 57501

Craig Bobzien
Forest Supervisor
Black Hills National Forest
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Custer, SD 57730

Mr. & Mrs. David Albrecht
High Lonesome Ranch
26541 Stagecoach Springs Road
Custer, SD 57730-9109

Toni Martin
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Rapid City, SD 57701

Doug Lesher
Stone Meadow Ranch
26699 Remington Road
Custer, SD 57730

Rick Fox
P.O. Box 35
Hermosa, SD 57744

Dean & Delia Johnson
14585 East French Creek Road
Fairburn, SD 57738

Karl R. Von Rump
Suzanne K. Von Rump
11560 Farmer Road
Custer, SD 57730

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

Dated this 22nd day of May, 2015.

Jeffrey R. Connolly

918769 / 12414.0002

US Department of Justice

Randolph J. Seiler
Acting United States Attorney
District of South Dakota

225 South Pierre Street, Suite 337 *605.224.5402*
Pierre, SD 57501 *FAX 605.224.8305*

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WATER RIGHTS PROGRAM

May 19, 2015

United Order of South Dakota
PO Box 5050
Custer, SD 57730

Ann Mines-Bailey, Esq.
Assistant Attorney General
1302 East Highway 14, Suite 1
Pierre, SD 57501

Michael M. Hickey, Esq.
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Rapid City, SD 57709

Craig Bobzien, Forest Supervisor
Black Hills National Forest
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Rodney Freeman, Prehearing Chair
Water Management Board
P.O. Box 176
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Jeanne Goodman, Chief Engineer
Water Rights Program
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523 East Capitol Avenue
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Mr. & Mrs. David Albrecht
High Lonesome Ranch
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12795 W. Alameda Parkway, Ste 198
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Linda Van Dyke Kilcoin
23470 Paradise Drive
Hill City, SD 57745

William Hansen
Water Resource Division, NPS
1201 Oak Ridge Drive, Suite 250
Ft. Collins, CO 80525

Re: National Park Service v. United Order of South Dakota
Sixth Judicial Circuit Court / Water Permit Application No. 2730-2

Ladies and Gentlemen:

Enclosed is the 1) Motion by Non-Resident Attorney for Admittance Pro Hac Vice for Lois Witte, 2) Motion in Support of Motion, and 3) proposed Order. Please consider this as service by mail upon you. Thank you.

Sincerely,

Randolph J. Seiler
Acting United States Attorney

Cheryl A DuPris

Cheryl Schrempp DuPris
Assistant U.S. Attorney

/mkp
Enclosure

STATE OF SOUTH DAKOTA	)	IN CIRCUIT COURT
	) SS	
COUNTY OF HUGHES	)	SIXTH JUDICIAL DISTRICT

UNITED STATES FOREST SERVICE,	)	BEFORE THE WATER MANAGEMENT BOARD STATE OF SOUTH DAKOTA
Petitioner,	)	
v.	)	Water Permit Application No. 2730-2
UNITED ORDER OF SOUTH DAKOTA,	)	
Applicant.	)	

MOTION BY NON-RESIDENT ATTORNEY FOR ADMITTANCE *PRO HAC VICE*

COMES NOW Lois Witte, a non-resident attorney, and pursuant to S.D.C.L. § 16-18-2 (as amended), hereby moves the Court to be admitted *pro hac vice* as counsel for the United States Department of Agriculture, United States Forest Service, in the captioned water permit proceeding before the State Water Management Board. In support of this motion, Petitioner offers the following:

1. Mailing Address Of Non-Resident Attorney: 740 Simms Street, Suite 309, Golden, CO 80401.

2. Name And Address Of Licensed South Dakota Attorney With Whom Non-Resident Attorney Will Associate: Cheryl Schrempp DuPris, Assistant United States Attorney, 225 South Pierre Street, Suite 337, P.O. Box 7240, Pierre, SD 57501.

3. Statement Of Good Standing: I am currently a member in good standing of the bar of the state of my residence (Colorado #11665).

4. Disciplinary Actions: During the preceding five years, I have not been the subject of any disciplinary action(s) by the bars or courts of the state of my residence (Colorado), or any other state.

5. Denial of Admission To Other Courts: During the preceding five years, I have never been denied admission to any state or Federal court.

6. Rules Of The State Bar Of South Dakota: I am familiar with the rules of the State Bar of South Dakota governing the conduct of members of the State Bar, and so long as the subject case is pending, and I have not withdrawn as counsel. I will at all times abide by and comply with such rules.

7. Statement Concerning Compensation: I am not in private practice. I am appearing as an attorney employed by the Office of the General Counsel, United States Department of Agriculture, United States Forest Service. My appearance before the State Water Management Board will be part of my regular duties as an employee of the Forest Service, and I will not receive any additional compensation for this appearance.

8. Other: To the best of my knowledge, the Applicant is without counsel and has no authorized representative that may be consulted regarding the substance of this motion.

DATED this 11 day of May, 2015.

Lois G. Witte
Counsel for U.S.D.A. Forest Service
740 Simms St, Suite 309
Golden, CO 80401
(303) 275-5535 (Phone)
(303) 275-5557 (FAX)
Lois.Witte@ogc.usda.gov

VERIFICATION

STATE OF COLORADO)
) SS
COUNTY OF JEFFERSON)

I, Lois G. Witte, state under oath that the foregoing statements are true and correct to the best of my knowledge and belief.

Lois G. Witte

SUBSCRIBED AND SWORN to before me this 11 day of May, 2015.

MILLICENT I HAUPT
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20114042740
MY COMMISSION EXPIRES JULY 12, 2015

Notary Public
Commission Expires 7/12/2015

[SEAL]

STATE OF SOUTH DAKOTA	)	IN CIRCUIT COURT
	) SS	
COUNTY OF HUGHES	)	SIXTH JUDICIAL DISTRICT

UNITED STATES FOREST SERVICE,	)	BEFORE THE WATER MANAGEMENT BOARD STATE OF SOUTH DAKOTA
Petitioner,	)	
v.	)	Water Permit Application No. 2730-2
UNITED ORDER OF SOUTH DAKOTA,	)	
Applicant.	)	

MOTION IN SUPPORT OF MOTION BY NON-RESIDENT ATTORNEY FOR ADMITTANCE *PRO HAC VICE*

COMES NOW, Cheryl Schrempp DuPris, Assistant United States Attorney, and pursuant to S.D.C.L. § 16-18-2 (as amended), hereby supports the motion of Lois G. Witte, a non-resident attorney, to be admitted *pro hac vice* as counsel for the Petitioner (United States Forest Service) in the captioned water permit proceeding before the State Water Management Board (Board). The grounds for this motion are as follows:

1. I am a resident practicing attorney of the State of South Dakota.

2. I will be associated with Ms. Witte, on behalf of the United States Forest Service, in any hearings on the captioned water permit application before the Board.

3. Based on my association with Ms. Witte, I find her to be a reputable and competent attorney, and for purposes of this case, recommend her admission to practice before the Board.

DATED this 19th day of May, 2015.

RANDOLPH J. SEILER
ACTING UNITED STATES ATTORNEY

Cheryl Schrempp DuPris

Cheryl Schrempp DuPris
Assistant United States Attorney
P. O. Box 7240
225 S. Pierre Street, Suite 337
Pierre, SD 57501
(605) 224-5402
FAX: (605) 224-1805
Cheryl.Dupris@usdoj.gov

CERTIFICATE OF SERVICE

I hereby certify that on this 19th day of May, 2015, a true and correct copy of the Motion By Non-Resident Attorney for Admittance *Pro Hac Vice* and Motion in Support of Motion by Non-Resident Attorney for Admittance *Pro Hac Vice* were mailed postage pre-paid in the United States Mail to:

United Order of South Dakota
PO Box 5050
Custer, SD 57730

Toni Martin
4141 Villa Ridge Court, #122
Rapid City, SD 57701

Ann Mines-Bailey, Esq.
Assistant Attorney General
1302 East Highway 14, Suite 1
Pierre, SD 57501

Rodney Freeman, Prehearing Chair
Water Management Board
P.O. Box 176
Huron, SD 57350

Michael M. Hickey, Esq.
Bangs McCullen Law Firm
PO Box 2670
Rapid City, SD 57709

Jeanne Goodman, Chief Engineer
Water Rights Program
Joe Foss Building
523 East Capitol Avenue
Pierre, SD 58501

Craig Bobzien, Forest Supervisor
Black Hills National Forest
1019 North 5th Street
Custer, SD 57730

Jeff Connolly
Gunderson, Palmer, Nelson & Ashmore
P.O. Box 8045
Rapid City, SD 57709

Karl R. and Suzanne K. Von Rump
11560 Farmer Road
Custer, SD 57730

Mr. & Mrs. David Albrecht
High Lonesome Ranch
26541 Stagecoach Springs Road
Custer, SD 57730

Rick Fox
PO Box 35
Hermosa, SD 57744

Peter Fahmy
National Park Service
12795 W. Alameda Parkway, Ste 198
Lakewood, CO 80228

Dean & Delia Johnson
14585 East French Creek Road
Fairburn, SD 57738

Douglas L. Lesher, Acting Manager
Stone Meadow Ranch
26699 Remington Road
Custer, SD 57730

Linda Van Dyke Kilcoin
23470 Paradise Drive
Hill City, SD 57745

William Hansen
Water Resource Division, NPS
1201 Oak Ridge Drive, Suite 250
Fort Collins, CO 80525

Cheryl Schrempp DuPris

Cheryl Schrempp DuPris

STATE OF SOUTH DAKOTA	)	IN CIRCUIT COURT
	) SS	
COUNTY OF HUGHES	)	SIXTH JUDICIAL DISTRICT

UNITED STATES FOREST SERVICE,	)	BEFORE THE WATER MANAGEMENT BOARD, STATE OF SOUTH DAKOTA
Petitioner,	)	
v.	)	Water Permit Application No. 2730-2
UNITED ORDER OF SOUTH DAKOTA,	)	
Applicant.	)	

ORDER ADMITTING NON-RESIDENT ATTORNEY *PRO HAC VICE*

This matter having come before the Court pursuant to S.D.C.L. § 16-18-2 (as amended) upon the motion of Lois G. Witte, a non-resident attorney, to be admitted *pro hac vice* to represent the United States Department of Agriculture, United States Forest Service in the captioned water rights proceeding before the State Water Management Board; and

Ms. Witte's motion being supported by Cheryl Schrempp DuPris, Assistant United States Attorney, of Pierre, South Dakota, an attorney licensed to practice in this State; and,

There appearing to be no objections to Ms. Witte's motion; and,

The Court having fully examined the motion and the records and files herein, and now being sufficiently advised in the premises with good cause appearing therefor, hereby

ORDERS, ADJUDGES, and DECREES that Ms. Witte is admitted *pro hac vice* to represent the United States Forest Service in the captioned water rights hearing before the State

STATE OF SOUTH DAKOTA

OFFICE OF ATTORNEY GENERAL
1302 East Highway 14, Suite 1
Pierre, South Dakota 57501-8501
Phone (605) 773-3215
Fax (605) 773-4106
TTY (605) 773-6585
www.state.sd.us/atg

MARTY J. JACKLEY
ATTORNEY GENERAL

CHARLES D. McGUIGAN
CHIEF DEPUTY ATTORNEY GENERAL

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WATER RIGHTS
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May 19, 2015

Eric Gronlund
Department of Environment
and Natural Resources
523 East Capitol Avenue
Pierre, SD 57501

Re: *In the Matter of Water Application No. 2730-2, United Order,*

Dear Eric:

Enclosed for filing, please find the original signed Procedural and Scheduling Order and Certificate of Service regarding the above-referenced matter.

Sincerely,

Matt Naasz
Assistant Attorney General

MN/rar
Enclosures
cc: Water Board Members
Parties Listed on Certificate of Service

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STATE OF SOUTH DAKOTA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

WATER MANAGEMENT BOARD

IN THE MATTER OF WATER APPLICATION NO. 2730-2, UNITED ORDER OF SOUTH DAKOTA	))))	PROCEDURAL AND SCHEDULING ORDER

Upon consideration of the Motion for Procedural and Scheduling Order filed by the Department of Environment and Natural Resources, the following Order shall be entered in the above captioned action.

It is ORDERED:

1. All attorneys who will be representing any party at the formal contested case proceeding shall file a Notice of Appearance in this matter. Further, all non-resident counsel must be able to demonstrate compliance with the *pro hac vice* requirements of SDCL 16-18-2.

2. The following pre-hearing schedule and obligations apply to Applicant, DENR, and all other parties:

a.) Discovery requests must be initiated (served upon the applicable party) by May 22, 2015. The parties shall attempt to informally resolve any discovery dispute. If a discovery dispute cannot be resolved a party may file a motion with the Prehearing Chair in the same manner as provided 2(h) below.

b.) Discovery shall be completed by June 26, 2015.

c.) Each party shall disclose in writing the names of any expert that party intends to call as a witness at the hearing of this matter on or before June 1, 2015. This disclosure must include copies of any *curricula vitae*, along with copies of any expert report the party intends to offer.

d.) Each party shall disclose in writing the name, address, and contact information for any and all witnesses that party expects to call during the hearing of this matter on or before July 1, 2015. This disclosure must include a brief one or two sentence summary of each witness' expected testimony.

e.) Each party shall provide in writing a list identifying all exhibits that party intends to offer into evidence in its case in chief at the hearing and copies of said exhibits on or before July 1, 2015. The copies may be provided by electronic means.

f.) All exhibits shall be marked in advance of contested proceedings by each party. Each party shall contact Eric Gronlund, DENR Water Rights Program, (605) 773-3352 or at Eric.Gronlund@state.sd.us, to obtain a block of exhibit numbers.

g.) Each party shall provide a sufficient number of copies of exhibits for use at the contested case hearing, including 10 copies for use by the Board, its counsel, and court reporter, and enough additional copies for all parties participating in the contested proceedings.

h.) All original pleadings and prehearing motions shall be sent by first class mail to Eric Gronlund, DENR Water Rights Program, Foss Building, 523

E. Capitol Avenue, Pierre, South Dakota 57501-3182. Parties must also serve copies of all pleadings and motions on all other parties, including the Hearing Chair, Chad Comes, and Board Counsel, Assistant Attorney General Matt Naasz.

i.) Copies of all discovery requests, discovery responses, and any items identified in subsections c), d) and e) above, shall be served on all parties, with the originals to be filed with the Department.

Dated this 18 day of May, 2015

Rodney Freeman,
Prehearing Chairman
South Dakota Water Management Board

STATE OF SOUTH DAKOTA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

WATER MANAGEMENT BOARD

IN THE MATTER WATER APPLICATION No. 2730-2, UNITED ORDER OF SOUTH DAKOTA	))))	CERTIFICATE OF SERVICE

The undersigned hereby certifies that true and correct copies of the Procedural and Scheduling Order in the above-entitled matter were served upon each of the following by enclosing the same in envelopes with first class postage prepaid and affixed thereto, and depositing said envelopes in the United States mail at Pierre, South Dakota on this 19th day of May, 2015:

Jeff Connolly
Gunderson, Palmer, Nelson & Ashmore
P.O. Box 8045
Rapid City, SD 57709

William R Hansen, Chief
Water Rights Branch
National Park Service
1201 Oak Ridge Drive Ste 250
Ft. Collins, CO 80525

Karl R and Suzanne K Von Rump
11560 Farmer Road
Custer, SD 57730

Toni Martin
4141 Villa Ridge Ct #122
Rapid City, SD 57701

Mr & Mrs David Albrecht
High Lonesome Ranch
26541 Stagecoach Springs Rd
Custer, SD 57730-9109

Michael M Hickey
Bangs McCullen Law Firm
P.O. Box 2670
Rapid City, SD 57709-2670

Douglas L Lesher, Acting Manager
Stone Meadow Ranch
26699 Remington Rd
Custer, SD 57730

Craig Bobzien, Forest Supervisor
Black Hills National Forest
1019 N 5th Street
Custer, SD 57730

Rick Fox
P.O. Box 35
Hermosa, SD 57744

Dean and Delia Johnson
14585 E French Creek Road
Fairburn, SD 57738

Rodney Freeman
Prehearing Chair
Water Management Board
P.O. Box 176
Huron, SD 57350

Cheryl Schrempp Dupris
Assistant U.S. Attorney
P.O. Box 7240
Pierre, SD 57501

Lois Witte
Office of the General Counsel
Mountain Region
740 Simms St, Room 309
Golden, CO 80401-4720

Peter Fahmy
National Park Service
12795 W Alameda Parkway, Ste 198
Lakewood, CO 80228

Ann F. Mines-Bailey
Assistant Attorney General
Hand delivered

And on the same date, the original was filed with Jeanne Goodman, Chief Engineer, DENR Water Rights Program, Joe Foss Building, 523 E. Capitol Avenue, Pierre, SD 57501.

Matt Naasz
Assistant Attorney General
1302 East Highway 14, Suite 1
Pierre, SD 57501-8501
Telephone: (605) 773-3215

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GUNDERSON, PALMER, NELSON & ASHMORE, LLP
ATTORNEYS AT LAW
506 SIXTH STREET
POST OFFICE BOX 8045
RAPID CITY, SOUTH DAKOTA 57709-8045

TELEPHONE (605) 342-1078
www.gundersonpalmer.com
ATTORNEYS LICENSED TO PRACTICE IN
SOUTH DAKOTA, NORTH DAKOTA, NEBRASKA,
WYOMING, MONTANA, MINNESOTA,
COLORADO, KENTUCKY, AND PENNSYLVANIA

J. CRISMAN PALMER
JAMES S. NELSON
DANIEL E. ASHMORE
DONALD P. KNUDSEN
PATRICK G. GOETZINGER
TALBOT J. WIECZOREK
JENNIFER TRUCANO
DAVID E. LUST
TERRI LEE WILLIAMS
SARA FRANKENSTEIN
JASON M. SMILEY

QUENTIN L. RIGGINS
RONALD G. SCHMIDT
JEFFREY R. CONNOLLY
REBECCA L. MANN
ANDREW J. KNUTSON
KYLE L. WIESE
JANA SMOOT WHITE
TYLER C. WETERING
NATHAN R. CHICOINE

WYNN A. GUNDERSON
Of Counsel

Writer's E-mail Address: jconnolly@gpnalaw.com
Writer's Fax No.: (605) 342-0480

May 13, 2015

Jeanne Goodman
Department of Environment and National Resources
Water Rights Program
Foss Building
523 East Capitol
Pierre, SD 57501-3182

Re: United Order of South Dakota Re: Water Rights
GPNA File No. 12414.0002

Dear Ms. Goodman:

Enclosed is a Notice of Appearance of Counsel.

Sincerely yours,

Jeffrey R. Connolly

JRC:bmp
Enclosure
cc: Seth Jeffs
Michael Hickey
Eric Gronlund
William Hansen
Craig Bobzien
Cheryl Schrempp Dupris
Karl Von Rump
Mr. and Mrs. David Albrecht
Toni Martin
Doug Lesher
Rick Fox
Dean & Delia Johnson

915456 / 12414.0002

STATE OF SOUTH DAKOTA

BEFORE THE WATER MANAGEMENT BOARD

IN THE MATTER OF WATER PERMIT APPLICATION #2730-2, UNITED ORDER OF SOUTH DAKOTA	))))	**Notice of Appearance of Counsel**

Notice is Hereby Given of the entry of the undersigned as counsel for the above-described applicant in the above-entitled proceeding.

Attorney's name: Jeffrey R. Connolly

Email address: jconnolly@gpnalaw.com

Firm name: Gunderson, Palmer, Nelson & Ashmore, LLP

Mailing address: 506 Sixth Street
Rapid City, SD 57702

Dated this 1 day of May, 2015.

Jeffrey R. Connolly
Gunderson, Palmer, Nelson & Ashmore, LLP
506 Sixth Street
PO Box 8045
Rapid City, SD 57709
(605) 342-1078
jconnolly@gpnalaw.com

Authorization of Applicant: _____

CERTIFICATE OF SERVICE

I hereby certify on this 13th day of May, 2015, I mailed by first-class U.S. mail, a true and correct copy of a Notice of Appearance to the following:

Jeanne Goodman, Chief Engineer
Water Rights Program
Foes Building
523 East Capitol
Pierre, SD 57501

Mr. and Mrs. David Albrecht
High Lonesome Ranch
26541 Stagecoach Springs Road
Custer, SD 57730-9109

Eric Gronlund
Water Rights Program
Foss Building
523 East Capitol
Pierre, SD 57501

Toni Martin
4141 Villa Ridge Ct. #122
Rapid City, SD 57701

William Hansen
Jeff Hughes
Peter A. Fahmy
National Park Service
Water Resources Division
1201 Oak Ridge Drive, Suite 250
Fort Collins, CO 80525-5596

Doug Lesher
Stone Meadow Ranch
26699 Remington Road
Custer, SD 57730

Craig Bobzien
Forest Supervisor
Black Hills National Forest
1019 North 5th Street
Custer, SD 57730

Rick Fox
PO Box 35
Hermosa, SD 57744

Cheryl Schrempp Dupris
Assistant U.S. Attorney
US Department of Justice
225 South Pierre St., Suite 337
Pierre, SD 57501

Dean & Delia Johnson
14585 East French Creek Road
Fairburn, SD 57738

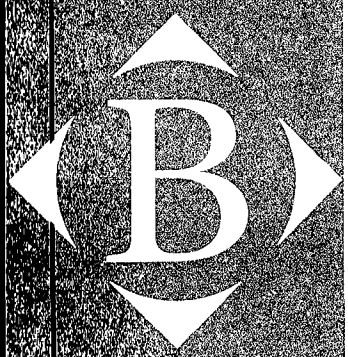
Michael Hickey
Bangs McCullen Butler Foye
& Simmons LLP
P.O. Box 2670
Rapid City, SD 57709-2670

Karl R. Von Rump
Suzanne K. Von Rump
11560 Farmer Road
Custer, SD 57730

RAPID CITY
Charles L. Riter
Allen G. Nelson
James P. Hurley
Michael M. Hickey
Terry L. Hofer
Rod Schlaugen
Daniel F. Duffy
Jeffrey G. Hurd
John H. Rajotte
Terry G. Westergaard
Steven R. Nolan
Gregory J. Grandson
Eric J. Pickar
Sarah R. Baron Houy
Jacob M. Quasney
Kara L. Frankman
Benjamin D. Trones
Mark F. Marshall
Of Counsel

SIOUX FALLS
Victoria M. Duehr
Kathryn H. Morrison

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



RAPID CITY
First Interstate 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
5910 S. Remington Place
Suite 101
P.O. Box 88208
Sioux Falls, South Dakota
57109-8208
P: (605) 339-6800
F: (605) 339-6801

BANGS McCULLEN
LAW FIRM

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Reply to Rapid City Office

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

May 12, 2015

Ms. Jeanne Goodman, Chief Engineer
Department of Environment and National Resources
Water Rights Program
Foss Building
523 East Capitol
Pierre, SD 57501-3182

Re: *In the Matter of the Application of the United Order of South Dakota, Application No. 2730-2*

Dear Ms. Goodman:

Please find enclosed a copy of *Interrogatories and Requests for Production of Documents to Applicant, United Order of South Dakota* in the above-referenced matter. A copy of this document has been sent to the United Order of South Dakota, and to all the interested parties, 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

MMH:ke
Enclosure
cc: Client; Eric Gronlund; Ann Mines-Bailey; Jeff Connolly; Seth Jeffs; William R. Hansen/Jeff Hughes/Peter Fahmy; Cheryl Schrempp DuPris; Craig Bobzien; Mr. and Mrs. David Albrecht; Toni Martin; Doug Lesher; Rick Fox; Dean & Delia Johnson; Karl R. Von Rump/Suzanne K. Von Romp

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STATE OF SOUTH DAKOTA

BEFORE THE WATER MANAGEMENT BOARD

IN THE MATTER OF THE APPLICATION OF THE UNITED ORDER OF SOUTH DAKOTA, APPLICATION NO. 2730-2	**Interrogatories and Requests for Production of Documents to Applicant, United Order of South Dakota**

TO: APPLICANT, UNITED ORDER OF SOUTH DAKOTA, and its ATTORNEY, JEFFERY R. CONNOLLY:

YOU AND EACH OF YOU, PLEASE TAKE NOTICE AND BE ADVISED that the Intervener, Linda Kilcoin, in the above matter, pursuant to SDCL § 15-6-33, Rules of Civil Procedure, and any acts amendatory thereof, demands answers, under oath, to the following written Interrogatories within thirty (30) days of service upon you of said Interrogatories.

These Interrogatories shall be deemed to be continuing, and, if information is discovered by or becomes known to Applicant, United Order of South Dakota, its Attorney, or to anyone acting on Applicant's behalf after answering the same and before hearing which would change or add to the answers given, and such additional or supplemental information is not timely furnished to the undersigned, then, and in that event, at the hearing or during the course thereof, the undersigned will move the Hearing Officer for an order suppressing the testimony of undisclosed witnesses and the use of undisclosed evidence should you, or any of you, attempt to use the same. WHEN DOCUMENTS ARE

IDENTIFIED (AS DEFINED BELOW), THERE IS HEREBY AN AUTOMATIC DEMAND FOR PRODUCTION, MADE PURSUANT TO SDCL § 15-6-34, WITH AN OPITION TO YOU TO PRODUCE COPIES IN LIEU OF THE FORMAL INSPECTION.

DEFINITIONS AND INSTRUCTIONS

(a) "You" or "your" means the Applicant, United Order of South Dakota, (hereinafter "Applicant"), Applicant's attorneys, agents, servants, employees, representatives, private investigators, and all other persons acting or purporting to act on behalf of the Applicant and any other entity which is aligned in interest in the Applicant's Petition in this proceeding.

(b) As used herein, the term "document" shall mean the original and any copy, regardless of origin or location, of any book, pamphlet, periodical, letter, e-mail, text message, memorandum, telegram, report, record, study, written note, working paper, chart, paper, index, tape, data sheet, data processing card, or any other written, recorded, transcribed, punched, taped, filmed, graphic, electronic or digital material, however produced or reproduced, to which you have or have had access.

(c) The terms "identify" or "identification" when used with reference to an individual person, shall mean to state his or her full name, address, phone number, present employment position or business affiliation, any prior positions or affiliations, and relationship if any to the Applicant. The terms "identify" or "identification" when used with reference to a document, shall mean to state the date and author or signor, as the case may be, the addressee, the type of document, its present or last known location or custodian and all means of identifying it with sufficient particularity to satisfy the requirements for its inclusion in a motion for its production, pursuant to SDCL § 15-6-34 of the South Dakota Rules of Civil Procedure. If any such document was, but is no longer in your possession or subject to your control, state the substance of the document, the disposition which was made of it, the reason for such disposition and the date thereof.

(d) The term "property" means real property, buildings, fixtures and other improvements located at 11571 Farmer Road, Custer County, South Dakota.

If you object to answering any of these interrogatories, or withhold any document from production under a claim of privilege or other exemption from discovery, state in detail the grounds for the nature of the objection and, for responses to requests for production, the title and nature of the document, and furnish a list signed by the attorney of record giving the following information with respect to each document withheld:

A. The name and title of the author and/or sender and the name and title of the recipient;

B. The date of the document's origination;

C. The name of each person or persons (other than stenographic or clerical assistants) participating in the preparation of the document;

D. The name and position, if any, of each person to whom the contents of the documents have heretofore been communicated by copy, exhibition, reading, or substantial summarization;

E. A statement of the specific basis on which privilege is claimed and whether or not the subject matter or the contents of the document is limited to legal advice or information provided for the purpose of securing legal advice; and

F. The identity and position, if any, of the person or persons supplying the attorney signing the list with the information requested in subparagraphs above.

INTERROGATORIES

INTERROGATORY NO. 1: Prior to answering these interrogatories, have you made due and diligent search of your books, records, and papers, and due and diligent inquiry of all agents of the Applicant, with a view to eliciting all information available in this action?

INTERROGATORY NO. 2: Please state the identify of all the individuals who participated in or were involved in answering these Interrogatories and Requests for Production of Documents and identify which interrogatory or request for production each individual supplied information for.

INTERROGATORY NO. 3: As to the Applicant, please state the following:

a. The legal nature of the Applicant;
b. The state under which the Applicant is organized;
c. The date the Applicant was created;
d. The identity of the individuals who formed the Applicant;
e. The identity of the current leader, president, principal, trustee and/or beneficiaries of the Applicant; and
f. Please produce copies of all documents which show the nature of the Applicant, its creation, organizational chart, and its current internal policies, operations or bylaws.

INTERROGATORY NO. 4: As of October 14, 2014, the date the Applicant filed Application No. 2730-2, how many persons were being served by the water supply system operated by the Applicant? Please produce copies of any documents reviewed or utilized by you to answer this interrogatory.

INTERROGATORY NO. 5: As of the date these Interrogatories and Requests for Production of Documents were served, how many persons are served by the water supply system operated by the Applicant? Please produce copies of any documents reviewed or utilized by you to answer this interrogatory.

INTERROGATORY NO. 6: Are there current plans by the Applicant to increase the number of persons who may be served by the water supply system operated by the Application? If so, please state the additional number of persons who may be served within the next five (5) and ten (10) years. Please produce copies of any documents reviewed or utilized by you to answer this interrogatory.

INTERROGATORY NO. 7: As of October 14, 2014, the date the Applicant filed Application No. 2730-2, how many head and what type of livestock were being watered using water supplied by the water supply system operated by the Applicant? Please produce copies of any documents reviewed or utilized by you to answer this interrogatory.

INTERROGATORY NO. 8: As of the date these Interrogatories and Requests for Production of Documents were served, how many head and what type of livestock are being watered using water supplied by the water supply system operated by the Applicant? Please produce copies of any documents reviewed or utilized by you to answer this interrogatory.

INTERROGATORY NO. 9: As of October 14, 2014, the date the Applicant filed Application No. 2730-2, how many acres of noncommercial family gardens, trees, shrubbery, or orchards were being irrigated using water supplied by the water supply system operated by the Applicant? Please produce copies of any documents reviewed or utilized by you to answer this interrogatory.

INTERROGATORY NO. 10: As of the date these Interrogatories and Requests for Production of Documents were served, how many acres of noncommercial family gardens, trees, shrubbery, or orchards are being irrigated using water supplied by the water supply system operated by the Applicant? Please produce copies of any documents reviewed or utilized by you to answer this interrogatory.

INTERROGATORY NO. 11: As of October 14, 2014, the date the Applicant filed Application No. 2730-2, what was the total water storage capacity available for the water supply system operated by the Applicant? As of that date, how much water was being stored by the Applicant? Please produce copies of any documents reviewed or utilized by you to answer this interrogatory.

INTERROGATORY NO. 12: As of the date these Interrogatories and Requests for Production of Documents were served, what is the total water storage capacity available for the water supply system operated by the Applicant? As of that date, how much water is being stored by the Applicant? Please produce copies of any documents reviewed or utilized by you to answer this interrogatory.

INTERROGATORY NO. 13: As of October 14, 2014, the date the Applicant filed Application No. 2730-2, what was the total volume of wastewater that was generated as a result of the water supply system operated by the Applicant? Please produce copies of any documents reviewed or utilized by you to answer this interrogatory.

INTERROGATORY NO. 14: As of the date these Interrogatories and Requests for Production of Documents were served, what is the total volume of wastewater that is being generated as a result of the water supply system

operated by the Applicant? Please produce copies of any documents reviewed or utilized by you to answer this interrogatory.

INTERROGATORY NO. 15: As of the date these Interrogatories and Requests for Production of Documents were served, how many gallons of groundwater will the Applicant need to withdraw annually from the Madison aquifer under Application 2730-2 to meet all of the present needs of the Applicant? Please produce copies of any documents reviewed or utilized by you to answer this interrogatory.

INTERROGATORY NO. 16: How has the Applicant beneficially used the groundwater withdrawn pursuant to Water Permit No. 2610-2 for the purpose of suburban housing development? Please produce copies of any documents which establish the beneficial use of groundwater withdrawn or which was reviewed or utilized by you to answer this interrogatory.

INTERROGATORY NO. 17: Has the Applicant ever submitted a Subdivision Review Application to the Custer County Planning Department? If so, for which parcels owned by the Applicant and on what date(s)? Please produce a copy of any such applications or any other documents reviewed or utilized by you to answer this interrogatory.

INTERROGATORY NO. 18: Please identify and state the occupation, profession and field of specialization of each person whom you expect to call as an expert witness at the hearing, and as to each such person, please state:

a. The subject matter on which the expert is expected to testify;
b. A complete statement of the facts and opinions to which the expert is expected to testify;
c. The basis and reasons for all of the opinions upon which the expert is expected to testify;
d. The facts, data or other information provided to or considered by the witness in forming the opinions;
e. Any exhibits that will be used to summarize or support the opinions;
f. The title, author, copyright date and publisher's name and address of any book, medical or scientific treatise upon which such expert shall rely or which such expert will utilize in the preparation of and the presentation of his testimony;
g. The qualifications of the witness, including a listing of all publications authored in the previous ten (10) years;
h. A list of all other cases in which the witness has testified as an expert at trial or by deposition within the preceding four (4) years;

i. A statement of the compensation to be paid for the study and testimony in this case; and
j. Please attach a copy of any report prepared by each such expert.

INTERROGATORY NO. 19: Has the Applicant submitted any documents to Dr. Arden Davis? If so, describe each document and produce a copy of each document that was provided and the date on which it was submitted to Dr. Arden Davis.

INTERROGATORY NO. 20: Has the Applicant or any one acting on its behalf, prepared and/or submitted to the Custer County School District or any other local school board or other governmental entity an Application for Excuse From School Attendance for any child residing on the property for each year between 2007 and the present time? If so, please produce a copy of each such Application and Certificate of Excuse.

REQUESTS FOR PRODUCTION OF DOCUMENTS

REQUEST NO. 1: Any and all documents pertaining to the purposes, formation, composition, and operation of the common law trust known as the United Order of South Dakota.

REQUEST NO. 2: Any and all documents associated with the preparation by the United Order of South Dakota of the "2014 Drinking Water Report."

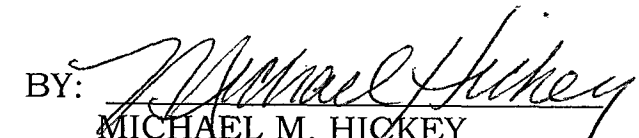
REQUEST NO. 3: Any and all documents requested in Interrogatories 1 through 20 above.

REQUEST NO. 4: Any and all documents sent to or received from the South Dakota Department of Environment and Natural Resources between the years 2007 and the present time.

REQUEST NO. 5: Any and all documents sent to or received from Custer County between the years 2007 and the present time.

Dated this 12th day of May, 2015.

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

BY: 

MICHAEL M. HICKEY
333 West Boulevard, Ste. 400
P.O. Box 2670
Rapid City, SD 57709-2670
(605) 343-1040
mhickey@bangsmccullen.com
ATTORNEYS FOR LINDA VAN DYKE KILCOIN

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 depositing copies thereof in the United States mail at Rapid City, South Dakota, postage prepaid, in envelopes addressed to said addressees, to wit:

Jeanne Goodman, Chief Engineer
Water Rights Program
Foss Building
523 East Capitol
Pierre, SD 57501

Eric Gronlund
Water Rights Program
Foss Building
523 East Capitol
Pierre, SD 57501

Ann F. Mines Bailey
Assistant Attorney General
Mickelson Criminal Justice Center
1302 East Highway 14, Suite 1
Pierre, SD 57501

Jeffrey R. Connolly
Gunderson Palmer Law Firm
P.O. Box 8045
Rapid City, SD 57709
Attorney for United Order of South Dakota

United Order of South Dakota
P.O. Box 5050
Custer, SD 57730

William R. Hansen
Jeff Hughes
Peter A. Fahmy
National Park Service
Water Resources Division
1201 Oak Ridge Drive, Suite 250
Fort Collins, CO 80525-5596

Cheryl Schrempp DuPris
Assistant U.S. Attorney
US Department of Justice
225 South Pierre St., Suite 337
Pierre, SD 57501

Craig Bobzien
Forest Supervisor
Black Hills National Forest
1019 North 5th Street
Custer, SD 57730

Mr. & Mrs. David Albrecht
High Lonesome Ranch
26541 Stagecoach Springs Road
Custer, SD 57730-9109

Toni Martin
4141 Villa Ridge Ct #122
Rapid City, SD 57701

Doug Lesher
Stone Meadow Ranch
26699 Remington Road
Custer, SD 57730

Rick Fox
P.O. Box 35
Hermosa, SD 57744

Dean & Delia Johnson
14585 East French Creek Road
Fairburn, SD 57738

Karl R. Von Rump
Suzanne K. Von Rump
11560 Farmer Road
Custer, SD 57730

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

Dated this 12th day of May, 2015.

MICHAEL M. HICKEY

US Department of Justice

Randolph J. Seiler
Acting United States Attorney
District of South Dakota

225 South Pierre Street, Suite 337
Pierre, SD 57501

605.224.5402
FAX 605.224.8305

RECEIVED
MAY 14 2015
WATER RIGHTS PROGRAM

May 7, 2015

United Order of South Dakota
PO Box 5050
Custer, SD 57730

Ann Mines-Bailey, Esq.
Assistant Attorney General
1302 East Highway 14, Suite 1
Pierre, SD 57501

Michael M. Hickey, Esq.
Bangs McCullen Law Firm
PO Box 2670
Rapid City, SD 57709

Jeanne Goodman, Chief Engineer
Water Rights Program
Joe Foss Building
523 East Capitol Avenue
Pierre, SD 58501

Craig Bobzien, Forest Supervisor
Black Hills National Forest
1019 North 5th Street
Custer, SD 57730

Karl R. and Suzanne K. Von Rump
11560 Farmer Road
Custer, SD 57730

Mr. & Mrs. David Albrecht
High Lonesome Ranch
26541 Stagecoach Springs Road
Custer, SD 57730

Rick Fox
PO Box 35
Hermosa, SD 57744

Toni Martin
4141 Villa Ridge Court, #122
Rapid City, SD 57701

Linda Van Dyke Kilcoin
23470 Paradise Drive
Hill City, SD 57745

Dean & Delia Johnson
14585 East French Creek Road
Fairburn, SD 57738

Douglas L. Lesher
Acting Manager
Stone Meadow Ranch
26699 Remington Road
Custer, SD 57730

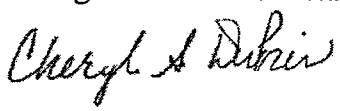
Re: National Park Service v. United Order of South Dakota
Sixth Judicial Circuit Court / Water Permit Application No. 2730-2

Ladies and Gentlemen:

Enclosed is the 1) Motion by Non-Resident Attorney for Admittance Pro Hac Vice for Peter Fahmy, 2) Motion in Support of Motion, and 3) proposed Order. Please consider this as service by mail upon you. Thank you.

Sincerely,

Randolph J. Seiler
Acting United States Attorney



Cheryl Schrempp DuPris
Assistant U.S. Attorney

/mkp
Enclosure

RECEIVED
MAY 14 2015
WATER RIGHTS PROGRAM

STATE OF SOUTH DAKOTA	)	IN CIRCUIT COURT
	) SS	
COUNTY OF HUGHES	)	SIXTH JUDICIAL DISTRICT

NATIONAL PARK SERVICE	)	BEFORE THE WATER MANAGEMENT BOARD STATE OF SOUTH DAKOTA
Petitioner,	)	
v.	)	Water Permit Application No. 2730-2
UNITED ORDER OF SOUTH DAKOTA,	)	
Applicant.	)	

MOTION BY NON-RESIDENT ATTORNEY FOR ADMITTANCE *PRO HAC VICE*

COMES NOW Peter A. Fahmy, a non-resident attorney, and pursuant to S.D.C.L. § 16-18-2 (as amended), hereby moves the Court to be admitted *pro hac vice* as counsel for the National Park Service (NPS) in the captioned water permit proceeding before the State Water Management Board. In support of this motion, Petitioner offers the following:

1. Mailing Address Of Non-Resident Attorney: National Park Service, Water Rights Branch, 1201 Oakridge Drive, Suite 250, Fort Collins, CO 80525.

