

WATER PERMIT NO. 7558-3

Name of Applicant: **Bender Hagen Trust**

Address: **1300 W Murphy Dr, Sioux Falls SD 57108**

Phone: **605 338-9499**

Amount of Water Claimed: **1.78 cfs**

Total Acres: **120**

Source of Water Supply: **groundwater (one well)**

Water to be used for: **irrigation**

County: **Turner**

Type of Waste Disposal System:

Location: **12 miles southeast of Parker**

PRIORITY

Date Received: **12-13-12**

Application/License Fee: **\$ 950**

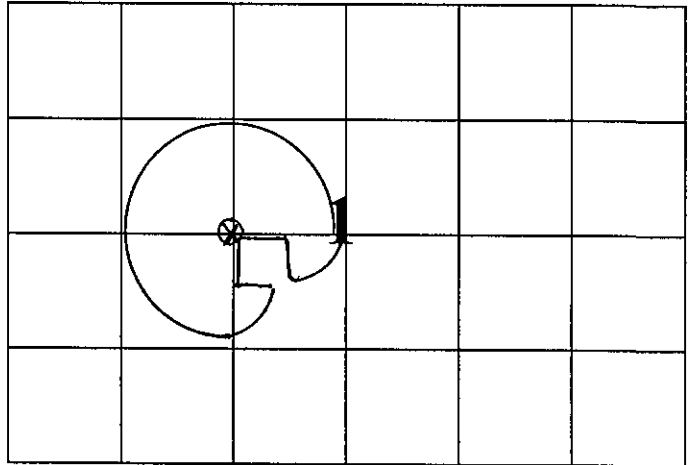
Corrected Application Received:

Period of Annual Use: **May 1 – September 30**

Remarks:

Diversion Point: **approximate center between the NW 1/4 and the SW 1/4 Sec 1-T98N-R52W**

Land to be Irrigated: **N 1/2 SW 1/4, S 1/2 NW 1/4 Sec 1-T98N-R52W**



Depth of Well: **257 feet deep**

Well Driller: **Steffl Drilling & Pump**

Remarks:

Type of Map: **aerial**

Prepared by:

Reviewed and the Number Assigned on: **12-13-12**

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____

RECEIVED
DEC 13 2012
WATER RIGHTS
PROGRAM

Mail to: PMB 2020 DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>7558-3</u> (office use only) Hydrologic Unit <u>10170102</u>
	Basin <u>Vermillion River</u>
	Newspaper <u>New Era, Parker</u> <u>Argus Leader, Sioux Falls</u>

Application For Permit To Appropriate Water For Irrigation

Type of Application: ☒ New ☐ Vested Right ☐ Amendment/Correction to Permit No. _____
(Use predates Mar 2, 1955)

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

1. Name to Appear on Irrigation Permit Cleland
Bender Hagen Trust
(check one) ☒ Owner ☐ Tenant/lessee ☐ Owner's Legal Agent

Mailing Address 1300 W Murphy Dr. Sioux Falls SD 57108
(Address) (City) (State) (Zip Code)

Home Phone 605 338-9499 Cell 605 321-1043 Email _____

2. Amount of water claimed 1.78 *CFS or 800 **GPM ***AF Total Acreage 120
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)

3. Source of water supply Well

4. Location of point of diversion SE 1/4 of the NW 1/4 of Sec 1 98N 52W
(example - 3 wells in SW 1/4 NE 1/4 section 12-T104N-R53W)

approximate center between NW 1/4 and the SW 1/4 County Turner

5. County or counties where water will be used Turner

6. Annual period during which water is to be used May - September

7. List below each forty acre division, or lot, or fraction thereof and show number of acres to be irrigated in each.
(Attach sheet if more space is needed)

Land Description	Acres	Land Description	Acres
NW 1/4 of the SW 1/4 Sec 1 98W 52W	35		
NE 1/4 of the SW 1/4 Sec 1 98N 52W	15		
SW 1/4 of the NW 1/4 Sec 1 98N 52W	35		
SE 1/4 of the NW 1/4 Sec 1 98N 52W	35		

8. Give a description of the project. (Attach sheet if more space is needed)

I, Dr. Bruce Hagen, the applicant, certify that I have read this application, have examined the attached map, and that the matters stated are true.

SOUTH DAKOTA
WATER PERMIT NO. 7558-3 FOR IRRIGATION

Date of first receipt of application December 13, 2012.

The Water Management Board approved Water Permit No. 7558-3 on July 8, 2015 for Cleland Trust, c/o Dr. Bruce Hagen, 1300 W Murphy Dr., Sioux Falls SD 57108 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. 7558-3 appropriates 1.78 cubic feet of water per second (cfs) from one well to be completed into the Upper Vermillion Missouri:North Aquifer (275 feet deep) located in the approximate center between the NW 1/4 and the SW 1/4 Section 1 for irrigation of 120 acres located in the N 1/2 SW 1/4, S 1/2 NW 1/4 Section 1; all in T98N-R52W.
2. The amount of the appropriation may not exceed 2 acre feet annually for each acre of land to which water is actually and beneficially applied for irrigation. The water is to be used during the following described annual period: May 1 – September 30.
3. The date from which applicant may claim right is December 13, 2012.
4. One-fifth of the construction is to be completed on or before January 8, 2018.
5. All construction is to be completed on or before July 8, 2020.
6. Water is to be put to beneficial use on or before July 8, 2024.
7. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

1. The well approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The well authorized by Permit No. 7558-3 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.
3. Pursuant to SDCL 46-5-6 which allows a greater diversion rate if the method of irrigation, time constraints, or type of soils so requires, Permit No. 7558-3 authorizes a maximum diversion rate of 1.78 cfs for the irrigation of 120 acres with an annual volume not to exceed 2 acre feet of water per acre per year.
4. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

WATER MANAGEMENT BOARD

By: *Jeanne Goodman*

Jeanne Goodman, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

AUG 04 2015

date



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 Steffi
(if yes, please provide copies of logs)

b) If existing wells, how many Provide copy of log(s), if available. Drilled by

c) Well Depth 257 Depth to Top of Water Bearing Material 229 Depth to Water from Surface 229

d) Distance to nearest existing domestic well:

On applicant's property 0 On property owned by others 0

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)