2. Name And Address Of Licensed South Dakota Attorney With Whom Non-Resident Attorney Will Associate: Cheryl Schrempp DuPris, Assistant United States Attorney, 225 South Pierre Street, Suite 337, Pierre, SD 57501.

3. Statement Of Good Standing: I am currently a member in good standing of the bar of the state of my residence (Colorado #15975). I have previously been admitted *pro hac vice* by this Court in 2006 to serve as counsel for the Petitioner in a hearing before the Water Management

Board involving a water permit application. I have also represented the NPS in water rights hearings before the Nevada State Engineer, the Oklahoma Water Resources Board, and the Utah State Engineer.

4. Disciplinary Actions: During the preceding five years, I have not been the subject of any disciplinary action(s) by the bars or courts of the state of my residence (Colorado), or any other state.

5. Denial of Admission To Other Courts: During the preceding five years, I have never been denied admission to any state or Federal court.

6. Rules Of The State Bar Of South Dakota: I am familiar with the rules of the State Bar of South Dakota governing the conduct of members of the State Bar, and so long as the subject case is pending, and I have not withdrawn as counsel. I will at all times abide by and comply with such rules.

7. Statement Concerning Compensation: I am not in private practice. I am appearing as an attorney deputized by the Office of the Solicitor, U.S. Department of the Interior, to appear in the above-captioned case on behalf of the National Park Service, U.S. Department of the Interior. My appearance before the State Water Management Board will be part of my regular duties as an employee of the National Park Service, and I will not receive any additional compensation for this appearance.

8. Other: To the best of my knowledge, the Applicant is without counsel and, therefore, has not been consulted regarding the substance of this motion.

DATED this 28th day of April, 2015.

Peter A. Fahmy, CO #15975
Counsel for National Park Service
Water Rights Branch
1201 Oakridge Drive, Suite 250
Fort Collins, CO 80525
(970) 225-3555 (Phone)
(970) 231-4961 (Cell)
(970) 225-9965 (FAX)
Peter_A_Fahmy@nps.gov

VERIFICATION

STATE OF COLORADO)
) SS
COUNTY OF LARIMAR)

I, Peter A. Fahmy, state under oath that the foregoing statements are true and correct to the best of my knowledge and belief.

Peter A. Fahmy

SUBSCRIBED AND SWORN to before me this 28th day of April, 2015.

Notary Public
Commission Expires 4/10/2019

JOSEPH F CHAVEZ
NOTARY PUBLIC - STATE OF COLORADO
Notary Identification #20154014606
My Commission Expires 4/10/2019

[SEAL]

CERTIFICATE OF SERVICE

I hereby certify that on this 7th day of May, 2015, true and correct copy of the foregoing MOTION BY NON-RESIDENT ATTORNEY FOR ADMITTANCE PRO HAC was mailed postage pre-paid in the United States Mail to:

United Order of South Dakota
PO Box 5050
Custer, SD 57730

Ann Mines-Bailey, Esq.
Assistant Attorney General
1302 East Highway 14, Suite 1
Pierre, SD 57501

Michael M. Hickey, Esq.
Bangs, McCullen Law Firm
PO Box 2670
Rapid City, SD 57709

Jeanne Goodman, Chief Engineer
Water Rights Program
Joe Foss Building
523 East Capitol Avenue
Pierre, SD 58501

Craig Bobzien, Forest Supervisor
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1019 North 5th Street
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Karl R. and Suzanne K. Von Rump
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Custer, SD 57730

Mr. & Mrs. David Albrecht
High Lonesome Ranch
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Custer, SD 57730

Rick Fox
PO Box 35
Hermosa, SD 57744

Toni Martin
4141 Villa Ridge Court, #122
Rapid City, SD 57701

Linda Van Dyke Kilcoin
23470 Paradise Drive
Hill City, SD 57745

Dean & Delia Johnson
14585 East French Creek Road
Fairburn, SD 57738

Douglas L. Lesher
Acting Manager
Stone Meadow Ranch
26699 Remington Road
Custer, SD 57730

Cheryl Schrempp DuPris
Assistant United States Attorney
United States Attorney's Office
P. O. Box 7240
225 S. Pierre Street, Suite 337
Pierre, SD 57501
(605) 224-5402
FAX: (605) 224-1805
Cheryl.Dupris@usdoj.gov

STATE OF SOUTH DAKOTA	)	IN CIRCUIT COURT
	) SS	
COUNTY OF HUGHES	)	SIXTH JUDICIAL DISTRICT

NATIONAL PARK SERVICE,	)	BEFORE THE WATER MANAGEMENT BOARD STATE OF SOUTH DAKOTA
Petitioner,	)	
v.	)	Water Permit Application No. 2730-2
UNITED ORDER OF SOUTH DAKOTA,	)	
Applicant.	)	

MOTION IN SUPPORT OF MOTION BY NON-RESIDENT ATTORNEY FOR ADMITTANCE *PRO HAC VICE*

COMES NOW, Cheryl Schrempp DuPris, Assistant United States Attorney, and pursuant to S.D.C.L. § 16-18-2 (as amended), hereby supports the motion of Peter A. Fahmy, a non-resident attorney, to be admitted *pro hac vice* as counsel for the Petitioner (National Park Service) in the captioned water permit proceeding before the State Water Management Board (Board). The grounds for this motion are as follows:

1. I am a resident practicing attorney of the State of South Dakota.

2. I will be associated with Mr. Fahmy, on behalf of the National Park Service, United States Department of the Interior, in any hearings on the captioned water permit application before the Board.

3. Based on my association with Mr. Fahmy, I find him to be a reputable and competent attorney, and for purposes of this case, recommend his admission to practice before the Board.

DATED this 7th day of May, 2015.

RANDOLPH J. SEILER
ACTING UNITED STATES ATTORNEY

Cheryl Schrempp DuPris

Cheryl Schrempp DuPris
Assistant United States Attorney
United States Attorney's Office
P. O. Box 7240
225 S. Pierre Street, Suite 337
Pierre, SD 57501
(605) 224-5402
FAX: (605) 224-1805
Cheryl.Dupris@usdoj.gov

CERTIFICATE OF SERVICE

I hereby certify that on this 7th day of May, 2015, true and correct copy of the foregoing Motion in Support of Motion by Non-Resident Attorney for Admittance *Pro Hac Vice* were mailed postage pre-paid in the United States Mail to:

United Order of South Dakota
PO Box 5050
Custer, SD 57730

Ann Mines-Bailey, Esq.
Assistant Attorney General
1302 East Highway 14, Suite 1
Pierre, SD 57501

Michael M. Hickey, Esq.
Bangs McCullen Law Firm
PO Box 2670
Rapid City, SD 57709

Jeanne Goodman, Chief Engineer
Water Rights Program
Joe Foss Building
523 East Capitol Avenue
Pierre, SD 58501

Craig Bobzien, Forest Supervisor
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1019 North 5th Street
Custer, SD 57730

Karl R. and Suzanne K. Von Rump
11560 Farmer Road
Custer, SD 57730

Mr. & Mrs. David Albrecht
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PO Box 35
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Fairburn, SD 57738

Douglas L. Lesher
Acting Manager
Stone Meadow Ranch
26699 Remington Road
Custer, SD 57730

Cheryl Schrempp DuPris

Cheryl Schrempp DuPris

STATE OF SOUTH DAKOTA	)	IN CIRCUIT COURT
	) SS	
COUNTY OF HUGHES	)	SIXTH JUDICIAL DISTRICT

NATIONAL PARK SERVICE	)	BEFORE THE WATER MANAGEMENT BOARD, STATE OF SOUTH DAKOTA
Petitioner,	)	
v.	)	Water Permit Application No. 2730-2
UNITED ORDER OF SOUTH DAKOTA,	)	
Applicant.	)	

ORDER ADMITTING NON-RESIDENT ATTORNEY *PRO HAC VICE*

This matter having come before the Court pursuant to S.D.C.L. § 16-18-2 (as amended) upon the motion of Peter A. Fahmy, a non-resident attorney, to be admitted *pro hac vice* to represent the National Park Service in the captioned water rights proceeding before the State Water Management Board; and

Mr. Fahmy's motion being supported by Cheryl Schrempp DuPris, Assistant United States Attorney, of Pierre, South Dakota, an attorney licensed to practice in this State; and,

There appearing to be no objections to Mr. Fahmy's motion; and,

The Court having fully examined the motion and the records and files herein, and now being sufficiently advised in the premises with good cause appearing therefor, hereby

ORDERS, ADJUDGES, and DECREES that Mr. Fahmy is admitted *pro hac vice* to represent the National Park Service in the captioned water rights hearing before the State Water Management Board.

DATED this ___ day of May, 2015.

BY THE COURT:

_____

CIRCUIT COURT JUDGE

April 16, 2015

United Order of South Dakota

PO Box 5050
Custer, SD 57730

Ann F. Mines-Bailey

1302 East Highway 14, Suite 1
Pierre, SD 57501-8501
Phone: (605) 773-3215

RE: Water Permit Application No. 2730-2

Dear Ann,

I just received your letter dated April 9, 2015 and thank you for letting us know what is needed and expected. I am sending you a document provided by the trustees of the United Order of South Dakota signed by Stephen P. Harker. Let me know what other documents need to be signed by Isaac S. Jeffs to show that he is now holding the water rights in behalf of the United Order of South Dakota. If the documents need to be signed by Stephen P. Harker and notarized, I can follow it through. We want to make sure everything is done properly.

In the future, please also email any documents or correspondence you have to me at sethsj@gmail.com. We should have an attorney retained within the next week.

We also have a report written by Mr. Arden Davis of the School of Mines in Rapid City. We have retained Mr. Davis as an expert. I will be sending this to the Chief Engineer through the attorney that will be retained. We ask that water permit application 2730-2 be scheduled in the July hearing.

Respectfully,

United Order of South Dakota
Water Operator
Seth S. Jeffs
4/16/2015

AFFIDAVIT
OF FORMER TRUSTEE OF THE
UNITED ORDER OF SOUTH DAKOTA

I, the undersigned Stephen P. Harker, constituting a former Trustee of the United Order of South Dakota, hereby certify, confirm, affirm and reaffirm the following information:

1. I was an original Trustee of the United Order of South Dakota, a common law trust, organized by Declaration of Trust executed on December 23, 2009.
2. Article I of the Declaration of Trust provides that "The Board of Trustees may designate representatives to perform one or more of these functions on its behalf."
3. I have resigned as Trustee of the United Order of South Dakota.
4. Isaac S. Jeffs is a current Trustee of the United Order of South Dakota and, as a successor in trust, holds the same rights, powers, privileges and authority in relationship to the Trust that I previously held.

IN WITNESS WHEREOF, I have executed this Affidavit of Former Trustee of the United Order of South Dakota on the 6th day of March, 2015.

Stephen P. Harker

Stephen P. Harker, Former Trustee

STATE OF UTAH)
: ss.
COUNTY OF IRON)

The undersigned, a Notary Public in and for said County and State, does hereby certify that Stephen P. Harker, personally known to me, or proved upon satisfactory evidence, to be the person whose name is subscribed to the foregoing Affidavit of Former Trustee of the United Order of South Dakota, appeared before me in person and, being by me first duly sworn, acknowledged the statements therein contained and that he executed the same in the capacity therein stated.

WITNESS my hand and official seal this 6th day of March, 2015.

BOYD KNUDSON
NOTARY PUBLIC, STATE OF UTAH
COMMISSION #680940
MY COMMISSION EXPIRES
JANUARY 24, 2019

Boyd Knudson

Notary Public
Commission Expires: 1/24/19

Notice type SHORT

Publish Dec 17

Petition Dec 29

email Jeff Hughes NPS

NOTICE OF APPLICATION NO. 2730-2 to Appropriate Water

Notice is given that United Order of South Dakota, c/o Seth ~~Jeffries~~ Jeffs, 11571 Farmer Rd, Pringle SD 57730 has filed an application for a water permit to appropriate an additional 0.46 cubic feet of water per second (cfs) and an additional well. Water Permit No. 2610-2 authorizes 0.21 cfs from two wells located in the NW 1/4 SE 1/4 Section 10-T6S-R3E. This application proposes to appropriate an additional 0.46 cfs and authorize one additional well to be completed into the Madison Aquifer (1100 feet deep) located in the NW 1/4 SE 1/4 Section 10-T6S-R3E. This application, if approved, and Water Permit No. 2610-2 will authorize a total diversion rate of 0.67 cfs (300 gallons per minute) from three wells for use in United Order of South Dakota's water system. ~~suburban housing development~~.

20 year language

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends _____ of Application No. 2730-2 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest.

STATE OF SOUTH DAKOTA

OFFICE OF ATTORNEY GENERAL
1302 East Highway 14, Suite 1
Pierre, South Dakota 57501-8501
Phone (605) 773-3215
Fax (605) 773-4106
TTY (605) 773-6585
www.state.sd.us/atg

MARTY J. JACKLEY
ATTORNEY GENERAL

CHARLES D. McGUIGAN
CHIEF DEPUTY ATTORNEY GENERAL

RECEIVED
APR 13 2015
WATER RIGHTS
PROGRAM

April 9, 2015

Mr. Seth Jeffs
United Order of South Dakota
Box 5050
Custer, SD 57730

RE: *Water Permit Application No. 2730-2*

Dear Mr. Jeffs,

I received notice on March 23, 2015, that Mr. Ganje has withdrawn as counsel for your organization. While we are in receipt of your statement of authority to act on behalf of Mr. Isaac Jeffs, trustee for the United Order of South Dakota, a common law trust, we do still need the documentation required to show the transfer of ownership of Water Permit No. 2610-2. Our records show that the permit was transferred to Stephen P. Harker, trustee for the United Order of South Dakota, a common law trust. Thus, Mr. Harker held the permit on behalf of the United Order of South Dakota for their benefit. We do not have any documentation demonstrating that the permit has been subsequently transferred. South Dakota Codified Law, section 46-5-30.3 requires that notice of such transfers be filed with the Chief Engineer. In my letter dated February 27, 2015, I suggested that providing the trust documents would enable us to determine how authority and trust assets are transferred to a successor trustee and thus, what specific document will demonstrate the transfer of the permit from Mr. Stephen P. Harker to Mr. Isaac Jeffs. As I previously stated, if you believe there is another way to establish that Mr. Isaac Jeffs has succeeded Mr. Harker as to the transfer of Water Permit No. 2610-2, I would be open to suggestion.

I also wished to inform you that we are in receipt of your letter requesting an amendment to Water Permit Application No. 2730-2. The Chief Engineer will be amending her recommendation to account for your change in request and add any additional qualifications or conditions as necessary.

Additionally, I feel the need to remind you that your organization will need legal representation at the Water Management Board hearing. The hearing on this permit was originally scheduled to be conducted on March 5, 2015. We have not rescheduled your application for hearing as we have not received the documentation as to ownership of Water Permit No. 2610-2 and because we wished to give you time to secure counsel. The Water Management Board is scheduled to meet next on May 6-7, 2015. They will not meet again until July 2015. While we wish to give you sufficient time to secure counsel and gather the necessary documents, we have an obligation to timely deal with the applications and petitions which have been filed. If you can remit the paperwork to us on or before the close of business on April 15, 2015, we would be able to notice the Amended Recommendation of the Chief Engineer and schedule the matter for hearing at the May meeting. If that is not possible, we request that you provide the documentation on or before the close of business June 16, 2015, which would allow us to properly notice and schedule the matter for the July meeting. If we do not receive the paperwork by that date, it will be the recommendation of the Chief Engineer that the application be denied.

Please feel free to contact me with any questions or concerns.

Respectfully,

AFM Bailey

Ann F. Mines-Bailey
Assistant Attorney General

AFM/rar

cc: Jeanne Goodman
Douglas L. Lesher
William R. Hansen
Karl & Suzsnne Von Rump
Craig Bobzien
Mr. & Mrs. David Albrecht
Rick Fox
Toni Martin
Linda Van Dyke Kilcoin
Dean & Delia Johnson
Peter H. Fahmy
Michael M. Hickey

Stephen G. Levy,
Of Counsel
Certified as an Elder Law Attorney
by the National Elder Law
Foundation of Counsel

DAVID L. GANJE
ATTORNEY AT LAW
GANJE LAW OFFICES

Law Clerks:
Debra Roseth
Piko Mbolekwa
Michael Fleming
Joseph C. Smith

1830 West Fulton Street, Suite 201
Rapid City, South Dakota 57702
Phone: (605) 385-0330
Website: http://www.ganjelaw.com

21 Everett Road Extension
Albany, New York 12205
Phone: (518) 437-9000
Website: http://www.ganjelaw.com

RECEIVED
MAR 3 0 2015
WATER RIGHTS
PROGRAM

March 23, 2014

Jeanne Goodman, Chief Engineer
Water Rights Program
Joe Foss Building
523 East Capitol Avenue
Pierre, SD 57501

Re: In the Matter of the Application of the United Order of South Dakota, Application No. 2730-2

Dear Ms. Goodman:

I have enclosed with this letter a copy of a Notice of Withdrawal of Counsel dated March 23, 2015 and an original Affidavit of Mailing showing service of the same upon all parties in interest. I have also sent copies of the Notice via email to the parties listed at the bottom of this letter. The original Notice of Withdrawal is being mailed to your office by separate mailing. If you have any questions, please feel free to contact either Mr. Ganje or myself.

Thank you.

Sincerely,

Zachary A. Waksman

Cc via email: United Order of South Dakota
Ann Mines-Bailey, Esq.
Peter H. Fahmy, Esq.
Michael M. Hickey, Esq.

STATE OF SOUTH DAKOTA
BEFORE THE WATER MANAGEMENT BOARD

IN THE MATTER OF THE APPLICATION OF THE UNITED ORDER OF SOUTH DAKOTA, APPLICATION NO. 2730-2	NOTICE OF WITHDRAWAL OF COUNSEL

Notice is hereby given of the withdrawal of the undersigned as counsel for the above-described applicant in the above-entitled proceeding.

Attorney's name: David L. Ganje

Email address: davidganje@ganjelaw.com

Firm name: Ganje Law Offices

Mailing Address: 1830 West Fulton Street
Rapid City, SD 57702

Until it obtains substitute counsel, the Applicant may be served with papers at its last known mailing address:

United Order of South Dakota
P.O. Box 5050
Custer, SD 57730

The undersigned has informed his client of his intent to withdraw pursuant to an agreement between client and the undersigned.

DATED: 3/20/15

David L. Ganje
Ganje Law Offices
1830 West Fulton Street
Rapid City, SD 57702
(605) 385-0330
davidganje@ganjelaw.com

STATE OF SOUTH DAKOTA
BEFORE THE WATER MANAGEMENT BOARD

IN THE MATTER OF THE APPLICATION OF THE UNITED ORDER OF SOUTH DAKOTA, APPLICATION NO. 2730-2

AFFIDAVIT OF MAILING

STATE OF MASSACHUSETTS)
COUNTY OF BRISTOL) SS.:

Zachary A. Waksman, being duly sworn, says: I am not a party to the action, am over 18 years of age and reside at 23 Walden Drive, South Easton, MA 02375. On the 23rd day of March, 2015, I mailed this original Affidavit to the Chief Engineer and served true copies of the enclosed **Notice of Withdrawal of Counsel** dated March 23, 2015 by putting them in a stamped envelope and mailing them by First Class U.S. mail to:

Seth Jeffs
United Order of South Dakota
PO Box 5050
Custer, SD 57730

William R. Hansen, Chief
Water Rights Branch
National Park Service
1201 Oak Ridge Drive, Suite 250
Fort Collins, CO 80525

Karl R. and Suzanne K. Von Rump
11560 Farmer Road
Custer, SD 57730

Mr. and Mrs. David Albrecht
High Lonesome Ranch
26541 Stagecoach Springs Road
Custer, SD 57730

Toni Martin
4141 Villa Ridge Court #122
Rapid City, SD 57701

Linda Van Dyke Kilcoin
23470 Paradise Drive
Hill City, SD 57745

Douglas L. Lesher
Acting Manager
Stone Meadow Ranch
26699 Remington Road
Custer, SD 57730

Jeanne Goodman, Chief Engineer
Water Rights Program
Joe Foss Building
523 East Capitol Avenue
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Craig Bobzien, Forest Supervisor
Black Hills National Forest
1019 North 5th Street
Custer, SD 57730

Rick Fox
PO Box 35
Hermosa, SD 57744

Dean and Delia Johnson
14585 East French Creek Road
Fairburn, SD 57738

Peter H. Fahmy, Esq.
National Park Service
12795 West Alameda Highway
Lakewood, CO 80228

Michael M. Hickey, Esq.
Bangs McCullen Law Firm
PO Box 2670
Rapid City, SD 57709

Ann Mines-Bailey
Assistant Attorney General
1302 East Highway 14, Suite 1
Pierre, SD 57501

Signature *(Print name below signature.)*
Zachary A. Waksman

Sworn to before me this 23 day
of March, 2015

Notary Public

SUSAN K. SINNOTT
Notary Public
Commonwealth of Massachusetts
My Commission Expires July 02, 2015

RECEIVED
MAR 2 6 2015
WATER RIGHTS PROGRAM

STATE OF SOUTH DAKOTA
BEFORE THE WATER MANAGEMENT BOARD

IN THE MATTER OF THE APPLICATION OF THE UNITED ORDER OF SOUTH DAKOTA, APPLICATION NO. 2730-2

NOTICE OF WITHDRAWAL OF COUNSEL

Notice is hereby given of the withdrawal of the undersigned as counsel for the above-described applicant in the above-entitled proceeding.

Attorney's name: David L. Ganje

Email address: davidganje@ganjelaw.com

Firm name: Ganje Law Offices

Mailing Address: 1830 West Fulton Street
Rapid City, SD 57702

Until it obtains substitute counsel, the Applicant may be served with papers at its last known mailing address:

United Order of South Dakota
P.O. Box 5050
Custer, SD 57730

The undersigned has informed his client of his intent to withdraw pursuant to an agreement between client and the undersigned.

DATED: 3/20/15

David L. Ganje
Ganje Law Offices
1830 West Fulton Street
Rapid City, SD 57702
(605) 385-0330
davidganje@ganjelaw.com

Stephen G. Levy,
Of Counsel
Certified as an Elder Law Attorney
by the National Elder Law
Foundation of Counsel

DAVID L. GANJE
ATTORNEY AT LAW
GANJE LAW OFFICES

Law Clerks:
Debra Roseth
Piko Mbolekwa
Michael Fleming
Joseph C. Smith

1830 West Fulton Street, Suite 201
Rapid City, South Dakota 57702
Phone: (605) 385-0330
Website: http://www.ganjelaw.com

21 Everett Road Extension
Albany, New York 12205
Phone: (518) 437-9000
Website: http://www.ganjelaw.com

March 23, 2014

Jeanne Goodman, Chief Engineer
Water Rights Program
Joe Foss Building
523 East Capitol Avenue
Pierre, SD 57501

Re: In the Matter of the Application of the United Order of South Dakota, Application No. 2730-2

Dear Ms. Goodman:

I have enclosed with this letter a copy of a Notice of Withdrawal of Counsel dated March 23, 2015 and an original Affidavit of Mailing showing service of the same upon all parties in interest. I have also sent copies of the Notice via email to the parties listed at the bottom of this letter. The original Notice of Withdrawal is being mailed to your office by separate mailing. If you have any questions, please feel free to contact either Mr. Ganje or myself.

Thank you.

Sincerely,

Zachary A. Waksman

Cc via email: United Order of South Dakota
Ann Mines-Bailey, Esq.
Peter H. Fahmy, Esq.
Michael M. Hickey, Esq.

STATE OF SOUTH DAKOTA
BEFORE THE WATER MANAGEMENT BOARD

IN THE MATTER OF THE APPLICATION OF THE UNITED ORDER OF SOUTH DAKOTA, APPLICATION NO. 2730-2	NOTICE OF WITHDRAWAL OF COUNSEL

Notice is hereby given of the withdrawal of the undersigned as counsel for the above-described applicant in the above-entitled proceeding.

Attorney's name: David L. Ganje

Email address: davidganje@ganjelaw.com

Firm name: Ganje Law Offices

Mailing Address: 1830 West Fulton Street
Rapid City, SD 57702

Until it obtains substitute counsel, the Applicant may be served with papers at its last known mailing address:

United Order of South Dakota
P.O. Box 5050
Custer, SD 57730

The undersigned has informed his client of his intent to withdraw pursuant to an agreement between client and the undersigned.

DATED: 3/20/15

David L. Ganje
Ganje Law Offices
1830 West Fulton Street
Rapid City, SD 57702
(605) 385-0330
davidganje@ganjelaw.com

STATE OF SOUTH DAKOTA
BEFORE THE WATER MANAGEMENT BOARD

IN THE MATTER OF THE APPLICATION OF THE UNITED ORDER OF SOUTH DAKOTA, APPLICATION NO. 2730-2

AFFIDAVIT OF MAILING

STATE OF MASSACHUSETTS)
COUNTY OF BRISTOL) SS.:

Zachary A. Waksman, being duly sworn, says: I am not a party to the action, am over 18 years of age and reside at 23 Walden Drive, South Easton, MA 02375. On the 23rd day of March, 2015, I mailed this original Affidavit to the Chief Engineer and served true copies of the enclosed **Notice of Withdrawal of Counsel** dated March 23, 2015 by putting them in a stamped envelope and mailing them by First Class U.S. mail to:

Seth Jeffs
United Order of South Dakota
PO Box 5050
Custer, SD 57730

William R. Hansen, Chief
Water Rights Branch
National Park Service
1201 Oak Ridge Drive, Suite 250
Fort Collins, CO 80525

Karl R. and Suzanne K. Von Rump
11560 Farmer Road
Custer, SD 57730

Mr. and Mrs. David Albrecht
High Lonesome Ranch
26541 Stagecoach Springs Road
Custer, SD 57730

Toni Martin
4141 Villa Ridge Court #122
Rapid City, SD 57701

Linda Van Dyke Kilcoin
23470 Paradise Drive
Hill City, SD 57745

Douglas L. Lesher
Acting Manager
Stone Meadow Ranch
26699 Remington Road
Custer, SD 57730

Jeanne Goodman, Chief Engineer
Water Rights Program
Joe Foss Building
523 East Capitol Avenue
Pierre, SD 57501

Craig Bobzien, Forest Supervisor
Black Hills National Forest
1019 North 5th Street
Custer, SD 57730

Rick Fox
PO Box 35
Hermosa, SD 57744

Dean and Delia Johnson
14585 East French Creek Road
Fairburn, SD 57738

Peter H. Fahmy, Esq.
National Park Service
12795 West Alameda Highway
Lakewood, CO 80228

Michael M. Hickey, Esq.
Bangs McCullen Law Firm
PO Box 2670
Rapid City, SD 57709

Ann Mines-Bailey
Assistant Attorney General
1302 East Highway 14, Suite 1
Pierre, SD 57501

Signature *(Print name below signature.)*

Zachary A. Waksman

Sworn to before me this 23 day of March, 2015

Notary Public

SUSAN K. SINNOTT
Notary Public
Commonwealth of Massachusetts
My Commission Expires July 02, 2015

Stephen G. Levy,
Of Counsel
Certified as an Elder Law Attorney
by the National Elder Law
Foundation of Counsel

DAVID L. GANJE
ATTORNEY AT LAW
GANJE LAW OFFICES

Law Clerks:
Debra Roseth
Piko Mbolekwa
Michael Fleming
Joseph C. Smith

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RECEIVED
MAR 2 0 2015
WATER RIGHTS
PROGRAM

March 16, 2014

Jeanne Goodman, Chief Engineer
Water Rights Program
Joe Foss Building
523 East Capitol Avenue
Pierre, SD 57501

Re: In the Matter of the Application of the United Order of South Dakota, Application No. 2730-2

Dear Ms. Goodman:

I write this letter to advise you that I have enclosed with this letter the original Affidavit of Mailing showing service of the Applicant's Reply of Applicant to Petitions of Mr. and Mrs. David Albrecht and Linda Van Dyke Kilcoin dated March 15, 2015 upon all parties in interest. I have also sent copies of the same via email to the parties listed at the bottom of this letter. The original Reply will be submitted for filing with the Board by Mr. Ganje via U.S. Mail. If you have any questions, please feel free to contact either Mr. Ganje or myself.

Thank you.

Sincerely,

Zachary A. Waksman

Cc via email: United Order of South Dakota
Ann Mines-Bailey, Esq.
Peter H. Fahmy, Esq.
Michael M. Hickey, Esq.

STATE OF SOUTH DAKOTA
BEFORE THE WATER MANAGEMENT BOARD

IN THE MATTER OF THE APPLICATION OF THE UNITED ORDER OF SOUTH DAKOTA, APPLICATION NO. 2730-2

AFFIDAVIT OF MAILING

STATE OF MASSACHUSETTS)
COUNTY OF BRISTOL) SS.:

Zachary A. Waksman, being duly sworn, says: I am not a party to the action, am over 18 years of age and reside at 23 Walden Drive, South Easton, MA 02375. On the 16 day of March, 2015, I mailed this original Affidavit to the Chief Engineer and served true copies of the Applicant's March 15, 2015 **Reply of Applicant to Petitions of Mr. and Mrs. David Albrecht and Linda Van Dyke Kilcoin** by putting them in a stamped envelope and mailing them by First Class U.S. mail to:

Seth Jeffs
United Order of South Dakota
PO Box 5050
Custer, SD 57730

William R. Hansen, Chief
Water Rights Branch
National Park Service
1201 Oak Ridge Drive, Suite 250
Fort Collins, CO 80525

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Bangs McCullen Law Firm
PO Box 2670
Rapid City, SD 57709

Ann Mines-Bailey
Assistant Attorney General
1302 East Highway 14, Suite 1
Pierre, SD 57501

Signature *(Print name below signature.)*

Zachary A. Watsman

Sworn to before me this 16 day
of March 2015

Notary Public

PATRICK C. PIESCO
Notary Public
Commonwealth of Massachusetts
My Commission Expires June 1, 2018

RECEIVED
MAR 1 9 2015
WATER RIGHTS PROGRAM

STATE OF SOUTH DAKOTA
BEFORE THE WATER MANAGEMENT BOARD

IN THE MATTER OF THE APPLICATION OF THE UNITED ORDER OF SOUTH DAKOTA, APPLICATION NO. 2730-2	REPLY OF APPLICANT TO PETITIONS OF MR. AND MRS. DAVID ALBRECHT AND LINDA VAN DYKE KILCOIN

Reserving Applicant's rights to present legal and factual responses to all arguments, petitions, and objections filed in this matter, Applicant through the undersigned counsel herein replies to certain allegations and arguments made by the above-named Petitioners. The above-named Petitioners submit arguments regarding the pending application in this matter which are inflammatory, irrelevant, and immaterial to the matter before the Water Management Board (herein the "Board").

The United Order of South Dakota (the "United Order" or "Applicant") is a religious trust. In her Petition and objections to the application, Petitioner Linda Van Dyke Kilcoin refers to the United Order of South Dakota as a "secretive" organization. "As locals, we know what is going on in there and we don't want to see it expand," she writes. "We value our 12 year old girls in South Dakota. Help us!" Petitioners Mr. and Mrs. David Albrecht in their Petition and objections state that the Applicant's request is "suspect of abnormal activity which is detrimental to our rural community." These statements regarding Applicant's pending water rights submission before the Board are immaterial, inflammatory, accusatory, and irrelevant to the contents of the submission.

The Board has "general supervision of the waters of the state, including measurement, appropriation, and distribution thereof." SDCL 46-2-9. The Board is empowered to hear issues and challenges to applications pursuant to SDCL 46-2-11, which states that the Board shall "regulate and control the development, conservation, and allocation of the right to use the waters

of the state according to the principles of beneficial use and priority of appropriation established by this title." Under SDCL 46-2A-9, a permit to appropriate water in South Dakota may only be issued if:

1. there is reasonable probability that there is unappropriated water available for the applicant's proposed use;
2. that the proposed diversion can be developed without unlawful impairment of existing rights; and
3. that the proposed use is a beneficial use and in the public interest.

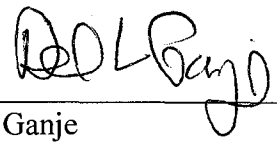
The statutory requirement that the water permit application be in the *public interest*, as found in SDCL 46-2A-9, does not mean the Board should consider Petitioners' "private opinions" concerning the Applicant. The Board's consideration of the *public interest* criterion concerning a water application includes reviewing the proposed use of the water, determining the extent to which the proposed use is a suitable use of the existing water supply, and determining the extent to which the use may prejudice other existing uses of the water body. *See e.g.*, *Fraser v. Water Rights Comm'n of the Dep't of Natural Res. Dev.*, 294 N.W.2d 784, 789 (S.D. 1980).

The United Order's pending application is for an increase of its existing right to appropriation of water from the Madison aquifer and for authorization to construct a new well to serve this purpose. The assertions of the Albrechts and Ms. Kilcoin are an attempt to use this forum for other purposes. The law of South Dakota does not allow prejudice in judgment to have a place before this Board. The South Dakota Supreme Court has stated that prejudice arises when "the record [shows that] under the evidence the [finder of fact] might and probably would have returned a different verdict if the alleged error had not occurred." *Sander v. Geib, Elston, Frost Prof'l Ass'n*, 506 N.W.2d 107, 113 (S.D. 1993) (citations omitted). It may be said under

other authority that, "Do not be a witness against your neighbor without cause." *Proverbs* 24:28.

By making the stated assertions, the Albrechts and Ms. Kilcoin are propagating prejudice by asserting matters not relevant or material to the issues before the Board. The Board in this matter sits as a fact-finding and adjudicative body. The anticipated hearing is not the proper forum in which to entertain such prejudicial, inflammatory and irrelevant allegations. *See* SDCL 1-26-19 (1); 19-12-2; 19-12-3. To consider, admit into the record, and include such allegations in any findings of fact or conclusions of law would act to deny the Applicant its right to due process of law. SDCL 1-26-36 (1), (2), (6); *see also* U.S. Const. amend. XIV, § 1; S.D. Const. art. VI, § 2.

DATED: 3/15/15



David L. Ganje
Attorney for Applicant
Ganje Law Offices
1830 West Fulton Street
Rapid City, SD 57702
(605) 385-0330
davidganje@ganjelaw.com

United States Department of the Interior

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

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:
L54 (2380)
WICA/Water Rights

March 17, 2015

Mr. Seth Jeffs
Water Operator
United Order of South Dakota
Box 5050
Custer, SD 57730

Re: Application for Water Permit No. 2730-2 - Request for Common Law Trust Documentation for the United Order of South Dakota.

Dear Mr. Jeffs,

The National Park Service (NPS) has received your letter dated February 18, 2015, in which you request that the South Dakota Water Rights Program reduce the instantaneous rate of withdrawal associated with Application 2730-2 from 300 gallons per minute (gpm) to 200 gpm. The NPS is in the process of re-evaluating the potential effects of this change in withdrawal rate on Madison aquifer water levels and underground lakes within Wind Cave National Park in order to make recommendations to park managers.

The NPS has received a copy of the correspondence between you and Ms. Ann Mines-Bailey of the South Dakota Attorney General's Office concerning the State's request for documentation of the authority of various individuals to represent the United Order of South Dakota under its designation as a common law trust. The NPS shares the concerns of the State with regard to the issue of who may legally represent the interests of the United Order of South Dakota as the NPS must have assurances that any potential settlement that it may enter into would be legally enforceable. Therefore, the NPS would appreciate receiving a copy of any documentation that you provide to the State in response to their request. If you have any questions concerning this request, please feel free to contact Peter Fahmy of my staff at (970) 231-4961.

Sincerely,

Wm. R. Hansen

William R. Hansen
Chief, Water Rights Branch

Cc via email: South Dakota Attorney General's Office – Ms. Ann Mines-Bailey
South Dakota DENR – Ms. Jeanne Goodman
Ganje Law Offices – Mr. David Ganje
Bang McCullen Law Firm – Mr. Michael Hickey

Stephen G. Levy,
Of Counsel
Certified as an Elder Law Attorney
by the National Elder Law
Foundation of Counsel

DAVID L. GANJE
ATTORNEY AT LAW
GANJE LAW OFFICES

Law Clerks:
Debra Roseth
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RECEIVED
MAR 16 2015
WATER RIGHTS
PROGRAM

March 11, 2014

Water Management Board
Water Rights Program
Joe Foss Building
523 East Capitol Avenue
Pierre, SD 57501

Re: In the Matter of the Application of the United Order of South Dakota, Application No. 2730-2

Dear Chairman and Members:

I write this letter to introduce myself as counsel representing the applicant with regard to the above-identified application. Enclosed with this letter is the original Notice of Appearance of Counsel. An affidavit of service reflecting service of the Notice of Appearance and service of a copy of this letter on all parties in interest will be separately mailed to you. I appear in this matter somewhat *in medias res* but will acquaint myself with the facts and documents as soon as possible and provide any further required information to the Board.

I understand that a notice was recently issued adjourning the hearing originally scheduled for March 5, 2015. The notice stated that the hearing will be rescheduled at a date, time, and location to be determined. With regard to a rescheduled hearing on this matter, I ask that the scheduling officer kindly contact me so that we can coordinate calendars. I have some obligations in May that may conflict, but we do desire to proceed with the matter at all reasonable speed. I also respectfully request that the Board hold the hearing in Rapid City, which will be a more convenient forum for the applicant and the Petitioners

The file I have to date indicates certain objecting parties. Objecting parties under the rules are identified as Petitioners. I understand that the following parties have filed petitions:

- Forest Service
- National Park Service
- Rick Fox
- Linda Van Dyke Kilcoin
- Dean & Delia Johnson

- Douglas Lesher
- David Albrecht
- Toni Martin
- Karl & Suzanne Von Rump

I have spoken with Deputy Attorney General Ann Mines-Bailey, who is representing the DENR and she has indicated that she will agree as between her office and my office that we may serve papers electronically. I ask for the same consideration from any other counsel of record in this matter, which will help reduce costs and paper. Original documents would still be filed directly with the Board.

Concerning the application papers of my client, if there are any further requirements or any other information that the Board or DENR may request, please advise. By this letter, I also advise the Petitioners that I am available at any time to discuss their concerns regarding this application.

Thank you.

Sincerely,

/s/

David L. Ganje

Cc via email: United Order of South Dakota
Ann Mines-Bailey, Esq.
Peter H. Fahmy, Esq.
Michael M. Hickey, Esq.
Eric Gronlund

STATE OF SOUTH DAKOTA
BEFORE THE WATER MANAGEMENT BOARD

IN THE MATTER OF THE APPLICATION OF THE UNITED ORDER OF SOUTH DAKOTA, APPLICATION NO. 2730-2	NOTICE OF APPEARANCE OF COUNSEL

Notice is hereby given of the entry of the undersigned as counsel for the above-described applicant in the above-entitled proceeding.

Attorney's name: David L. Ganje

Email address: davidganje@ganjelaw.com

Firm name: Ganje Law Offices

Mailing Address: 1830 West Fulton Street
Rapid City, SD 57702

DATED: 3/11/15

David L. Ganje
Ganje Law Offices
1830 West Fulton Street
Rapid City, SD 57702
(605) 385-0330
davidganje@ganjelaw.com

AUTHORIZATION OF APPLICANT: _____

Stephen G. Levy,
Of Counsel
Certified as an Elder Law Attorney
by the National Elder Law
Foundation of Counsel

DAVID L. GANJE
ATTORNEY AT LAW
GANJE LAW OFFICES

Law Clerks:
Debra Roseth
Piko Mbolekwa
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Albany, New York 12205
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RECEIVED
MAR 1 6 2015
WATER RIGHTS
PROGRAM

March 12, 2014

Water Management Board
Water Rights Program
Joe Foss Building
523 East Capitol Avenue
Pierre, SD 57501

Re: In the Matter of the Application of the United Order of South Dakota, Application No. 2730-2

Dear Chairman and Members:

Please find enclosed an Affidavit of Mailing for the service of documents on all parties in the above-described matter.

Thank you.

Sincerely,

Zachary A. Waksman

STATE OF SOUTH DAKOTA
BEFORE THE WATER MANAGEMENT BOARD

IN THE MATTER OF THE APPLICATION OF THE UNITED ORDER OF SOUTH DAKOTA, APPLICATION NO. 2730-2

AFFIDAVIT OF MAILING

STATE OF MASSACHUSETTS)
COUNTY OF BRISTOL) SS.:

Zachary A. Waksman, being duly sworn, says: I am not a party to the action, am over 18 years of age and reside at 23 Walden Drive, South Easton, MA 02375. On the 12th day of March, 2015, I mailed this original Affidavit to the Water Management Board and served true copies of the Applicant's March 11, 2015 **Notice of Appearance of Counsel** and a **Letter from David Ganje** dated March 11, 2015 by putting them in a stamped envelope and mailing them by First Class U.S. mail to:

Seth Jeffs
United Order of South Dakota
PO Box 5050
Custer, SD 57730

William R. Hansen, Chief
Water Rights Branch
National Park Service
1201 Oak Ridge Drive, Suite 250
Fort Collins, CO 80525

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11560 Farmer Road
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14585 East French Creek Road
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Michael M. Hickey, Esq.
Bangs McCullen Law Firm
PO Box 2670
Rapid City, SD 57709

Ann Mines-Bailey
Assistant Attorney General
1302 East Highway 14, Suite 1
Pierre, SD 57501

Signature *(Print name below signature.)*
Zachary A. Waksman

Sworn to before me this 12 day
of March, 2015

Notary Public

PATRICK C. PIESCO
Notary Public
Commonwealth of Massachusetts
My Commission Expires June 1, 2018

STATE OF SOUTH DAKOTA

OFFICE OF ATTORNEY GENERAL
1302 East Highway 14, Suite 1
Pierre, South Dakota 57501-8501
Phone (605) 773-3215
Fax (605) 773-4106
TTY (605) 773-6585
www.state.sd.us/atg

MARTY J. JACKLEY
ATTORNEY GENERAL

CHARLES D. McGUIGAN
CHIEF DEPUTY ATTORNEY GENERAL

February 27, 2015

Mr. Seth Jeffs
United Order of South Dakota
Box 5050
Custer, SD 57730

RE: Water Permit Application No. 2730-2

Dear Mr. Jeffs:

Thank you for your correspondence dated February 23, 2015. I am in receipt of your statement of authority executed by Mr. Isaac Jeffs. We are, however, in need of additional information.

As I stated in my letter dated January 28, 2015, the records of the Water Rights Program show that the original permit was held by United Land Management, LLC, and that the permit was then transferred to Stephen P. Harker, trustee of the United Order of South Dakota, a common law trust. I understand from your correspondence that Mr. Harker has resigned his position as trustee. However, because the water permit was transferred to Mr. Harker as trustee, before I can accept your statement of authority executed by Mr. Isaac Jeffs as binding, I need documentation that Mr. Isaac Jeffs is now the trustee of the United Order of South Dakota and has the authority to appoint you to exercise that portion of his authority as trustee. I believe the trust documents would establish, or indicate how to verify, Mr. Isaac Jeffs' status as trustee and if there are limitations on the delegation of his authority. If you believe there is another way to establish that Mr. Isaac Jeffs has succeeded Mr. Harker, I would be open to suggestion.

Please feel free to contact me with any questions or concerns.

Respectfully,

Ann F. Mines-Bailey
Assistant Attorney General

AFMB/jmm

374504

Attorney General

FEB 25 2015

Seth S. Jeffs

PO Box 5050
Custer, SD 57730

Anne F. Mines-Bailey

1302 East Highway 14, Suite 1
Pierre, SD 57501-8501
Phone: (605) 773-4106

Dear Anne,

Enclosed is the information you requested in your letter of January 28, 2015. Stephen Harker resigned a few years ago. Isaac Jeffs is a current trustee. We will be retaining an attorney for the hearing. Please let me know if there is anything else I can do for you.

Sincerely,

Seth S. Jeffs
Water Operator
United Order of South Dakota
2/23/2015

LETTER OF AUTHORITY
TO SETH S. JEFFS
FROM THE BOARD OF TRUSTEES OF THE
UNITED ORDER OF SOUTH DAKOTA

As a current Trustee of the United Order of South Dakota, a South Dakota common law trust organized by Declaration of Trust dated December 23, 2009 ("Trust"), I, the undersigned, acting on behalf of the Board of Trustees, hereby authorize you, Seth S. Jeffs, to represent the Trust on all matters relating to water and water rights. Please sign any and all documents relating to Trust water in your capacity as "authorized representative" of the Trust.

IN WITNESS WHEREOF, I have executed this Letter of Authority to Seth S. Jeffs from the Board of Trustees of the United Order of South Dakota on the 18th day of February, 2015.

Isaac S. Jeffs, Trustee
United Order of South Dakota

STATE OF UTAH)
: ss.
COUNTY OF WASHINGTON)

The undersigned, a Notary Public in and for said County and State, does hereby certify that Isaac S. Jeffs, personally known to me to be the person whose name is subscribed to the foregoing Letter of Authority to Seth S. Jeffs from the Board of Trustees of the United Order of South Dakota, appeared before me in person and acknowledged that he executed the same in the capacity therein stated.

WITNESS my hand and official seal this 18th day of February, 2015.

BOYD KNUDSON
NOTARY PUBLIC, STATE OF UTAH
COMMISSION #680940
MY COMMISSION EXPIRES
JANUARY 24, 2019

Notary Public
Commission Expires: 1/24/19

Stephen G. Levy,
Of Counsel
Certified as an Elder Law Attorney
by the National Elder Law
Foundation of Counsel

DAVID L. GANJE
ATTORNEY AT LAW
GANJE LAW OFFICES

Law Clerks:
Debra Roseth
Piko Mbolekwa
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Albany, New York 12205
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Website: http://www.ganjelaw.com

March 11, 2014

Water Management Board
Water Rights Program
Joe Foss Building
523 East Capitol Avenue
Pierre, SD 57501

Re: In the Matter of the Application of the United Order of South Dakota, Application No. 2730-2

Dear Chairman and Members:

I write this letter to introduce myself as counsel representing the applicant with regard to the above-identified application. Enclosed with this letter is the original Notice of Appearance of Counsel. An affidavit of service reflecting service of the Notice of Appearance and service of a copy of this letter on all parties in interest will be separately mailed to you. I appear in this matter somewhat *in medias res* but will acquaint myself with the facts and documents as soon as possible and provide any further required information to the Board.

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The file I have to date indicates certain objecting parties. Objecting parties under the rules are identified as Petitioners. I understand that the following parties have filed petitions:

- Forest Service
- National Park Service
- Rick Fox
- Linda Van Dyke Kilcoin
- Dean & Delia Johnson

- Douglas Lesher
- David Albrecht
- Toni Martin
- Karl & Suzanne Von Rump

I have spoken with Deputy Attorney General Ann Mines-Bailey, who is representing the DENR and she has indicated that she will agree as between her office and my office that we may serve papers electronically. I ask for the same consideration from any other counsel of record in this matter, which will help reduce costs and paper. Original documents would still be filed directly with the Board.

Concerning the application papers of my client, if there are any further requirements or any other information that the Board or DENR may request, please advise. By this letter, I also advise the Petitioners that I am available at any time to discuss their concerns regarding this application.

Thank you.

Sincerely,

/s/ _____
David L. Ganje

Cc via email: United Order of South Dakota
Ann Mines-Bailey, Esq.
Peter H. Fahmy, Esq.
Michael M. Hickey, Esq.
Eric Gronlund

STATE OF SOUTH DAKOTA
BEFORE THE WATER MANAGEMENT BOARD

IN THE MATTER OF THE APPLICATION OF THE UNITED ORDER OF SOUTH DAKOTA, APPLICATION NO. 2730-2	NOTICE OF APPEARANCE OF COUNSEL

Notice is hereby given of the entry of the undersigned as counsel for the above-described applicant in the above-entitled proceeding.

Attorney's name: David L. Ganje

Email address: davidganje@ganjelaw.com

Firm name: Ganje Law Offices

Mailing Address: 1830 West Fulton Street
Rapid City, SD 57702

DATED: 3/11/15

DL Ganje

David L. Ganje
Ganje Law Offices
1830 West Fulton Street
Rapid City, SD 57702
(605) 385-0330
davidganje@ganjelaw.com

AUTHORIZATION OF APPLICANT: _____

DEPARTMENT of ENVIRONMENT and NATURAL RESOURCES

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

denr.sd.gov

February 24, 2015

NOTICE OF HEARING

TO: Seth Jeffs
United Order of South Dakota
PO Box 5050
Custer SD 57730
and Parties of Record (see attached list)

FROM: Jeanne Goodman, Chief Engineer
Water Rights Program

SUBJECT: Automatic Delay of March 5, 2015, Hearing on Water Permit Application No. 2730-2, United Order of South Dakota

Petitions in opposition were received in response to the public notice for Water Permit Application No. 2730-2 filed by United Order of South Dakota in Custer County. Notice of hearing was sent to parties of record scheduling a March 5, 2015, hearing before the Water Management Board. In response to that notice, Michael Hickey, legal counsel for Linda Van Dyke Kilcoin made formal request (copy enclosed) for postponement of the March 5, 2015, hearing date before the Water Management Board. Therefore, the hearing on Application No. 2730-2 is automatically delayed pursuant to SDCL 46-2A-4 and 46-2A-5 and will not be held on March 5, 2015.

The hearing to consider Application No. 2730-2 will now be scheduled for a future Board meeting at a date, time and location to be determined. Future notice of the time and place of the hearing for Application No. 2730-2 will be provided to all parties of record.

Questions regarding the hearing process may be directed to Eric Gronlund, Water Rights Program at (605) 773-3352 or eric.gronlund@state.sd.us.

enclosure

c: Ann Mines-Bailey, Assistant Attorney General

CERTIFICATION

I hereby certify that on February 24, 2015, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated February 24, 2015, regarding automatic delay of the March 5, 2015, hearing for Water Right Permit Application No. 2730-2, as addressed below and on the attached parties of record list:

Seth Jeffs
United Order of South Dakota
PO Box 5050
Custer SD 57730

Sent Inter-office to:

Ann Mines- Bailey, Assistant Attorney General
1302 East Highway 14, Suite 1
Pierre SD 57501-8501

Gail Jacobson

Gail Jacobson
Water Rights Program, DENR

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 24th day of February, 2015

Karen Schlaak

Karen Schlaak
Notary Public
My Commission expires April 1, 2019

SEAL KAREN SCHLAAK NOTARY PUBLIC State of South Dakota SEAL

PARTIES OF RECORD LIST FOR WATER PERMIT 2730-2, United Order of South Dakota

APPLICANT:
Seth Jeffs United Order of South Dakota
PO Box 5050
Custer SD 57730

PETITIONERS:

William R Hansen, Chief
Water Rights Branch
National Park Service
1201 Oak Ridge Drive, Suite 250
Fort Collins CO 80525

represented by: Peter A Fahmy
National Park Service
12795 W Alameda Parkway
Suite 198
Lakewood CO 80228

Karl R and Suzanne K Von Rump
11560 Farmer Road
Custer SD 57730

Mr and Mrs. David Albrecht
High Lonesome Ranch
26541 Stagecoach Spgs Rd
Custer SD 57730-9109

Toni Martin
4141 Villa Ridge Ct #122
Rapid City SD 57701

Linda Van Dyke Kilcoin
23470 Paradise Drive
Hill City SD 57745

represented by: Michael M Hickey
Bangs McCullen Law Firm
PO Box 2670
Rapid City SD 57709-2670

Douglas L Lesher, Acting Manager
Stone Meadow Ranch
26699 Remington Rd
Custer SD 57730

Craig Bobzien, Forest Supervisor
Black Hills National Forest
1019 North 5th Street
Custer SD 57730

Rick Fox
PO Box 35
Hermosa SD 57744

Dean and Delia Johnson
14585 East French Creek Road
Fairburn SD 57738

STATE OF SOUTH DAKOTA

BEFORE THE WATER MANAGEMENT BOARD

IN THE MATTER OF THE APPLICATION OF THE UNITED ORDER OF SOUTH DAKOTA, APPLICATION NO. 2730-2	**Motion for Intervention and Continuance**

Comes now Linda Van Dyke Kilcoin ("Kilcoin"), an interested party in the above proceeding, and who has earlier filed her petition to intervene in this proceeding in opposition to the recommendation of the Chief Engineer. Petitioner hereby opposes the application of United Order of South Dakota and requests that the hearing originally set for March 5, 2015, be continued in order to allow Petitioner additional time to prepare for the hearing in this matter before the Water Management Board.

Dated this 19th day of February, 2015.

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

BY: Michael Hickey

MICHAEL M. HICKEY
333 West Boulevard, Ste. 400
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ATTORNEYS FOR LINDA VAN DYKE KILCOIN

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Forest Supervisor
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Mr. & Mrs. David Albrecht
High Lonesome Ranch
26541 Stagecoach Springs Road
Custer, SD 57730-9109

Toni Martin
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Doug Lesher
Stone Meadow Ranch
26699 Remington Road
Custer, SD 57730

Rick Fox
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Dean & Delia Johnson
14585 East French Creek Road
Fairburn, SD 57738

Karl R. Von Rump
Suzanne K. Von Rump
11560 Farmer Road
Custer, SD 57730

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

Dated this 19th day of February, 2015.

MICHAEL M. HICKEY

Seth S. Jeffs

United Order of South Dakota
PO Box 5050
Custer, SD 57730

February 18, 2015

RECEIVED
FEB 23 2015
WATER RIGHTS
PROGRAM

Ms. Jeanne Goodman, Chief Engineer
Water Rights Program
Foss Building, 523 E Capitol
Pierre, SD 57501

National Park Service Water Resources Division
William R. Hansen
and Jeff C. Hughes
1201 Oak Ridge Drive, Suite 250
Fort Collins, Colorado 80525-5596

Black Hills National Forest
Craig Bobzien
1019 North 5th Street
Custer, SD 57730

RE: NPS and National Forest Petition to Intervene in South Dakota Water Permit Application No. 2730-2

Dear Ms. Goodman, Mr. Hansen and Mr. Bobzien,

I am the water operator for the water system owned and operated by the United Order of South Dakota. I was grateful for the opportunity to talk to the representatives of the National Park Service on February 13, which included William Hansen, Jeff Hughes, and Peter Fahmy. I was also grateful to talk to Craig Bobzien on February 17th. In both of the phone conversations I described what is contained in this letter.

I take this opportunity to describe the reason why we are asking for more water rights. I have included the well log data that we agreed to give to the NPS. During the years 2008-2010 the records were much more detailed. The yearly reporting to the State of South Dakota Water Rights is the only record we have for the years 2011-2014. I have recently reported to the Water Rights Division that we used 8,323,600 gallons of water in the year 2014, which is 25.5 acre feet of water.

There are currently two permitted wells, one of which is operative, pumping at less than 94 GPM when the water is needed. I will call this well #1. This well will only pump at 94 GPM when there is no head pressure, when the storage tank is empty. When the tank has water in it, and is being filled, the rate goes down to around 50-70 GPM. Most of the time this is the average rate at which the well is pumping.

The second well is inoperative at this time. When installed, it did not produce the water flow that was desired. It runs dry in a few minutes of pumping at less than 90 GPM. This well was installed as a backup to the only operating well. We anticipate that this well is only capable of producing from 10-20 GPM. We will be installing a smaller pump and use it as a supplement to the larger well. I will call this well #2.

At this time the community has a 30,000 gallon water storage tank to compliment the water distribution system. The water distribution comes through 4" water mains. This system was installed as a temporary system to fill the need until we are able to install a more adequate water distribution system.

During the summer months the 30,000 gallon water tank runs dry and the buildings are often left without water. Well #1 is not able to keep up with the additional demand of watering gardens, orchards, landscape, and feeding animals during the spring and summer months. **We are asking for the privilege to drill another well (well #3) and also to have the privilege to pump at a higher rate because of the higher demand for water during the spring and summer months.**

The three wells will operate on a staged demand basis. When the demand for water is low, well #1 will be able to take care of the need. If the demand for water is high all three wells will be used. This is the only time that we would be pumping at a peak demand rate of around 200 GPM. The only other events that would require the peak rate would be the event of a fire or troubles with the water distribution system like a break in any of the water lines.

As you can see by the attachments, the greatest demands are during the months from the end of May to the beginning of September. The rest of the year the demand is only a fraction of what is used in those five months. Well #1 will easily be able to keep up with the need and will only be pumping for a short time each day for about seven months out of the year.

The United Order of South Dakota is currently permitted to use up to 153 acre feet of water per year if the wells run at 95 GPM for the entire year. Cumulatively, we do not expect to use more than what we are currently allowed to use under permit # 2610-2.

The number of gardens and orchards will increase as the community is able to bring more of the land into cultivation; also the needs for animals in the future will increase the demand for water. We request that we at least be allowed to displace up to the currently allowed 153 acre feet of water per year, that there be no cumulative limitation placed on what is already allowed under permit # 2610-2.

The need for fire protection is also a great concern. Currently there is no dependable fire protection. Engineers recommend at least 6"+ water mains with a minimum of at least 20 psi, with fire hydrants spread through the community. There is a demand of thousands of gallons per minute during that critical time when the water is needed most. The likelihood of a fire is much greater in the summer months when most water is being used and the reserves would be at the lowest levels.

Adequate fire protection requires water in storage, ready for the event of a fire. We will be installing a larger water tank and distribution system to meet this need. Part of this need is to have adequate wells feeding the water distribution system at an adequate rate to not only keep up with the demand, but also make sure that there is always water in storage. With hydrants in place there will be a need to flush the lines at regular intervals during the year to keep the system clean and free of bacteria and other normally harmful elements that collect in a water distribution system. This will also increase the cumulative amount of water that will be needed, but not significantly.

We need to be able to perform maintenance work on well #1 but are unable to because we do not have another adequate backup well.

There is no way to know how much water future well #3 will be able to produce. To be safe we asked for an additional 205 GPM, so that we can run all three wells at the same time without exceeding the peak rate limit of the United Order of South Dakota's water rights.

This is my formal request to the Water Rights Program of South Dakota to alter the permit application number 2730-2 to reflect a total peak rate of 200 GPM instead of 300 GPM, which is an addition of 105 GPM, instead of 205 GPM to the permit number 2610-2 which allows the United Order of South Dakota to use 95 GPM.

In summary, the Chief Engineer has recommended that the United Order of South Dakota be permitted to displace more water based on the fact that there is unused water available. It has been shown that it will not have an impact on any of the needs of those around us. The NPS and the Forest Service suggest that we will be using 300 GPM all the time for the entire year, which would be impractical and impossible for this community to do. There will only be a need to pump at a peak rate of 200 GPM at short times usually during the spring and summer months.

Though we do not anticipate the need to displace much more water cumulatively, we need to be able to displace water at a higher rate at certain times of the year when the need exists. We humbly and respectfully ask for the privilege to drill another well and also to be able to pump water at a higher rate when it is needed. We also request that we be allowed to use no less than the cumulative total amount of water that we are currently allowed to use under permit #2610-2.

We hope this relieves your fears and concerns.

Sincerely

Seth S. Jeffs
Water Operator
United Order of South Dakota

Attachments: Attachment A – SD Water Well Completion Report 10/15/07 (Well #1)
Attachment B – Monthly Well Log Data for 2008-2010
Attachment C – SD Water Well Completion Report 10/20/10 (Well #2)
Attachment D – Monthly Well Log Data from June, 2014

Attachment A

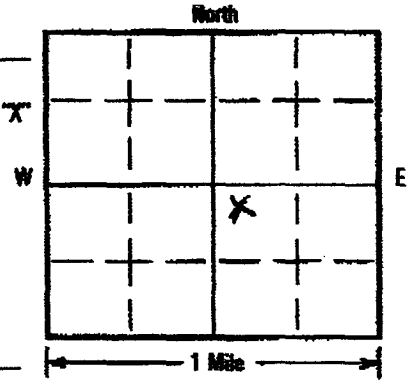
SOUTH DAKOTA WATER WELL COMPLETION REPORT

07-92

Location NW ¼ SE ¼ Sec. 10 Twp 65 Rg. 3E

County Custer

Please mark well location with an "X"



Well Completion Date

10-15-07

LOCATION:
Distance from nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)? >100 ft. from Septic System (identify source).

PROPOSED USE:
☒ Domestic/Stock ☐ Municipal ☐ Business ☐ Test Holes
☐ Irrigation ☐ Industrial ☐ Institutional ☐ Monitoring well

METHOD OF DRILLING:
Air rotary + DHH

CASING DATA: ☒ Steel ☐ Plastic ☐ Other
If other describe

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
28 LB/FT	8 5/8 IN	0 FT	930 FT	11 IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA

Grout Type	No. of Sacks	Grout Weight	From	To
Cement	270	15 lb./gal	0 ft.	930 ft.
		lb./gal	ft.	ft.

Describe grouting procedure pressure grouted through casing

SCREEN: ☐ Perforated pipe ☐ Manufactured
Diameter IN Length FEET
Material
Slot Size Set From Feet to Feet
Other information

WAS A PACKER OR SEAL USED? ☐ YES ☒ NO
If so, what material?
Describe packer(s) and location?

DISINFECTION: Was well disinfected upon completion?
X YES, How: chlorine solution
NO, Why Not?

Laboratory sent to for water quality analysis

Did not set pump

Well Owner:
Business Name: United Land Management
Address:

WELL LOG:

FORMATION	DEPTH FROM	DEPTH TO
mostly SS yel. some shale	0	115
LS, SS + shale red to pink	115	248
LS shaley red to gray	248	307
SS yellow	307	344
LS gray, pink + white	344	597
LS white w/ purp shale	597	701
shale red	701	719
LS light gray to buff	719	1085

STATIC WATER LEVEL ≈ 800 Feet
If flowing: closed in pressure PSI
GPM flow through inch pipe
Controlled by ☐ Valve ☐ Reducers ☐ Other
Reduced Flowrate GPM
Can well be completely shut in?

WELL TEST DATA:
☐ Pumped Describe:
☐ Bailed air developed
☐ Other

Pumping Level Below Land Surface
1085 ft. After 2 Hrs. pumped 50 GPM
ft. After Hrs. pumped GPM
If pump installed, pump rate GPM

REMARKS

This well was drilled under license # 331
And this report is true and accurate.
Drilling Firm Taylor Drilling Co.
Signature of License Representative:
Signature of Well Owner or Equitable Property Holder:
Date:

Attachment B Page 1

United Order of South Dakota (formerly United Land Management)

2008

MONTH	Water Usage(gallons)	Meter Reading
January	79,000	
February	79,000	
March	79,000	new meter -0-
April	65,600	64,000
May	271,200	129,600
June	532,200	400,800
July	717,300	933,000
August	918,500	1,650,300
September	406,700	2,568,800
October	249,100	2,975,500
November	152,300	3,224,600
December	140,000	3,376,900
		3,516,900
Total Water Used in 2008	2,813,520	

Attachment B Page 2

United Order of South Dakota

2009

MONTH	Water Usage (gallons)	Meter Reading (end of month)
		3,516,900
January	126,100	3,643,000
February	147,000	3,790,000
March	110,000	3,900,000
April	145,600	4,045,600
May	630,700	4,676,300
June	1,407,200	6,083,500
July	1,048,400	7,131,900
August	1,134,200	8,266,100
September	814,600	9,080,700
October	205,900	9,286,600
November	203,600	9,490,200
December	234,200	9,724,400
Total Water Used in 2009	6,207,500	

water rights from state = .21 cfs = 1.57 gps = 94.25gpm = 5,655 gal/hr

135,720 gallons per day = 49,537,800 gallons per year

(1,136 acre feet per year)

we used 142.5

Attachment B Page 3

United Order of South Dakota			
2010			
	MONTH	Water Usage (gallons)	Meter Reading (end of month)
			9,724,400
	January	223,300	9,947,700
	February	105,100	10,052,800
	March	97,200	10,150,000
	April	150,200	10,300,200
	May	458,700	10,758,900
	June	530,100	11,289,000
	July	1,946,000	13,235,000
	August	2,040,500	15,275,500
	September	1,371,300	16,646,800
	October	603,200	17,250,000
	November	200,000	17,450,000
	December	281,300	17,731,300
	Total Water Used in 2010	8,006,900	

water rights from state = .21 cfs = 1.57 gps = 94.25gpm = 5,655 gal/hr

135,720 gallons per day = 49,537,800 gallons per year

(1,136 acre feet per year)

Attachment C Page 1

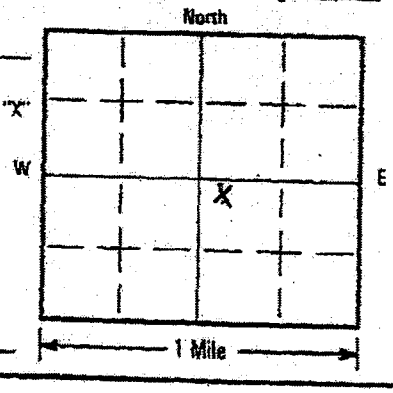
SOUTH DAKOTA WATER WELL COMPLETION REPORT

07-92

Location NW ¼ SE ¼ Sec 10 Twp 65 Rg 3E

County Custer

Please mark well location with an "X"



Well Completion Date

10-20-10

Well Owner: United Land Mgmt

Business Name:

Address:

WELL LOG:

FORMATION	DEPTH FROM	DEPTH TO
see attachment		

LOCATION:

Distance from nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)? >100 ft. from septic system (identify source).

PROPOSED USE:

☒ Domestic/Stock ☐ Municipal ☐ Business ☐ Test Holes
☐ Irrigation ☐ Industrial ☐ Institutional ☐ Monitoring well

METHOD OF DRILLING:

Air Rotary + DHH

CASING DATA: ☒ Steel ☐ Plastic ☐ Other

If other describe

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
40.50 LB/FT	10 3/4 IN	0 FT	933 FT	14 IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA

Grout Type	No. of Sacks	Grout Weight	From	To
cement	700	15 lb./gal	0 ft	933 ft
		lb./gal	ft	ft

Describe grouting procedure cement pressure grouted through casing

SCREEN: ☐ Perforated pipe ☐ Manufactured

Diameter IN Length FEET

Material

Slot Size Set From Feet to Feet

Other information

WAS A PACKER OR SEAL USED? ☐ YES ☒ NO

If so, what material?

Describe packer(s) and location?

DISINFECTION: Was well disinfected upon completion?

X YES, How: chlorine solution

Laboratory sent to for water quality analysis ___ NO, Why Not?

pump not installed

STATIC WATER LEVEL 2 800 Feet

If flowing: closed in pressure PSI

GPM flow through inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other

Reduced Flowrate GPM

Can well be completely shut in?

WELL TEST DATA:

☐ Pumped Describe:
☐ Bailed air developed
☐ Other

Pumping Level Below Land Surface

1080 ft. After 2 Hrs. pumped 25 GPM

ft. After Hrs. pumped GPM

If pump installed, pump rate GPM

REMARKS

RECEIVED
FEB 11 2011
WATER RIGHTS PROGRAM

This well was drilled under license # 331

And this report is true and accurate.

Drilling firm Taylor Drilling Co.

Signature of License Representative: Ralph Taylor

Signature of Well Owner or Equitable Property Holder:

Date:

Attachment C Page 2

Lithology for United Land Management water well completed October 20, 2010

0	to	92	SS, yellow, orange & tan
92	to	205	mostly LS, some SS & Shale, red, pink, lavender & white
205	to	220	Shale, red
220	to	300	LS, Shaley, red to gray
300	to	332	SS, yellow
332	to	602	LS, gray, pink & white
602	to	620	Shale, red to purple
620	to	695	LS, white
695	to	715	Shale, red
715	to	1078	LS, light gray to buff (Madison)
1078	to	1081	Siltstone, lavender (Englewood)

Attachment D

Well Water Meter Log Well # 1 *United Order of South Dakota*

Date	Time	Meter Reading	Taken By
6/30/14	1:00 PM	47403000	
7/18/14	9:27 PM	482 477 - -	
7/26/14	1:43 PM	483 679	
7/29/14	6:05 AM	483928 - -	
8/4/14	10:38 AM	489898 - -	
8/22/14	7:50 AM	505429 - -	
8/27/14	1:20 PM	509660 - -	
9/17/14	10:19 AM	518310 - -	
9/26/14	3:18 PM	523438 - -	
10/10/14	7:20 AM	525215 - -	
10/13/14	2:24 PM	525584 - -	
10/17/14	2:53 PM	525843 - -	
10/22/14	6:07 PM	526644 - -	
10/28/14	5:46 PM	527201 - -	
10/31/14	1:00 PM	527361 - -	
11/4/14	3:06 PM	527786 - -	
11/24/14	8:00 AM	528935 - -	
11/27/14	6:10 PM	529020 - -	
12/2/14	12:46 PM	529242 - -	
12/11/14	6:10 PM	529634 - -	
1/3/15	5:19 AM	530610 - -	
1/24/15	7:02 AM	532421 - -	
1/26/15	1:10 PM	532628 - -	
2/7/15	11:36 AM	533296 - -	
2/16/15	6:06 PM	533692 - -	

RAPID CITY
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
Sarah E. Baron Houy
Jacob M. Quasney
Kara L. Frankman
Benjamin D. Ironnes
Mark F. Marshall
Of Counsel

SIOUX FALLS
Victoria M. Duehr
Kathryn H. Morrison

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

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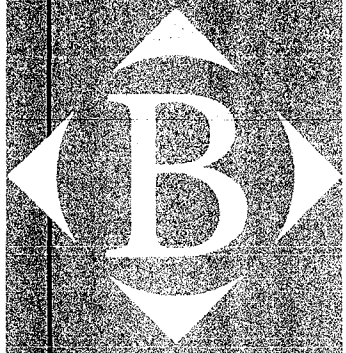
F. (605) 339-6801



BANGS McCULLEN
LAW FIRM

RECEIVED
FEB 23 2015
WATER RIGHTS PROGRAM

Reply to Rapid City Office

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

February 19, 2015

Sent by U.S. Mail and Facsimile
Ms. Jeanne Goodman, Chief Engineer
Department of Environment and National Resources
Water Rights Program
Foss Building
523 East Capitol
Pierre, SD 57501-3182

Re: ***In the Matter of the Application of the United Order of South Dakota, Application No. 2730-2***

Dear Ms. Goodman:

Please find enclosed the original of Linda Van Dyke Kilcoin's *Motion for Intervention and Continuance* in the above-referenced matter. A copy of this document has been sent to the United Order of South Dakota, and to all the interested parties, 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

MMH:bah
Enclosure
cc: Client; Eric Gronlund; Seth Jeffs; William R. Hansen/Jeff Hughes; Craig Bobzien; Mr. and Mrs. David Albrecht; Toni Martin; Doug Lesher; Rick Fox; Dean & Delia Johnson; Karl R. Von Rump/Suzanne K. Von Romp

STATE OF SOUTH DAKOTA

BEFORE THE WATER MANAGEMENT BOARD

IN THE MATTER OF THE APPLICATION OF THE UNITED ORDER OF SOUTH DAKOTA, APPLICATION NO. 2730-2	**Motion for Intervention and Continuance**

Comes now Linda Van Dyke Kilcoin ("Kilcoin"), an interested party in the above proceeding, and who has earlier filed her petition to intervene in this proceeding in opposition to the recommendation of the Chief Engineer. Petitioner hereby opposes the application of United Order of South Dakota and requests that the hearing originally set for March 5, 2015, be continued in order to allow Petitioner additional time to prepare for the hearing in this matter before the Water Management Board.

Dated this 19th day of February, 2015.

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

BY: Michael M. Hickey

MICHAEL M. HICKEY
333 West Boulevard, Ste. 400
P.O. Box 2670
Rapid City, SD 57709-2670
(605) 343-1040
mhickey@bangsmccullen.com
ATTORNEYS FOR LINDA VAN DYKE KILCOIN

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 envelopes addressed to said addressees, to wit:

Jeanne Goodman, Chief Engineer
Water Rights Program
Foss Building
523 East Capitol
Pierre, SD 57501

Eric Gronlund
Water Rights Program
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 envelopes addressed to said addressees, to wit:

Seth Jeffs
United Order of South Dakota
P.O. Box 5050
Custer, SD 57730

William R. Hansen
Jeff Hughes
National Park Service
Water Resources Division
1201 Oak Ridge Drive, Suite 250
Fort Collins, CO 80525-5596

Craig Bobzien
Forest Supervisor
Black Hills National Forest
1019 North 5th Street
Custer, SD 57730

Mr. & Mrs. David Albrecht
High Lonesome Ranch
26541 Stagecoach Springs Road
Custer, SD 57730-9109

Toni Martin
4141 Villa Ridge Ct #122
Rapid City, SD 57701

Doug Lesher
Stone Meadow Ranch
26699 Remington Road
Custer, SD 57730

Rick Fox
P.O. Box 35
Hermosa, SD 57744

Dean & Delia Johnson
14585 East French Creek Road
Fairburn, SD 57738

Karl R. Von Rump
Suzanne K. Von Rump
11560 Farmer Road
Custer, SD 57730

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

Dated this 19th day of February, 2015.

MICHAEL M. HICKEY

BANGSMcCULLEN
LAW FIRM

Reply to Rapid City Office

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

February 19, 2015

Sent by U.S. Mail and Facsimile
Ms. Jeanne Goodman, Chief Engineer
Department of Environment and National Resources
Water Rights Program
Foss Building
523 East Capitol
Pierre, SD 57501-3182

Re: ***In the Matter of the Application of the United Order of South Dakota, Application No. 2730-2***

Dear Ms. Goodman:

Please find enclosed the original of Linda Van Dyke Kilcoin's *Motion for Intervention and Continuance* in the above-referenced matter. A copy of this document has been sent to the United Order of South Dakota, and to all the interested parties, 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

MMH:bah
Enclosure
cc: Client; Eric Gronlund; Seth Jeffs; William R. Hansen/Jeff Hughes; Craig Bobzien; Mr. and Mrs. David Albrecht; Toni Martin; Doug Lesher; Rick Fox; Dean & Delia Johnson; Karl R. Von Rump/Suzanne K. Von Romp

STATE OF SOUTH DAKOTA

BEFORE THE WATER MANAGEMENT BOARD

IN THE MATTER OF THE APPLICATION OF THE UNITED ORDER OF SOUTH DAKOTA, APPLICATION NO. 2730-2	**Motion for Intervention and Continuance**

Comes now Linda Van Dyke Kilcoin ("Kilcoin"), an interested party in the above proceeding, and who has earlier filed her petition to intervene in this proceeding in opposition to the recommendation of the Chief Engineer. Petitioner hereby opposes the application of United Order of South Dakota and requests that the hearing originally set for March 5, 2015, be continued in order to allow Petitioner additional time to prepare for the hearing in this matter before the Water Management Board.

Dated this 19th day of February, 2015.

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

BY: _____

MICHAEL M. HICKEY
333 West Boulevard, Ste. 400
P.O. Box 2670
Rapid City, SD 57709-2670
(605) 343-1040
mhickey@bangsmccullen.com
ATTORNEYS FOR LINDA VAN DYKE KILCOIN

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 envelopes addressed to said addressees, to wit:

Jeanne Goodman, Chief Engineer
Water Rights Program
Foss Building
523 East Capitol
Pierre, SD 57501

Eric Gronlund
Water Rights Program
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 envelopes addressed to said addressees, to wit:

Seth Jeffs
United Order of South Dakota
P.O. Box 5050
Custer, SD 57730

William R. Hansen
Jeff Hughes
National Park Service
Water Resources Division
1201 Oak Ridge Drive, Suite 250
Fort Collins, CO 80525-5596

Craig Bobzien
Forest Supervisor
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Hermosa, SD 57744

Dean & Delia Johnson
14585 East French Creek Road
Fairburn, SD 57738

Karl R. Von Rump
Suzanne K. Von Rump
11560 Farmer Road
Custer, SD 57730

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

Dated this 19th day of February, 2015.

MICHAEL M. HICKEY

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: Mr. Eric Gronlund	FROM: Michael M. Hickey
COMPANY: DENR	DATE: February 19, 2015
FAX NUMBER: (605) 773-4068	TOTAL NO. OF PAGES INCLUDING COVER: 5
PHONE NUMBER:	SENDER'S REFERENCE NUMBER:

RE: United Order of South Dakota, Application No. 2730-2

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

NOTES/COMMENTS:

Please see attached correspondence and filing. 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.

STATE OF SOUTH DAKOTA

OFFICE OF ATTORNEY GENERAL
1302 East Highway 14, Suite 1
Pierre, South Dakota 57501-8501
Phone (605) 773-3215
Fax (605) 773-4106
TTY (605) 773-6585
www.state.sd.us/atg

MARTY J. JACKLEY
ATTORNEY GENERAL

CHARLES D. McGUIGAN
CHIEF DEPUTY ATTORNEY GENERAL

January 28, 2015

Mr. Seth Jeffs
United Order of South Dakota
Box 5050
Custer, SD 57730

RE: *Water Permit Application No. 2730-2*

Dear Mr. Jeffs,

By way of introduction, I am the Assistant Attorney General assigned to represent the Water Rights Program of the Department of Environment and Natural Resources. I have been reviewing your application and wish to ensure that we have the proper paperwork on file. Water Permit Application No. 2730-2 requests an increased diversion rate based on the water appropriated and wells permitted under Water Permit No. 2610-2. Our records show that Water Permit No. 2610-2 was originally issued to the United Land Management, LLC, c/o Richard Allred. The Water Rights Program's records additionally reflect that this permit was transferred to Stephen P. Harker, Trustee of the United Order of South Dakota, a common law trust. Thus, before we may proceed, we need a copy of the trust documents demonstrating that you have the authority to act on behalf of Mr. Harker or that you have been appointed trustee of the United Order of South Dakota.

Also, it is my understanding that you spoke with Eric Gronlund regarding the hearing on your application and whether you would need legal representation at the hearing. Under the laws of the State of South Dakota, entities such as trusts, corporations, and limited liability companies are required to have legal representation when appearing before the courts and administrative agencies. *See Smith v. Rustic Home Builders, LLC*, 2013 S.D. 9, 826 N.W.2d 357; *Sunflour R.R., Inc. v. Paulson*, 2003 S.D. 122, 670 N.W.2d 518; and Opinion dated August 8, 1989 from the South Dakota Unauthorized Practice of Law Committee. *See also* SDCL § 16-16-1. Though I have not seen your entity's

origination documents, I believe that your organization falls into this category and that your organization must be represented by a licensed attorney authorized to practice in South Dakota when you appear before the Water Management Board.

Please feel free to contact me if you have any questions or concerns.

Respectfully,

Ann F. Mines-Bailey
Assistant Attorney General

AMB/rar

Ken Buhler — Water Permit
App. 2730-2

An aerial survey over LDS Compound estimated 436 acres (nearly three quarter-sections) of land in the Compound has recently been disturbed/plowed — for what? That is a lot of land to support 70 people — or is it to be 300+? What is truth? Considering the recent application for more water from the Madison Aquifer.

(Personal Note — told to me by business friends relocated to Black Hills from [8.] Interested in their new Black Hills area home, they 'explored' on drives different areas. One Sun afternoon, having neither map nor destination, they were on a gravel roadway marvelling at the magnificently heartiful Red ~~Rock~~ Canyon area of Custer County. Suddenly, they realized they were being approached by 2 men on 2 ATV's, each with a shoulder-slung rifle. They turned around — no personal encounter — realizing later they were

unknowingly on the border road of the FLDS Compound!! - terrorists in our own South Dakota!!!!