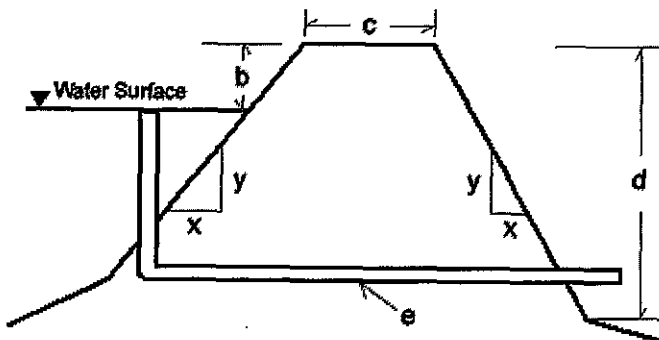
Upstream

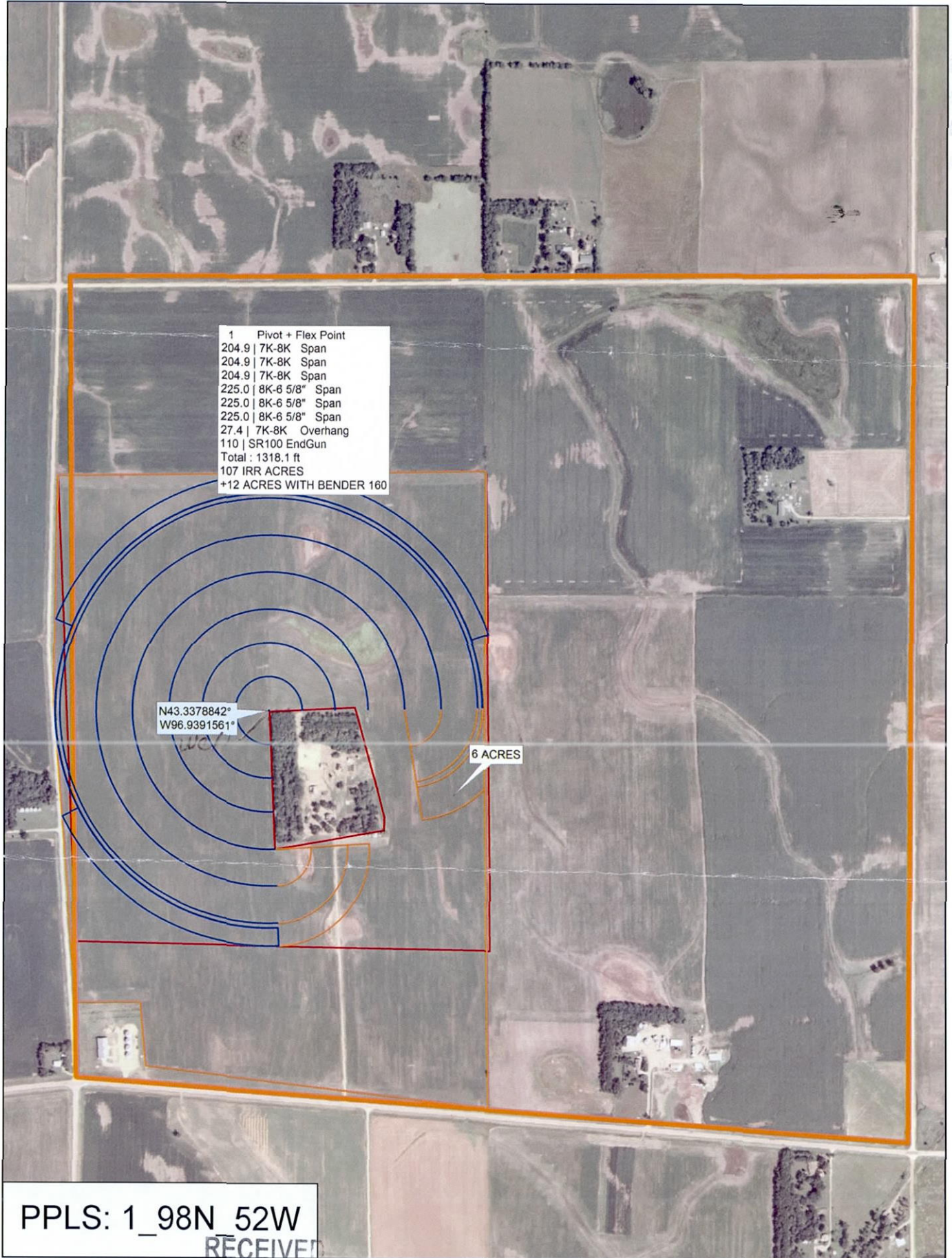
Downstream

h) Surface Area of Impoundment

i) Storage Acre Feet

j) Drainage Area Above Dam Acres





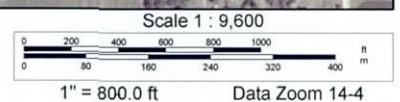
Data use subject to license.

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www.delorme.com

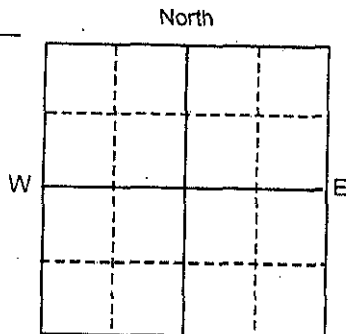
DEC 13 2012

WATER RIGHTS
 PROGRAM



SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location SE 1/4 NW 1/4 Sec 1 Twp 98 Rg 52County TurnerPlease mark well
location with an "X"

Well Completion Date

November 20, 2012

← 1 Mile →

Distance to nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)?
_____ ft. from _____ (identify source)

PROPOSED USE:

☐ Domestic/Stock ☐ Municipal ☐ Business ☒ Test holes
☐ Irrigation ☐ Industrial ☐ Institutional ☐ Monitoring well

METHOD OF DRILLING:

mud rotary

CASING DATA:

☐ Steel ☐ Plastic ☐ Other

If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
HS Bentonite	9	Lb/gal	0.0 Ft	260.0 Ft
		Lb/gal	Ft	Ft

Describe grouting procedure
Tremmie

SCREEN:

☐ Perforated pipe ☐ Manufactured
 Diameter _____ Inches 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?

☐ Yes, How? _____☐ No, Why Not? _____Lab to which water
quality sample sent for analysis _____Well Owner: Dr Bruce Hagen

Business Name: _____

Address: 1300 W Murphy DrCity, State, Zip: Sioux Falls SD 57108

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
Top Soil Blk	0	4
Clay Ylw	4	30
Clay Blu	30	65
Sand Gry	65	71
Clay Blu	71	229
Sand	229	257
Clay Blu	257	260

STATIC WATER LEVEL

FEET

If flowing: closed in pressure _____ PSI

GPM flow _____ through _____ Inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other _____

Reduced flow rate _____ GPM

Can well be completely shut in? _____

WELL TEST DATA:

☐ Pumped Describe: _____
☐ Bailed
☐ Other

Pumping Level Below Land Surface

_____ Ft. After _____ Hrs. pumped _____ GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: _____ GPM

REMARKS

 Test Hole # 6
43 20' 16.6"N
96 56' 21.8"W

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CDR

This well was drilled under license # 463 and this report is true and accurate.Drilling firm: Steffl Drilling & Pump Inc

Signature of License Representative: _____

Signature of Well Owner or Equitable Property Holder: _____

Date: _____

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 12/13, 20 12

RECEIVED OF Farmers Implement 3023 E Hwy 14 Brookings SD 57006

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

Fee for Application for Permit No. <u>7558-3</u> to Appropriate Water, to construct and to put water to beneficial use	750	00
Fee for Application for Permit No. _____ to Appropriate Water for Future use		
Fee to retain Future Use Permit No. _____ after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. <u>7558-3</u>	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	950 00

No. **05765**

By

Gene O Erbe
Chief Engineer

Gronlund, Eric

From: Gronlund, Eric
Sent: Wednesday, February 06, 2013 3:34 PM
To: drbchagen@aol.com
Subject: water permit application for Bender Hagen Trust
Attachments: Sbithub 42113020615510.pdf; UVMreport1.pdf

Dr Hagen: Please find attached the material being sent to your California address regarding public notice of the Bender Hagen Trust water permit application from the Upper Vermillion:Missouri Aquifer. If you want to proceed with this application, you will need to contact the newspapers as set forth in the cover letter addressed to you to authorize publication.