I have travelled all over our Western & NW United States - including Utah & N. AZ. & Colo. I can tell you the LDS Community is Hated. I picked up & read a pocket book - written by a young woman who escaped the Compound & her life? there. It was hell; I cried.

Please: born, raised & live as a steward of our natural resources & demo-cratic way of life, I urge the S.D. DENR to deny this application for an increase in water from our precious Madison. We do NOT need more of this demonic cult in Our State.

When first asked "Why", Jeff's answer: "Just because"???! - later, he revealed they have 2 wells - one NOT working. Would it make sense to repair it first?

Please consider this anymore

Recent information from Atty.
Jeffrey Connelly Mates referred
to three 3 wells on the LDS
Compound, in recent months.
Seth Jeffs - LDS spokesman -
admitted one of two current wells
is inoperable. Would it, therefore,
seem reasonable that well should
be brought on line? and repaired?

I appreciated your return phone
call twice this afternoon - No response
My question: Does the DWR have
an historic record of these aquifers?
Most especially, the Ogallala &
Madison in the 1930's! My family gave
thanks to God that we lived on the
Ogallala & I now do for the Madison.
Look at CAL. - we must take care of our
Natural Resources for our heirs.

Have you followed R.C. Journal's reporter, Seth Tupper, on this issue the recent six months? If not, May & August the issues:
April 28 - May 17, 2015
RC Journal 394-8300

RECEIVED
JUN - 8 2015
WATER RIGHTS
PROGRAM

DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

January 21, 2015

NOTICE OF HEARING

TO: Seth Jeffs
United Order of South Dakota
PO Box 5050
Custer SD 57730
and Parties of Record (see attached list)

FROM: Jeanne Goodman, Chief Engineer
Water Rights Program

SUBJECT: Notice of Hearing on Water Permit Application No. 2730-2, United Order of South Dakota

Petitions opposing approval of Water Permit Application No. 2730-2 have been filed in response to the Notice of Application published in the Custer County Chronicle and Rapid City Journal. This notice schedules a hearing on the application before the South Dakota Water Management Board.

Water Permit Application No. 2730-2 proposes to appropriate an additional 0.46 cubic feet of water per second (cfs) and an additional well. Water Permit No. 2610-2 authorizes 0.21 cfs from two wells located in the NW 1/4 SE 1/4 Section 10-T6S-R3E. This application proposes to appropriate an additional 0.46 cfs and authorizes one additional well to be completed into the Madison Aquifer (1100 feet deep) located in the NW 1/4 SE 1/4 Section 10-T6S-R3E. This application, if approved, and Water Permit No. 2610-2 will authorize a total diversion rate of 0.67 cfs (300 gallons per minute) from three wells for use in the United Order of South Dakota's water system.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2730-2 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest.

The Water Management Board will consider Application No. 2730-2 at 8:30 AM (Central Standard Time) on Thursday, March 5, 2015, in the Floyd Matthew Training Center, Joe Foss Building, 523 E Capitol Avenue, Pierre SD. The agenda time is an estimate. Parties will be provided written notice if there is a change to the hearing time, date or location.

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 after it reaches a conclusion based on the facts presented at the public hearing.

The March 5, 2015, hearing date will be automatically delayed for at least 20 days upon written request to the Chief Engineer (Joe Foss Building, 523 E Capitol Avenue, Pierre SD 57501) from the applicant or any person who has filed a petition to oppose or support the application. The request for an automatic delay must be filed by February 23, 2015. If an automatic delay is requested, the hearing will be rescheduled for a future Board meeting and personal notice will be provided to all petitioners regarding the time, date and location.

The hearing is an adversary proceeding and any party has the right to be present at the hearing and to be represented by a lawyer. These and other due process rights will be forfeited if they are not exercised at the hearing, and decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law.

Contact Eric Gronlund at the above Chief Engineer's address to request copies of the staff report, recommendation, application or any other information. Notice is given to individuals with disabilities that this hearing is being held in a physically accessible place. 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. The telephone number for making arrangements is (605) 773-3352.

Enclosed is the staff report, recommendation, affidavits of publication and petitions in the matter of Water Permit Application No. 2730-2. State law directs the Chief Engineer to provide Water Management Board members with a copy of all pleadings including petitions for each proceeding. The information being provided to you is also being 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.

Under SDCL 1-26-17(7) notices must state that "if the amount in controversy exceeds $2,500.00 or if a property right may be terminated, any party to the contested case may require the agency to use the Office of Hearing Examiners by giving notice of the request to the agency no later than ten days after service of a notice of hearing issued pursuant to SDCL 1-26-17." This is a Notice of Hearing, service is being provided by direct mail to you, and the applicable date to give notice to the Chief Engineer is February 2, 2015. However, since this particular matter is a water permit application and not a monetary controversy in excess of $2,500.00 or termination of a property right, the Chief Engineer disputes the applicability of this provision and maintains that the hearing must be conducted by the Board.

As applicable, the following provides the legal authority and jurisdiction under which the hearing will be held and the particular statutes and rules pertaining to this application: SDCL 1-26-16 thru 1-26-28; SDCL 46-1-1 thru 46-1-9, 46-1-13 thru 46-1-16; 46-2-3.1, 46-2-9, 46-2-11, 46-2-17; 46-2A-1 thru 46-2A-12, 46-2A-14, 46-2A-15, 46-2A-20, 46-2A-21, 46-2A-23; 46-5-1.1, 46-5-2 thru 46-5-26, 46-5-30.2 thru 46-5-30.4, 46-5-31 46-5-32 thru 46-5-34.1, 46-5-38 thru 46-5-39, 46-5-46, 46-5-47, 46-5-49; 46-6-1 thru 46-6-3.1, 46-6-6.1, 46-6-10, 46-6-13, 46-6-14, 46-6-21, 46-6-26; Board Rules ARSD 74:02:01:01 thru 74:02:01:24.02 and ARSD Chapter 74:02:04.

Questions regarding the hearing process may be directed to Eric Gronlund, Water Rights Program at (605) 773-3352 or eric.gronlund@state.sd.us.

enclosures

c: Ann Mines-Bailey, Assistant Attorney General

PARTIES OF RECORD LIST FOR WATER PERMIT 2730-2, United Order of South Dakota

APPLICANT:
Seth Jeffs United Order of South Dakota
PO Box 5050
Custer SD 57730

PETITIONERS:

William R Hansen, Chief
Water Rights Branch
National Park Service
1201 Oak Ridge Drive, Suite 250
Fort Collins CO 80525
Original Petition received – 12/22/2014
Amended Petition received – 01/20/2015

Karl R and Suzanne K Von Rump
11560 Farmer Road
Custer SD 57730
Petition received - 01072015

Mr and Mrs. David Albrecht
High Lonesome Ranch
26541 Stagecoach Spgs Rd
Custer SD 57730-9109
Petition received – 01/12/2015

Toni Martin
4141 Villa Ridge Ct #122
Rapid City SD 57701
Petition received – 01/12/2015

Linda Van Dyke Kilcoin
23470 Paradise Drive
Hill City SD 57745
Petition received – 01/12/2015

Douglas L Lesher, Acting Manager
Stone Meadow Ranch
26699 Remington Rd
Custer SD 57730

Craig Bobzien, Forest Supervisor
Black Hills National Forest
1019 North 5th Street
Custer SD 57730
Petition emailed – 01/16/2015
Petiton received by mail – 01/20/2015

Rick Fox
PO Box 35
Hermosa SD 57744

Dean and Delia Johnson
14585 East French Creek Road
Fairburn SD 57738

WATER PERMIT APPLICATION NO. 2730-2
UNITED ORDER OF SOUTH DAKOTA
NOVEMBER 12, 2014

Water Permit Application No. 2730-2 proposes to appropriate water from the Madison aquifer at a maximum diversion rate of 0.46 cubic feet of water per second (cfs). Water is to be diverted from two existing wells which were authorized by Water Permit No. 2610-2, and a proposed well. Water Permit No. 2610-2 authorizes diversions of up to 0.21 cfs from two wells located in the NW¼ SE¼ of Section 10, T6S-R3E, Custer County. This application proposes to authorize the construction of a third well, also located in the NW¼ SE¼ of Section 10, T6S-R3E, and authorize a total maximum diversion from the three wells of 0.67 cfs. The water will be used in the United Order of South Dakota's water system.

AQUIFER: Madison aquifer (MDSN)

Aquifer Characteristics:
The Madison aquifer is a regionally extensive aquifer contained within the Madison Limestone, locally known as the Pahasapa Limestone, and the Englewood Limestone. The aquifer underlies portions of North Dakota, South Dakota, Montana, Wyoming, Saskatchewan, Manitoba and Alberta. The Madison aquifer underlies most of western South Dakota and parts of Eastern South Dakota (Figure 1). The Madison aquifer contains an estimated 644,827,200 acre-feet of recoverable water in storage in Western South Dakota (Allen and others, 1985) and 51,512,300 acre-feet of recoverable water in storage in Eastern South Dakota (Hedges and others, 1982).

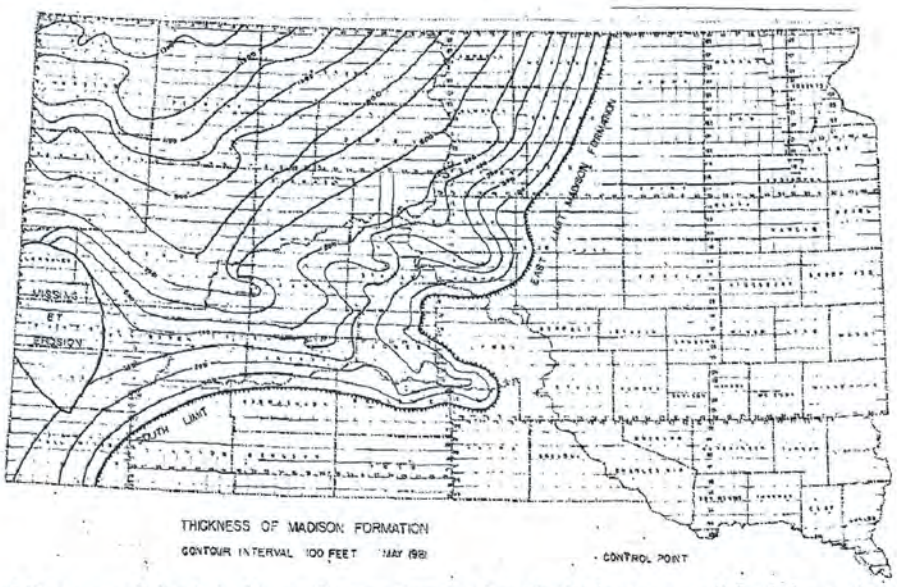

Figure 1. Areal Extent of the Madison Formation in South Dakota: modified from (Gries, 1981).

The Madison aquifer is considered a "mature karst aquifer" (Long and others, 2012) and is composed of a fine to medium crystalline, cavernous limestone and dolomite. The Madison is expected to be approximately 300 feet thick in this area (Carter and Redden, 1999a); and (Carter and Redden, 1999b). The upper portion of the Madison Limestone is karstic, therefore it contains randomly distributed zones of secondary porosity and permeability formed by weathering of

exposed surfaces, groundwater solution and fracturing. The lower part of the Madison Limestone and the Englewood Limestone generally have lower permeability than the upper part of the Madison aquifer in the Black Hill (Greene, 1993). The average porosity of the Madison is estimated to be 11%, and the effective porosity from which recoverable water can be obtained by wells is assumed to be 5% (Rahn, 1979).

The well site proposed by this application is located approximately five miles southwest of the Madison Limestone outcrop (Strobel and others, 1999). In this area, the Madison Limestone dips to the southwest at approximately 240 feet per mile (approximately three degrees) (Carter and Redden, 1999a). The DENR-Water Rights Program has record of three existing wells constructed for the United Order of South Dakota. The top of the Madison was reported to be 785 feet below grade in one well log, 715 feet below grade in a second well log and is inferred to be 719 feet below grade in the third log (Water Rights, 2014c). The static water level of the wells was reported to be 650' (06/05/2005), approximately 800' (10/20/2010) and approximately 800' (10/15/2007) respectively.

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 availability of unappropriated water 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." The statute provides that "An application may be approved, however, for withdrawals of groundwater from any groundwater formation older than or stratigraphically lower than the greenhorn formation in excess of the average estimated annual recharge for use by water distribution systems." Water Permit Application No. 2730-2 proposes to appropriate water from the Madison aquifer, a water source that is older than the Greenhorn Formation, and the water is to be used by a water distribution system. Therefore, the Board need not consider the recharge versus withdrawal issue.

Existing Rights:

This applicant has been utilizing wells completed into the Madison aquifer that were authorized by Water Permit No. 2610-2 since 2007 with no significant impact. The additional diversion rate proposed by this application is relatively low and will not likely have a noticeable effect to the Madison aquifer. There are 64 completion reports on file with the DENR-Water Rights Program within approximately five miles of the wells that are to be used to supply this appropriation (Water Rights, 2014c). The majority of these domestic wells appear to be completed into the Minnelusa aquifer and at least two are completed into the Deadwood aquifer. Wells completed into aquifers that are either stratigraphically above or below the Madison aquifer (i.e. Minnelusa and Deadwood respectively) are not expected to be affected by this proposed appropriation since the lower Minnelusa formation can be considered a confining bed that isolates the Madison hydraulically from shallower aquifers, and the bottom portion of the Madison isolates the Madison from lower

aquifers. Only three of the domestic wells on file appear to be completed into the Madison aquifer. Based on the legal location provided on the completion reports, the Madison aquifer wells are all located over three and three quarter miles from the site(s) of Application No. 2730-2.

The diversion point locations for existing water rights and future use permits appropriating water from the Madison aquifer in this area are shown in Figure 2 and identified in Tables 1 and 2.

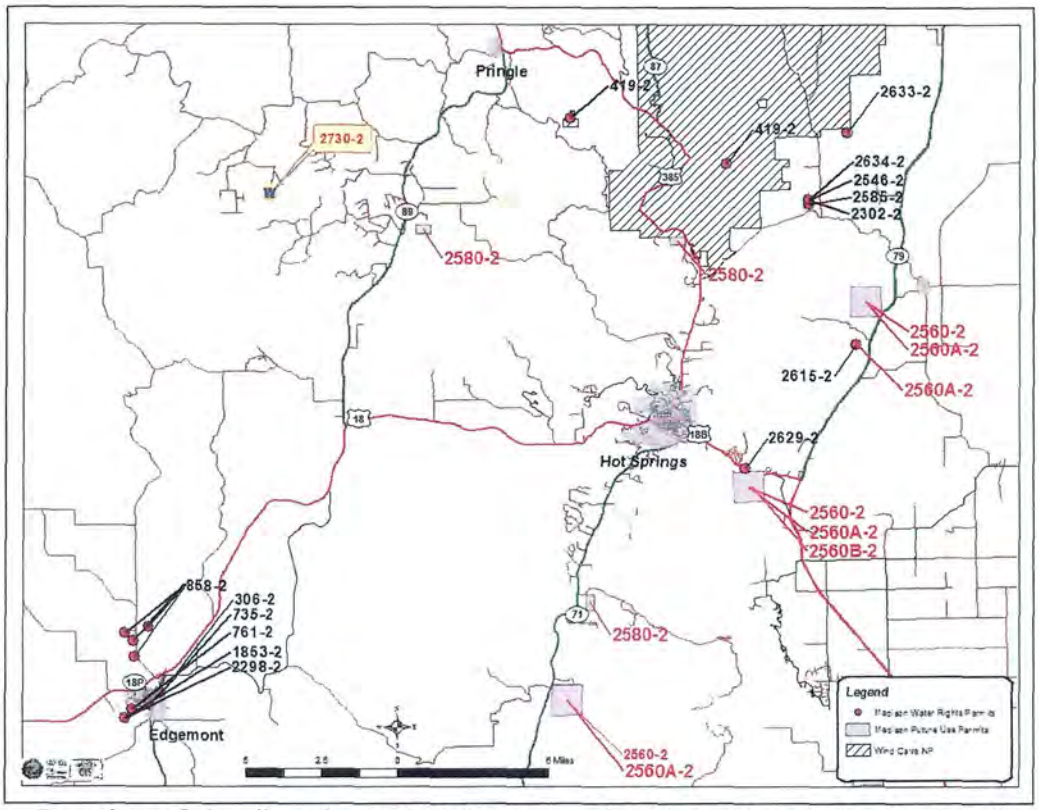

Figure 2. Location of the diversion point(s) proposed by Water Permit Application No. 2730-3, diversion points for existing Madison aquifer water rights/permits, and areas of Madison aquifer future use permits in the vicinity (Water Rights, 2014b).

Table 1. Water Rights/Permits appropriating water from the Madison aquifer in the vicinity of the diversion points proposed by Application No. 2730-2(Water Rights, 2014b).

PERMIT NO	NAME	PRIORITY DATE	STATUS	USE	CFS	ACRES	AC-FT /YR
306-2	CITY OF EDGEMONT	12/14/1945	LC	MUN	0.31		
419-2	WIND CAVE NATIONAL PARK	12/29/1955	LC	COM/IRR	0.15		
735-2	TENNESEE VALLEY AUTHORITY	12/26/1961	LC	IND	0.66		
761-2	CITY OF EDGEMONT	04/09/1962	LC	MUN	0.41		
858-2	WYOMING DAKOTA RAILROAD PROPERTIES INC	02/05/1965	LC	IRR	9.36	655.75	
1853-2	CITY OF EDGEMONT	08/23/1983	IL	MUN			
2298-2	CITY OF EDGEMONT	08/28/1993	LC	REC/MUN	1		
2302-2	EBEN W STREETER	02/07/1994	LC	RWS	0.033		
2546-2	EBEN STREETER	01/03/2005	PE	RWS	0.21		
2615-2	FALL RIVER WATER USERS DISTRICT	05/16/2005	PE	RWS	0.67		
2629-2	FALL RIVER WATER USERS DISTRICT	05/16/2005	PE	RWS	1		
2585-2	SOUTHERN BLACK HILLS WATER SYS	05/08/2006	DF	RWS	2.67		1600
2610-2	UNITED ORDER OF SOUTH DAKOTA	02/09/2007	PE	SHD	0.21		
2633-2	SOUTHERN BLACK HILLS WATER SYSTEM	06/20/2008	PE	RWS	0.67		
2634-2	STREETER FAMILY LIMITED PARTNERSHIP	07/17/2008	PE	RWS	0		

LC= Water License, IL= Incorporated, PE= Water Permit, DF= Deferred, MUN= municipal, COM= Commercial, IRR= Irrigation, IND= Industrial, REC= Recreational, RWS= Rural Water System, SHD= Suburban Housing Development

Table 2. Future Use Permits reserving water from the Madison aquifer in the vicinity of the diversion points proposed by Application No. 2730-2(Water Rights, 2014b).

FUTURE USE PERMIT NO.	NAME	ORIGINAL RESERVATION (AC-FT/YR)	REMAINING RESERVATION (AC-FT/YR)
2560-2	FALL RIVER WATER USERS DISTRICT	750	0
2580-2	SOUTHERN BLACK HILLS WATER SYSTEM	1474	1474
2560A-2	FALL RIVER WATER USERS DISTRICT	*	0
2560B-2	FALL RIVER WATER USERS DISTRICT	*	0

* FUTURE USE PERMIT NOS. 2560A-2 AND 2560B-2 AMEND FUTURE USE PERMIT NO. 2560-2 TO EXPAND THE FUTURE USE AREA AND DO NOT RESERVE ADDITIONAL WATER

Since the Madison is under artesian conditions in this area, drawdown from pumping a well may extend over a fairly large area. The transmissivity of the aquifer is very heterogeneous with values that range over several orders of magnitude (Putnam and Long, 2007). In addition, the aquifer characteristics of the Madison can vary considerably within a short distance (Greene, 1993).

Carter and others (2001) developed hydrologic budgets for the Madison and Minnelusa aquifers combined, using nine subareas to cover the Black Hills. The subareas were identified on the basis

of hypothetical flow paths and were selected with the intent of minimizing flow across the boundaries. The well(s) that is/are to be used to supply this appropriation is/are located in Carter and others' (2001) subarea 8. Carter and others (2001) estimated the transmissivity of the Madison aquifer on the border of the subarea near the well site at 1,463 feet squared per day (ft^2/d). Applying this estimated transmissivity and assuming a storage coefficient of $S= 2x10^{-4}$, the drawdown 1,000 feet from a well pumping 0.46 cfs would be less than 19 feet after one year of continuous pumping based on the Theis Equation (see Figure 3) ("Theis Equation Calculator").

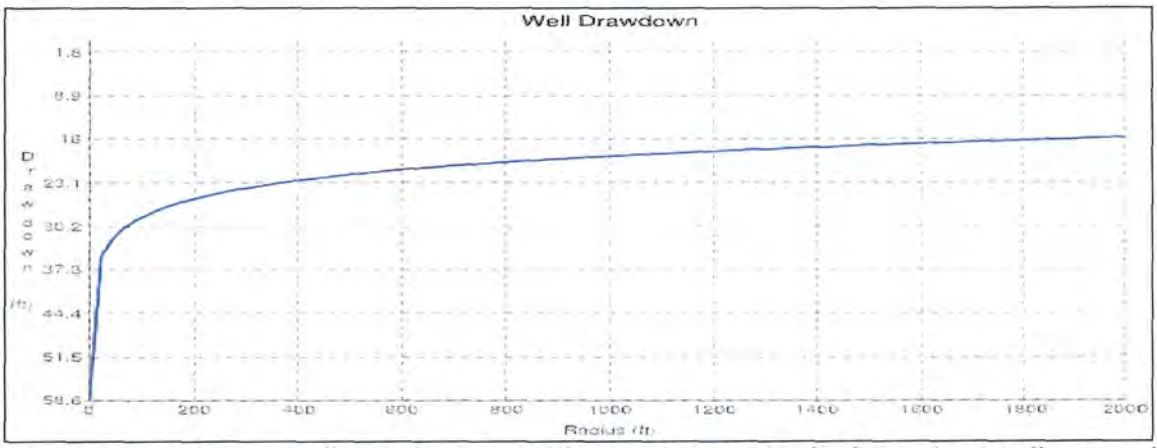

Figure 3. Drawdown predicted from a well pumping 0.46 cfs from the Madison aquifer, continuously for one year, assuming T= 1,463 ft^2/d, S= $2x10^{-4}$. (modified from ("Theis Equation Calculator"))

Assuming the combined diversion rates of Water Permit No. 2610-2 and Water Permit No. 2730-2 (if approved) are pumped from a single well, a transmissivity of 1,463 ft^2/d and a storage coefficient of $S= 2x10^{-4}$, the drawdown 1,000 feet from a well pumping 0.67 cfs would be less than 28 feet after one year of continuous pumping based on the Theis Equation (see Figure 4) ("Theis Equation Calculator").

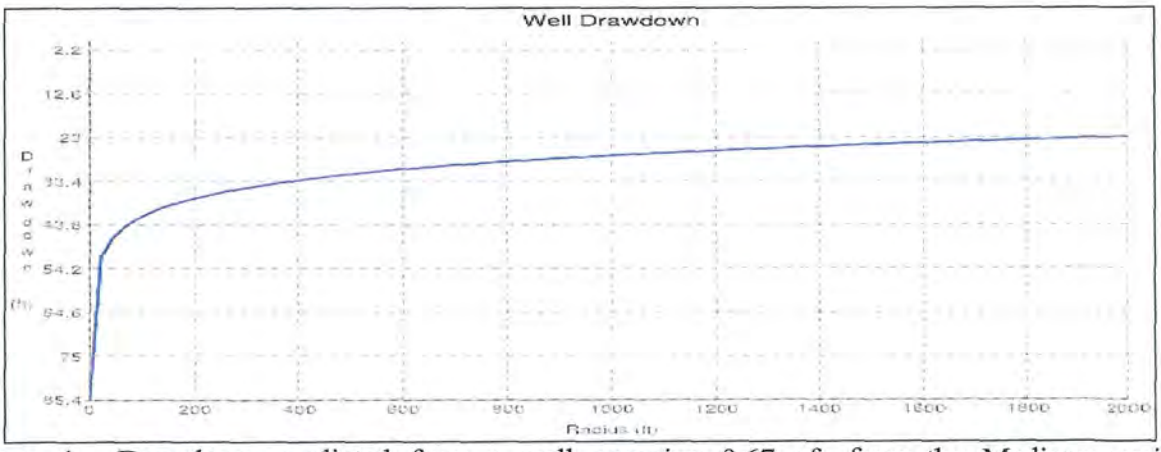

Figure 4. Drawdown predicted from a well pumping 0.67 cfs from the Madison aquifer, continuously for one year, assuming T= 1,463 ft^2/d, S= $2x10^{-4}$. (modified from ("Theis Equation Calculator"))

The Theis equation requires a number of simplifying assumptions, some of which may not apply in this case; however, the solution is still useful to show that drawdown should not be significant.

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, 2014a).

Given the distance between the well(s) that is/are to supply this appropriation and existing Madison wells well interference is not expected to be adverse.

The well sites proposed by this application are located approximately five miles west of the "Argyle" well site proposed by Future Use Permit No. 2580-2. Approval of this application should not hinder development of the future use permit due to the distance involved.

Beneficial Use:

Pursuant to SDCL 46-1-6 (3) beneficial use is defined as:

> "any use of water within or outside the state, that is reasonable and useful and beneficial to the appropriator, and at the same time is consistent with the interests of the public of this state in the best utilization of water supplies;

The applicant has the burden of proof in establishing that an application is a beneficial use of water.

Public Interest Issues:

In the past, there have been two "public interest" issues raised that could potentially be obstacles to developing the Madison aquifer in the Southern Black Hills: 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). Major springs in the area identified by Naus and others (2001) are shown in Figure 5.

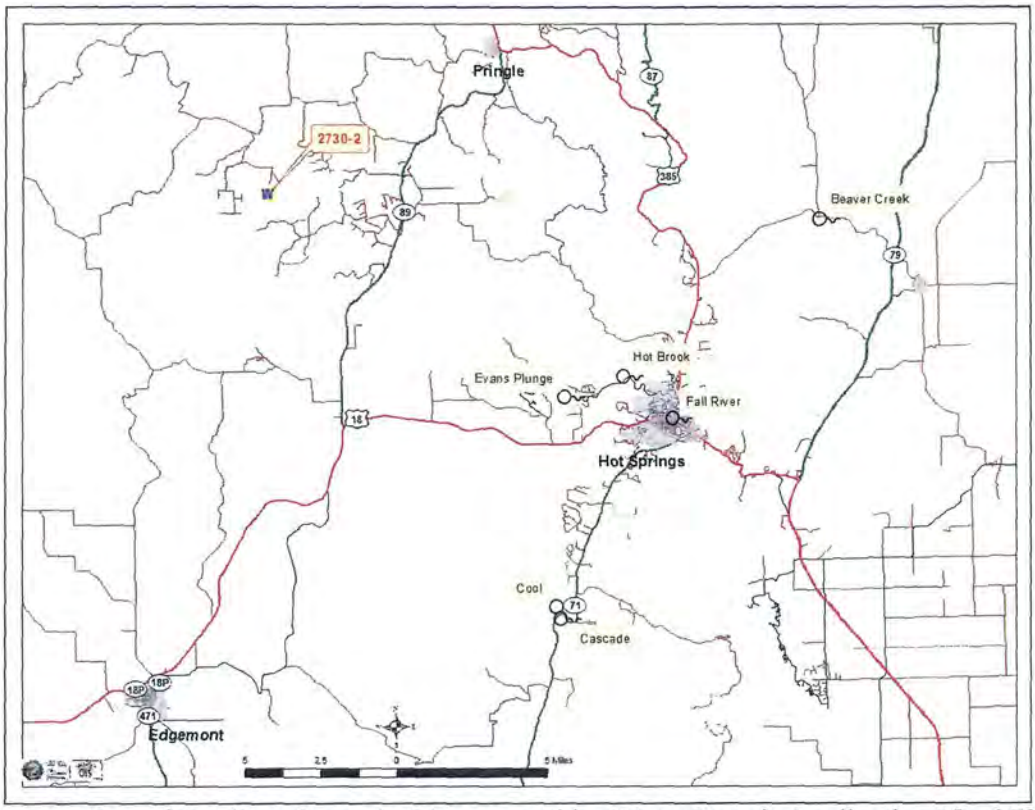

Figure 5. Location of the diversion point(s) proposed by Water Permit Application No. 2730-2, and the location of major springs in the vicinity.

The discharge of one of these springs, Beaver Creek Spring, is measured by National Park Service personnel. The spring is located approximately two and one-quarter miles east of SD DENR-Water Rights' Observation Well CU-91A. A comparison of the discharge of Beaver Creek Springs and the potentiometric surface of the Madison aquifer suggests a relationship may exist between the two (see Figure 6). At this time it is not possible to determine if a cause and effect relationship exists between the Madison aquifer potentiometric surface and the spring flow or if the two have similar responses to the same hydrologic conditions. If a cause and effect relationship exists between the Madison aquifer potentiometric surface and the spring discharge, a decline of the potentiometric surface in the vicinity of the springs could decrease spring discharge.

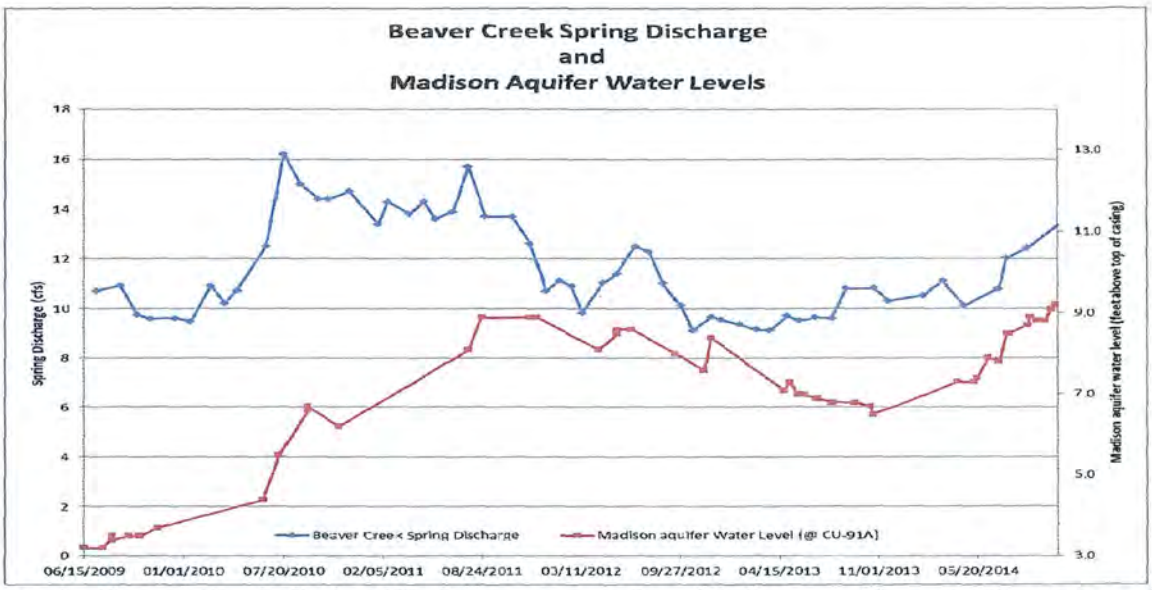

Figure 6. Beaver Creek Spring Discharge compared to Madison aquifer potentiometric surface measured at observation well CU-91A ("Aquarius Web Data Portal."; Water Rights 2014a)

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, 2014b)

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."

The well site(s) proposed by this application is/are located over eleven miles from the nearest major spring (Evens Plunge). 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, (0.67 cfs maximum), it is unlikely that drawdown from this well would have a measurable impact on spring discharge.

Wind Cave National Park:

The National Park Service (NPS) has intervened in matters of water permit applications from the Madison aquifer in the past. In 2007, the NPS filed a petition to intervene in the matter of Water Permit Application No. 2610-2. The NPS was concerned that "the Application No. 2610-2, over time and in combination with senior water right applications … will adversely impact Wind Cave National Park (Wind Cave NP) senior water rights and water-dependent resources." The water-related resources cited by the NPS include: lakes and pools in the lower reaches of Wind Cave, three perennial streams (Cold Springs, Beaver, and Highland Creeks), many intermittent and ephemeral stream courses, and over 95 seeps and springs. The NPS later withdrew their opposition to granting the water permit but restated its concerns about the potential impacts of appropriations from the Madison aquifer.

Lakes and Pools:

The lakes and pools in Wind Cave National Park are in hydraulic connection with the Madison aquifer and the water table of the Madison aquifer is accessible at the deepest part of the cave (Long and others, 2012) . The stages of the lakes fluctuate in response to climatic conditions similar to fluctuations in the Madison potentiometric surface measured in DENR-Water Rights' Observation Well CU-91A, (see Figure 7).

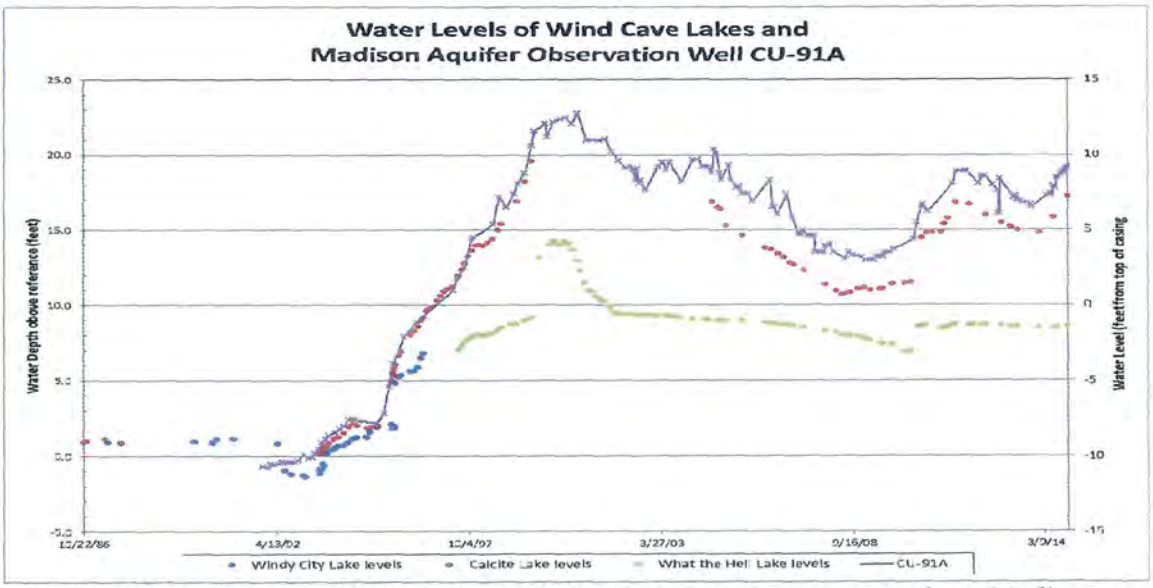

Figure 7. Water Levels of Wind Cave National Park Lakes compared to Madison aquifer potentiometric surface measured at observation well CU-91A (Hughes; Water Rights 2014a)

The lakes and pools in Wind Cave are located approximately thirteen miles east of the well site(s) proposed by this application (see Figure 8).

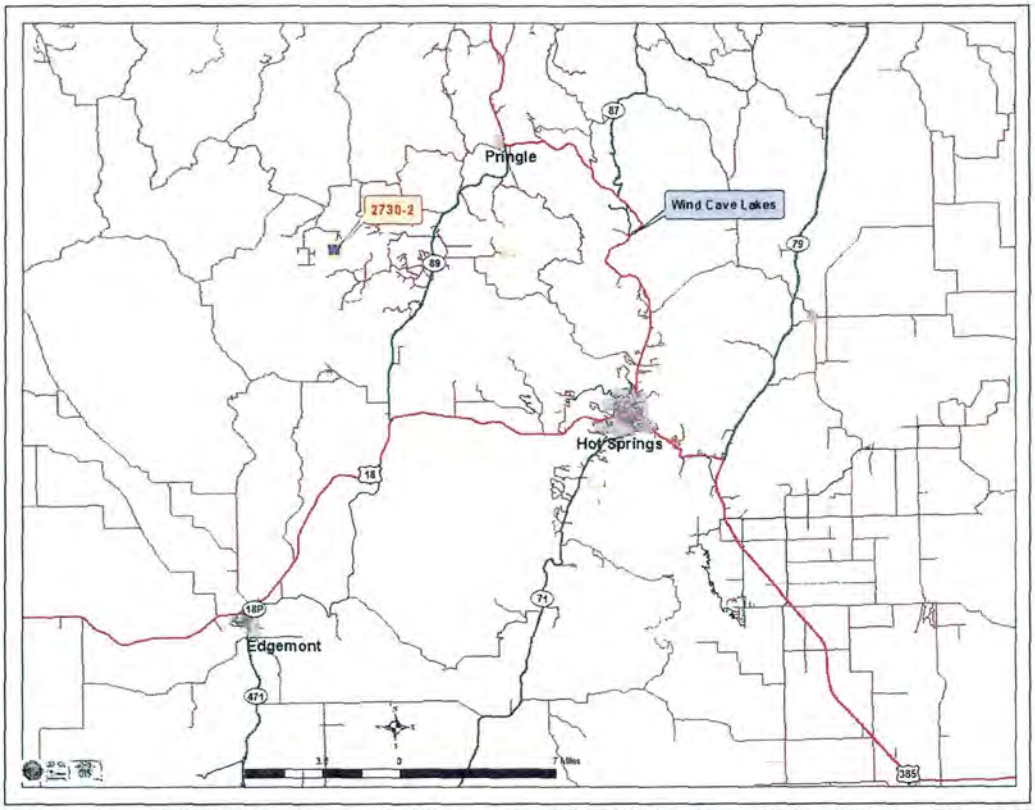

Figure 8. Location of the diversion point(s) proposed by Water Permit Application No. 2730-3, and the location of lakes and pools in Wind Cave National Park.

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 (>5 miles) and the relatively small diversion rate proposed (0.67 cfs maximum).

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". The entire length of Cold Spring Creek is located on formations that are geologically lower than the Madison and therefore are not expected to be influenced by Madison aquifer withdrawals. Beaver and Highland Creeks are typically dry in their reaches downstream from the loss zone (Madison, Minnelusa and Minnekahata aquifer outcrops) because the upstream flow is usually insufficient to meet or exceed the streams' loss thresholds. Since loss thresholds are assumed to be generally constant (Hortness and Driscoll, 1998), any fluctuations of the groundwater levels caused by pumping 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 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."

Evidence is not available to justify issuing this permit without a term limitation of 20 years.

Conclusions:

1. The Madison aquifer is a viable aquifer in this area.
2. This diversion will not adversely impair existing water rights.
3. Information is not available to approve this application without a 20 year term limit

Ken Buhler
SD DENR-Water Rights Program

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Water Rights Program, 2014b, Water Permit/Right Files, DENR-Water Rights Program, Joe Foss Building, Pierre, SD 57501

Water Rights Program, 2014c, Well Completion Report Files, DENR-Water Rights Program, Joe Foss Building, Pierre, SD 57501

DEPARTMENT OF ENVIRONMENT and NATURAL RESOURCES

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RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT APPLICATION NO. 2730-2, United Order of South Dakota

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. 2730-2, United Order of South Dakota, c/o Seth Jeffs, 11571 Farmer Rd, Pringle SD 57773.

The Chief Engineer is recommending Approval of Application No. 2730-2 with a 20 year term pursuant to SDCL 46-1-14 and 46-2A-20 because 1) evidence is not available to justify issuing this permit without a 20 year term limitation, 2) the proposed diversion can be developed without 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. 2730-2 is issued for a twenty year term. Pursuant to SDCL 46-2A-21, the twenty year term may be deleted at any time during the twenty year period or following its expiration. If the twenty 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. 2730-2 may also be cancelled for non-construction, forfeiture, abandonment or three permit violations pursuant to SDCL 46-1-12, 46-5-37.1 and ARSD 74:02:01:37.

2. The new 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 new well authorized by Permit No. 2730-2 shall be constructed by a licensed well driller and construction 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 Water Permit Holder shall report to the Chief Engineer annually the amount of water withdrawn from the Madison aquifer that is authorized by Water Permit Nos. 2610-2 and 2730-2.

See report on application for additional information.

Jeanne Goodman

Jeanne Goodman, Chief Engineer
December 5, 2014

United States Department of the Interior

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

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Ms. Jeanne Goodman, Chief Engineer
Water Rights Program
Foss Building
523 E. Capitol
Pierre, SD 57501

Mr. Seth Jeffs
United Order of South Dakota
11571 Farmer Rd
Pringle, SD 57773

Re: Petition to Intervene in the matter of Application to Permit Water within the State of South Dakota No. 2730-2 filed by the United Order of South Dakota

Dear Ms. Goodman and Mr. Jeffs,

The National Park Service (NPS) petitions to intervene in the above referenced application to appropriate water filed by the United Order of South Dakota. This application requests to amend the withdrawal under Water Permit 2610-2 by 205 gallons per minute (gpm) to a maximum instantaneous rate of 300 gpm (0.67 cubic feet per second) from the Madison aquifer at a location approximately 13 miles west of Wind Cave National Park (Figure 1). There is no annual volume provided on the application. The water is to be used for a rural water supply system. The NPS believes this withdrawal, if permitted and developed, and in combination with senior permits, may over time adversely affect the water rights and water-dependent resources of the National Park. These impacts, if they occur, would not be in the public interest.

Briefly, the park is responsible for the management of resources dependent on water levels in the Madison aquifer. One of these primary resources is Wind Cave, which is considered one of the most significant caves in the world, as it is one of the longest, most complex, and oldest caves on earth.

Wind Cave's length and passage density are enough to put it into the ranks of world-class caves, but the cave is significant for many other reasons. There are currently several lakes and pools in the lower reaches of Wind Cave that likely define the water table in this region of the Madison aquifer.

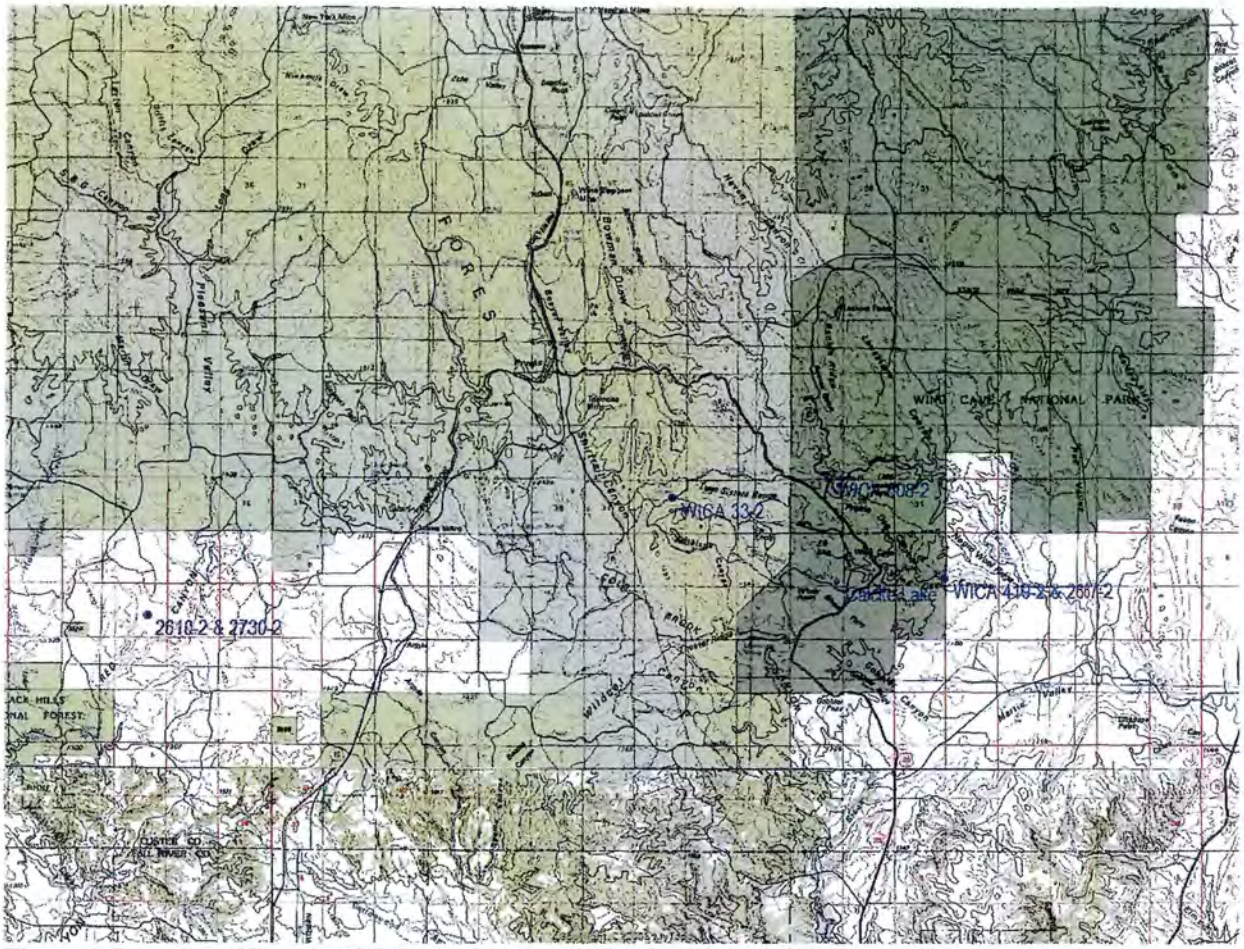

Figure 1. Location of Permit 2610-2, Application 2730-2, Wind Cave NP water rights and Calcite Lake

The largest and one of the most accessible of these are the connected features known as Calcite and Windy City Lakes. Paces and others (2013) describe a history of water table fluctuations in the Madison aquifer within the lower portions of the cave. These fluctuations have resulted in layers of calcite crusts being formed on top of the bedrock and sediment found in the cave.

Biologically, water samples taken from Calcite Lake suggest the lake ecosystem is very unique and unlike any described previously. A preliminary study by Barton (2012) suggests the lakes are a bacterially dominated ecosystem where bacteria species may be the top predators. While a diverse range of species are found, the concentrations of microbial cells found in the cave water may be lower than any other body of water yet found on earth (Barton 2012).

Wind Cave National Park has four state appropriative water rights that are senior to those sought by the applicant (Table 1). Out of the four rights listed, the withdrawal proposed by Application 2730-2 could affect water levels in the well associated with Permit 419-2 since this well is open to the Madison aquifer. This well is completed in the Madison, Englewood, Deadwood, and Precambrian aquifers and supplies water for park operations.

The other three water rights do not derive water from the Madison aquifer and should not be affected by the proposed withdrawal.

Table 1. State appropriative water rights for Wind Cave National Park

Number	Name	Point of Diversion	Rate of Diversion	Purpose	Priority date
US 33-2	Cold Springs Creek	Sec. 32 & 28, T5S, R5E	0.2 cfs	Domestic, recreation, wildlife, fire protection	August 23, 1937
US 508-2	Cold Springs Lake	SW ¼ SE ¼ Sec. 26, T5S, R5E	222.08 afy	Stockwater, recreational	November 4, 1939
419-2	Headquarters well	SE ¼ SE ¼ Sec 6, T6S, R6E	0.44 cfs	Park operations	December 29, 1955
2667-2	Minnelusa Well	SE¼ SE¼ Sec 6, T6S, R6E	0.11 cfs	Park operations	April 11, 2011

The NPS is concerned that water levels in the Madison aquifer within Wind Cave NP will be lowered over time as a result of the pumping proposed under Application 2730-2. The South Dakota Department of Environment and Natural Resources evaluation of Water Permit Application 2730-2, dated November 12, 2014, for the approval of the Chief Engineer (DENR evaluation). The evaluation included two Theis calculations that projected drawdown vs. distance from the pumping well at two different pumping rates over a period of one year. These analyses stopped at distance 2000 feet from the pumping well.

To determine if the cone of depression might extend to the National Park, we extended the DENR evaluation to 13 miles from the pumping well. Table 2 provides the results from this modified DENR evaluation for two continuous pumping scenarios. The following parameters were used:

Transmissivity (T) = 1,463 ft^2/day
Storage coefficient (S) = 0.0002
Radius (r) = 13 miles
Time (t) = 1 to 20 years

Table 2. Drawdown (feet) calculated using the Theis Equation Calculator cited in the DENR evaluation, at a point 13 miles from the pumping well.

Pumping rate	1 year	5 years	10 years	20 years
205 gpm	1.0	3.6	5.0	6.4
300 gpm	1.5	5.3	7.3	9.4

These calculations indicate potential significant adverse effects to water levels within the park from the withdrawal proposed by Application 2730-2. There are also other permitted withdrawals in the Madison aquifer in the vicinity of Wind Cave (2302-2, 2546-2, 2633-2, and 2634-2) and Future Use permit 2580-2. Water-level declines from

pumping wells associated with these senior permits were not considered in the DENR evaluation for Application 2730-2. Water-level changes associated with any combination of these withdrawals could impact the National Park's water rights and water-related resources sooner and by a greater degree than by the withdrawal proposed by this application alone.

The DENR evaluation states that "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 (>5 miles) and the relatively small diversion rate proposed (0.67 cfs maximum)." As cited in the DENR evaluation, the water-level record from stage readings in Calcite Lake show over 20 feet of fluctuation since the mid-1980s. Any water-level decline due to pumping wells will be superimposed on the natural variation in water levels. This means that water levels will still fluctuate, but at lower overall levels. The frequency and duration of dry periods in parts of the cave would therefore increase. These impacts could significantly affect the cave forming processes now occurring within Wind Cave. Any adverse effects to the park's water rights and water-related resources would not be in the public interest.

The NPS is concerned about the Chief Engineer's recommendation to approve Application No. 2730-2 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 effects on Wind Cave National Park water rights and water-dependent resources over long periods of pumping. This deficiency is acknowledged by the statement in the DENR evaluation that "Evidence is not available to justify issuing this permit without a term limitation of 20 years." Therefore, the NPS believes that any approval of Application 2730-2 should be conditioned on the collection of scientific data to allow such a determination to be made.

The NPS is willing to meet with representatives from the United Order of South Dakota to see if an alternative exists that allows the applicant to withdraw the water required for their beneficial use while still protecting the water rights and water-related resources of Wind Cave National Park.

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

Sincerely,

for William R, Hansen
Chief, Water Rights Branch

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United States Department of the Interior

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Pierre, SD 57501

Mr. Seth Jeffs
United Order of South Dakota
P.O. Box 5050
Custer, SD 57770

Re: Amendment to Petition to Intervene in the matter of Application to Permit Water within the State of South Dakota No. 2730-2 filed by the United Order of South Dakota

Dear Ms. Goodman and Mr. Jeffs,

On December 19, 2014, the National Park Service (NPS) submitted a petition to intervene in the matter of the above-referenced application to appropriate water filed by the United Order of South Dakota (United Order). Since that time, NPS has conducted further investigations regarding the above-referenced application and reexamined Water Permit No. 2610-2, issued to United Land Management. These investigations have led NPS to conclude that the above-referenced application may contain errors or be incomplete based on the following:

1. Water Permit No. 2610-2 (Attachment A) was issued to United Land Management on August 1, 2007, and authorized the withdrawal of groundwater at a rate of 0.21 cubic feet per second (cfs) for the purpose of a suburban housing development. The NPS had timely filed a letter in opposition to this application, but subsequently withdrew its objection after United Land Management agreed to provide copies of any well logs, pump test data, and water use data to the NPS. According to the minutes of the July

11, 2007 meeting of the Water Management Board, a representative of the applicant, Richard Allred, testified as follows:

> In response to a question from Ms. Best, Mr. Allred stated that at the present time there are more than 25 people living at this location because of construction, and there may be more than 25 people living in the development once it is completed." Mr. Allred also testified "that United Land Management will submit well logs, pump test data, and water use data to the National Park Service as it is obtained. (see pages 9 and 10 of Attachment B)

As of the date of this letter, the NPS has not received any well logs, pump test data, and water use from United Land Management.

The maximum amount of groundwater that the applicant is permitted to withdraw pursuant to Water Permit No. 2610-2 on an annual basis is 152 acre-feet. Based on a U.S. Geological Survey estimate that average domestic use per person in South Dakota in 2005 was 99 gallons per day, this amount is sufficient to support a suburban housing development with a total of 1,370 residents.

United Land Management operates a community public water system, which according to its 2013 drinking water report serves a system population of 75 people and has 11 service connections. The report lists Seth Jeffs as the "certified operator" of the system (see Attachment C). Mr. Jeffs also submitted Application No. 2730-2 on behalf of the United Order of South Dakota.

2. According to a "Notice of Transfer of Ownership" filed by United Land Management with the Chief Engineer on December 31, 2009, United Land Management transferred ownership of Water Permit No. 2610-2 to the United Order of South Dakota, a Common Law Trust, on December 23, 2009 (see Attachment D). As of January 14, 2015, the records of the South Dakota Secretary of State indicate that United Land Management last filed an annual corporate report in 2009 and the status of United Land Management is listed as "Cancellation Pending", which suggests that the administrative dissolution of United Land Management may be imminent (see Attachment E). No information regarding the "United Order of South Dakota" was found on the website of the South Dakota Secretary of State. It is unclear what the legal status of the United Order of South Dakota is under South Dakota law and what, if any, affect this uncertainty has on Application No. 2730-2.

3. Application No. 2730-2 seeks the issuance of a permit to withdraw an additional 0.46 cfs of groundwater from approximately the same point of diversion as that authorized by Water Permit No. 2610-2 for the following beneficial uses: "rural water system" and "domestic (over 18 gpm)".

However, the application does not provide any evidence that the United Order of South Dakota either operates a legally-recognized "rural water system" or is authorized to operate such a system. Furthermore, the application fails to provide any information as to the need by the United Order of South Dakota, for an additional amount of groundwater over and above the 0.21 cfs that it currently has rights to use pursuant to Water Permit No. 2610-2. If the permit for the groundwater sought by Application No. 2730-2 is granted, the United Order of South Dakota would possess groundwater withdrawal permits sufficient to supply the domestic needs of 4,372 people (based on the 2005 USGS estimate of per capita domestic water use in South Dakota). For the sake of comparison, according to the 2010 census the population of Custer, which is the largest town in Custer County, was 2,067 residents.

4. The annual water use reported by the United Order of South Dakota and its predecessor in title to the Chief Engineer under Water Permit No. 2610-2 is as follows:

Year	Use (acre-feet/year)
2009	19
2010	26
2011	41
2012	33
2013	10.5
Average	25.9

Based on the foregoing information, the NPS believes that Application No. 2730-2 is wholly speculative and that the applicant may be seeking to appropriate groundwater for other than traditional domestic uses. Therefore, the NPS respectfully requests that the Water Management Board deny the application on the basis that the proposed water use is purely speculative and, therefore, not in the public interest. However, if Application No. 2730-2 is not denied, the NPS requests that the Water Management Board qualify Water Permit No. 2730-2 and limit the annual amount of water that can be withdrawn cumulatively pursuant to both permits to the historic average groundwater withdrawal of 25.9 acre-feet per year. This amount is sufficient to meet the customary domestic needs of 234 persons, which is roughly three times the number of persons currently being served by the existing community public water system.

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

Sincerely,

Wm. R. Hansen

William R, Hansen
Chief, Water Rights Branch

Attachments: Attachment A - Water Permit No. 2610-2
Attachment B - WMB Meeting Minutes (July 11, 2007)
Attachment C - United Land Management Drinking Water Information
Attachment D - Notice of Transfer of Ownership
Attachment E – Secretary of State Business Entity Website Information

cc: (via email only)
Wind Cave National Park

SOUTH DAKOTA
WATER PERMIT NO. 2610-2

Date of first receipt of application February 9, 2007.
Date of return to applicant for corrections, amendments or changes February 9, 2007.
Date of receipt of corrected application February 20, 2007.

The Water Management Board approved Water Permit No. 2610-2 on July 11, 2007 for United Land Management, c/o Richard Allred, Box 54, Rapid City SD 57709 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. 2610-2 appropriates 0.21 cubic feet of water per second from two wells to be completed into the Madison Aquifer (approximately 1000 feet deep) located in the NW ¼ SE ¼ Section 10-T6S-R3E.

2. The water appropriated shall be used for the purpose of suburban housing development 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 February 9, 2007.

5. One-fifth of the construction is to be completed on or before January 11, 2010.

6. All construction is to be completed on or before July 11, 2012.

7. Water is to be put to beneficial use on or before July 11, 2016.

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. 2610-2 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. 2610-2 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 wells 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 wells authorized by Permit No. 2610-2 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. United Land Management shall report to the Chief Engineer annually the amount of water withdrawn from the Madison Aquifer.

WATER MANAGEMENT BOARD

By: Garland Erbele

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

AUG 0 1 2007
date

Attachment A

RESOLUTION ON STATEMENT OF REASONS TO DENY PETITION TO DESIGNATE SPEARFISH CREEK AS AN OUTSTANDING STATE RESOURCE WATER: Jeanne Goodman, DENR Surface Water Quality Program, participated via telephone conference call.

On May 9, 2007, the board held a public hearing and denied amendments to 74:51:01:39.01 – to designate Spearfish Creek in Lawrence County as an outstanding state resource water. On May 25, 2007, Nancy Hilding, personally and on behalf of the Prairie Hills Audubon Society, submitted a written request by electronic mail pursuant to SDCL 1-26-7.1 requesting a statement of reasons as to why the board denied the proposed rule change in response to the petition to designate Spearfish Creek as an Outstanding State Resource Water.

Ms. Goodman noted that the resolution, Statement of Reasons, Ms. Hilde's request for a Statement of Reasons, and the minutes from the May 9, 2007, public hearing were sent to the Water Management Board prior to today's meeting.

Ms. Goodman provided a summary of the resolution and Statement of Reasons and requested board approval of the resolution adopting the Statement of Reasons.

Motion by Hoyt, seconded by Brink, to adopt the Resolution adopting the Statement of Reasons prepared pursuant to SDCL 1-26-7.1. Motion carried.

The Statement of Reasons will be sent to the Legislative Research Council, and the Interim Rules Review Committee, and the petitioner.

REQUEST PERMISSION TO ADVERTISE RULES ON SURFACE WATER QUALITY STANDARDS: Ms. Goodman requested permission to advertise for a public hearing in October 2007 to consider amendments to the Surface Water Quality Standards.

Motion by Brink, seconded by Hoyt, to authorize staff to advertise for a public hearing to consider amendments to the Surface Water Quality Standards. Motion carried.

WATER PERMIT APPLICATION NO. 2610-2, UNITED LAND MANAGEMENT: Ken Buhler presented his report on the application.

Water Permit Application No. 2610-2 proposes to appropriate 0.21 cfs (95 gpm), from two wells to be completed into the Madison aquifer, approximately 1000 feet deep in Custer County for a suburban housing development.

The Chief Engineer recommended approval for a 20 year term with the Well Interference Qualification, Well Construction Rule Qualification No. 2, and the following qualifications:

1. In accordance with SDCL 46-1-14 and 46-2A-20, Permit No. 2610-2 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. 2610-2 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. United Land Management shall report to the Chief Engineer annually the amount of water withdrawn from the Madison Aquifer.

Mr. Buhler reported that the Madison Limestone, locally known as the Pahasapa Limestone, is a fine to medium crystalline, cavernous limestone and dolomite. The aquifer is laterally extensive and underlies much of the western United States. The upper portion of the Madison Limestone is karstic, therefore it contains randomly distributed zones of secondary porosity and permeability formed by weathering of exposed surfaces, groundwater solution and fracturing, and is considered the Madison aquifer. This well site is located about five miles from the outcrop of the aquifer, and the top of the Madison is expected to be approximately 760 feet below grade. The Madison is expected to be approximately 300 feet thick in this area.

The availability of unappropriated water in the Madison aquifer 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."

Recharge to the Madison aquifer occurs through streamflow losses and direct infiltration of precipitation at the outcrop area. Recharge for the entire Madison aquifer in South Dakota has been estimated to range from 140,000 to 400,000 acre-feet per year. Average annual recharge from 1931-1998 was estimated to be approximately 137,000 ac-ft/yr.

Mr. Buhler stated that water is available from the aquifer, however, 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 is available for this appropriation, merely to demonstrate that in general the Madison aquifer is an immense resource that is relatively untapped.

The Water Rights Program monitors 26 observation wells completed into the Madison aquifer in the Black Hills area. Three of those observation wells are within eight to 15 miles away from this site. Hydrographs of these observation wells are included in Mr. Buhler's report.

Observation well data suggest that at the existing level of development, natural influences dominate the water levels of the aquifer and the effects of pumping as yet are not obvious.

The Water Rights Program has record of a number of domestic wells in this area. The majority of these domestic wells appear to be completed into the Minnelusa aquifer and at least two are completed into the Deadwood aquifer. Wells completed into aquifers that are either stratigraphically above or below the Madison aquifer are not expected to be affected by this proposed appropriation since the lower Minnelusa aquifer can be considered a confining bed that isolates the Madison hydraulically from shallower aquifers, and the bottom portion of the Madison isolates the Madison from lower aquifers. There are no completion reports on file for

wells completed into the Madison aquifer within approximately five miles of the well sites proposed by this application.

There are no wells supplying Water Rights/Permits within approximately nine miles of the well site proposed by this application. The nearest Water Right supplied by a well completed into the Madison aquifer, Water Right No. 419-2, Wind Cave National Park, is located approximately 10 miles east-northeast of the well sites proposed by this application.

Well interference resulting from this appropriation is not expected to be an issue to either domestic wells or wells supplying appropriative rights due to the distance between wells and the relatively low diversion rate proposed by this application.

Mr. Buhler noted that the well site proposed by this application is located approximately five miles west of the "Argyle" well site proposed by Future Use Permit No. 2580-2. Approval of this application should not hinder development of the future use permit due to the distance between wells.

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."

Evidence is not available to justify issuing this permit without a term limitation of 20 years.

Mr. Buhler concluded that the Madison aquifer is a viable aquifer in this area, this diversion will not adversely impair existing water rights, and information is not available to approve this application without a 20-year term limit.

Mr. Buhler noted that on June 11, 2007, the National Park Service (Wind Cave National Park) submitted a letter in opposition to the application. On June 29, 2007, the National Park Service withdrew their opposition. If the permit is granted, the National Park Service requests copies of any well logs, pump test data, and water use data from the applicant.

Richard Allred was administered the oath by Chairman Hutmacher.

In response to a question from Mr. Hoyt, Mr. Allred testified that United Land Management will submit well logs, pump test data, and water use data to the National Park Service as it is obtained.

Chairman Hutmacher asked if this will be a public water supply. Mr. Allred answered that he is not sure if this will be a public water system.

Ms. Best asked how many people currently live at this location. Mr. Allred stated that this is ongoing construction and people are always coming and going.

In response to a question from Ms. Best, Mr. Allred stated that at the present time there are more than 25 people living at this location because of construction, and there may be more than 25 people living in the development once it is completed.

Motion by Brink, seconded by Holzbauer, to approve Water Permit Application No. 2610-2, United Land Management, subject to the qualifications set forth by the chief engineer. Motion carried.

WATER PERMIT APPLICATION NO. 2560A-2 AND 2615-2, FALL RIVER WATER USERS DISTRICT: Ms. Best reported that Application No. 2560A-2 proposes to expand the future use area that was authorized by Future Use Permit No. 2560-2. Water Permit Application No. 2615-2 proposes to complete a well into the Madison aquifer and place 400 acre-feet of water to beneficial use annually at a maximum diversion rate of 0.67 cfs.

The National Park Service filed a petition to intervene in the matter of Water Permit Application No. 2615-2. The National Park Service was concerned about potential adverse impacts that may result from withdrawals proposed by the application on the water rights and water-related resources of Wind Cave National Park.

Ms. Best stated that the parties negotiated a settlement agreement, which provides that Fall River Water Users District undergo a pump test and that water quality testing occur at this location. Fall River Water Users District has provided DENR with written notice that they will comply with these conditions.

The chief engineer recommended approval of Application No. 2560A-2 with the following qualifications:

1. Permit Nos. 2560-2 and 2560A-2, combined, reserve 750 acre feet of water annually from the Madison Aquifer.

2. That Future Use Permit Nos. 2560-2 and 2560A-2 are approved with the stipulation that this Permit is subject to review by the Water Management Board in developing reserved water upon expiration of seven (7) years. This Permit shall be subject to cancellation if the Water Management Board determines during the review that the holder cannot demonstrate a reasonable need for the Permit.

3. 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-

United Land Management Drinking Water Information

(System Information, Sampling Requirements, and Compliance Report)

2013 Certificate of Achievement Award.

Population Served:	75	**System Population:**	75
Certified Operator:	Mr Seth Jeffs PO Box 5050 Custer, SD 57730-5050	**Work Phone:** **Home Phone:** **Cell Phone:** **Fax:** **Email:**	 (605)673-5274 ssjmail2@gmail.com
Financial Contact:	Mr Seth Jeffs PO Box 5050 Custer, SD 57730	**Work Phone:** **Home Phone:** **Cell Phone:** **Fax:** **Email:**	(605)673-5274
Other Contacts:	Mr Preston Barlow PO Box 5050 Custer, SD 57730	**Work Phone:** **Home Phone:** **Cell Phone:** **Fax:** **Email:**	 preston@reliance.bz
Last Inspection:	June 11, 2014		
Type of System:	Community	**Area Served:**	Custer County
Number of Service Connections:	11	**Contamination Risk:**	low

Water Produced And Used By The United Land Management Public Water System

PWS Owner Type:	Private Ownership	**Service Area:**	Residential Area
Contract Laboratory:			Energy Laboratory

Attachment C

RECEIVED
DEC 3 1 2009
WATER RIGHTS PROGRAM

SD EForm - 0495 V2 **NOTICE OF TRANSFER OF OWNERSHIP**

To: Chief Engineer
Water Rights Program, DENR
523 E. Capitol
Pierre, SD 57501-3181

Water Right/Permit No. 2610-2

Date: 12/29/09

I/We request that Water Right/Permit No. 2610-2 formerly owned by:
United Land Management be transferred to:

New Owner Name: United Order of South Dakota
Address: 11570 Farmer road PO Box 5050
City, State, Zip Custer SD 57730 Telephone No. 605-673-5274

Title to the following described land(s)/property has been transferred as described above:

Water Permit No 2610-2

☑ I understand that the validity of Water Right/Permit No. 2610-2 has not been determined by this transfer action. If I have any questions on validity, I understand that only the Water Management Board has the authority to determine if a water right/permit is valid (see note below.)

You are requested to file this "Notice of Transfer" in the appropriate file with the Water Rights Program, as evidence of the change of ownership.

A fee of Fifty Dollars ($50.00) is included to cover the filing fee as required by SDCL 46-2-13.

I, United Order of South Dakota, the new owner, certify that the above information is true and correct. By Stephen P. Harber Trustee

United Order of South Dakota
by Stephen P. Harber Trustee
(Signed by new owner)

NOTE: Water permits may be cancelled for nonconstruction after the five year construction period has expired. Once a water permit is developed and the water used, the permit becomes a right. A water right may be lost for three reasons:

1. Abandonment - no intent to use water and use is abandoned.
2. Forfeiture - no use of water for three year period without legal excuse.
3. For a third violation of a condition of a water permit/right.

2009/07

(copy of land deed transfer enclosed also)
Attachment D

After Recording Return To:
Stephen P. Harker, Trustee
11571 Farmer Road
Pringle, SD 57773

STATE OF SOUTH DAKOTA,
COUNTY OF CUSTER-SS 51279
Filed this 24 Day of Dec 2009 at 10:15 O'clock AM
BOOK 49 OF DEED PAGE 330
/S/ Pamela J Johnson
REGISTER OF DEEDS FEE $ 22.00 PD DEPUTY
N/S

[Space Above This Line For Recording Data]

WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS THAT: FOR VALUABLE CONSIDERATION OF TEN DOLLARS ($10.00), and other good and valuable consideration, cash in hand paid, the receipt and sufficiency of which is hereby acknowledged and confessed, and for which no lien, express or implied, does or shall exist United Land Management, LLC, a Limited Liability Company organized and existing under the laws of the State of South Dakota, Grantor, has GRANTED, SOLD, CONVEYED AND WARRANTED, and by these presents does hereby GRANT, SELL, CONVEY AND WARRANT unto Stephen P. Harker, Trustee of the United Order of South Dakota, a Common Law Trust dated of even date hereof, Grantee, all that certain tract of land lying and being situated in the County of Custer, State of South Dakota, and more particularly described as follows, to-wit:

See the Attached Exhibit "A" for Complete Legal Description.

TOGETHER WITH all improvements, easements, and appurtenances thereunto belonging. SUBJECT TO all easements, restrictions, reservations, rights of way, and items currently appearing of record, if any.

~~TRANSFER FEE PAID $~~
EXEMPT FROM TRANSFER FEE

EXEMPT from Transfer Fee 43-4-22(18)

WITNESS the hand of said grantor, this 23rd day of December, 2009.

Witnesses:

United Land Management, LLC

Jerold Williams (Seal)
Jerold Williams, Manager and Member

STATE OF Utah
COUNTY OF Washington

This instrument was acknowledged before me on December 23rd, 2009 by Jerold Williams, Manager and Member of United Land Management, LLC, a South Dakota Limited Liability Company on behalf of said Limited Liability Company.

NOTARY PUBLIC
BOYD KNUDSON
1020 West Utah Avenue
Hildale, UT 84784
My Commission Expires
January 24th, 2011
STATE OF UTAH

Boyd Knudson
Notary Public
Commission Expires: 1/24/11

EXHIBIT "A"

Parcel # 6359: The South Half of the North Half of the Southwest Quarter of the Northeast Quarter (S½ N½ SW¼ NE¼) of Section 10, Township 6 South, Range 3 East, Black Hills Meridian, containing 10 acres, more or less.

Parcel # 6360: The South Half of the Southwest Quarter of the Northeast Quarter (S½ SW¼ NE¼) of Section 10, Township 6 South, Range 3 East, Black Hills Meridian, containing 20 acres, more or less.

Parcel # 6361: The South Half of the North Half of the Southeast Quarter of the Northeast Quarter (S½ N½ SE¼ NE¼) of Section 10, Township 6 South, Range 3 East, Black Hills Meridian, containing 10 acres, more or less.

Parcel # 6362: The South Half of the Southeast Quarter of the Northeast Quarter (S½ SE¼ NE¼) of Section 10, Township 6 South, Range 3 East, Black Hills Meridian, containing 20 acres, more or less.

Parcel # 6364: The West Half of the East Half of the Northwest Quarter of the Southeast Quarter (W½ E½ NW¼ SE¼) of Section 10, Township 6 South, Range 3 East, Black Hills Meridian, containing 10 acres, more or less.

Parcel # 6365: The West Half of the Northwest Quarter of the Southeast Quarter (W½ NW¼ SE¼) of Section 10, Township 6 South, Range 3 East, Black Hills Meridian, containing 20 acres, more or less.

Parcel # 6366: The East Half of the Northeast Quarter of the Northwest Quarter of the Southeast Quarter (E½ NE¼ NW¼ SE¼) of Section 10, Township 6 South, Range 3 East, Black Hills Meridian, containing 5 acres, more or less.

Parcel # 6367: The West Half of the Northwest Quarter of the Northeast Quarter of the Southeast Quarter (W½ NW¼ NE¼ SE¼) of Section 10, Township 6 South, Range 3 East, Black Hills Meridian, containing 5 acres, more or less.

Parcel # 6368: The East Half of the Northeast Quarter of the Southeast Quarter (E½ NE¼ SE¼) of Section 10, Township 6 South, Range 3 East, Black Hills Meridian. The East Half of the Northwest Quarter of the Northeast Quarter of the Southeast Quarter (E½ NW¼ NE¼ SE¼) of Section 10, Township 6 South, Range 3 East, Black Hills Meridian. The Southwest Quarter of the Northeast Quarter of the Southeast Quarter (SW¼ NE¼ SE¼) of Section 10, Township 6 South, Range 3 East, Black Hills Meridian. The East Half of the Southeast Quarter of the Northwest Quarter of the Southeast Quarter (E½ SE¼ NW¼ SE¼) of Section 10, Township 6 South, Range 3 East, Black Hills Meridian. This parcel contains 40 acres, more or less.

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

CMI

Date 12-31, 20 09

RECEIVED CMI, 1430 Haines Ave, Suite 108, 360, Rapid City SD 57701

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

Fee for Application for Permit No. _____ to Appropriate Water, to construct and to put water to beneficial use		
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. _____		
Fee for Filing Transfer Form Water Permit No. 2610-2	50	00
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	50.00	

No. 04505

By _____
Chief Engineer

Entity Detail File Annual Report Statement of Change Forms

Name	**UNITED LAND MANAGEMENT, LLC**
Corporate ID	**DL007311**
Incorporation/Qualification Date	**5/7/2004**
Home State	**SOUTH DAKOTA**
Status	**Cancellation Pending**
Last Annual Report	**2009**
Corporation Type	**Domestic LLC**
Stock Info	**CONT. $1,000**

Registered Agent Documents Officers

Registered Agent Name & Address

JEROLD WILLIAMS
11571 FARMERS RD
CUSTER, SD 57730-8147

Attachment E

000366

RECEIVED
JAN 07 2015
WATER RIGHTS
PROGRAM

January 5, 2015

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

RE: Permit # 2730-2 United Order of South Dakota
The name under which The Fundamentalist Church of Jesus Christ of Latterday Saints is known

To Whom It May Concern:

I am writing this because I am the closest neighbor to the above referenced compound. I am very concerned with them applying for a 300 gal. per minute well. They already have two wells, a 6 inch and a 10 inch that goes down to the Madison Aquifer, which draws water at 94 gallons per minute.

They won't tell anyone how many people live at this compound. They do not have any animals there at this time. They got rid of all their animals 2 years ago. Why do they need so much water? How many people are they bringing in to use that much water? What about their septic system, I'm sure that it is not large enough to handle 300 people or more. Are they planning to install a water purification system? I am very concerned about all of this.

Jewel Cave and Wind Cave are in the immediate area, they draw water from the Madison. How many of the towns in this area draw off the Madison. I know the Madison is a large aquifer, but how many other communities take water from it, when is it going to run dry?

We bought 40 acres 25 miles from town to live in the "country", not to have a city move in right next door. I don't want to have to look at an ugly water tower every day, that's why I bought so far out in the country.

Sincerely

Karl R Von Rump
11560 Farmer Rd
Custer, SD 57730

Suzanne K Von Rump

Jan 9, 2015

RECEIVED
JAN 12 2015
WATER RIGHTS PROGRAM

To: Chief of Engineers
Water Rights Program

Please consider this letter as my petition to intervene, ... as the enormous water supply holding tank that is being requested by the F.L.D.S. in Custer County (#2730-2) is suspect of abnormal activity which is determental to our rural community.

We hope the Chief of Engineers will look into this matter and report a public notice of the findings ....

We are concerned citizens of Custer County.

Respectfully,

Mr. & Mrs. David Albrecht

High Lonesome Ranch
26541 Stagecoach Spgs Rd
Custer, SD 57730-9109

RECEIVED
JAN 12 2015
WATER RIGHTS
PROGRAM

Please read thoughtfully the enclosed Jan 2, 2015, R.C. Journal report

January 6, 2015

Chief Engineer
State Dept. of Environment
~~Toss~~ & Natural Resources
Foss Bldg, 523 Capitol
Pierre, S.D. 57501

Dear Sir & Dept:

Re: Madison Aquifer
(LDS Permit)

I am sickened & appalled that you as a body to guard our God-given Natural resources would "recommend approval of this request" from this devious group just on the reason: I - "Just need more water."

I haven't slept well since this release - to go from 94 gal. to 300 gal. per minute - PLUS increasing their underground 300.00 gal. tank to 250,000 - 220,000 gal. increase with No substantial reason - "Just need more water"!!!! is insane. Think about it & seriously. The Madison Aquifer - as well as All resources is finite - God-given - not infinite - belongs to ALL people in the Growing Black Hills/W. S. Dak area and beyond. Did you question WHY "the taciturn Jeffs declined to elaborate"? Who is "The United Order of South Dakota." Why do they have locks on gates, a "Watch Tower" at the entrance, etc.? Do the research on our Aquifers; don't be stupid & dropped

Toni Martin

4141 Villa Ridge Ct. #122, Rapid City, 57701

000369

Jan. 4, 2015

RECEIVED
JAN 1 2 2015
WATER RIGHTS
PROGRAM

Chief Engineer of Water Rights Program
State of South Dakota

Re: Case # 2730-2

Please consider this as my petition to intervene.

As an adjacent landowner, I am extremely opposed to tripling the water capacity to the FLDS compound.I feel that Custer Co. P and Z is already doing a very poor job with their ignorance of how many people are in there, 100-300?

The rest of us have to deal with density issues but they Don't because of their secretive nature.It's quite obvious that they are planning to move in a whole lot more people. Likely those from their Utah compound that they are shutting down.

A rancher couldn't get water volume like they are requesting. There are so many people around this area who can't drill deep enough to get water. What will this new drain do to the water table of the Madison aquifer? And should that many people be living on so few acres? If Custer County P and Z is going to put it's head in the sand, I guess it will take Pierre to do something before this turns into Waco, Texas.

My Father once owned the FLDS property. He sold it to an individual and then it went on to the FLDS. I sure wish he hadn't sold. As locals, we know what is going on in there and we don't want to see it expand. We value our 12 year old girls in South Dakota. Help us!

Thank-you for your consideration,

Linda Van Dyke Kilcoin

LK/s

RECEIVED
JAN 15 2015
WATER RIGHTS
PROGRAM

January 6, 2015

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

RE: Permit # 2730-2 United Order of South Dakota
The name under which The Fundamentalist Church of Jesus Christ of Latterday Saints is known

To Whom It May Concern:

I am writing this because I am a neighbor to the above referenced compound. I am very concerned with them applying for a 300 gal. per minute well. They already have two wells, a 6 inch and a 10 inch that goes down to the Madison Aquifer, which draws water at 94 gallons per minute. I run an Elk Ranch with 29 Elk and sometimes I run Buffalo also. I am concerned that they will run the aquifer dry and I won't have any water for my Elk and Buffalo.

They won't tell anyone how many people live at this compound. There are no animals there at this time that I know of. They got rid of all their animals about 2 years ago. Why do they need so much water? How many people are they bringing in to use that much water? I am concerned about their septic system, also. Is it large enough to handle 300 people or more. Are they planning to install a water purification system?

Jewel Cave and Wind Cave are in the immediate area, they draw water from the Madison. How many of the towns in this area draw off the Madison. I know the Madison is a large aquifer, but how many other communities take water from it, when is it going to run dry?

Sincerely Douglas L. Lesher
for Robert Bathurst

Doug Lesher, Acting Manager
Stone Meadow Ranch
26699 Remington Rd
Custer, SD 57730

USDA United States Department of Agriculture
Forest Service
Black Hills National Forest
1019 North 5th Street
Custer, SD 57730
605-673-9200
FAX: 605-673-9350

RECEIVED
JAN 20 2015
WATER RIGHTS PROGRAM

File Code: 2540
Date: January 16, 2015

MS. JEANNE GOODMAN
CHIEF ENGINEER
WATER RIGHTS PROGRAM
JOE FOSS BUILDING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Dear Ms. Goodman:

Re: Petition to Intervene in the Matter of the Application for Permit to Appropriate Water within the State of South Dakota No. 2730-2 Filed By the United Order of South Dakota.