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

From: nrprscan@state.sd.us [<mailto:nrprscan@state.sd.us>]
Sent: Wednesday, February 06, 2013 3:52 PM
To: Gronlund, Eric
Subject: Message from bizhub 421

Water Rights Program - File Documentation

NAME: Dr. Bruce Hagen

ADDRESS: Palm Desert CA

DATE: 2-7-13 **TELEPHONE:** 760-360-3564

RE: Pending application

COMMENTS:

Bruce Hagen called requesting that the name on this application be changed from Bender Hagen Trust to Cleland Trust. I told him I would contact the two papers and make the change.

After checking with Eric, I called Mr. Hagen back and told him all the applications recommended for deferral from this area would be considered on March 6, 2013 at 1:00 pm. This is a change from the advertised date in the newspaper notices and individual notices will be sent in the next day or so.

Karen Schlaak

Karen Schlaak
Water Rights Program

RECEIVED

MAR - 7 2013

WATER RIGHTS
PROGRAM

Affidavit of Publication

STATE OF SOUTH DAKOTA
COUNTY OF TURNER

I, Robin Schneider of the City of Parker, County of Turner, State of South Dakota being first duly sworn on oath, deposes and says: The New Era is a weekly legal newspaper of general circulation, printed and published in the City of Parker, in said County of Turner, by The New Era, New Century Press, publishers, and has been such legal newspaper during the times hereinafter mentioned; that the said newspaper has been in existence as such legal newspaper for more than one year prior to the publication of the notice hereunto attached, and has during all of said publication of the notice hereunto attached, and has during all of said time had, and now has, more than 200 bona fide subscribers; that the undersigned, The affiant, is the Office Manager of the said newspaper, in charge of the advertisement department thereof and has personal knowledge of all the facts stated in this affidavit and the advertisement headed:

#5549 Notice of Hearing on Application No. 7558-3
to Appropriate Water

_____ printed copy of hereto attached, is printed and published in the said newspaper for one successive weeks, one each week and on the same day of the week, on the following dates, to wit:

On Thursday, the 14th day of Feb. , 2013

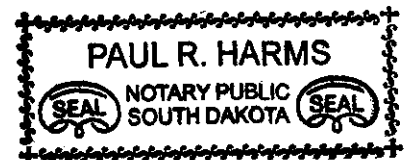
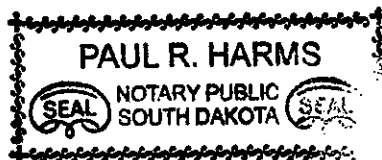
That \$57.92 being the full amount of the fees for publication of the attached notices insures solely for the benefits of the publishers of the said newspaper, that no arrangement or understanding for a division thereof has been made with any other person and that no part thereof has been agreed to be paid to any other person whomsoever.

Robin Schneider
Subscribed and sworn to before me this 28th

Day of February 2013
Paul R Harms
Notary Public, Turner County, South Dakota

My Commission Expires: March 20, 2018

Publication Fee \$
Notary Fees \$
Total \$57.92



**NOTICE OF HEARING
on Application No. 7558-3
to Appropriate Water**

Notice is given that Cleland Trust, 38736 Nasturtium Way, Palm Desert, CA 92211 has filed an application for a water permit to appropriate 1.78 cubic feet of water per second from one well to be completed into the Upper Vermillion Missouri Aquifer (275 feet deep) located in the approximate center between the NW 1/4 and the SW 1/4 Section 1 for irrigation of 120 acres located in the N 1/2 SW 1/4, S 1/2 NW 1/4 Section 1; all in T98N-R52W.

SDCL 46-2A-4(10) provides that "if the applicant does not contest the recommendation of the Chief Engineer and no petition to oppose the application is received, the Chief Engineer shall act on the application pursuant to the Chief Engineer's recommendation and no hearing may be held before the board, unless the Chief Engineer makes a finding that an application, even if uncontested, presents important issues of public policy or public interest that should be heard by the board." In this case, the Chief Engineer finds that this application presents important issues of public interest that should be heard by the Water Management Board.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends DEFERRAL of Application No. 7558-3 until information is available to determine if there is reasonable probability that there is unappropriated water available for the applicant's proposed use. Pursuant to SDCL 46-2A-9, a permit to appropriate water may be issued only if there is a reasonable probability that unappropriated water is available.

The Water Management Board will consider this application at 1 p.m. on March 6, 2013 in the Matthew Training Center, Joe Foss Bldg, 523 E. Capitol Ave. Pierre, SD. The Chief Engineer's recommen-

dation is not final or binding upon the Board. The Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny this application based on the facts presented at the public hearing.

Any interested person who intends to participate in the hearing shall file a petition to oppose or support the application and the petition shall be filed with BOTH the applicant and Chief Engineer. The applicant must also file a petition if opposed to the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by Feb. 25, 2013. The petition may be informal, but shall be in writing and shall include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained. The 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.

The March 6, 2013 hearing date will be automatically delayed for at least 20 days upon written request to the Chief Engineer 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 Feb. 25, 2013. 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.

Contact Eric Gronlund by Feb. 25, 2013 at the above Chief Engineer's address to request copies of the staff report, recommendation, application or 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.

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 publication, and the applicable date to give notice to the Chief Engineer is Feb. 25, 2013. 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; and Board Rules ARSD 74:02:01:01 thru 74:02:01:25:02; 74:02:01:35:01.

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

Published once at the total approximate cost of \$57.92.