The United States Department of Agriculture, Black Hills National Forest ("Forest"), petitions to intervene in the above referenced application to appropriate water filed by the United Order of South Dakota. This application seeks to amend the withdrawal under Water Permit 2610-2 by 205 gallons per minute (gpm) to a maximum instantaneous rate of 300 gpm (0.67 cubic feet per second) from the Madison aquifer by means of an additional well to be located in the NW ¼ of the SE ¼ of Section 10, Township 6 South, Range 3 East. The water is to be used for domestic purposes in a rural water supply system. The Forest believes this withdrawal, if permitted and developed, and in combination with senior and future use water permits in the same area, may over time adversely affect the rare warm water spring ecosystem at Cascade Springs and along Cascade Creek. These impacts, should they occur – specifically, a reduction in the natural volume of flow – would not be in the public interest. The Forest Service also believes the applicant should clearly demonstrate that it can fully place the total requested diversion of water to the beneficial use described in the application.

Cascade Springs is a group of artesian springs located on the Forest in the NE ¼ of the SE ¼ of the SW ¼, of Section 20, Township 8 South, Range 5 East. 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". The springs discharge water with a temperature of 67° F producing a rare and limited ecosystem.

There are four rare plant species documented to occur at Cascade Springs and along Cascade Creek that do not occur anywhere else in South Dakota. These plant species include tulip gentian (*Eustoma exaltatum* ssp. *russellianum*), beaked spikerush (*Eleocharis rostellata*), southern maidenhair fern (*Adiantum capillus-veneris*), and stream orchid (*Epipactis gigantea*). Tulip gentian grows natively in warm regions of the southern United States. Southern maidenhair fern is native to the southern half of the United States. Beaked spikerush is most often found in wet, alkaline soils,

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Printed on Recycled Paper

associated with warm springs or calcareous fens. Stream orchid is generally abundant along the west coast of the United States. These populations of species at Cascade Springs exist as a unique community in the Black Hills and in South Dakota and, with the exception of beaked spikerush, the plants are outside of their normal range. They apparently occur here due to the microclimate created by the continuous discharge of warm spring water from Cascade Springs. The Forest Service is concerned that reduced water flows at Cascade Springs could adversely affect the survival and viability of these rare plant species. A conservation assessment for the southern maidenhair fern and the stream orchid states that the constant flow of warm water from Cascade Springs is essential to the persistence of the two species in the Black Hills (Hornbeck et al. 2003). Another assessment prepared for beaked spikerush identified that the long-term persistence of that species in the Black Hills is dependent upon the continued maintenance and enhancement of the population along Cascade Creek (Glisson 2003).

Cascade Springs originates in an area of alluvial sediment near the contact between the Spearfish Formation and the underlying Minnekhata Limestone on the west edge of center of the Cascade Anticline. Cascade Springs flows at an average aggregate year-round rate of about 20 cfs originating from six known discrete discharges and is the source of Cascade Creek, a tributary of the Cheyenne River. Available information about the nature and source of Cascade Springs, including the water chemistry and temperature, suggest that the water originates from the Madison (Pahasapa) and Minnelusa Formations, both of which are productive aquifers in the area.

The Madison aquifer consists of carbonate rock of generally low primary permeability containing substantial secondary permeability due to fracturing and development of solution cavities (karst features). The Madison aquifer is dominated by conduit flow through fractures and karst features. Regional information indicates that water in the Madison aquifer flows generally in a north to south or northwest to southeast direction, suggesting that the area of the United Order well may be upgradient of Cascade Springs. There are no known structural features between the area of the well and Cascade Springs that would be expected to isolate the effects of well pumping from the springs. The potential for fracture and karst connectivity from the area of the well southeast to Cascade Springs is unknown, but cannot be dismissed given the nature of the Madison aquifer in the Black Hills.

Assuming conduit connectivity between the well site and Cascade Springs and using available end member aquifer hydraulic values can provide a rough idea of whether there is potential for concern from the proposed increase in well pumping. This rough calculation should not be considered a prediction of the potential effects at the springs; rather it should be considered to be a scoping calculation illustrating the potential for effects at the springs.

Using a web calculator available for the Cooper-Jacob approach to the Theis solution for a pumping well (a similar approach to the one used by DENR), the drawdown effect at Cascade Springs could increase by as much as one foot after 100 days of increased pumping. The consequent change in flow at Cascade Springs is more difficult to estimate, but it is reasonable to conclude that increased drawdown in the aquifer would translate to reduced flow from the springs and reduced flow in the creek downstream.

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Reduced flows from the springs and the subsequent negative effects on the four rare plant species documented to occur at Cascade Springs and along Cascade Creek would not be in the public interest.

Should the permit be granted, the Forest requests that the proposed terms and conditions of the permit be adjusted to protect the public interest in the resources at Cascade Springs and along Cascade Creek. Potential adjustments in the terms and conditions could include an initial term of two to five years and detailed monitoring at Cascade Springs to track flow during periods of pumping from the well.

The Forest Service also believes that United Order should clearly demonstrate that it can fully place the total requested diversion of water to the beneficial use stated in the application and that the potential for effects on senior downstream water users in the Cheyenne watershed should be fully evaluated.

Please direct any questions or concerns related to this matter to Deanna Reyher of my staff at (605) 673-9348.

Sincerely,

CRAIG BOBZIEN
Forest Supervisor

cc: Andrea Rogers (aerogers@fs.fed.us), Sherri Schwenke (sschwenke@fs.fed.us), Lois Witte (LOIS.WITTE@OGC.USDA.GOV)

REFERENCES:

DeWitt, Ed, J.A. Redden, David Buscher, and A.B. Wilson. 1989. Geologic map of the Black Hills area, South Dakota and Wyoming, USGS Miscellaneous Investigations Series Map I-1910, 1 plate.

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USDA United States Department of Agriculture
Forest Service
Black Hills National Forest
1019 North 5th Street
Custer, SD 57730
605-673-9200
FAX: 605-673-9350

RECEIVED
JAN 16 2015
WATER RIGHTS PROGRAM

File Code: 2540
Date: January 16, 2015

MS. JEANNE GOODMAN
CHIEF ENGINEER
WATER RIGHTS PROGRAM
JOE FOSS BUILDING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Dear Ms. Goodman:

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Please direct any questions or concerns related to this matter to Deanna Reyher of my staff at (605) 673-9348.

Sincerely,

/s/ Craig Bobzien

CRAIG BOBZIEN
Forest Supervisor

cc: Andrea Rogers (aerogers@fs.fed.us), Sherri Schwenke (sschwenke@fs.fed.us), Lois Witte (LOIS.WITTE@OGC.USDA.GOV)

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RECEIVED
JAN 20 2015
WATER RIGHTS
PROGRAM

To whom it may concern:

I live in eastern Custer County and I oppose the application for a water permit #2730-2 by United Order of South Dakota (UOSD) for suburban housing. UOSD currently has 2 wells on their property (roughly 140 acres) permitted to produce 94 gpm. I do not know how many gallons of water a regular/average household uses per month, but I will use 5000 gallons per month as an example below.

94 gpm x 60 minute per hour x 24 hours per day x 30 days per month = 4,060,800 gallons / 5000 gallons = 812.16 households.

Increasing the gpm from 94 to 300 would be capacity for an additional 1779.84 households. I realize these figures are maximum usage levels and that UOSD will probably never continually use this much water, but by permitting that amount means they CAN. I do not believe the Madison Aquifer should be pumped at this amount for this property.

Other concerns of interest:
Where will the wastewater go from this much usage?
Will UOSD be selling water to other water systems, if so, at what cost?
What is the total number of people/households will this water be used for?
Would the water from this well or the two existing wells be used for growing crops?
Will the water from this well be metered?

Thank you,

Rick Fox

Rick Fox
PO Box 35
Hermosa, SD 57744

RECEIVED
JAN 2 0 2015
WATER RIGHTS
PROGRAM

January 13, 2015

To Whom It May Concern:

We are writing in opposition of the recent application #2730-2 submitted by Seth Jeff's. We live in the Eastern portion of Custer County. We oppose the increase of 0.46 cfs as well as the addition of another well into the Madison Aquifer. This addition to the existing permit would allow the United Order of South Dakota to pump 300 GPM. After reading the application we have serious concerns related to the use of this water.

The property that will be supplied the 300 GPM, if we are not mistaken, is on a 140 acre parcel of property. We belong to a rural water association that has a Madison well. The permit for that well is 250 GPM. Their supply area is 96 +/- square miles, with 200 +/- miles of pipe servicing over 60 members. Why is the State allowing permits on this 140 +/- parcel to exceed our supply?

The application indicates this water is for "suburban housing". Has a waste water plan been submitted in conjunction? This appears to be an extreme amount of water for the needs of a property this size.

Water in Western South Dakota is a very valuable, tenuous element. We are very concerned about over use, misuse and abuse of this resource.

We respectfully request this permit be declined.

Dean Johnson Delia Johnson

Dean and Delia Johnson
14585 East French Creek Road
Fairburn SD 57738

Cc: United Order of South Dakota, c/o Seth Jeff's, Box 5050, Custer SD 57730
Water Rights Program, Foss Building, 523 E Capitol, Peirre SD 57501
Attention: Chief Engineer

RECEIVED
JAN 12 2015
WATER RIGHTS PROGRAM

Affidavit of Publication

State of South Dakota)
)ss.
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

Notice of Application
Appropriate Water
Seth Jeffs -

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 1 successive week(s), on which said newspaper was regularly published, to wit:

Jan 7, Reprint/Correction;

the full amount of the fees for the publication of the annexed notice is $ NO CHARGE per JASON

Charles W. Najacht

Subscribed and sworn to me before this 7th of January, 2015;

Norma Najacht
NOTARY PUBLIC

MY COMMISSION EXPIRES: May 5, 2018

NORMA NAJACHT
NOTARY PUBLIC
SOUTH DAKOTA

NOTICE OF APPLICATION

NO. 2730-2 TO APPROPRIATE WATER

Notice is given that United Order of South Dakota, c/o Seth Jeffs, Box 5050, Custer SD 57730 has filed an application for a water permit to appropriate an additional 0.46 cubic feet of water per second (cfs) and an additional well. Water Permit No. 2610-2 authorizes 0.21 cfs from two wells located in the NW 1/4 SE 1/4 Section 10-T6S-R3E. This application proposes to appropriate an additional 0.46 cfs and authorizes one additional well to be completed into the Madison Aquifer (1100 feet deep) located in the NW 1/4 SE 1/4 Section 10-T6S-R3E. This application, if approved, and Water Permit No. 2610-2 will authorize a total diversion rate of 0.67 cfs (300 gallons per minute) from three wells for use in United Order of South Dakota's water system.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2730-2 subject to a 20-year term limitation because 1) although evidence is not available to justify issuing the permit without a 20 year term limitation, there is reasonable probability that there is unappropriated water available, 2) the proposed diversion can be developed without unlawful impairment of existing rights, 3) the proposed use is a beneficial use and 4) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on this application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider this application. Notice of the hearing will be given to the applicant and any person filing a petition.

Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting 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 January 19, 2015.

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. Information concerning this application is available at http://denr.sd.gov/public. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application. Steven M. Pirner, Secretary, Department of Environment and Natural Resources.

Published once at an approximate cost of $27.24.

1/7

000382

Affidavit of Publication

RECEIVED
JAN 07 2015
WATER RIGHTS PROGRAM

STATE OF SOUTH DAKOTA

County of Pennington SS:

Robert Evans being first duly sworn, upon his/her oath says: That he/she is now and was at all time hereinafter mentioned, an employee of the RAPID CITY JOURNAL, a corporation of Rapid City, South Dakota, the owner and publisher of the RAPID CITY JOURNAL, a legal and daily newspaper printed and published in Rapid City, in said County of Pennington, and has full and personal knowledge of all the facts herein stated as follows: that said newspaper is and at all of the times herein mentioned has been a legal and daily newspaper with a bonafide paid circulation of at least Two Hundred copies daily, and has been printed and published in the English language, at and within an office maintained by the owner and publisher thereof, at Rapid City, in said Pennington County, and has been admitted to the United States mail under the second class mailing privilege for at least one year prior to the publication herein mentioned; that the advertisement, a printed copy of which, taken from said Rapid City Journal, the paper in which the same was published, is attached to this sheet and made a part of this affidavit, was published in said paper once each day for one successive day, the first publication there of being on the thirty first day of December that the fees charged for the publication there of are sixty four dollars and ninty six cents.

Robert J Evans

Subscribed and sworn to before me this thirty first day of December, 2014.

Dustin Rice

Notary public

My Commission Expires July 1, 2020

My commission expires

DUSTIN RICE
SEAL NOTARY PUBLIC SOUTH DAKOTA SEAL

Dec 31
L20910918

NOTICE OF APPLICATION NO. 2730-2 to Appropriate Water

Notice is given that United Order of South Dakota, c/o Seth Jeffs, Box 5050, Custer SD 57730 has filed an application for a water permit to appropriate an additional 0.46 cubic feet of water per second (cfs) and an additional well. Water Permit No. 2610-2 authorizes 0.21 cfs from two wells located in the NW 1/4 SE 1/4 Section 10-T6S-R3E. This application proposes to appropriate an additional 0.46 cfs and authorizes one additional well to be completed into the Madison Aquifer (1100 feet deep) located in the NW 1/4 SE 1/4 Section 10-T6S-R3E. This application, if approved, and Water Permit No. 2610-2 will authorize a total diversion rate of 0.67 cfs (300 gallons per minute) from three wells for use in United Order of South Dakota's water system.

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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. Information concerning this application is available at http://denr.sd.gov/public. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application. Steven M. Pirner, Secretary, Department of Environment and Natural Resources.

(Published once at the total approximate cost of $64.96).

CERTIFICATION

I hereby certify that on January 21, 2015, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice of Hearing dated January 21, 2015, regarding scheduling the hearing for Water Right Permit Application No. 2730-2, as addressed below and on the attached parties of record list:

Seth Jeffs
United Order of South Dakota
PO Box 5050
Custer SD 57730

Sent Inter-office to:

Ann Mines- Bailey, Assistant Attorney
General
1302 East Highway 14, Suite 1
Pierre SD 57501-8501

Gail Jacobson

Gail Jacobson
Water Rights Program, DENR

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 21st day of January, 2015

Karen Schlaak

Karen Schlaak
Notary Public
My Commission expires April 1, 2019

SEAL KAREN SCHLAAK NOTARY PUBLIC State of South Dakota SEAL

United States Department of the Interior

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

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:

December 19, 2014

RECEIVED
DEC 22 2014
WATER RIGHTS PROGRAM

L54(2380)
WICA/Water Rights

Ms. Jeanne Goodman, Chief Engineer
Water Rights Program
Foss Building
523 E. Capitol
Pierre, SD 57501

Mr. Seth Jeffs
United Order of South Dakota
11571 Farmer Rd
Pringle, SD 57773

Re: Petition to Intervene in the matter of Application to Permit Water within the State of South Dakota No. 2730-2 filed by the United Order of South Dakota

Dear Ms. Goodman and Mr. Jeffs,

The National Park Service (NPS) petitions to intervene in the above referenced application to appropriate water filed by the United Order of South Dakota. This application requests to amend the withdrawal under Water Permit 2610-2 by 205 gallons per minute (gpm) to a maximum instantaneous rate of 300 gpm (0.67 cubic feet per second) from the Madison aquifer at a location approximately 13 miles west of Wind Cave National Park (Figure 1). There is no annual volume provided on the application. The water is to be used for a rural water supply system. The NPS believes this withdrawal, if permitted and developed, and in combination with senior permits, may over time adversely affect the water rights and water-dependent resources of the National Park. These impacts, if they occur, would not be in the public interest.

Briefly, the park is responsible for the management of resources dependent on water levels in the Madison aquifer. One of these primary resources is Wind Cave, which is considered one of the most significant caves in the world, as it is one of the longest, most complex, and oldest caves on earth.

Wind Cave's length and passage density are enough to put it into the ranks of world-class caves, but the cave is significant for many other reasons. There are currently several lakes and pools in the lower reaches of Wind Cave that likely define the water table in this region of the Madison aquifer.

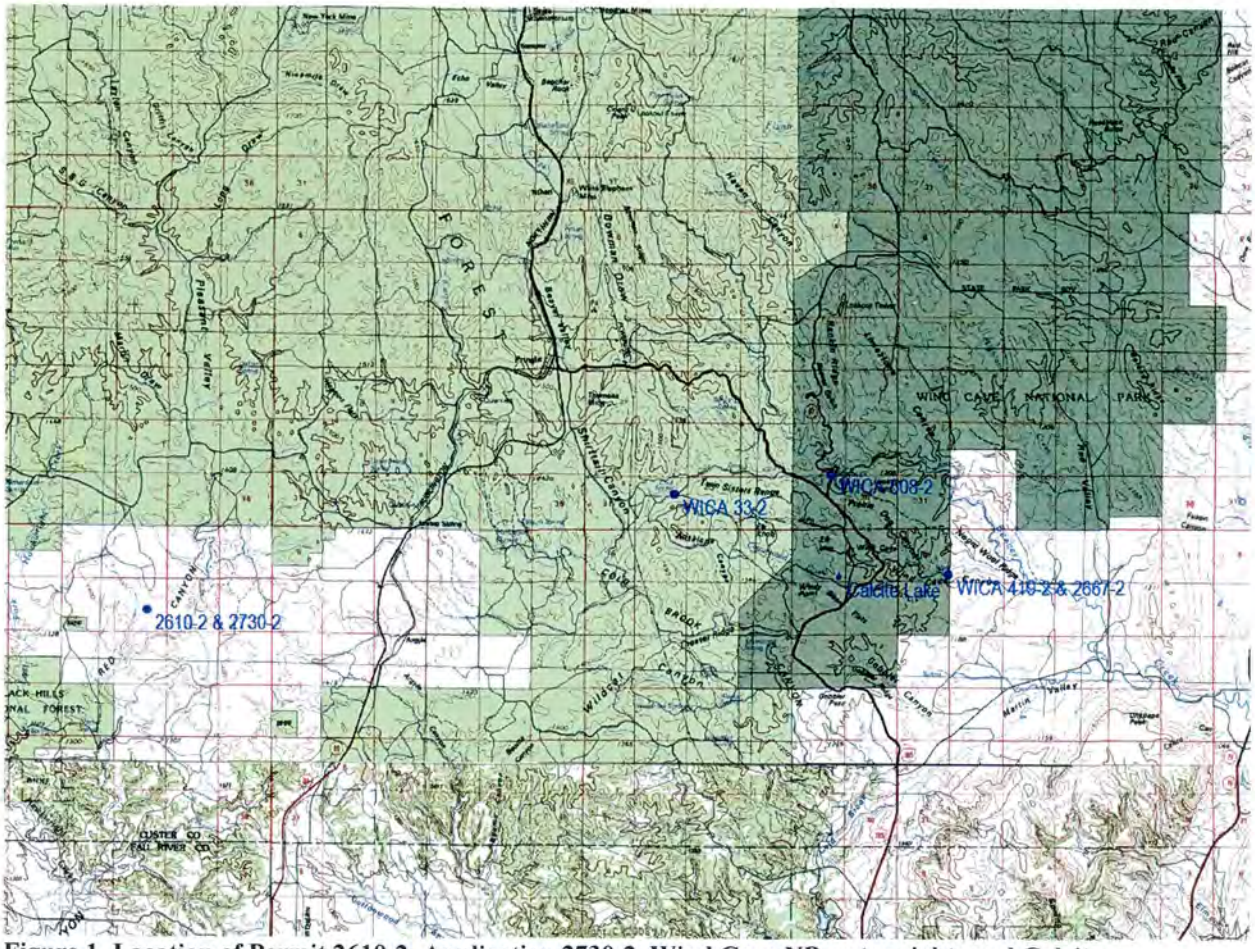

Figure 1. Location of Permit 2610-2, Application 2730-2, Wind Cave NP water rights and Calcite Lake

The largest and one of the most accessible of these are the connected features known as Calcite and Windy City Lakes. Paces and others (2013) describe a history of water table fluctuations in the Madison aquifer within the lower portions of the cave. These fluctuations have resulted in layers of calcite crusts being formed on top of the bedrock and sediment found in the cave.

Biologically, water samples taken from Calcite Lake suggest the lake ecosystem is very unique and unlike any described previously. A preliminary study by Barton (2012) suggests the lakes are a bacterially dominated ecosystem where bacteria species may be the top predators. While a diverse range of species are found, the concentrations of microbial cells found in the cave water may be lower than any other body of water yet found on earth (Barton 2012).

Wind Cave National Park has four state appropriative water rights that are senior to those sought by the applicant (Table 1). Out of the four rights listed, the withdrawal proposed by Application 2730-2 could affect water levels in the well associated with Permit 419-2 since this well is open to the Madison aquifer. This well is completed in the Madison, Englewood, Deadwood, and Precambrian aquifers and supplies water for park operations.

The other three water rights do not derive water from the Madison aquifer and should not be affected by the proposed withdrawal.

Table 1. State appropriative water rights for Wind Cave National Park

Number	Name	Point of Diversion	Rate of Diversion	Purpose	Priority date
US 33-2	Cold Springs Creek	Sec. 32 & 28, T5S, R5E	0.2 cfs	Domestic, recreation, wildlife, fire protection	August 23, 1937
US 508-2	Cold Springs Lake	SW ¼ SE ¼ Sec. 26, T5S, R5E	222.08 afy	Stockwater, recreational	November 4, 1939
419-2	Headquarters well	SE ¼ SE ¼ Sec 6, T6S, R6E	0.44 cfs	Park operations	December 29, 1955
2667-2	Minnelusa Well	SE¼ SE¼ Sec 6, T6S, R6E	0.11 cfs	Park operations	April 11, 2011

The NPS is concerned that water levels in the Madison aquifer within Wind Cave NP will be lowered over time as a result of the pumping proposed under Application 2730-2. The South Dakota Department of Environment and Natural Resources evaluation of Water Permit Application 2730-2, dated November 12, 2014, for the approval of the Chief Engineer (DENR evaluation). The evaluation included two Theis calculations that projected drawdown vs. distance from the pumping well at two different pumping rates over a period of one year. These analyses stopped at distance 2000 feet from the pumping well.

To determine if the cone of depression might extend to the National Park, we extended the DENR evaluation to 13 miles from the pumping well. Table 2 provides the results from this modified DENR evaluation for two continuous pumping scenarios. The following parameters were used:

Transmissivity (T) = 1,463 ft^2/day
Storage coefficient (S) = 0.0002
Radius (r) = 13 miles
Time (t) = 1 to 20 years

Table 2. Drawdown (feet) calculated using the Theis Equation Calculator cited in the DENR evaluation, at a point 13 miles from the pumping well.

Pumping rate	1 year	5 years	10 years	20 years
205 gpm	1.0	3.6	5.0	6.4
300 gpm	1.5	5.3	7.3	9.4

These calculations indicate potential significant adverse effects to water levels within the park from the withdrawal proposed by Application 2730-2. There are also other permitted withdrawals in the Madison aquifer in the vicinity of Wind Cave (2302-2, 2546-2, 2633-2, and 2634-2) and Future Use permit 2580-2. Water-level declines from

pumping wells associated with these senior permits were not considered in the DENR evaluation for Application 2730-2. Water-level changes associated with any combination of these withdrawals could impact the National Park's water rights and water-related resources sooner and by a greater degree than by the withdrawal proposed by this application alone.

The DENR evaluation states that "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 (>5 miles) and the relatively small diversion rate proposed (0.67 cfs maximum)." As cited in the DENR evaluation, the water-level record from stage readings in Calcite Lake show over 20 feet of fluctuation since the mid-1980s. Any water-level decline due to pumping wells will be superimposed on the natural variation in water levels. This means that water levels will still fluctuate, but at lower overall levels. The frequency and duration of dry periods in parts of the cave would therefore increase. These impacts could significantly affect the cave forming processes now occurring within Wind Cave. Any adverse effects to the park's water rights and water-related resources would not be in the public interest.

The NPS is concerned about the Chief Engineer's recommendation to approve Application No. 2730-2 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 effects on Wind Cave National Park water rights and water-dependent resources over long periods of pumping. This deficiency is acknowledged by the statement in the DENR evaluation that "Evidence is not available to justify issuing this permit without a term limitation of 20 years." Therefore, the NPS believes that any approval of Application 2730-2 should be conditioned on the collection of scientific data to allow such a determination to be made.

The NPS is willing to meet with representatives from the United Order of South Dakota to see if an alternative exists that allows the applicant to withdraw the water required for their beneficial use while still protecting the water rights and water-related resources of Wind Cave National Park.

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

Sincerely,

Jeffrey C. Hughes

for William R, Hansen
Chief, Water Rights Branch

References:

Barton, H. 2012. Accessible Microbial Flora of the Madison aquifer: Investigations in Calcite Lake, Wind Cave, Wind Cave National Park [FINAL REPORT]. Report to the NPS Water Resources Association. University of Akron, OH. 15p.

Paces, J.B., A.N. Palmer and M.V. Palmer. 2013. History of Late Pleistocene Water Table Fluctuations in Wind Cave, Wind Cave National Park. Progress Report, February 2013.

United States Department of the Interior

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

RECEIVED
JAN 2 0 2015
WATER RIGHTS PROGRAM

IN REPLY REFER TO:

January 15, 2015

2380
WICA/Water Rights

Ms. Jeanne Goodman, Chief Engineer
Water Rights Program
Foss Building
523 E. Capitol
Pierre, SD 57501

Mr. Seth Jeffs
United Order of South Dakota
P.O. Box 5050
Custer, SD 57770

Re: Amendment to Petition to Intervene in the matter of Application to Permit Water within the State of South Dakota No. 2730-2 filed by the United Order of South Dakota

Dear Ms. Goodman and Mr. Jeffs,

On December 19, 2014, the National Park Service (NPS) submitted a petition to intervene in the matter of the above-referenced application to appropriate water filed by the United Order of South Dakota (United Order). Since that time, NPS has conducted further investigations regarding the above-referenced application and reexamined Water Permit No. 2610-2, issued to United Land Management. These investigations have led NPS to conclude that the above-referenced application may contain errors or be incomplete based on the following:

1. Water Permit No. 2610-2 (Attachment A) was issued to United Land Management on August 1, 2007, and authorized the withdrawal of groundwater at a rate of 0.21 cubic feet per second (cfs) for the purpose of a suburban housing development. The NPS had timely filed a letter in opposition to this application, but subsequently withdrew its objection after United Land Management agreed to provide copies of any well logs, pump test data, and water use data to the NPS. According to the minutes of the July

11, 2007 meeting of the Water Management Board, a representative of the applicant, Richard Allred, testified as follows:

> In response to a question from Ms. Best, Mr. Allred stated that at the present time there are more than 25 people living at this location because of construction, and there may be more than 25 people living in the development once it is completed." Mr. Allred also testified "that United Land Management will submit well logs, pump test data, and water use data to the National Park Service as it is obtained. (see pages 9 and 10 of Attachment B)

As of the date of this letter, the NPS has not received any well logs, pump test data, and water use from United Land Management.

The maximum amount of groundwater that the applicant is permitted to withdraw pursuant to Water Permit No. 2610-2 on an annual basis is 152 acre-feet. Based on a U.S. Geological Survey estimate that average domestic use per person in South Dakota in 2005 was 99 gallons per day, this amount is sufficient to support a suburban housing development with a total of 1,370 residents.

United Land Management operates a community public water system, which according to its 2013 drinking water report serves a system population of 75 people and has 11 service connections. The report lists Seth Jeffs as the "certified operator" of the system (see Attachment C). Mr. Jeffs also submitted Application No. 2730-2 on behalf of the United Order of South Dakota.

2. According to a "Notice of Transfer of Ownership" filed by United Land Management with the Chief Engineer on December 31, 2009, United Land Management transferred ownership of Water Permit No. 2610-2 to the United Order of South Dakota, a Common Law Trust, on December 23, 2009 (see Attachment D). As of January 14, 2015, the records of the South Dakota Secretary of State indicate that United Land Management last filed an annual corporate report in 2009 and the status of United Land Management is listed as "Cancellation Pending", which suggests that the administrative dissolution of United Land Management may be imminent (see Attachment E). No information regarding the "United Order of South Dakota" was found on the website of the South Dakota Secretary of State. It is unclear what the legal status of the United Order of South Dakota is under South Dakota law and what, if any, affect this uncertainty has on Application No. 2730-2.

3. Application No. 2730-2 seeks the issuance of a permit to withdraw an additional 0.46 cfs of groundwater from approximately the same point of diversion as that authorized by Water Permit No. 2610-2 for the following beneficial uses: "rural water system" and "domestic (over 18 gpm)".

However, the application does not provide any evidence that the United Order of South Dakota either operates a legally-recognized "rural water system" or is authorized to operate such a system. Furthermore, the application fails to provide any information as to the need by the United Order of South Dakota, for an additional amount of groundwater over and above the 0.21 cfs that it currently has rights to use pursuant to Water Permit No. 2610-2. If the permit for the groundwater sought by Application No. 2730-2 is granted, the United Order of South Dakota would possess groundwater withdrawal permits sufficient to supply the domestic needs of 4,372 people (based on the 2005 USGS estimate of per capita domestic water use in South Dakota). For the sake of comparison, according to the 2010 census the population of Custer, which is the largest town in Custer County, was 2,067 residents.

4. The annual water use reported by the United Order of South Dakota and its predecessor in title to the Chief Engineer under Water Permit No. 2610-2 is as follows:

Year	Use (acre-feet/year)
2009	19
2010	26
2011	41
2012	33
2013	10.5
Average	25.9

Based on the foregoing information, the NPS believes that Application No. 2730-2 is wholly speculative and that the applicant may be seeking to appropriate groundwater for other than traditional domestic uses. Therefore, the NPS respectfully requests that the Water Management Board deny the application on the basis that the proposed water use is purely speculative and, therefore, not in the public interest. However, if Application No. 2730-2 is not denied, the NPS requests that the Water Management Board qualify Water Permit No. 2730-2 and limit the annual amount of water that can be withdrawn cumulatively pursuant to both permits to the historic average groundwater withdrawal of 25.9 acre-feet per year. This amount is sufficient to meet the customary domestic needs of 234 persons, which is roughly three times the number of persons currently being served by the existing community public water system.

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

Sincerely,

Wm. R. Hansen

William R, Hansen
Chief, Water Rights Branch

Attachments: Attachment A - Water Permit No. 2610-2
Attachment B - WMB Meeting Minutes (July 11, 2007)
Attachment C - United Land Management Drinking Water Information
Attachment D - Notice of Transfer of Ownership
Attachment E – Secretary of State Business Entity Website Information

cc: (via email only)
Wind Cave National Park

SOUTH DAKOTA
WATER PERMIT NO. 2610-2

Date of first receipt of application February 9, 2007.
Date of return to applicant for corrections, amendments or changes February 9, 2007.
Date of receipt of corrected application February 20, 2007.

The Water Management Board approved Water Permit No. 2610-2 on July 11, 2007 for United Land Management, c/o Richard Allred, Box 54, Rapid City SD 57709 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. 2610-2 appropriates 0.21 cubic feet of water per second from two wells to be completed into the Madison Aquifer (approximately 1000 feet deep) located in the NW ¼ SE ¼ Section 10-T6S-R3E.

2. The water appropriated shall be used for the purpose of suburban housing development 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 February 9, 2007.

5. One-fifth of the construction is to be completed on or before January 11, 2010.

6. All construction is to be completed on or before July 11, 2012.

7. Water is to be put to beneficial use on or before July 11, 2016.

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. 2610-2 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. 2610-2 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 wells 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 wells authorized by Permit No. 2610-2 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. United Land Management shall report to the Chief Engineer annually the amount of water withdrawn from the Madison Aquifer.

WATER MANAGEMENT BOARD

By: Garland Erbele

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

AUG 0 1 2007
date

Attachment A

RESOLUTION ON STATEMENT OF REASONS TO DENY PETITION TO DESIGNATE SPEARFISH CREEK AS AN OUTSTANDING STATE RESOURCE WATER: Jeanne Goodman, DENR Surface Water Quality Program, participated via telephone conference call.

On May 9, 2007, the board held a public hearing and denied amendments to 74:51:01:39.01 – to designate Spearfish Creek in Lawrence County as an outstanding state resource water. On May 25, 2007, Nancy Hilding, personally and on behalf of the Prairie Hills Audubon Society, submitted a written request by electronic mail pursuant to SDCL 1-26-7.1 requesting a statement of reasons as to why the board denied the proposed rule change in response to the petition to designate Spearfish Creek as an Outstanding State Resource Water.

Ms. Goodman noted that the resolution, Statement of Reasons, Ms. Hilde's request for a Statement of Reasons, and the minutes from the May 9, 2007, public hearing were sent to the Water Management Board prior to today's meeting.

Ms. Goodman provided a summary of the resolution and Statement of Reasons and requested board approval of the resolution adopting the Statement of Reasons.

Motion by Hoyt, seconded by Brink, to adopt the Resolution adopting the Statement of Reasons prepared pursuant to SDCL 1-26-7.1. Motion carried.

The Statement of Reasons will be sent to the Legislative Research Council, and the Interim Rules Review Committee, and the petitioner.

REQUEST PERMISSION TO ADVERTISE RULES ON SURFACE WATER QUALITY STANDARDS: Ms. Goodman requested permission to advertise for a public hearing in October 2007 to consider amendments to the Surface Water Quality Standards.

Motion by Brink, seconded by Hoyt, to authorize staff to advertise for a public hearing to consider amendments to the Surface Water Quality Standards. Motion carried.

WATER PERMIT APPLICATION NO. 2610-2, UNITED LAND MANAGEMENT: Ken Buhler presented his report on the application.

Water Permit Application No. 2610-2 proposes to appropriate 0.21 cfs (95 gpm), from two wells to be completed into the Madison aquifer, approximately 1000 feet deep in Custer County for a suburban housing development.

The Chief Engineer recommended approval for a 20 year term with the Well Interference Qualification, Well Construction Rule Qualification No. 2, and the following qualifications:

1. In accordance with SDCL 46-1-14 and 46-2A-20, Permit No. 2610-2 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. 2610-2 may also be cancelled for non-construction, forfeiture,

Attachment B

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. United Land Management shall report to the Chief Engineer annually the amount of water withdrawn from the Madison Aquifer.

Mr. Buhler reported that the Madison Limestone, locally known as the Pahasapa Limestone, is a fine to medium crystalline, cavernous limestone and dolomite. The aquifer is laterally extensive and underlies much of the western United States. The upper portion of the Madison Limestone is karstic, therefore it contains randomly distributed zones of secondary porosity and permeability formed by weathering of exposed surfaces, groundwater solution and fracturing, and is considered the Madison aquifer. This well site is located about five miles from the outcrop of the aquifer, and the top of the Madison is expected to be approximately 760 feet below grade. The Madison is expected to be approximately 300 feet thick in this area.

The availability of unappropriated water in the Madison aquifer 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."

Recharge to the Madison aquifer occurs through streamflow losses and direct infiltration of precipitation at the outcrop area. Recharge for the entire Madison aquifer in South Dakota has been estimated to range from 140,000 to 400,000 acre-feet per year. Average annual recharge from 1931-1998 was estimated to be approximately 137,000 ac-ft/yr.

Mr. Buhler stated that water is available from the aquifer, however, 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 is available for this appropriation, merely to demonstrate that in general the Madison aquifer is an immense resource that is relatively untapped.

The Water Rights Program monitors 26 observation wells completed into the Madison aquifer in the Black Hills area. Three of those observation wells are within eight to 15 miles away from this site. Hydrographs of these observation wells are included in Mr. Buhler's report.

Observation well data suggest that at the existing level of development, natural influences dominate the water levels of the aquifer and the effects of pumping as yet are not obvious.

The Water Rights Program has record of a number of domestic wells in this area. The majority of these domestic wells appear to be completed into the Minnelusa aquifer and at least two are completed into the Deadwood aquifer. Wells completed into aquifers that are either stratigraphically above or below the Madison aquifer are not expected to be affected by this proposed appropriation since the lower Minnelusa aquifer can be considered a confining bed that isolates the Madison hydraulically from shallower aquifers, and the bottom portion of the Madison isolates the Madison from lower aquifers. There are no completion reports on file for

wells completed into the Madison aquifer within approximately five miles of the well sites proposed by this application.

There are no wells supplying Water Rights/Permits within approximately nine miles of the well site proposed by this application. The nearest Water Right supplied by a well completed into the Madison aquifer, Water Right No. 419-2, Wind Cave National Park, is located approximately 10 miles east-northeast of the well sites proposed by this application.

Well interference resulting from this appropriation is not expected to be an issue to either domestic wells or wells supplying appropriative rights due to the distance between wells and the relatively low diversion rate proposed by this application.

Mr. Buhler noted that the well site proposed by this application is located approximately five miles west of the "Argyle" well site proposed by Future Use Permit No. 2580-2. Approval of this application should not hinder development of the future use permit due to the distance between wells.

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."

Evidence is not available to justify issuing this permit without a term limitation of 20 years.

Mr. Buhler concluded that the Madison aquifer is a viable aquifer in this area, this diversion will not adversely impair existing water rights, and information is not available to approve this application without a 20-year term limit.

Mr. Buhler noted that on June 11, 2007, the National Park Service (Wind Cave National Park) submitted a letter in opposition to the application. On June 29, 2007, the National Park Service withdrew their opposition. If the permit is granted, the National Park Service requests copies of any well logs, pump test data, and water use data from the applicant.

Richard Allred was administered the oath by Chairman Hutmacher.

In response to a question from Mr. Hoyt, Mr. Allred testified that United Land Management will submit well logs, pump test data, and water use data to the National Park Service as it is obtained.

Chairman Hutmacher asked if this will be a public water supply. Mr. Allred answered that he is not sure if this will be a public water system.

Ms. Best asked how many people currently live at this location. Mr. Allred stated that this is ongoing construction and people are always coming and going.

In response to a question from Ms. Best, Mr. Allred stated that at the present time there are more than 25 people living at this location because of construction, and there may be more than 25 people living in the development once it is completed.

Motion by Brink, seconded by Holzbauer, to approve Water Permit Application No. 2610-2, United Land Management, subject to the qualifications set forth by the chief engineer. Motion carried.

WATER PERMIT APPLICATION NO. 2560A-2 AND 2615-2, FALL RIVER WATER USERS DISTRICT: Ms. Best reported that Application No. 2560A-2 proposes to expand the future use area that was authorized by Future Use Permit No. 2560-2. Water Permit Application No. 2615-2 proposes to complete a well into the Madison aquifer and place 400 acre-feet of water to beneficial use annually at a maximum diversion rate of 0.67 cfs.

The National Park Service filed a petition to intervene in the matter of Water Permit Application No. 2615-2. The National Park Service was concerned about potential adverse impacts that may result from withdrawals proposed by the application on the water rights and water-related resources of Wind Cave National Park.

Ms. Best stated that the parties negotiated a settlement agreement, which provides that Fall River Water Users District undergo a pump test and that water quality testing occur at this location. Fall River Water Users District has provided DENR with written notice that they will comply with these conditions.

The chief engineer recommended approval of Application No. 2560A-2 with the following qualifications:

1. Permit Nos. 2560-2 and 2560A-2, combined, reserve 750 acre feet of water annually from the Madison Aquifer.

2. That Future Use Permit Nos. 2560-2 and 2560A-2 are approved with the stipulation that this Permit is subject to review by the Water Management Board in developing reserved water upon expiration of seven (7) years. This Permit shall be subject to cancellation if the Water Management Board determines during the review that the holder cannot demonstrate a reasonable need for the Permit.