(#5549, 02/14/13, The New Era)

CUSTOMER NUMBER:	078200	Argus Leader P.O. Box 677349, Dallas, TX 75267-7349
AD ORDER NUMBER:	1407067	
	2/14, 2013	\$141.02pd

Bender Hagen Trust
% Dr. Bruce Hagen
38736 Nasturtium Way
Palm Desert, CA 92211

RECEIVED

FEB 19 2013

WATER RIGHTS PROGRAM

DETACH THIS STUB AND RETURN WITH PAYMENT

PAYMENT DUE UPON RECEIPT

AFFIDAVIT OF PUBLICATION-

Customer Number: 078200

Invoice Number: 1407067

Argus Leader
AFFIDAVIT OF PUBLICATION

STATE OF SOUTH DAKOTA

COUNTY OF MINNEHAHA } ss

Linda Schulte being duly sworn, says: That The Argus Leader is, and during all the times hereinafter mentioned was, a daily legal newspaper as defined by SDCL 17-2-21, as amended published at Sioux Falls, Minnehaha County, South Dakota; that affiant is and during all of said times, was an employee of the publisher of such newspaper and has personal knowledge of the facts stated in this affidavit; that the notice, order or advertisement, a printed copy of which is hereto attached, was published in said newspaper upon

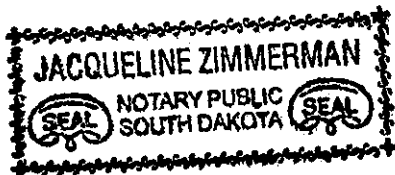
Thursday the 14 day of February 2013 ,
the day of 2013 ,
the day of 2013
the day of 2013 ,
the day of 2013 ,
the day of 2013 ,
the day of 2013 ,
the day of 2013 ,

and that \$141.02pd was charged for publishing the same

Linda Schulte
Subscribed and sworn to before me 2/14/2013

J. Zimmerman
Notary Public, South Dakota

My Commission expires December 22, 2015



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The Water Management Board will consider this application at 1:00 p.m. on March 6, 2013 in the Matthew Training Center, Joe Foss Bldg, 523 E. Capitol Ave. Pierre SD. The Chief Engineer's recommendation is not final or binding upon the Board. The Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny this application based on the facts presented at the public hearing.

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February 25, 2013. 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; and Board Rules ARSD 74:02:01:01 thru 74:02:01:25.02; 74:02:01:35.01.

Steven M. Pirmer, Secretary, Department of Environment and Natural Resources. Published once at an approximate cost of \$141.02.
1407067 Feb. 14, 2013

Instruction to Newspaper – Publish the Notice on February 14, 2013. The applicant is responsible for payment. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352 or email: Karen.schlaak@state.sd.us.

NOTICE OF HEARING on Application No. 7558-3 to Appropriate Water

Notice is given that Cleland Trust, 38736 Nasturtium Way, Palm Desert CA 92211 has filed an application for a water permit to appropriate 1.78 cubic feet of water per second from one well to be completed into the Upper Vermillion: Missouri Aquifer (275 feet deep) located in the approximate center between the NW 1/4 and the SW 1/4 Section 1 for irrigation of 120 acres located in the N 1/2 SW 1/4, S 1/2 NW 1/4 Section 1; all in T98N-R52W.

SDCL 46-2A-4(10) provides that "if the applicant does not contest the recommendation of the Chief Engineer and no petition to oppose the application is received, the Chief Engineer shall act on the application pursuant to the Chief Engineer's recommendation and no hearing may be held before the board, unless the Chief Engineer makes a finding that an application, even if uncontested, presents important issues of public policy or public interest that should be heard by the board." In this case, the Chief Engineer finds that this application presents important issues of public interest that should be heard by the Water Management Board.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends DEFERRAL of Application No. 7558-3 until information is available to determine if there is reasonable probability that there is unappropriated water available for the applicant's proposed use. Pursuant to SDCL 46-2A-9, a permit to appropriate water may be issued only if there is a reasonable probability that unappropriated water is available.

The Water Management Board will consider this application at 1:00 p.m. on March 6, 2013 in the Matthew Training Center, Joe Foss Bldg, 523 E. Capitol Ave. Pierre SD. The Chief Engineer's recommendation is not final or binding upon the Board. The Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny this application based on the facts presented at the public hearing.

Any interested person who intends to participate in the hearing shall file a petition to oppose or support the application and the petition shall be filed with BOTH the applicant and Chief Engineer. The applicant must also file a petition if opposed to the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by February 25, 2013. The petition may be informal, but shall be in writing and shall include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained. The 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.

The March 6, 2013 hearing date will be automatically delayed for at least 20 days upon written request to the Chief Engineer 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 25, 2013. 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.

Contact Eric Gronlund by February 25, 2013 at the above Chief Engineer's address to request copies of the staff report, recommendation, application or 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.

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 publication, and the applicable date to give notice to the Chief Engineer is February 25, 2013. 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; and Board Rules ARSD 74:02:01:01 thru 74:02:01:25.02; 74:02:01:35.01.

Steven M. Pirner, Secretary, Department of Environment and Natural Resources. Published once at an approximate cost of _____.



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

February 6, 2013

Argus Leader
PO Box 5034
Sioux Falls SD 57117

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 7558-3 to Appropriate Water. Please publish the notice once on February 14, 2013. 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 Bender Hagen Trust, c/o Dr. Bruce Hagen, 38736 Nasturtium Way, Palm Desert CA 92211 (Ph # 605-321-1043).

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,

A handwritten signature in cursive script, appearing to read "Eric Gronlund".

Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

February 6, 2013

New Era
PO Box 579
Parker SD 57053

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 7558-3 to Appropriate Water. Please publish the notice once on February 14, 2013. 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 Bender Hagen Trust, c/o Dr. Bruce Hagen, 38736 Nasturtium Way, Palm Desert CA 92211 (Ph # 605-321-1043).

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**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

NOTE: TO BE SURE OF PUBLICATION ON
THE CORRECT DATE, CONTACT
THE NEWSPAPER(S) RIGHT AWAY.

February 6, 2013

Bender Hagen Trust
Dr. Bruce Hagen
38736 Nasturtium Way
Palm Desert CA 92211

Dear Dr. Hagen:

Water Permit Application No. 7558-3 for irrigation use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the New Era printed at Parker SD (Ph # 605-297-4419) and the Argus Leader printed at Sioux Falls SD (Ph # 605-331-2200). 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**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 7558-3, Bender Hagen Trust**

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. 7558-3, Bender Hagen Trust, 1300 W Murphy Drive, Sioux Falls SD 57108.

The Chief Engineer is recommending DEFERRAL of Application No. 7558-3 until information is available to determine if there is reasonable probability that there is unappropriated water available for the applicant's proposed use. Pursuant to SDCL 46-2A-9, a permit to appropriate water may be issued only if there is a reasonable probability that unappropriated water is available.

See report on application for additional information.

Garland Erbele, Chief Engineer
February 5, 2013

REPORT TO THE CHIEF ENGINEER
ON
WATER PERMIT APPLICATION NO. 7558-3
BENDER HAGEN TRUST
WATER PERMIT APPLICATION NOS. 7587-3 & 7588-3
PAUL PETERSEN
WATER PERMIT APPLICATION NOS. 7600-3, 7601-3, 7602-3 & 7603-3
MICHAEL D. STEVENS
WATER PERMIT APPLICATION NO. 7609-3
JUSTIN CHRISTENSEN
WATER PERMIT APPLICATION NO. 7623-3
DARRELL OSBORN
WATER PERMIT APPLICATION NO. 7633-3
BRAD FARRAR
WATER PERMIT APPLICATION NO. 7653-3
JEREMIAH WELSH

FEBRUARY 4, 2012

Water Permit Application No. 7558-3 proposes to appropriate up to 240 acre-feet per year (ac-ft/yr) at a maximum diversion rate of 1.78 cubic feet of water per second (cfs) from one well to be completed into the Upper Vermillion Missouri aquifer. The well is expected to be approximately 275 feet deep and is to be located in the approximate center between the NW¼ and the SW¼ of Section 1, T98N-R52W. This application proposes to irrigate 120 acres located in the N½ SW¼, S½ NW¼ of Section 1, T98N-R52W in Turner County.