3. 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-

United Land Management Drinking Water Information

(System Information, Sampling Requirements, and Compliance Report)

2013 Certificate of Achievement Award.

Population Served:	75	**System Population:**	75
Certified Operator:	Mr Seth Jeffs PO Box 5050 Custer, SD 57730-5050	**Work Phone:** **Home Phone:** **Cell Phone:** **Fax:** **Email:**	 (605)673-5274 ssjmail2@gmail.com
Financial Contact:	Mr Seth Jeffs PO Box 5050 Custer, SD 57730	**Work Phone:** **Home Phone:** **Cell Phone:** **Fax:** **Email:**	(605)673-5274
Other Contacts:	Mr Preston Barlow PO Box 5050 Custer, SD 57730	**Work Phone:** **Home Phone:** **Cell Phone:** **Fax:** **Email:**	 preston@reliance.bz
Last Inspection:	June 11, 2014		
Type of System:	Community	**Area Served:**	Custer County
Number of Service Connections:	11	**Contamination Risk:**	low

Water Produced And Used By The United Land Management Public Water System

PWS Owner Type:	Private Ownership	**Service Area:**	Residential Area
Contract Laboratory:			Energy Laboratory

Attachment C

After Recording Return To:
Stephen P. Harker, Trustee
11571 Farmer Road
Pringle, SD 57773

STATE OF SOUTH DAKOTA,
COUNTY OF CUSTER-SS 51279
Filed this 24 Day of Dec 2009 at 10:15 O'clock AM ~~PM~~
BOOK 49 OF DEED PAGE 330
/S/ Pamela J Johnson
REGISTER OF DEEDS FEE $ 22.00 PD chg DEPUTY
N/S

[Space Above This Line For Recording Data]

WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS THAT: FOR VALUABLE CONSIDERATION OF TEN DOLLARS ($10.00), and other good and valuable consideration, cash in hand paid, the receipt and sufficiency of which is hereby acknowledged and confessed, and for which no lien, express or implied, does or shall exist United Land Management, LLC, a Limited Liability Company organized and existing under the laws of the State of South Dakota, Grantor, has GRANTED, SOLD, CONVEYED AND WARRANTED, and by these presents does hereby GRANT, SELL, CONVEY AND WARRANT unto Stephen P. Harker, Trustee of the United Order of South Dakota, a Common Law Trust dated of even date hereof, Grantee, all that certain tract of land lying and being situated in the County of Custer, State of South Dakota, and more particularly described as follows, to-wit:

See the Attached Exhibit "A" for Complete Legal Description.

TOGETHER WITH all improvements, easements, and appurtenances thereunto belonging. SUBJECT TO all easements, restrictions, reservations, rights of way, and items currently appearing of record, if any.

~~TRANSFER FEE PAID $~~
EXEMPT FROM TRANSFER FEE

EXEMPT from Transfer Fee 43-4-22(18)

WITNESS the hand of said grantor, this 23rd day of December, 2009.

Witnesses:

United Land Management, LLC

Jerold Williams (Seal)
Jerold Williams, Manager and Member

STATE OF Utah
COUNTY OF Washington

This instrument was acknowledged before me on December 23rd, 2009 by Jerold Williams, Manager and Member of United Land Management, LLC, a South Dakota Limited Liability Company on behalf of said Limited Liability Company.

NOTARY PUBLIC
BOYD KNUDSON
1020 West Utah Avenue
Hildale, UT 84784
My Commission Expires
January 24th, 2011
STATE OF UTAH

Boyd Knudson
Notary Public
Commission Expires: 1/24/11

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

CMI

Date 12-31, 20 09

RECEIVED CMI, 1430 Haines Ave, Suite 108, 360, Rapid City SD 57701

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

Fee for Application for Permit No. _____ to Appropriate Water, to construct and to put water to beneficial use		
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. _____		
Fee for Filing Transfer Form Water Permit No. 2610-2	50	00
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	50.00	

No. 04005

By _____

Chief Engineer

Entity Detail File Annual Report Statement of Change Forms

Name	**UNITED LAND MANAGEMENT, LLC**
Corporate ID	**DL007311**
Incorporation/Qualification Date	**5/7/2004**
Home State	**SOUTH DAKOTA**
Status	**Cancellation Pending**
Last Annual Report	**2009**
Corporation Type	**Domestic LLC**
Stock Info	**CONT. $1,000**

Registered Agent Documents Officers

Registered Agent Name & Address

JEROLD WILLIAMS
11571 FARMERS RD
CUSTER, SD 57730-8147

Attachment E

RECEIVED
JAN 0 7 2015
WATER RIGHTS
PROGRAM

January 5, 2015

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

RE: Permit # 2730-2 United Order of South Dakota
The name under which The Fundamentalist Church of Jesus Christ of Latterday Saints is known

To Whom It May Concern:

I am writing this because I am the closest neighbor to the above referenced compound. I am very concerned with them applying for a 300 gal. per minute well. They already have two wells, a 6 inch and a 10 inch that goes down to the Madison Aquifer, which draws water at 94 gallons per minute.

They won't tell anyone how many people live at this compound. They do not have any animals there at this time. They got rid of all their animals 2 years ago. Why do they need so much water? How many people are they bringing in to use that much water? What about their septic system, I'm sure that it is not large enough to handle 300 people or more. Are they planning to install a water purification system? I am very concerned about all of this.

Jewel Cave and Wind Cave are in the immediate area, they draw water from the Madison. How many of the towns in this area draw off the Madison. I know the Madison is a large aquifer, but how many other communities take water from it, when is it going to run dry?

We bought 40 acres 25 miles from town to live in the "country", not to have a city move in right next door. I don't want to have to look at an ugly water tower every day, that's why I bought so far out in the country.

Sincerely

Karl R Von Rump

Suzanne K Von Rump

Karl R Von Rump
11560 Farmer Rd
Custer, SD 57730

Suzanne K Von Rump

Jan 9, 2015

RECEIVED
JAN 12 2015
WATER RIGHTS
PROGRAM

To: Chief of Engineers
Water Rights Program

Please consider this letter as my petition to intervene, ... as the enormous water supply holding tank that is being requested by the F.L.D.S. in Custer County (#2730-2) is suspect of abnormal activity which is determental to our rural community.

We hope the Chief of Engineers will look into this matter and report a public notice of the findings ....

We are concerned citizens of Custer County.

Respectfully,

Mr. & Mrs. David Albrecht

High Lonesome Ranch
26541 Stagecoach Spgs Rd
Custer, SD 57730-9109

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JAN 12 2015
WATER RIGHTS PROGRAM

Please read thoughtfully the enclosed Jan 2, 2015, R.C. Journal report

January 6, 2015

Chief Engineer
State Dept. of Environment
~~Foss~~ + Natural Resources
Foss Bldg, 523 Capitol
Pierre, S.D. 57501

Dear Sir + Dept:
Re: Madison Aquifer
(LDS Permit)

I am sickened + appalled that you as a body to guard our God-given Natural resources would "recommend approval of this request" from this devious group just on the reason: - "Just need more water."

I haven't slept well since this release - to go from 94 gal. to 300 gal. per minute - PLUS increasing their underground 300,000 gal. tank to 250,000 - 220,000 gal. increase with No substantial reason - "Just need more water"!!!! is insane. Think about it + seriously.

The Madison Aquifer - as well as All resources is finite - God-given - not infinite - belongs to ALL people in the Growing Black Hills/W. S. Dak area and beyond. Did you question WHY "the taciturn Jeffs declined to elaborate"? Who is "The United Order of South Dakota." Why do they have locks on gates, a "Watch Tower" at the entrance, etc.? Do the research on our Aquifers; don't be stupid + dupped

Toni Martin
4141 Villa Ridge Ct. #122, Rapid City 57701

006405

Jan. 4, 2015

RECEIVED
JAN 12 2015
WATER RIGHTS PROGRAM

Chief Engineer of Water Rights Program
State of South Dakota

Re: Case # 2730-2

Please consider this as my petition to intervene.

As an adjacent landowner, I am extremely opposed to tripling the water capacity to the FLDS compound.I feel that Custer Co. P and Z is already doing a very poor job with their ignorance of how many people are in there, 100-300?

The rest of us have to deal with density issues but they Don't because of their secretive nature.It's quite obvious that they are planning to move in a whole lot more people. Likely those from their Utah compound that they are shutting down.

A rancher couldn't get water volume like they are requesting. There are so many people around this area who can't drill deep enough to get water. What will this new drain do to the water table of the Madison aquifer? And should that many people be living on so few acres? If Custer County P and Z is going to put it's head in the sand, I guess it will take Pierre to do something before this turns into Waco, Texas.

My Father once owned the FLDS property. He sold it to an individual and then it went on to the FLDS. I sure wish he hadn't sold. As locals, we know what is going on in there and we don't want to see it expand. We value our 12 year old girls in South Dakota. Help us!

Thank-you for your consideration,

Linda Van Dyke Kilcoin

LK/s

RECEIVED
JAN 15 2015
WATER RIGHTS
PROGRAM

January 6, 2015

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

RE: Permit # 2730-2 United Order of South Dakota
The name under which The Fundamentalist Church of Jesus Christ of Latterday Saints is known

To Whom It May Concern:

I am writing this because I am a neighbor to the above referenced compound. I am very concerned with them applying for a 300 gal. per minute well. They already have two wells, a 6 inch and a 10 inch that goes down to the Madison Aquifer, which draws water at 94 gallons per minute. I run an Elk Ranch with 29 Elk and sometimes I run Buffalo also. I am concerned that they will run the aquifer dry and I won't have any water for my Elk and Buffalo.

They won't tell anyone how many people live at this compound. There are no animals there at this time that I know of. They got rid of all their animals about 2 years ago. Why do they need so much water? How many people are they bringing in to use that much water? I am concerned about their septic system, also. Is it large enough to handle 300 people or more. Are they planning to install a water purification system?

Jewel Cave and Wind Cave are in the immediate area, they draw water from the Madison. How many of the towns in this area draw off the Madison. I know the Madison is a large aquifer, but how many other communities take water from it, when is it going to run dry?

Sincerely Douglas L. Lesher
for Robert Bathurst

Doug Lesher, Acting Manager
Stone Meadow Ranch
26699 Remington Rd
Custer, SD 57730

USDA United States Department of Agriculture
Forest Service
Black Hills National Forest
1019 North 5th Street
Custer, SD 57730
605-673-9200
FAX: 605-673-9350

RECEIVED
JAN 2 0 2015
WATER RIGHTS PROGRAM

File Code: 2540
Date: January 16, 2015

MS. JEANNE GOODMAN
CHIEF ENGINEER
WATER RIGHTS PROGRAM
JOE FOSS BUILDING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Dear Ms. Goodman:

Re: Petition to Intervene in the Matter of the Application for Permit to Appropriate Water within the State of South Dakota No. 2730-2 Filed By the United Order of South Dakota.

The United States Department of Agriculture, Black Hills National Forest ("Forest"), petitions to intervene in the above referenced application to appropriate water filed by the United Order of South Dakota. This application seeks to amend the withdrawal under Water Permit 2610-2 by 205 gallons per minute (gpm) to a maximum instantaneous rate of 300 gpm (0.67 cubic feet per second) from the Madison aquifer by means of an additional well to be located in the NW ¼ of the SE ¼ of Section 10, Township 6 South, Range 3 East. The water is to be used for domestic purposes in a rural water supply system. The Forest believes this withdrawal, if permitted and developed, and in combination with senior and future use water permits in the same area, may over time adversely affect the rare warm water spring ecosystem at Cascade Springs and along Cascade Creek. These impacts, should they occur – specifically, a reduction in the natural volume of flow – would not be in the public interest. The Forest Service also believes the applicant should clearly demonstrate that it can fully place the total requested diversion of water to the beneficial use described in the application.

Cascade Springs is a group of artesian springs located on the Forest in the NE ¼ of the SE ¼ of the SW ¼, of Section 20, Township 8 South, Range 5 East. 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". The springs discharge water with a temperature of 67° F producing a rare and limited ecosystem.

There are four rare plant species documented to occur at Cascade Springs and along Cascade Creek that do not occur anywhere else in South Dakota. These plant species include tulip gentian (*Eustoma exaltatum* ssp. *russellianum*), beaked spikerush (*Eleocharis rostellata*), southern maidenhair fern (*Adiantum capillus-veneris*), and stream orchid (*Epipactis gigantea*). Tulip gentian grows natively in warm regions of the southern United States. Southern maidenhair fern is native to the southern half of the United States. Beaked spikerush is most often found in wet, alkaline soils,

associated with warm springs or calcareous fens. Stream orchid is generally abundant along the west coast of the United States. These populations of species at Cascade Springs exist as a unique community in the Black Hills and in South Dakota and, with the exception of beaked spikerush, the plants are outside of their normal range. They apparently occur here due to the microclimate created by the continuous discharge of warm spring water from Cascade Springs. The Forest Service is concerned that reduced water flows at Cascade Springs could adversely affect the survival and viability of these rare plant species. A conservation assessment for the southern maidenhair fern and the stream orchid states that the constant flow of warm water from Cascade Springs is essential to the persistence of the two species in the Black Hills (Hornbeck et al. 2003). Another assessment prepared for beaked spikerush identified that the long-term persistence of that species in the Black Hills is dependent upon the continued maintenance and enhancement of the population along Cascade Creek (Glisson 2003).

Cascade Springs originates in an area of alluvial sediment near the contact between the Spearfish Formation and the underlying Minnekhata Limestone on the west edge of center of the Cascade Anticline. Cascade Springs flows at an average aggregate year-round rate of about 20 cfs originating from six known discrete discharges and is the source of Cascade Creek, a tributary of the Cheyenne River. Available information about the nature and source of Cascade Springs, including the water chemistry and temperature, suggest that the water originates from the Madison (Pahasapa) and Minnelusa Formations, both of which are productive aquifers in the area.

The Madison aquifer consists of carbonate rock of generally low primary permeability containing substantial secondary permeability due to fracturing and development of solution cavities (karst features). The Madison aquifer is dominated by conduit flow through fractures and karst features. Regional information indicates that water in the Madison aquifer flows generally in a north to south or northwest to southeast direction, suggesting that the area of the United Order well may be upgradient of Cascade Springs. There are no known structural features between the area of the well and Cascade Springs that would be expected to isolate the effects of well pumping from the springs. The potential for fracture and karst connectivity from the area of the well southeast to Cascade Springs is unknown, but cannot be dismissed given the nature of the Madison aquifer in the Black Hills.

Assuming conduit connectivity between the well site and Cascade Springs and using available end member aquifer hydraulic values can provide a rough idea of whether there is potential for concern from the proposed increase in well pumping. This rough calculation should not be considered a prediction of the potential effects at the springs; rather it should be considered to be a scoping calculation illustrating the potential for effects at the springs.

Using a web calculator available for the Cooper-Jacob approach to the Theis solution for a pumping well (a similar approach to the one used by DENR), the drawdown effect at Cascade Springs could increase by as much as one foot after 100 days of increased pumping. The consequent change in flow at Cascade Springs is more difficult to estimate, but it is reasonable to conclude that increased drawdown in the aquifer would translate to reduced flow from the springs and reduced flow in the creek downstream.

Reduced flows from the springs and the subsequent negative effects on the four rare plant species documented to occur at Cascade Springs and along Cascade Creek would not be in the public interest.

Should the permit be granted, the Forest requests that the proposed terms and conditions of the permit be adjusted to protect the public interest in the resources at Cascade Springs and along Cascade Creek. Potential adjustments in the terms and conditions could include an initial term of two to five years and detailed monitoring at Cascade Springs to track flow during periods of pumping from the well.

The Forest Service also believes that United Order should clearly demonstrate that it can fully place the total requested diversion of water to the beneficial use stated in the application and that the potential for effects on senior downstream water users in the Cheyenne watershed should be fully evaluated.

Please direct any questions or concerns related to this matter to Deanna Reyher of my staff at (605) 673-9348.

Sincerely,

CRAIG BOBZIEN
Forest Supervisor

cc: Andrea Rogers (aerogers@fs.fed.us), Sherri Schwenke (sschwenke@fs.fed.us), Lois Witte (LOIS.WITTE@OGC.USDA.GOV)

REFERENCES:

DeWitt, Ed, J.A. Redden, David Buscher, and A.B. Wilson. 1989. Geologic map of the Black Hills area, South Dakota and Wyoming, USGS Miscellaneous Investigations Series Map I-1910, 1 plate.

Glisson, Bruce T. 2003. Conservation Assessment of the Beaked Spikerush in the Black Hills National Forest, South Dakota and Wyoming. 40 pages.

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USDA United States Department of Agriculture
Forest Service
Black Hills National Forest
1019 North 5th Street
Custer, SD 57730
605-673-9200
FAX: 605-673-9350

RECEIVED
JAN 16 2015
WATER RIGHTS PROGRAM

File Code: 2540
Date: January 16, 2015

MS. JEANNE GOODMAN
CHIEF ENGINEER
WATER RIGHTS PROGRAM
JOE FOSS BUILDING
523 E. CAPITOL AVE.
PIERRE, SD 57501

Dear Ms. Goodman:

Re: Petition to Intervene in the Matter of the Application for Permit to Appropriate Water within the State of South Dakota No. 2730-2 Filed By the United Order of South Dakota.

The United States Department of Agriculture, Black Hills National Forest ("Forest"), petitions to intervene in the above referenced application to appropriate water filed by the United Order of South Dakota. This application seeks to amend the withdrawal under Water Permit 2610-2 by 205 gallons per minute (gpm) to a maximum instantaneous rate of 300 gpm (0.67 cubic feet per second) from the Madison aquifer by means of an additional well to be located in the NW ¼ of the SE ¼ of Section 10, Township 6 South, Range 3 East. The water is to be used for domestic purposes in a rural water supply system. The Forest believes this withdrawal, if permitted and developed, and in combination with senior and future use water permits in the same area, may over time adversely affect the rare warm water spring ecosystem at Cascade Springs and along Cascade Creek. These impacts, should they occur – specifically, a reduction in the natural volume of flow – would not be in the public interest. The Forest Service also believes the applicant should clearly demonstrate that it can fully place the total requested diversion of water to the beneficial use described in the application.

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Please direct any questions or concerns related to this matter to Deanna Reyher of my staff at (605) 673-9348.

Sincerely,

/s/ Craig Bobzien

CRAIG BOBZIEN
Forest Supervisor

cc: Andrea Rogers (aerogers@fs.fed.us), Sherri Schwenke (sschwenke@fs.fed.us), Lois Witte (LOIS.WITTE@OGC.USDA.GOV)

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To whom it may concern:

I live in eastern Custer County and I oppose the application for a water permit #2730-2 by United Order of South Dakota (UOSD) for suburban housing. UOSD currently has 2 wells on their property (roughly 140 acres) permitted to produce 94 gpm. I do not know how many gallons of water a regular/average household uses per month, but I will use 5000 gallons per month as an example below.

94 gpm x 60 minute per hour x 24 hours per day x 30 days per month = 4,060,800 gallons / 5000 gallons = 812.16 households.

Increasing the gpm from 94 to 300 would be capacity for an additional 1779.84 households. I realize these figures are maximum usage levels and that UOSD will probably never continually use this much water, but by permitting that amount means they CAN. I do not believe the Madison Aquifer should be pumped at this amount for this property.

Other concerns of interest:
Where will the wastewater go from this much usage?
Will UOSD be selling water to other water systems, if so, at what cost?
What is the total number of people/households will this water be used for?
Would the water from this well or the two existing wells be used for growing crops?
Will the water from this well be metered?

Thank you,

Rick Fox

Rick Fox
PO Box 35
Hermosa, SD 57744

RECEIVED
JAN 2 0 2015
WATER RIGHTS
PROGRAM

January 13, 2015

To Whom It May Concern:

We are writing in opposition of the recent application #2730-2 submitted by Seth Jeff's. We live in the Eastern portion of Custer County. We oppose the increase of 0.46 cfs as well as the addition of another well into the Madison Aquifer. This addition to the existing permit would allow the United Order of South Dakota to pump 300 GPM. After reading the application we have serious concerns related to the use of this water.

The property that will be supplied the 300 GPM, if we are not mistaken, is on a 140 acre parcel of property. We belong to a rural water association that has a Madison well. The permit for that well is 250 GPM. Their supply area is 96 +/- square miles, with 200 +/- miles of pipe servicing over 60 members. Why is the State allowing permits on this 140 +/- parcel to exceed our supply?

The application indicates this water is for "suburban housing". Has a waste water plan been submitted in conjunction? This appears to be an extreme amount of water for the needs of a property this size.

Water in Western South Dakota is a very valuable, tenuous element. We are very concerned about over use, misuse and abuse of this resource.

We respectfully request this permit be declined.

Dean Johnson Delia Johnson

Dean and Delia Johnson
14585 East French Creek Road
Fairburn SD 57738

Cc: United Order of South Dakota, c/o Seth Jeff's, Box 5050, Custer SD 57730
Water Rights Program, Foss Building, 523 E Capitol, Peirre SD 57501
Attention: Chief Engineer

RECEIVED

JAN 1 2 2015

WATER RIGHTS PROGRAM

Affidavit of Publication

State of South Dakota)
)ss.
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

Notice of Application
Appropriate Water
Seth Jeffs -

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 1 successive week(s), on which said newspaper was regularly published, to wit:

Jan 7, Reprint/Correction;

the full amount of the fees for the publication of the annexed notice is $ NO CHARGE per JASON

Charles W. Najacht

Subscribed and sworn to me before this 7th of January, 2015;

Norma Najacht
NOTARY PUBLIC

MY COMMISSION EXPIRES: May 5, 2018

NORMA NAJACHT
NOTARY PUBLIC
SOUTH DAKOTA

NOTICE OF APPLICATION

NO. 2730-2 TO APPROPRIATE WATER

Notice is given that United Order of South Dakota, c/o Seth Jeffs, Box 5050, Custer SD 57730 has filed an application for a water permit to appropriate an additional 0.46 cubic feet of water per second (cfs) and an additional well. Water Permit No. 2610-2 authorizes 0.21 cfs from two wells located in the NW 1/4 SE 1/4 Section 10-T6S-R3E. This application proposes to appropriate an additional 0.46 cfs and authorizes one additional well to be completed into the Madison Aquifer (1100 feet deep) located in the NW 1/4 SE 1/4 Section 10-T6S-R3E. This application, if approved, and Water Permit No. 2610-2 will authorize a total diversion rate of 0.67 cfs (300 gallons per minute) from three wells for use in United Order of South Dakota's water system.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2730-2 subject to a 20-year term limitation because 1) although evidence is not available to justify issuing the permit without a 20 year term limitation, there is reasonable probability that there is unappropriated water available, 2) the proposed diversion can be developed without unlawful impairment of existing rights, 3) the proposed use is a beneficial use and 4) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on this application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider this application. Notice of the hearing will be given to the applicant and any person filing a petition.

Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting 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 January 19, 2015.

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. Information concerning this application is available at http://denr.sd.gov/public. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application. Steven M. Pirner, Secretary, Department of Environment and Natural Resources.

Published once at an approximate cost of $27.24.

1/7

000418

Affidavit of Publication

RECEIVED
JAN 0 7 2015
WATER RIGHTS PROGRAM

STATE OF SOUTH DAKOTA

County of Pennington SS:

Robert Evans being first duly sworn, upon his/her oath says: That he/she is now and was at all time hereinafter mentioned, an employee of the RAPID CITY JOURNAL, a corporation of Rapid City, South Dakota, the owner and publisher of the RAPID CITY JOURNAL, a legal and daily newspaper printed and published in Rapid City, in said County of Pennington, and has full and personal knowledge of all the facts herein stated as follows: that said newspaper is and at all of the times herein mentioned has been a legal and daily newspaper with a bonafide paid circulation of at least Two Hundred copies daily, and has been printed and published in the English language, at and within an office maintained by the owner and publisher thereof, at Rapid City, in said Pennington County, and has been admitted to the United States mail under the second class mailing privilege for at least one year prior to the publication herein mentioned; that the advertisement, a printed copy of which, taken from said Rapid City Journal, the paper in which the same was published, is attached to this sheet and made a part of this affidavit, was published in said paper once each day for one successive day, the first publication there of being on the thirty first day of December that the fees charged for the publication there of are sixty four dollars and ninty six cents.

Robert J Evans

Subscribed and sworn to before me this thirty first day of December, 2014.

Dustin Rice

Notary public

DUSTIN RICE
SEAL NOTARY PUBLIC SEAL
SOUTH DAKOTA

My Commission Expires
July 1, 2020

My commission expires

Dec 31
L20910918

NOTICE OF APPLICATION NO. 2730-2 to Appropriate Water

Notice is given that United Order of South Dakota, c/o Seth Jeffs, Box 5050, Custer SD 57730 has filed an application for a water permit to appropriate an additional 0.46 cubic feet of water per second (et's) and an additional well. Water Permit No, 2610-2 authorizes 0.21 cfs from two wells located in the NW 1/4 SE 1/4 Section 10-T6S-R3E. 'Phis application proposes to appropriate an additional 0.46 cfs and authorizes one additional well to be completed into the Madison Aquifer (1100 feet deep) located in the NW 1/4 SE 1/4 Section 10-T6S-R3E. This application, if approved, and Water Permit No. 2610-2 will authorize a total diversion rate of 0.67 cfs (300 gallons per minute) from three wells for use in United Order of South. Dakota's water system.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2730-2 subject to a 20-year term limitation because 1) although evidence is not available to justify issuing the permit without a 20 year term limitation, there is reasonable probability that there is unappropriated water available, 2) the proposed diversion can be developed without unlawful impairment of existing rights, 3) the proposed use is a beneficial use and 4) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on this application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider this application. Notice of the hearing will be given to the applicant and any person filing a petition.

Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 F 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 January 12, 2015.

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. Information concerning this application is available at http://denr.sd.gov/public. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application. Steven M. Pirner, Secretary, Department of Environment and Natural Resources.

(Published once at the total approxiamte cost of $64.96).

Schlaak, Karen

From: Schlaak, Karen
Sent: Monday, January 05, 2015 11:22 AM
To: sethsj@gmail.com
Subject: Publication Notice is the Custer paper
Attachments: Affidavit.pdf

Mr. Jeffs,
Attached is a copy of the Affidavit of Publication received from the Custer County Chronicle. The notice contain errors in the legal description of the well location. Therefore, the notice will be published again on January 7 in the Custer paper at the papers expense.

The date for petitions to be submitted will now be January 19, 2015.

If you have questions, please contact Eric Gronlund or me.

Karen Schlaak
Water Rights Program
523 E Capitol Ave
Pierre SD 57501
Phone: 605 773-3352

Schlaak, Karen

From: Schlaak, Karen
Sent: Monday, January 05, 2015 10:36 AM
To: Robert.Evans@rapidcityjournal.com
Subject: Notice for United Order of South Dakota

On December 18, 2014, we sent you a Notice of Application No. 2730-2 to Appropriate Water for United Order of South Dakota. The notice was to be published on January 31, 2014. Did this notice get printed? If so, can you send me an Affidavit of Publication.

?

Let me know if you have questions.

Karen Schlaak
Water Rights Program
523 E Capitol Ave
Pierre SD 57501
Phone: 605 773-3352

Schlaak, Karen

From: Schlaak, Karen
Sent: Monday, January 05, 2015 10:15 AM
To: 'custernews@gwtc.net'
Subject: Notice for United Order of South Dakota
Attachments: 2730-2public.short.docx; Affidavit.pdf

Jason,

Attached is the Notice of Application No. 2730-2 to be published on January 7, 2015. Please send the affidavit ASAP

Because of errors in the legal description of the well location, the notice needs to be readvertised. I have attached the page which shows the errors.

If you have any questions, please let me know.

Thanks,
Karen Schlaak
Water Rights Program
523 E Capitol Ave
Pierre SD 57501
Phone: 605 773-3352

Affidavit of Publication

RECEIVED
JAN 02 2015
WATER RIGHTS PROGRAM

State of South Dakota)
)ss.
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

Water Rights Program (United Order of South Dakota)
Notice of Application No 2730-2
Appropriate Water

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 1 successive week(s), on which said newspaper was regularly published, to wit:

Dec 17, 2014; _____, _____;
_____, _____; _____, _____;
_____, _____; _____, _____;
_____, _____; _____, _____;
_____, _____; _____, _____;

the full amount of the fees for the publication of the annexed notice is $ 27.24.

Charles W. Najacht

Subscribed and sworn to me before this 17th
of December, 2014;

Norma Najacht
NOTARY PUBLIC

MY COMMISSION EXPIRES: May 5, 2018

NORMA NAJACHT
NOTARY PUBLIC
SOUTH DAKOTA

NOTICE OF APPLICATION

NO. 2730-2 TO APPROPRIATE WATER

Notice is given that United Order of South Dakota, c/o Seth Jeffs, 11571 Farmer Rd, Pringle SD 57773 has filed an application for a water permit to appropriate an additional 0.46 cubic feet of water per second (cfs) and an additional well. Water Permit No. 2610-2 authorizes 0.21 cfs from two wells located in the NW 1/4 SE 1/4 Section 10-T6S-R3E. This application proposes to appropriate an additional 0.46 cfs and authorizes one additional well to be completed into the Madison Aquifer (1100 feet deep) located in the NW 1/4 SE 1/4 Section 10-T6S-R3E. This application, if approved, and Water Permit No. 2610-2 will authorize a total diversion rate of 0.67 cfs (300 gallons per minute) from three wells for use in United Order of South Dakota's water system.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2730-2 subject to a 20-year term limitation because 1) although evidence is not available to justify issuing the permit without a 20 year term limitation, there is reasonable probability that there is unappropriated water available, 2) the proposed diversion can be developed without unlawful impairment of existing rights, 3) the proposed use is a beneficial use and 4) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on this application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider this application. Notice of the hearing will be given to the applicant and any person filing a petition.

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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. Information concerning this application is available at http://denr.sd.gov/public. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application. Steven M. Pirner, Secretary, Department of Environment and Natural Resources.

000423

Published once at an approximate cost of $27.24.

12/17

Instruction to Newspaper - Publish the Notice on January 7, 2015

NOTICE OF APPLICATION NO. 2730-2 to Appropriate Water

Notice is given that United Order of South Dakota, c/o Seth Jeffs, Box 5050, Custer SD 57730 has filed an application for a water permit to appropriate an additional 0.46 cubic feet of water per second (cfs) and an additional well. Water Permit No. 2610-2 authorizes 0.21 cfs from two wells located in the NW 1/4 SE 1/4 Section 10-T6S-R3E. This application proposes to appropriate an additional 0.46 cfs and authorizes one additional well to be completed into the Madison Aquifer (1100 feet deep) located in the NW 1/4 SE 1/4 Section 10-T6S-R3E. This application, if approved, and Water Permit No. 2610-2 will authorize a total diversion rate of 0.67 cfs (300 gallons per minute) from three wells for use in United Order of South Dakota's water system.

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Published once at the total approximate cost of_____.

DEPARTMENT OF ENVIRONMENT and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

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

December 18, 2014

United Order of South Dakota
c/o Seth Jeffs
Box 5050
Custer SD 57730

Dear Mr. Jeffs:

Water Permit Application No. 2730-2 for 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 Custer County Chronicle printed at Custer SD (Ph # 605-673-2217) and the Rapid City Journal printed at Rapid City SD (Ph # 605-394-8300). You will need to contact the newspaper(s) 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(s) to authorize publication of your Notice and to arrange for payment. Early contact with the paper(s) can eliminate delays. Upon receiving authorization from you, the publisher has been instructed to publish your notice. 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

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.

DEPARTMENT OF ENVIRONMENT and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

December 18, 2014

Rapid City Journal
PO Box 450
Rapid City SD 57730

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 2730-2 to Appropriate Water. Please publish the notice once on December 31, 2014. 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 and arrange for payment. **Please BILL the APPLICANT for the cost of publication.** The APPLICANT is United Order of South Dakota, c/o Seth Jeffs, Box 5050, Custer SD 57730 (Ph # 605-673-5274 or 325-650-8444).

Please send the Water Rights Program an affidavit or the enclosed Proof of Publication form immediately.

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

DEPARTMENT OF ENVIRONMENT and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

December 18, 2014

Custer County Chronicle
PO Box 551
Custer SD 57730

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Natural Resources Engineer
605 773-3352

enclosures

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Published once at the total approximate cost of_____.

Schlaak, Karen

From: Schlaak, Karen
Sent: Thursday, December 18, 2014 9:38 AM
To: 'sethsj'
Subject: RE: Application for Permit to Appropriate Water

I will be resending the information regarding the public notice in the mail to you today.
Please be sure to contact the Custer County Chronicle and the Rapid City Journal once you receive the information to authorize publication and arrange for payment. We are requesting the notice be published on December 31.

Let me know if you have questions.
Karen

From: sethsj [mailto:sethsj@gmail.com]
Sent: Thursday, December 18, 2014 9:04 AM
To: Schlaak, Karen
Subject: Re: Application for Permit to Appropriate Water

Hi Karen,
The mailing address is
Box 5050
Custer SD 57730
Thank you.

On Dec 16, 2014 7:54 AM, "Schlaak, Karen" <Karen.Schlaak@state.sd.us> wrote:

Mr. Jeffs,

On December 5th , we sent you the information regarding the public notice for Water Application No. 2730-2, United Order of South Dakota. This letter was returned by the post office this morning marked "no mail receptacle". We sent the information to the address on the application which was 11571 Farmer Rd, Pringle SD 57773.

Please acknowledge receipt of this email and let us know what mailing address this information should be sent to.

Thank you,

Karen Schlaak

Water Rights Program

DEPARTMENT OF ENVIRONMENT and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

December 5, 2014

Custer Chronicle
PO Box 551
Custer SD 57730

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 2730-2 to Appropriate Water. Please publish the notice once on December 17, 2014. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352.

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Please send the Water Rights Program an affidavit or the enclosed Proof of Publication form immediately.

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

DEPARTMENT OF ENVIRONMENT and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

December 5, 2014

Rapid City Journal
PO Box 450
Rapid City SD 57701

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Sincerely,

Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures

DEPARTMENT OF ENVIRONMENT and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

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

December 5, 2014

United Order of South Dakota
Seth Jeffs
11571 Farmer Rd
Pringle SD 57773

Dear Mr. Jeffs:

Water Permit Application No. 2730-2 for 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 Custer Chronicle printed at Custer SD (Ph # 605-673-2217) and the Rapid City Journal printed at Rapid City SD (Ph # 605-394-8300). You will need to contact the newspaper(s) 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.

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Sincerely,

Eric Gronlund
Natural Resources Engineer
(605) 773-3352
enclosures

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Published once at the total approximate cost of_____.

Schlaak, Karen

From: Gronlund, Eric
Sent: Wednesday, December 17, 2014 10:40 AM
To: Schlaak, Karen
Cc: Duvall, Ron; Buhler, Ken
Subject: United Order of South Dakota

Received a call from Deanne Reyher with the US Forest Service. She indicated USFS received the public notice of this application from Ron's subscription list but now notes that it's not on our web-site. I speculated that since the report, recommendation and notice did not get to the applicant (was returned for not having a mail receptacle) that we may have pulled it from the website. We are currently trying to get a hold of them so that we can get the application public notice as they need to authorize publication. She indicated the Forest Service intends to file a letter but wanted to know if they could get an extension of the December 29th date in the notice. I said that date is likely delayed anyway since the applicant did not authorize publication.

I told her that if this is not correct, that DENR would contact her back. Her phone number is 605 673-9348 and email address is dreyher@fs.fed.us. I also told her we'd email her when the application is sent out for public notice again.

Karen emailed the applicant's representative, Seth Jeffs, in order to get the public notice to him and get them to authorize publication. Not sure when or if we'll get a response.

DEPARTMENT OF ENVIRONMENT and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

December 5, 2014

Sheriff Rick Wheeler
420 Mount Rushmore Road
Custer SD 57730

Dear Sheriff Wheeler:

United Order of South Dakota filed a water permit application with the SD Department of Environment and Natural Resources (DENR) for an additional well and diversion rate authority for the compound's water use near Pringle. The application has been reviewed and is set for public notice in the Custer County Chronicle and Rapid City Journal on December 17th. Attached are the public notice, staff report and Chief Engineer's recommendation regarding this application.

At this time, DENR does not anticipate this application becoming controversial but want your office to be aware of the application in case questions arise.

Please let us know if you have any questions.

Sincerely,

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

enclosures

DEPARTMENT OF ENVIRONMENT and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT APPLICATION NO. 2730-2, United Order of South Dakota

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. 2730-2, United Order of South Dakota, c/o Seth Jeffs, 11571 Farmer Rd, Pringle SD 57773.

The Chief Engineer is recommending Approval of Application No. 2730-2 with a 20 year term pursuant to SDCL 46-1-14 and 46-2A-20 because 1) evidence is not available to justify issuing this permit without a 20 year term limitation, 2) the proposed diversion can be developed without 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. 2730-2 is issued for a twenty year term. Pursuant to SDCL 46-2A-21, the twenty year term may be deleted at any time during the twenty year period or following its expiration. If the twenty 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. 2730-2 may also be cancelled for non-construction, forfeiture, abandonment or three permit violations pursuant to SDCL 46-1-12, 46-5-37.1 and ARSD 74:02:01:37.

2. The new 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 new well authorized by Permit No. 2730-2 shall be constructed by a licensed well driller and construction 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 Water Permit Holder shall report to the Chief Engineer annually the amount of water withdrawn from the Madison aquifer that is authorized by Water Permit Nos. 2610-2 and 2730-2.

See report on application for additional information.

Jeanne Goodman

Jeanne Goodman, Chief Engineer
December 5, 2014

WATER PERMIT APPLICATION NO. 2730-2
UNITED ORDER OF SOUTH DAKOTA
NOVEMBER 12, 2014

Water Permit Application No. 2730-2 proposes to appropriate water from the Madison aquifer at a maximum diversion rate of 0.46 cubic feet of water per second (cfs). Water is to be diverted from two existing wells which were authorized by Water Permit No. 2610-2, and a proposed well. Water Permit No. 2610-2 authorizes diversions of up to 0.21 cfs from two wells located in the NW¼ SE¼ of Section 10, T6S-R3E, Custer County. This application proposes to authorize the construction of a third well, also located in the NW¼ SE¼ of Section 10, T6S-R3E, and authorize a total maximum diversion from the three wells of 0.67 cfs. The water will be used in the United Order of South Dakota's water system.

AQUIFER: Madison aquifer (MDSN)

Aquifer Characteristics:
The Madison aquifer is a regionally extensive aquifer contained within the Madison Limestone, locally known as the Pahasapa Limestone, and the Englewood Limestone. The aquifer underlies portions of North Dakota, South Dakota, Montana, Wyoming, Saskatchewan, Manitoba and Alberta. The Madison aquifer underlies most of western South Dakota and parts of Eastern South Dakota (Figure 1). The Madison aquifer contains an estimated 644,827,200 acre-feet of recoverable water in storage in Western South Dakota (Allen and others, 1985) and 51,512,300 acre-feet of recoverable water in storage in Eastern South Dakota (Hedges and others, 1982).

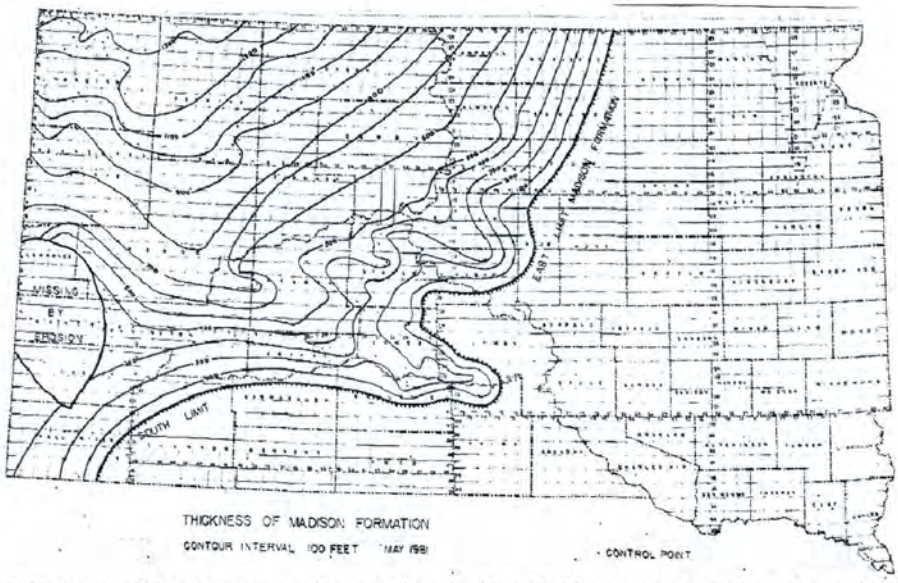

Figure 1. Areal Extent of the Madison Formation in South Dakota: modified from (Gries, 1981).