Water Permit Application No. 7587-3 proposes to appropriate up to 320 ac-ft/yr at a maximum diversion rate of 1.78 cfs from one well to be completed into the Upper Vermillion Missouri aquifer. The well is expected to be approximately 100 feet deep and is to be located in the approximate center of the SE¼ of Section 10, T98N-R53W. This application proposes to irrigate 160 acres located in the SW¼ of Section 10, T98N-R53W in Turner County.

Water Permit Application No. 7588-3 proposes to appropriate up to 320 ac-ft/yr at a maximum diversion rate of 1.78 cfs from one well to be completed into the Upper Vermillion Missouri aquifer. The well is expected to be approximately 145 feet deep and is to be located in the approximate center of the SW¼ of Section 19, T98N-R53W. This application proposes to irrigate 160 acres located in the SW¼ of Section 19, T98N-R53W in Turner County.

Water Permit Application No. 7600-3 proposes to appropriate up to 360 ac-ft/yr at a maximum diversion rate of 3.56 cfs from two wells to be completed into the Upper Vermillion Missouri aquifer. The wells are expected to be approximately 200 feet deep and are to be located in the NE¼ NW¼ and the approximate center of the SW¼ of Section 12, T96N-R52W. This application proposes to irrigate 180 acres located in the NW¼, N½ SW¼ of Section 12, T96N-R52W in Turner County. A pivot in the center of the SW¼ of Section 12 will irrigate the entire SW¼ of the section. A portion of Water Permit No. 7128-3 held by Paul Shubeck authorizes irrigation of the S½ SW¼ of Section 12.

Water Permit Application No. 7601-3 proposes to appropriate up to 264 acre-feet per year (ac-ft/yr) at a maximum diversion rate of 1.89 cubic feet of water per second (cfs) from one well to be completed into the Upper Vermillion Missouri aquifer. The well is expected to be approximately 200 feet deep and is to be located in the approximate center of the NE¼ of Section 25, T97N-R53W. This application proposes to irrigate 132 acres located in the NE¼ of Section 25, T97N-R53W in Turner County.

Water Permit Application No. 7603-3 proposes to appropriate up to 240 acre-feet per year (ac-ft/yr) at a maximum diversion rate of 1.78 cubic feet of water per second (cfs) from one well to be completed into the Upper Vermillion Missouri aquifer. The well is expected to be approximately 150 feet deep and is to be located in the approximate center of the NE¼ of Section 33, T97N-R52W. This application proposes to irrigate 120 acres located in the NE¼ of Section 33, T97N-R52W in Turner County. The application proposes a diversion rate in excess of the statutory limit.

Water Permit Application No. 7602-3 proposes to appropriate up to 264 acre-feet per year (ac-ft/yr) at a maximum diversion rate of 1.89 cubic feet of water per second (cfs) from one well to be completed into the Upper Vermillion Missouri aquifer. The well is expected to be approximately 140 feet deep and is to be located in the approximate center between the NW¼ and the NE¼ of Section 34, T97N-R53W. This application proposes to irrigate 132 acres located in the E½ NW¼ and the W½ NE¼ of Section 34, T97N-R53W in Turner County.

Water Permit Application No. 7609-3 proposes to appropriate up to 284 acre-feet per year (ac-ft/yr) at a maximum diversion rate of 1.56 cubic feet of water per second (cfs) from one well to be completed into the Upper Vermillion Missouri aquifer. The well is expected to be approximately 100 feet deep and is to be located in the approximate center of the SE¼ of Section 4, T95N-R52W. This application proposes to irrigate 142 acres located in the SE¼ of Section 4, T95N-R52W in Clay County.

Water Permit Application No. 7623-3 proposes to appropriate up to 280 acre-feet per year (ac-ft/yr) at a maximum diversion rate of 1.89 cubic feet of water per second (cfs) from one well to be completed into the Upper Vermillion Missouri aquifer. The well is expected to be approximately 140 feet deep and is to be located in the SE¼ NW¼ of Section 24, T97N-R52W. This application proposes to irrigate 140 acres located in the NW¼, W½ NE¼ of Section 24, T97N-R52W in Turner County.

Water Permit Application No. 7633-3 proposes to appropriate up to 304 acre-feet per year (ac-ft/yr) at a maximum diversion rate of 1.78 cubic feet of water per second (cfs) from one well to be completed into the Upper Vermillion Missouri aquifer. The well is expected to be approximately 205 feet deep and is to be located in the approximate center of the SW¼ of Section 32, T98N-R53W. This application proposes to irrigate 152 acres located in the SW¼ of Section 32, T98N-R53W in Turner County.

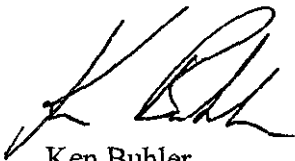
Water Permit Application No. 7653-3 proposes to appropriate up to 170 acre-feet per year (ac-ft/yr) at a maximum diversion rate of 1.67 cubic feet of water per second (cfs) from one well to

be completed into the Upper Vermillion Missouri aquifer. The well is expected to be approximately 180 feet deep and is to be located in the approximate center of the SW $\frac{1}{4}$ of Section 8, T96N-R52W. This application proposes to irrigate 85 acres located in the W $\frac{1}{2}$ SW $\frac{1}{4}$, NE $\frac{1}{4}$ SW $\frac{1}{4}$ Section 8, T96N-R52W. This application proposes a diversion rate greater than the statutory limit.

AQUIFER: UPPER VERMILLION MISSOURI

Seven water permit applications were recently received proposing to use water from the Upper Vermillion Missouri aquifer for irrigation purposes. Based on a DENR-Water Rights staff analysis of the aquifer (Buhler, 2013), (see Appendix A). The Chief Engineer recommended deferral of each of these applications because "at this time it is not possible to conclude that unappropriated water is available from the Upper Vermilion [sic] Missouri aquifer to satisfy this proposed appropriation. Significant portions of the aquifer have experienced long term downward trending water levels. New appropriations from the aquifer should be deferred until it can be determined if water levels in these areas will stabilize under steady withdrawals. Pursuant to SDCL 46-2A-9, a permit to appropriate water may only be approved if there is a reasonable probability that unappropriated water is available."

There is no new information available to conclude if unappropriated water is available from the Upper Vermillion Missouri aquifer at this time. Water Permit Application Numbers 7558-3, 7587-3, 7588-3, 7600-3, 7601-3, 7602-3, 7623-3, 7633-3, and 7653-3 should be deferred until information is available to conclude "if there is reasonable probability that there is unappropriated water available for the applicant's proposed use."



Ken Buhler
SD DENR-Water Rights Program

REFERENCES:

Buhler, K.A., 2012, Report to the Chief Engineer on Water Permit Application No. 7441-3 & 7442-3, Gary or Julie Peterson; Water Permit Application No. 7452-3, Jerome Hult; Water Permit Application No. 7466-3, Bethel Hagen Trust; Water Permit Application No. 7467-3 & 7468-3, Cleland Hagen Trust; and Water Permit Application No. 7535-3 Donald D Benson, December 11, 2012: SD DENR- Water Rights Program

APPENDIX A UPPER VERMILLION:MISSOURI

REPORT TO THE CHIEF ENGINEER ON

WATER PERMIT APPLICATION NOS. 7441-3 & 7442-3, GARY OR JULIE PETERSON

WATER PERMIT APPLICATION NO. 7452-3, JEROME HULT

WATER PERMIT APPLICATION NO. 7466-3, BETHEL HAGEN TRUST

WATER PERMIT APPLICATION NOS. 7467-3 & 7468-3, CLELAND HAGEN TRUST

WATER PERMIT APPLICATION NO. 7535-3, DONALD D BENSON

DECEMBER 11, 2012

Water Permit Application No. 7441-3 proposes to appropriate up to 280 acre-feet of per year (ac-ft/yr) at a maximum diversion rate of 1.79 cubic feet of water per second (cfs) from one well to be completed into the Upper Vermillion Missouri aquifer. The well is expected to be approximately 175 feet deep and is to be located in the center of the SE $\frac{1}{4}$ of Section 8, T95N-R52W. This application proposes to irrigate 140 acres located in the SE $\frac{1}{4}$ of Section 8, T95N-R52W.

Water Permit Application No. 7442-3 proposes to appropriate up to 80 ac-ft/yr to irrigate 40 acres located in the W $\frac{1}{2}$ NE $\frac{1}{4}$ Section 17, T95N-R52W using an existing well which is authorized by Water Right No. 5982-3. Water Right No. 5982-3 appropriates up to 320 ac-ft/yr at a maximum diversion rate of 2.28 cfs from one well 165 feet deep completed into the Upper Vermillion Missouri aquifer, located in the center of the NW $\frac{1}{4}$ of Section 17, T95N-R52W. This application does not propose to increase the diversion rate authorized for this well.

Water Permit Application No. 7452-3 proposes to appropriate up to 220 ac-ft/yr at a maximum diversion rate of 1.78 cfs from one well to be completed into the Upper Vermillion Missouri aquifer. The well is expected to be approximately 190 feet deep and is to be located in the SW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 32, T98N-R52W. This application proposes to irrigate 110 acres located in the W $\frac{1}{2}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 32, T98N-R52W. This application is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Water Permit Application No. 7466-3 proposes to appropriate up to 304 ac-ft/yr at a maximum diversion rate of 1.78 cfs from one well to be completed into the Upper Vermillion Missouri aquifer. The well is expected to be approximately 169 feet deep and is to be located in the approximate center of the NE $\frac{1}{4}$ of Section 5, T96N-R51W. This application proposes to irrigate 152 acres located in the NE $\frac{1}{4}$ of Section 5, T96N-R51W.

Water Permit Application No. 7467-3 proposes to appropriate up to 304 ac-ft/yr at a maximum diversion rate of 1.78 cfs from one well to be completed into the Upper Vermillion Missouri aquifer. The well is expected to be approximately 134 feet deep and is to be located in the approximate center of the NW $\frac{1}{4}$ of Section 13, T96N-R51W. This application proposes to irrigate 152 acres located in the NW $\frac{1}{4}$ of Section 5, T97N-R52W.

Water Permit Application No. 7468-3 proposes to appropriate up to 304 ac-ft/yr at a maximum diversion rate of 1.78 cfs from one well to be completed into the Upper Vermillion Missouri aquifer. The well is expected to be approximately 134 feet deep and is to be located in the

approximate center of the NE¼ of Section 26, T96N-R51W. This application proposes to irrigate 152 acres located in the NE¼ of Section 5, T98N-R52W.

Water Permit Application No. 7535-3 proposes to appropriate up to 130 ac-ft/yr at a maximum diversion rate of 1.78 cfs from one well to be completed into the Upper Vermillion Missouri aquifer. The well is expected to be approximately 220 feet deep and is to be located in the SW¼ NW¼ of Section 30, T98N-R53W. This application proposes to irrigate 65 acres located in the NW¼ of Section 30, T98N-R53W. This application is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

AQUIFER: Upper Vermillion Missouri aquifer (UVM)

GEOLOGY AND AQUIFER CHARACTERISTICS:

The Upper Vermillion Missouri aquifer is a buried glacial outwash deposit that consists of fine sand to medium-pebble gravel. The aquifer underlies approximately 204,832 acres of Hutchinson, Turner, Lincoln and Clay Counties (see Figure 1). The Upper Vermillion Missouri aquifer blends into the Lower Vermillion Missouri aquifer in northern Clay County. The average thickness of the outwash is estimated to be 68 feet in Turner County (Lindgren and Hansen, 1990) and is estimated to be 100-150 feet thick in the areas proposed by these applications (Stephens, 1967). The aquifer contains an estimated 1.8 million acre feet (ac-ft) of water in storage in Turner and Hutchinson Counties (Lindgren and Hansen, 1990) and an estimated 317,180 ac-ft of recoverable water in storage in Clay and Lincoln Counties (Hedges and others, 1982). The aquifer is primarily under confined conditions although unconfined conditions do occur over a small area where the outwash is at or near ground surface in T96N-R52W at the Clay-Turner County line (Lindgren and Hansen, 1990). Groundwater movement in the aquifer is to the south-southeast at a gradient that Lindgren and Hansen (1990) estimated at approximately four feet per mile (ft/mi). However, based on DENR-Water Rights' observation wells the gradient was 4.3- 4.6 ft/mi in May 2012 (Water Rights, 2012a). The outwash generally overlies the Carlile Shale although Sioux quartzite directly underlies the aquifer in northern portion of the aquifer (Lindgren and Hansen, 1990). The Upper Vermillion Missouri aquifer overlies the Niobrara Formation in western Turner County. The aquifer is generally buried by glacial till; however, in places it is overlain by and is hydraulically connected to the surficial Parker Centerville aquifer.