The Madison aquifer is considered a "mature karst aquifer" (Long and others, 2012) and is composed of a fine to medium crystalline, cavernous limestone and dolomite. The Madison is expected to be approximately 300 feet thick in this area (Carter and Redden, 1999a); and (Carter and Redden, 1999b). The upper portion of the Madison Limestone is karstic, therefore it contains randomly distributed zones of secondary porosity and permeability formed by weathering of

exposed surfaces, groundwater solution and fracturing. The lower part of the Madison Limestone and the Englewood Limestone generally have lower permeability than the upper part of the Madison aquifer in the Black Hill (Greene, 1993). The average porosity of the Madison is estimated to be 11%, and the effective porosity from which recoverable water can be obtained by wells is assumed to be 5% (Rahn, 1979).

The well site proposed by this application is located approximately five miles southwest of the Madison Limestone outcrop (Strobel and others, 1999). In this area, the Madison Limestone dips to the southwest at approximately 240 feet per mile (approximately three degrees) (Carter and Redden, 1999a). The DENR-Water Rights Program has record of three existing wells constructed for the United Order of South Dakota. The top of the Madison was reported to be 785 feet below grade in one well log, 715 feet below grade in a second well log and is inferred to be 719 feet below grade in the third log (Water Rights, 2014c). The static water level of the wells was reported to be 650' (06/05/2005), approximately 800' (10/20/2010) and approximately 800' (10/15/2007) respectively.

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 availability of unappropriated water 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." The statute provides that "An application may be approved, however, for withdrawals of groundwater from any groundwater formation older than or stratigraphically lower than the greenhorn formation in excess of the average estimated annual recharge for use by water distribution systems." Water Permit Application No. 2730-2 proposes to appropriate water from the Madison aquifer, a water source that is older than the Greenhorn Formation, and the water is to be used by a water distribution system. Therefore, the Board need not consider the recharge versus withdrawal issue.

Existing Rights:

This applicant has been utilizing wells completed into the Madison aquifer that were authorized by Water Permit No. 2610-2 since 2007 with no significant impact. The additional diversion rate proposed by this application is relatively low and will not likely have a noticeable effect to the Madison aquifer. There are 64 completion reports on file with the DENR-Water Rights Program within approximately five miles of the wells that are to be used to supply this appropriation (Water Rights, 2014c). The majority of these domestic wells appear to be completed into the Minnelusa aquifer and at least two are completed into the Deadwood aquifer. Wells completed into aquifers that are either stratigraphically above or below the Madison aquifer (i.e. Minnelusa and Deadwood respectively) are not expected to be affected by this proposed appropriation since the lower Minnelusa formation can be considered a confining bed that isolates the Madison hydraulically from shallower aquifers, and the bottom portion of the Madison isolates the Madison from lower

aquifers. Only three of the domestic wells on file appear to be completed into the Madison aquifer. Based on the legal location provided on the completion reports, the Madison aquifer wells are all located over three and three quarter miles from the site(s) of Application No. 2730-2.

The diversion point locations for existing water rights and future use permits appropriating water from the Madison aquifer in this area are shown in Figure 2 and identified in Tables 1 and 2.

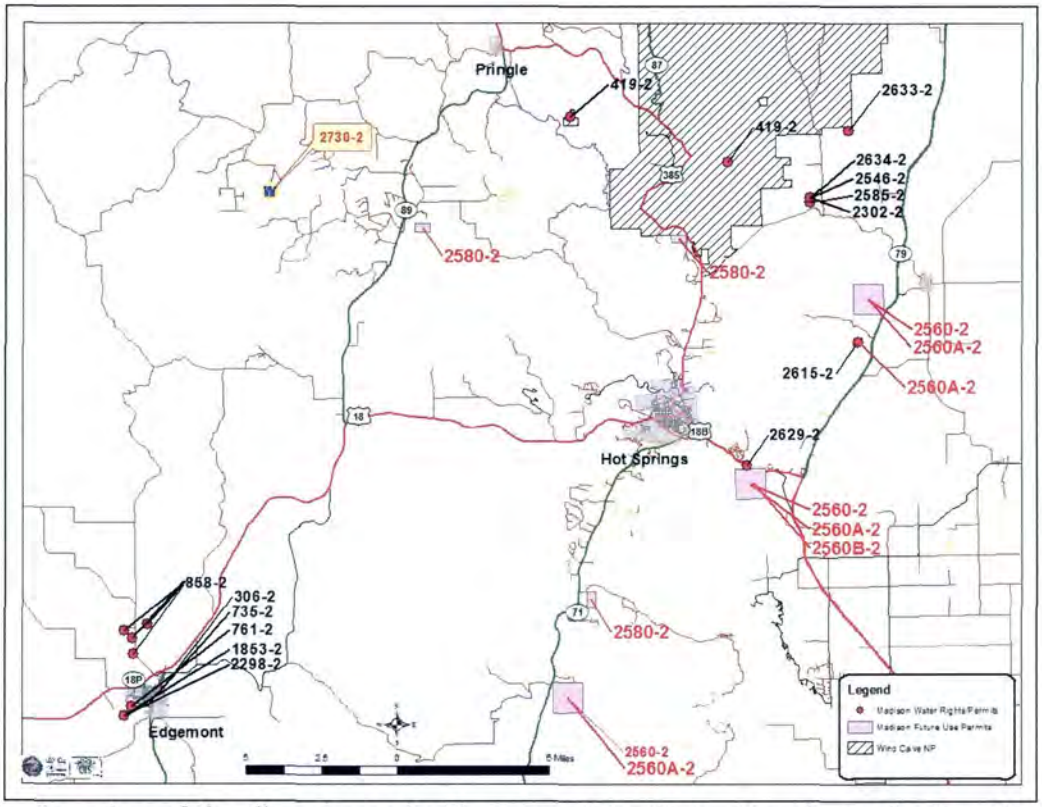

Figure 2. Location of the diversion point(s) proposed by Water Permit Application No. 2730-3, diversion points for existing Madison aquifer water rights/permits, and areas of Madison aquifer future use permits in the vicinity (Water Rights, 2014b).

Table 1. Water Rights/Permits appropriating water from the Madison aquifer in the vicinity of the diversion points proposed by Application No. 2730-2(Water Rights, 2014b).

PERMIT NO	NAME	PRIORITY DATE	STATUS	USE	CFS	ACRES	AC-FT /YR
306-2	CITY OF EDGEMONT	12/14/1945	LC	MUN	0.31		
419-2	WIND CAVE NATIONAL PARK	12/29/1955	LC	COM/IRR	0.15		
735-2	TENNESEE VALLEY AUTHORITY	12/26/1961	LC	IND	0.66		
761-2	CITY OF EDGEMONT	04/09/1962	LC	MUN	0.41		
858-2	WYOMING DAKOTA RAILROAD PROPERTIES INC	02/05/1965	LC	IRR	9.36	655.75	
1853-2	CITY OF EDGEMONT	08/23/1983	IL	MUN			
2298-2	CITY OF EDGEMONT	08/28/1993	LC	REC/MUN	1		
2302-2	EBEN W STREETER	02/07/1994	LC	RWS	0.033		
2546-2	EBEN STREETER	01/03/2005	PE	RWS	0.21		
2615-2	FALL RIVER WATER USERS DISTRICT	05/16/2005	PE	RWS	0.67		
2629-2	FALL RIVER WATER USERS DISTRICT	05/16/2005	PE	RWS	1		
2585-2	SOUTHERN BLACK HILLS WATER SYS	05/08/2006	DF	RWS	2.67		1600
2610-2	UNITED ORDER OF SOUTH DAKOTA	02/09/2007	PE	SHD	0.21		
2633-2	SOUTHERN BLACK HILLS WATER SYSTEM	06/20/2008	PE	RWS	0.67		
2634-2	STREETER FAMILY LIMITED PARTNERSHIP	07/17/2008	PE	RWS	0		

LC= Water License, IL= Incorporated, PE= Water Permit, DF= Deferred, MUN= municipal, COM= Commercial, IRR= Irrigation, IND= Industrial, REC= Recreational, RWS= Rural Water System, SHD= Suburban Housing Development

Table 2. Future Use Permits reserving water from the Madison aquifer in the vicinity of the diversion points proposed by Application No. 2730-2(Water Rights, 2014b).

FUTURE USE PERMIT NO.	NAME	ORIGINAL RESERVATION (AC-FT/YR)	REMAINING RESERVATION (AC-FT/YR)
2560-2	FALL RIVER WATER USERS DISTRICT	750	0
2580-2	SOUTHERN BLACK HILLS WATER SYSTEM	1474	1474
2560A-2	FALL RIVER WATER USERS DISTRICT	*	0
2560B-2	FALL RIVER WATER USERS DISTRICT	*	0

* FUTURE USE PERMIT NOS. 2560A-2 AND 2560B-2 AMEND FUTURE USE PERMIT NO. 2560-2 TO EXPAND THE FUTURE USE AREA AND DO NOT RESERVE ADDITIONAL WATER

Since the Madison is under artesian conditions in this area, drawdown from pumping a well may extend over a fairly large area. The transmissivity of the aquifer is very heterogeneous with values that range over several orders of magnitude (Putnam and Long, 2007). In addition, the aquifer characteristics of the Madison can vary considerably within a short distance (Greene, 1993).

Carter and others (2001) developed hydrologic budgets for the Madison and Minnelusa aquifers combined, using nine subareas to cover the Black Hills. The subareas were identified on the basis

of hypothetical flow paths and were selected with the intent of minimizing flow across the boundaries. The well(s) that is/are to be used to supply this appropriation is/are located in Carter and others' (2001) subarea 8. Carter and others (2001) estimated the transmissivity of the Madison aquifer on the border of the subarea near the well site at 1,463 feet squared per day (ft^2/d). Applying this estimated transmissivity and assuming a storage coefficient of $S= 2x10^{-4}$, the drawdown 1,000 feet from a well pumping 0.46 cfs would be less than 19 feet after one year of continuous pumping based on the Theis Equation (see Figure 3) ("Theis Equation Calculator").

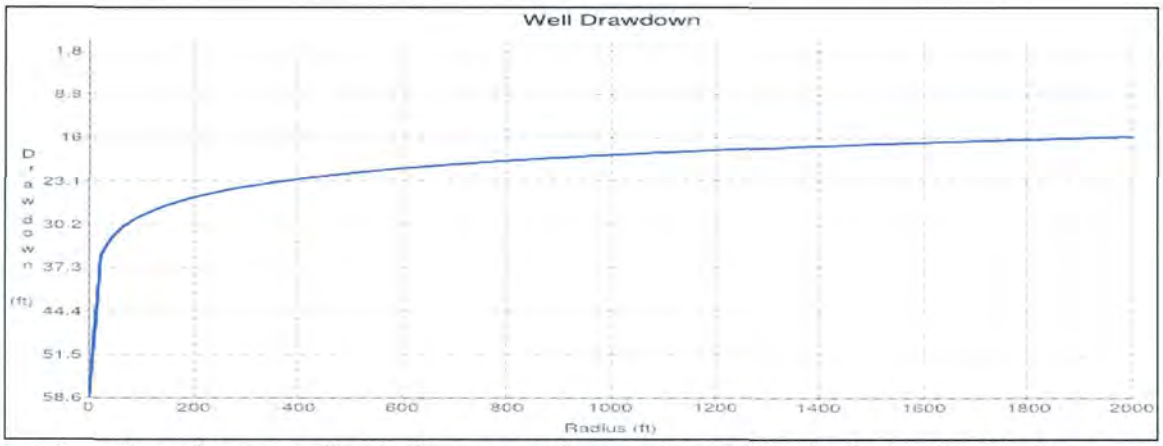

Figure 3. Drawdown predicted from a well pumping 0.46 cfs from the Madison aquifer, continuously for one year, assuming T= 1,463 ft^2/d, S= $2x10^{-4}$. (modified from ("Theis Equation Calculator"))

Assuming the combined diversion rates of Water Permit No. 2610-2 and Water Permit No. 2730-2 (if approved) are pumped from a single well, a transmissivity of 1,463 ft^2/d and a storage coefficient of $S= 2x10^{-4}$, the drawdown 1,000 feet from a well pumping 0.67 cfs would be less than 28 feet after one year of continuous pumping based on the Theis Equation (see Figure 4) ("Theis Equation Calculator").

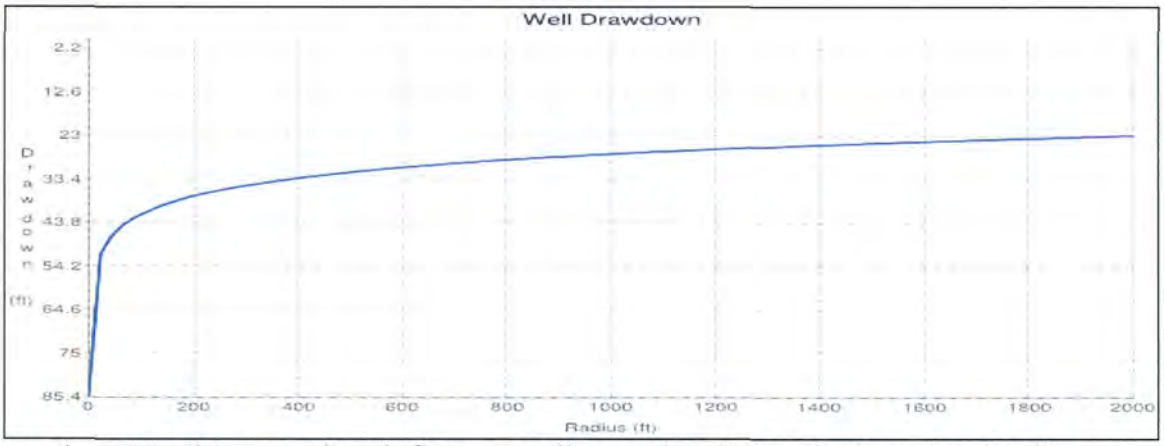

Figure 4. Drawdown predicted from a well pumping 0.67 cfs from the Madison aquifer, continuously for one year, assuming T= 1,463 ft^2/d, S= $2x10^{-4}$. (modified from ("Theis Equation Calculator"))

The Theis equation requires a number of simplifying assumptions, some of which may not apply in this case; however, the solution is still useful to show that drawdown should not be significant.

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, 2014a).

Given the distance between the well(s) that is/are to supply this appropriation and existing Madison wells well interference is not expected to be adverse.

The well sites proposed by this application are located approximately five miles west of the "Argyle" well site proposed by Future Use Permit No. 2580-2. Approval of this application should not hinder development of the future use permit due to the distance involved.

Beneficial Use:

Pursuant to SDCL 46-1-6 (3) beneficial use is defined as:

> "any use of water within or outside the state, that is reasonable and useful and beneficial to the appropriator, and at the same time is consistent with the interests of the public of this state in the best utilization of water supplies;

The applicant has the burden of proof in establishing that an application is a beneficial use of water.

Public Interest Issues:

In the past, there have been two "public interest" issues raised that could potentially be obstacles to developing the Madison aquifer in the Southern Black Hills: 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). Major springs in the area identified by Naus and others (2001) are shown in Figure 5.

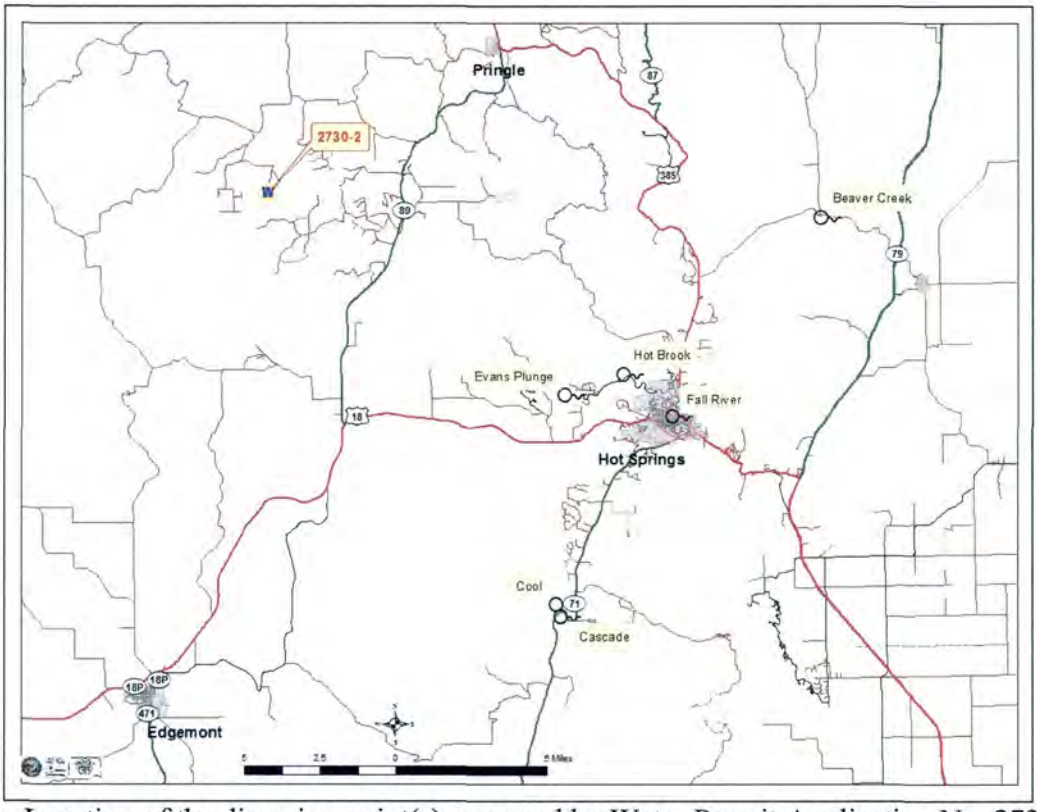

Figure 5. Location of the diversion point(s) proposed by Water Permit Application No. 2730-2, and the location of major springs in the vicinity.

The discharge of one of these springs, Beaver Creek Spring, is measured by National Park Service personnel. The spring is located approximately two and one-quarter miles east of SD DENR-Water Rights' Observation Well CU-91A. A comparison of the discharge of Beaver Creek Springs and the potentiometric surface of the Madison aquifer suggests a relationship may exist between the two (see Figure 6). At this time it is not possible to determine if a cause and effect relationship exists between the Madison aquifer potentiometric surface and the spring flow or if the two have similar responses to the same hydrologic conditions. If a cause and effect relationship exists between the Madison aquifer potentiometric surface and the spring discharge, a decline of the potentiometric surface in the vicinity of the springs could decrease spring discharge.

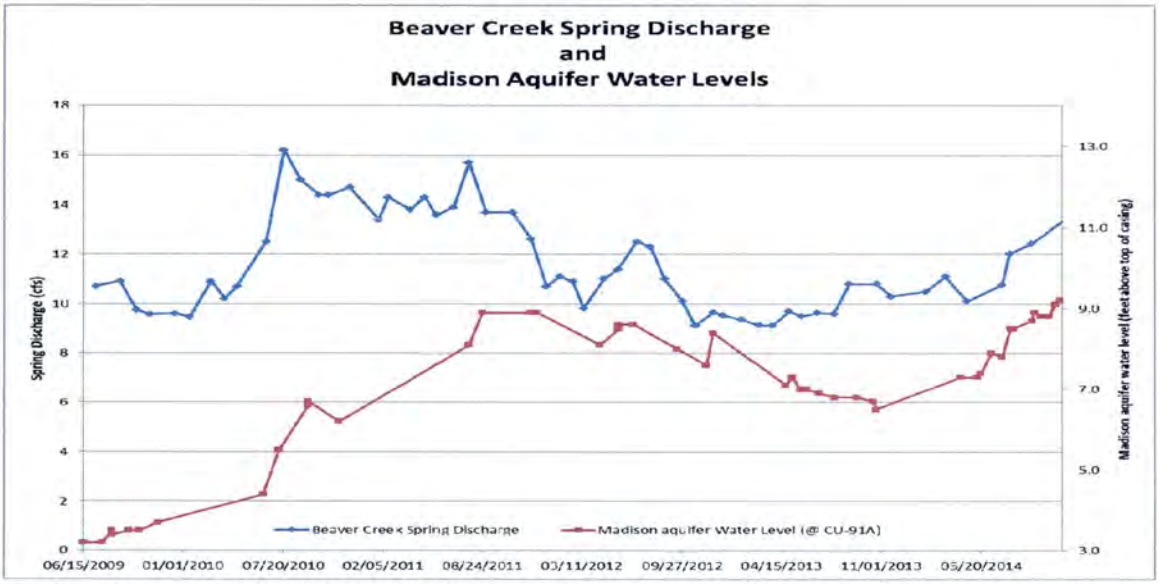

Figure 6. Beaver Creek Spring Discharge compared to Madison aquifer potentiometric surface measured at observation well CU-91A ("Aquarius Web Data Portal."; Water Rights 2014a)

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, 2014b)

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."

The well site(s) proposed by this application is/are located over eleven miles from the nearest major spring (Evens Plunge). 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, (0.67 cfs maximum), it is unlikely that drawdown from this well would have a measurable impact on spring discharge.

Wind Cave National Park:

The National Park Service (NPS) has intervened in matters of water permit applications from the Madison aquifer in the past. In 2007, the NPS filed a petition to intervene in the matter of Water Permit Application No. 2610-2. The NPS was concerned that "the Application No. 2610-2, over time and in combination with senior water right applications … will adversely impact Wind Cave National Park (Wind Cave NP) senior water rights and water-dependent resources." The water-related resources cited by the NPS include: lakes and pools in the lower reaches of Wind Cave, three perennial streams (Cold Springs, Beaver, and Highland Creeks), many intermittent and ephemeral stream courses, and over 95 seeps and springs. The NPS later withdrew their opposition to granting the water permit but restated its concerns about the potential impacts of appropriations from the Madison aquifer.

Lakes and Pools:

The lakes and pools in Wind Cave National Park are in hydraulic connection with the Madison aquifer and the water table of the Madison aquifer is accessible at the deepest part of the cave (Long and others, 2012) . The stages of the lakes fluctuate in response to climatic conditions similar to fluctuations in the Madison potentiometric surface measured in DENR-Water Rights' Observation Well CU-91A, (see Figure 7).

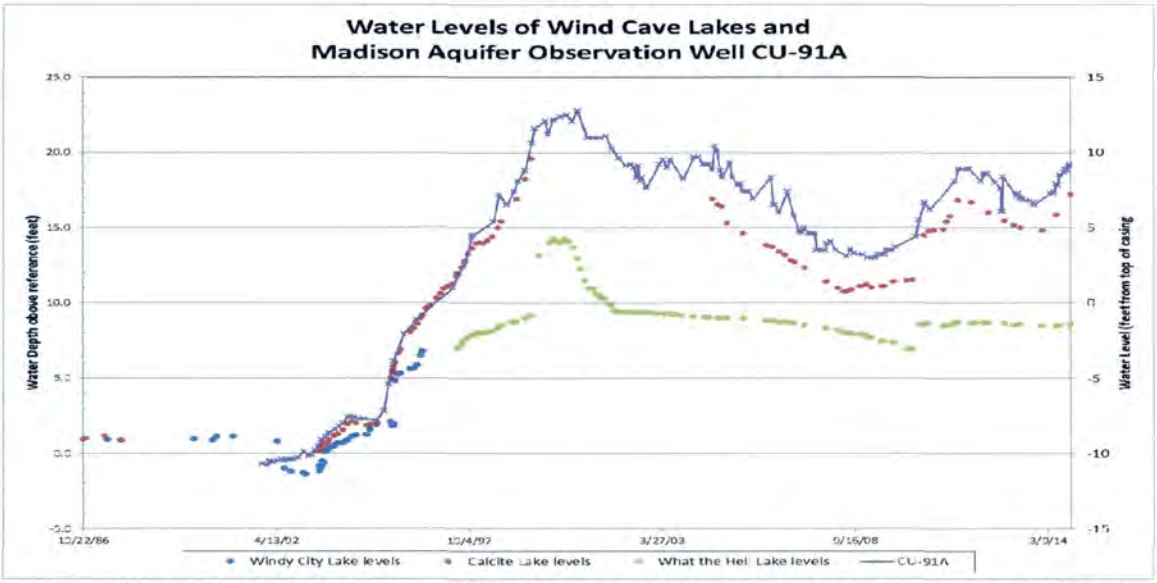

Figure 7. Water Levels of Wind Cave National Park Lakes compared to Madison aquifer potentiometric surface measured at observation well CU-91A (Hughes; Water Rights 2014a)

The lakes and pools in Wind Cave are located approximately thirteen miles east of the well site(s) proposed by this application (see Figure 8).

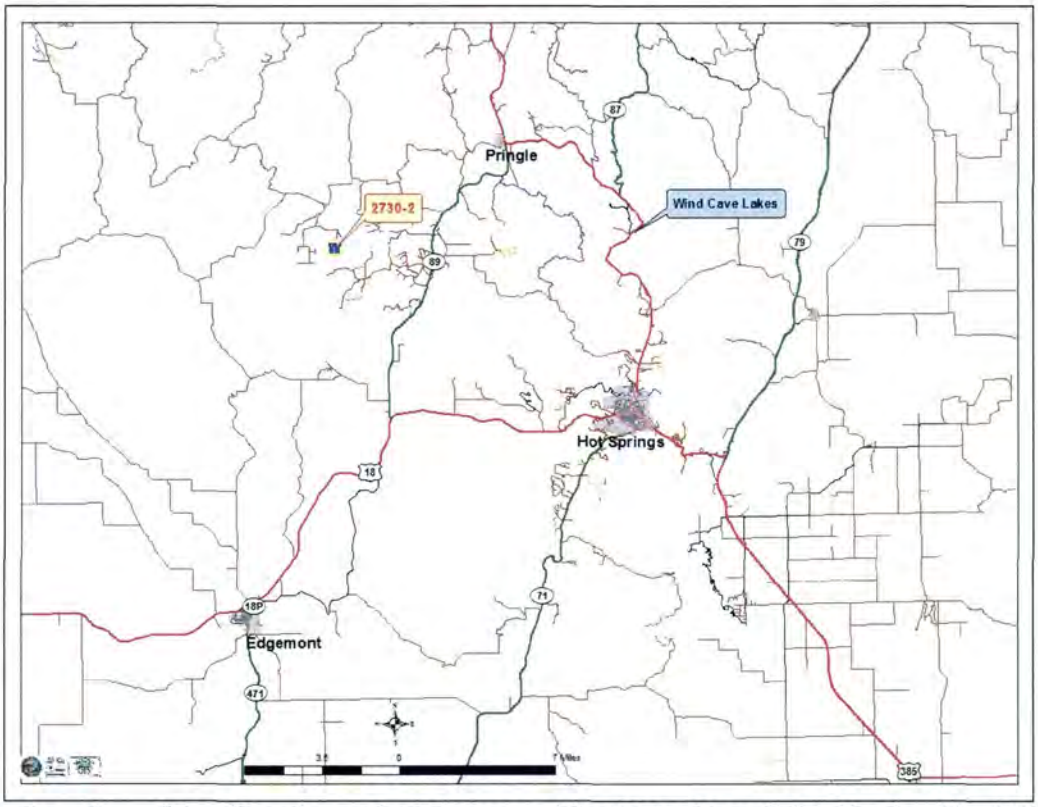

Figure 8. Location of the diversion point(s) proposed by Water Permit Application No. 2730-3, and the location of lakes and pools in Wind Cave National Park.

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 (>5 miles) and the relatively small diversion rate proposed (0.67 cfs maximum).

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". The entire length of Cold Spring Creek is located on formations that are geologically lower than the Madison and therefore are not expected to be influenced by Madison aquifer withdrawals. Beaver and Highland Creeks are typically dry in their reaches downstream from the loss zone (Madison, Minnelusa and Minnekahata aquifer outcrops) because the upstream flow is usually insufficient to meet or exceed the streams' loss thresholds. Since loss thresholds are assumed to be generally constant (Hortness and Driscoll, 1998), any fluctuations of the groundwater levels caused by pumping 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 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."

Evidence is not available to justify issuing this permit without a term limitation of 20 years.

Conclusions:

1. The Madison aquifer is a viable aquifer in this area.
2. This diversion will not adversely impair existing water rights.
3. Information is not available to approve this application without a 20 year term limit

Ken Buhler
SD DENR-Water Rights Program

REFERENCES:

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Water Rights Program, 2014a, Observation Well Files, DENR-Water Rights Program, Joe Foss Building, Pierre, SD 57501

Water Rights Program, 2014b, Water Permit/Right Files, DENR-Water Rights Program, Joe Foss Building, Pierre, SD 57501

Water Rights Program, 2014c, Well Completion Report Files, DENR-Water Rights Program, Joe Foss Building, Pierre, SD 57501

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 10/14, 20 14

RECEIVED OF United Order of South Dakota PO Box 5050 Custer SD 57730

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

Fee for Application for Permit No. 2730-2 to Appropriate Water, to construct and to put water to beneficial use	850	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. 2730-2	200	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	1050	00

No. 06967

By Jean Goodman
Chief Engineer

SD EForm - 1585LD V4
FORM 2: Application for uses other than irrigation
(type or print)

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RECEIVED
OCT 14 2014
WATER RIGHTS PROGRAM

Mail to: PMB 2020 DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	(office use only) No. 2730-2 Hydrologic Unit 10120106 Basin Upper Cheyenne Newspaper Custer County Chronicle, PO Box 551, Custer 57730 (Web) 605 673-2217 Rapid City Journal, PO Box 450, 57701 605 394-8300

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

Check use(s) of water:

- [ ] Municipal
- [x] Rural Water System
- [x] Domestic (over 18 gpm)
- [ ] Suburban Housing
- [ ] Commercial
- [ ] Industrial
- [ ] Recreational
- [ ] Fish & Wildlife
- [ ] Other
- [ ] Institutional
- [ ] Geothermal Heat

Type of Application: (check one)
- [x] **New**
- [ ] **Vested Right** (Use predates Mar 2, 1955)
- [ ] **Future Use Reservation**
- [ ] **Place to Beneficial Use Water Reserved by Future Use Permit No.**
- [x] ~~**Amendment/Correction to Permit No.**~~ 2610-2

Description of amendment/correction: (i.e. change diversion point(s), add diversion point(s), change use, etc.)
Add Diversion Point, Add 205 GPM to the existing 95 GPM permit

1. Name to Appear on Water Permit United Order of South Dakota
(check one) [x] Owner [ ] Tenant/lessee [ ] Owner's Legal Agent
(name and complete address if different than above name)
Mailing Address ~~11571 Farmer Rd~~ Box 5050 (Address) ~~Pringle~~ Custer (City) SD (State) ~~57730~~ 57773 57730 (Zip Code)
Home Phone (605) 673-5274 Cell (325) 650-8444 Email sethsj@gmail.com

2. Amount of water claimed 0.46 *CFS or 205 gpm additional 300 **GPM ***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 Madison Aquafer

4. Location of point of diversion 1 Well in NW1/4 SE1/4 section 10-65-3E County Custer
(example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W)
If not a public water supply (e.g. municipal), will water be used outside of the area described above? [ ] Yes [x] No
If "Yes," where will water be used?
(example - NW1/4 section 12-T104N-R53W)

5. County or counties where water will be used Custer

6. Annual period during which water is to be used All year Jan 1 – Dec 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)

United Order of South Dakota will be upgrading the existing public water system which consists of 4" water mains with 2 wells, 1 of which is inoperative at this time. There is an existing 30,000 gallon underground water tank. The existing mains and water tank will be replaced by 6" and 8" mains and a new above ground tank which will be at least 250,000 gallons. The wells will pump to the tank, and the new mains will distribute to the community.

I, [signature], the applicant, certify that I have read this application, have examined the attached map, and that the matters stated are true.

2012-09

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

SD EForm - 1585LD V4
FORM 2: Application for uses other than irrigation
(type or print)

RECEIVED
OCT 14 2014
WATER RIGHTS PROGRAM

Mail to: PMB 2020 DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	(office use only) No. _____ Hydrologic Unit _____ Basin _____ Newspaper _____

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

Check use(s) of water:

- [ ] Municipal
- [x] Rural Water System
- [x] Domestic (over 18 gpm)
- [ ] Suburban Housing
- [ ] Commercial
- [ ] Industrial
- [ ] Recreational
- [ ] Fish & Wildlife
- [ ] Other
- [ ] Institutional
- [ ] Geothermal Heat

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.**
- [x] **Amendment/Correction to Permit No.** 2610-2

Description of amendment/correction: (i.e. change diversion point(s), add diversion point(s), change use, etc.)
Add Diversion Point, Add 205 GPM to the existing 95 GPM permit

1. Name to Appear on Water Permit United Order of South Dakota
   (check one) [x] Owner [ ] Tenant/lessee [ ] Owner's Legal Agent _____ (name and complete address if different than above name)

   Mailing Address 11571 Farmer Rd (Address) Pringle (City) SD (State) 57730 (Zip Code)

   Home Phone (605) 673-5274 Cell (325) 650-8444 Email sethsj@gmail.com

2. Amount of water claimed _____ *CFS or 300 **GPM _____ ***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 Madison Aquafer

4. Location of point of diversion 1 Well in NW1/4 SE1/4 section 10-65-3E County Custer
   (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W)

   If not a public water supply (e.g. municipal), will water be used outside of the area described above? [ ] Yes [x] No

   If "Yes," where will water be used? _____ (example - NW1/4 section 12-T104N-R53W)

5. County or counties where water will be used Custer

6. Annual period during which water is to be used All year

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)

   United Order of South Dakota will be upgrading the existing public water system which consists of 4" water mains with 2 wells, 1 of which is inoperative at this time. There is an existing 30,000 gallon underground water tank. The existing mains and water tank will be replaced by 6" and 8" mains and a new above ground tank which will be at least 250,000 gallons. The wells will pump to the tank, and the new mains will distribute to the community.

I, _____, the applicant, certify that I have read this application, have examined the attached map, and that the matters stated are true.

2012-09

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

Form 2A
(Complete applicable portions only)

Supplemental Information

(type or print)

1. Well Information (check one or both as applicable) ☒ Drilling new well(s) ☐ Using existing well(s)

a) If new wells, how many 1 Have test holes been drilled ☐ Yes ☒ No Drilled by _____
(if yes, please provide copies of logs)

b) If existing wells, how many 2 Provide copy of log(s), if available. Drilled by Taylor Drilling

c) Well Depth 1100 Depth to Top of Water Bearing Material 800ft Depth to Water from Surface 800

d) Distance to nearest existing domestic well:

On applicant's property 900 feet On property owned by others > 1 mile

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

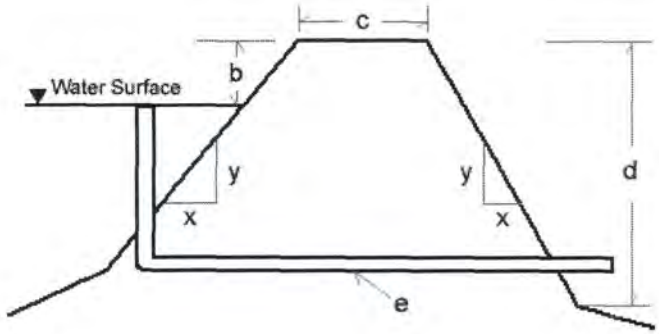
a) Surface Dimensions _____ Depth _____

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 (e.g. 3 to 1 is a typical slope)

Upstream _____

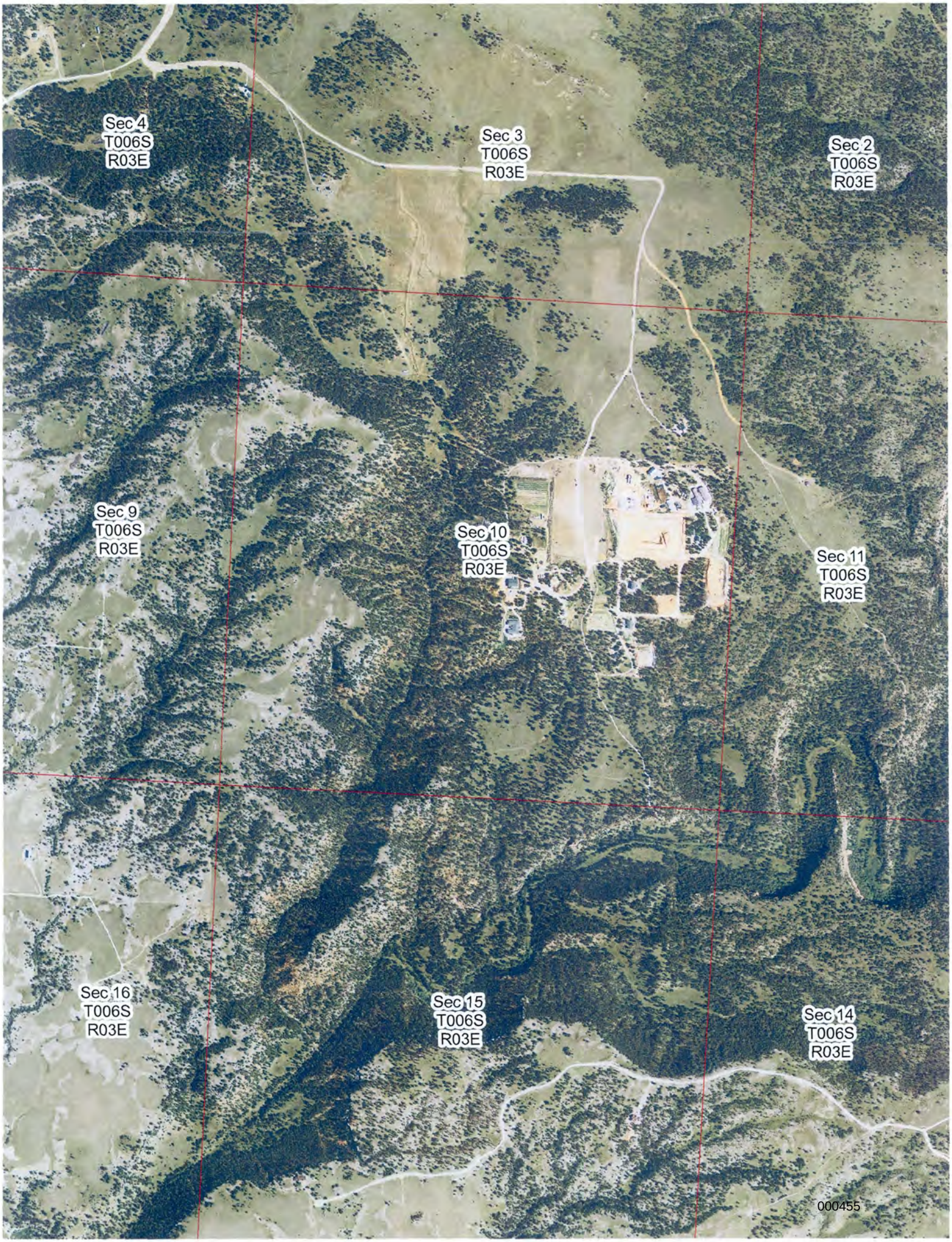
Downstream _____

h) Surface Area of Impoundment _____

i) Storage _____ Acre Feet

j) Drainage Area Above Dam _____ Acres

Custer County, SD
Section 10-06-03


Sec 4
T006S
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