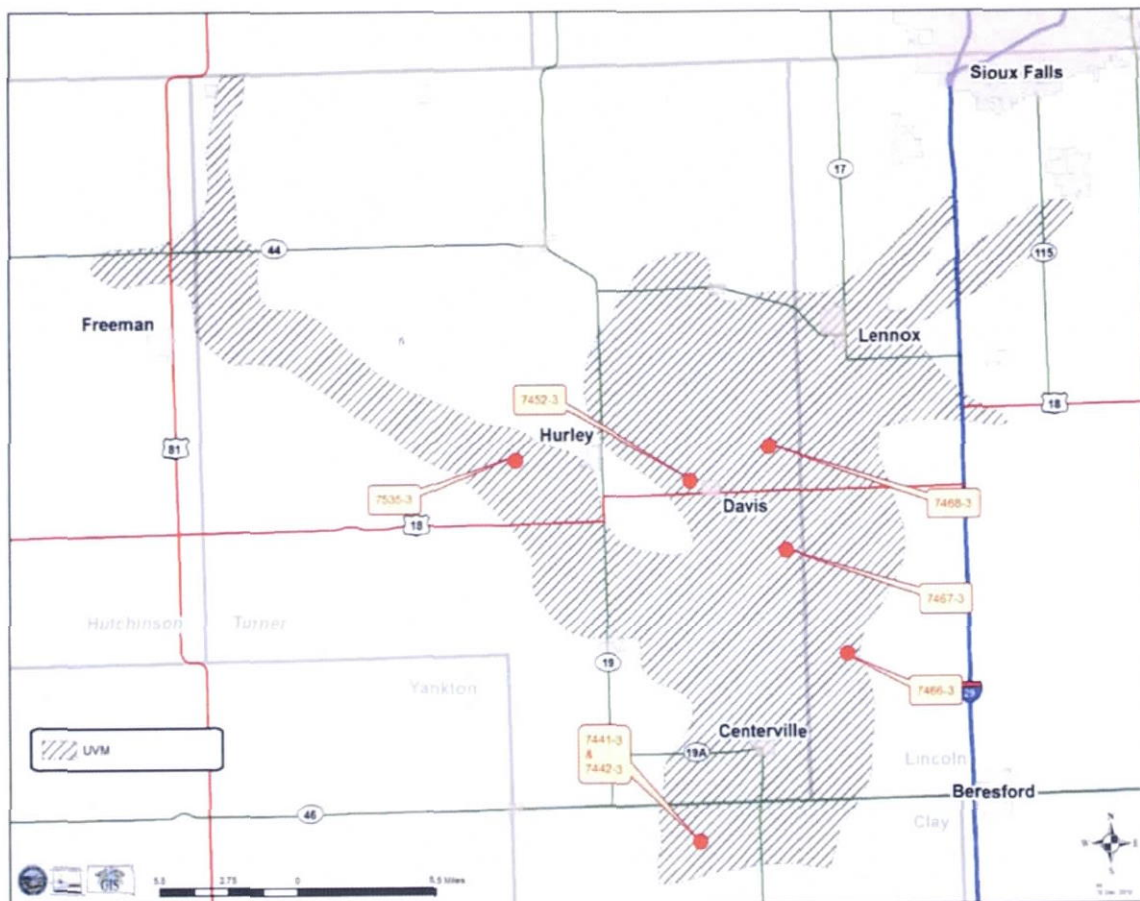


Figure 1. Areal extent of the Upper Vermillion aquifer modified from (Lindgren and Hansen, 1990; Hedges and others, 1982; and Niehus, 1994), and the locations of well sites proposed by Water Permit Application Nos. 7441-3, 7442-3, 7452-3, 7466-3, 7467-3, 7468-3 and 7535-3.

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. This report will address the availability of unappropriated water from the Upper Vermillion Missouri aquifer.

WATER AVAILABILITY:

Water Permit Application Nos. 7441-3, 7442-3, 7452-3, 7466-3, 7467-3, 7468-3, and 7535-3 proposes to appropriate up to 1,622 acre-feet annually from the Upper Vermillion Missouri aquifer. The actual water use if these applications are approved will likely be less than the appropriations. The probability of unappropriated water available from the aquifer can be evaluated by considering SDCL 46-6-3.1 which requires "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 versus Discharge:

Recharge:

Recharge to the Upper Vermillion Missouri aquifer occurs through: 1) direct infiltration of precipitation in areas where the aquifer is at or near ground surface; 2) inflow from fractures in the Sioux Quartzite; and 3) inflow from the Niobrara aquifer.

Previous Estimates:

Hedges and others (1985) estimated a recharge rate to the Upper Vermillion Missouri aquifer of 0.25 inches per year calculated from regional flow net analysis. However, Hedges and others (1985) noted:

"It should be noted that recharge rates calculated using flow-net analysis are suspect and conclusions based on this method are questionable"

Given a recharge rate of 0.25 inches per year, average annual recharge to the Upper Vermillion Missouri aquifer is 4,267 ac-ft/yr.

2012 Flow net analysis

The recharge potential of the Upper Vermillion Missouri aquifer was evaluated by interpreting a regional flow net analysis based on the May 2012 water level data from the DENR-Water Rights' Observation Well Network. A flow net analysis is a calculation of the amount of water flowing through the aquifer according to the equation:

$$Q = TIL$$

Where:

Q= flow in gallons per day

T= Transmissivity in gallons per day per foot

I= Hydraulic gradient in feet per mile

L= Cross sectional length in miles

The average transmissivity for the Upper Vermillion Missouri aquifer was estimated based on the transmissivity calculated from the specific capacities of irrigation wells completed into the aquifer where the data to allow these calculations was available (Water Rights, 2012b; Water Rights, 2012c) ("Transmissivity from Specific Capacity"). These transmissivity values are shown in Table 1.

Permit No.	Type	Drawdown (ft)	Yield (gpm)	Specific Capacity (gpm/ft)	Transmissivity (g/d/ft)
1930-3	A	15	1200	80.0	160000
3784-3	A	92	900	9.8	19600
3901-3	A	9	1000	111.1	222200
4265-3	A	25	900	36.0	72000
4560-3	A	83	800	9.6	19200
5259-3	A	6	1400	233.3	466600
5352-3	WT	20	2100	105.0	157500
5371-3	A	45	860	19.1	38200
5425-3	A	22	1100	50.0	100000
5632-3	A	24	800	33.3	66600
5886-3	A	9	800	88.9	177800
5899-3	A	25	800	32.0	106600
5982-3	A	27	800	29.6	92400
6054-3	A	25	900	36.0	72000
6301-3	A	16	1100	68.8	137600
6810-3	A	6	750	125.0	250000
6868-3	A	10	900	90.0	180000
6922-3	A	11	810	73.6	147200
6968-3	A	11	840	76.4	152800
6984-3	A	7	1200	171.4	342800
7002-3	WT	10.5	720	68.6	102900
7128-3	A	15	750	50.0	100000
Min		6	720	9.64	19200
Max		92	2100	233.33	466600
Average		23	974	72.62	144727

Table 1. Irrigation well data from the Upper Vermillion Missouri aquifer

The hydraulic gradient for the Upper Vermillion Missouri aquifer was estimated to average 4.5 feet per mile based on data from the DENR-Water Rights' Observation Well Network (Water Rights, 2012c).

The cross section length of the Upper Vermillion Missouri aquifer was determined to be approximately eight miles based on the current aquifer delineation.

The amount of water moving through the Upper Vermillion Missouri aquifer is estimated as follows:

$$\begin{aligned}
 Q &= ((144,727 \text{ gpd/ft}) \times (4.5 \text{ ft/mile}) \times (8 \text{ miles})) / (325,851 \text{ gallons/ac-ft}) \\
 &= 15.99 \text{ ac-ft/day} \\
 &= \underline{5,836 \text{ ac-ft/yr}}
 \end{aligned}$$

In order to sustain this estimated volume of groundwater moving through the aquifer, the recharge rate in inches per acre per year based on an area of the aquifer of 204,832 acres would be 0.34 inches. This recharge rate cannot be considered "average annual recharge" since it used only 2012 data; however the estimate does agree with the average annual recharge estimate from Hedges and others (1985).

The recharge rates estimated for the Upper Vermillion Missouri aquifer should be considered reflective of "existing conditions". Lindgren and Hansen (1990) identified that approximately the southern 19.5 miles of the western boundary of the Upper Vermillion Missouri aquifer in

Turner County is hydraulically connected to and receives recharge from the Niobrara aquifer. Increased recharge will be induced from the Niobrara aquifer with increased pumping from the Upper Vermillion Missouri aquifer.

Discharge:

Discharge for the Upper Vermillion Missouri aquifer occurs through groundwater outflow to the Lower Vermillion Missouri aquifer and by well withdrawals. There are a number of completion reports on file with the DENR-Water Rights Program for domestic use wells that appear to be completed into the Upper Vermillion Missouri aquifer (Water Rights, 2012b); however withdrawals from domestic users are not expected to be significant. There are currently 100 water rights/permits appropriating water from the Upper Vermillion Missouri aquifer. Appropriations authorize municipal, commercial, rural water system and irrigation uses.

Municipal use:

Municipal use appropriations include water rights for: 1) the City of Viborg, 2) the City of Centerville, and 3) the Town of Davis. At this time, Viborg and Davis are supplied completely by TM Rural Water System (Friedeman). The City of Centerville receives 70% of its 64,000 gallons per day average from Lewis and Clark Rural Water System and 30% from the Upper Vermillion Missouri aquifer (Kittay). Therefore the average municipal water use from the Upper Vermillion Missouri aquifer is 21.5 ac-ft/yr.

Commercial use:

There are two water rights appropriating water from the aquifer for commercial use. Water Right No. 6662-3, Vannorsdel's Inc., appropriates water for a concentrated animal feeding operation permitted for 1,800 head of beef cattle (Roth). Assuming an average use of 18 gallons per animal unit per day, the average water use by the permit is estimated to be 36 ac-ft/yr. Water Right No. 5833-3, Advanced Prescription Fertilizer Inc, appropriates water for a fertilizer plant. The average annual use through this appropriation is estimated to be under 1,000,000 gallons per year (i.e. 3.07 ac-ft/yr) (Nelson). Estimated average annual use for commercial use from the Upper Vermillion Missouri aquifer therefore is 40 ac-ft/yr.

Rural Water System Use:

Two rural water systems are supplied by the Upper Vermillion Missouri aquifer: TM Rural Water System and South Lincoln Rural Water System. The water use of the rural water systems as reported to the DENR-Water Rights Program is shown in Table 2.

	TM Rural Water District	South Lincoln RWS
2011	1146	1108
2010	1184	1095
2009	950	987
2008	776	779
2007	2	607
2006	3	599
2005	1	611
2004	12	583
2003	17	354

Table 2. Reported water use in acre-feet per year from TM RWS and South Lincoln RWS
(Water Rights 2003-2012)

Irrigation Use:

The majority of the water pumped from the Upper Vermillion Missouri aquifer is for irrigation use. The irrigation water use from the aquifer as reported to the DENR-Water Rights Program is shown in Table 3.

YEAR	NO. OF PERMITS	APPROPRIATION (ac-ft/yr)	PUMPAGE REPORTED (ac-ft/yr)
1979	56	28081.0	3247
1980	54	28081.0	5082
1981	61	30455.0	4159
1982	52	25589.6	3778.57
1983	51	25025.6	2983.12
1984	59	29867.6	2791.00
1985	57	28643.6	2479.00
1986	57	28067.6	3544.00
1987	55	26561.6	3781.00
1988	54	26072.6	6753.10
1989	55	26492.6	5758.60
1990	61	27977.6	6626.20
1991	59	27469.0	6220.00
1992	61	27723.0	1793.20
1993	58	25021.0	534.50
1994	55	23792.0	4313.79
1995	55	23792.0	4484.34
1996	59	24403.6	4672.19
1997	59	24642.6	5408.00
1998	62	24842.6	5343.85
1999	62	25062.6	5056.06
2000	62	25938.6	6181.55
2001	62	25938.6	6195.66
2002	64	26498.6	7169.69
2003	64	26195.6	5930.90
2004	62	25747.6	7414.06
2005	61	25369.6	6856.39
2006	64	26071.6	7906.32
2007	69	27293.6	6983.20
2008	76	28890.2	7467.98
2009	77	28856.9	3878.92
2010	79	29280.9	150.49
2011	79	29280.9	5615.12
Max	79	30455	7906.32
Min	31	23792	150.49
Average	60	26758	4865.42

Table 3. Irrigation from the Upper Vermillion Missouri aquifer (Water Rights, 1980-2012)

Future Use Permits:

A future use permit is a reservation of water and does not authorize withdrawals. However, in theory future use permits can be completely developed. Future use permits reserving water from the Upper Vermillion Missouri aquifer are shown in table 4.

Future Use Permit No.	Name	Amount of water remaining reserved
5358-3	TM Rural Water District	530 ac-ft/yr
6705-3	TM Rural Water District	210 ac-ft/yr

Table 4. Future Use Permits from the Upper Vermillion Missouri aquifer (Water Rights, 2012c)

Recharge versus Discharge Summary:

The total of well withdrawals from the Upper Vermillion Missouri aquifer plus the amount of water that can be developed from future use permits is estimated to be approximately 7,900 acre-feet per year assuming average municipal, commercial, and irrigation use; 2,250 ac-ft/yr rural water system use; and 740 ac-ft/yr from future use permits. The estimated average annual recharge currently is estimated to be approximately 5,836 ac-ft/yr. Therefore the current estimated average annual withdrawal from the Upper Vermillion Missouri aquifer appears to exceed the estimated average annual recharge to the aquifer.

As stated earlier, the recharge rates estimated for the Upper Vermillion Missouri aquifer should be considered reflective of "existing conditions". Increased recharge will be induced from the Niobrara aquifer with increased pumping from the Upper Vermillion Missouri aquifer.

Observation Well Data:

Administrative Rule of South Dakota Section 74:02:05:07 requires that "the Water Management Board shall rely upon the record of observation well measurements to determine that the quantity of water withdrawn annually from the aquifer does not exceed the estimated average annual recharge to the aquifer".

The DENR-Water Rights Program monitors 29 observation wells completed into the Upper Vermillion Missouri aquifer. The observation well data shows seasonal fluctuations in water levels corresponding to recharge and discharge. The aquifer responds well to climatic conditions with rising water levels during wet years and gradually declining water levels during dry years.

Hydrographs for two observation wells completed into the Upper Vermillion Missouri aquifer are shown in Figures 2 and 3.

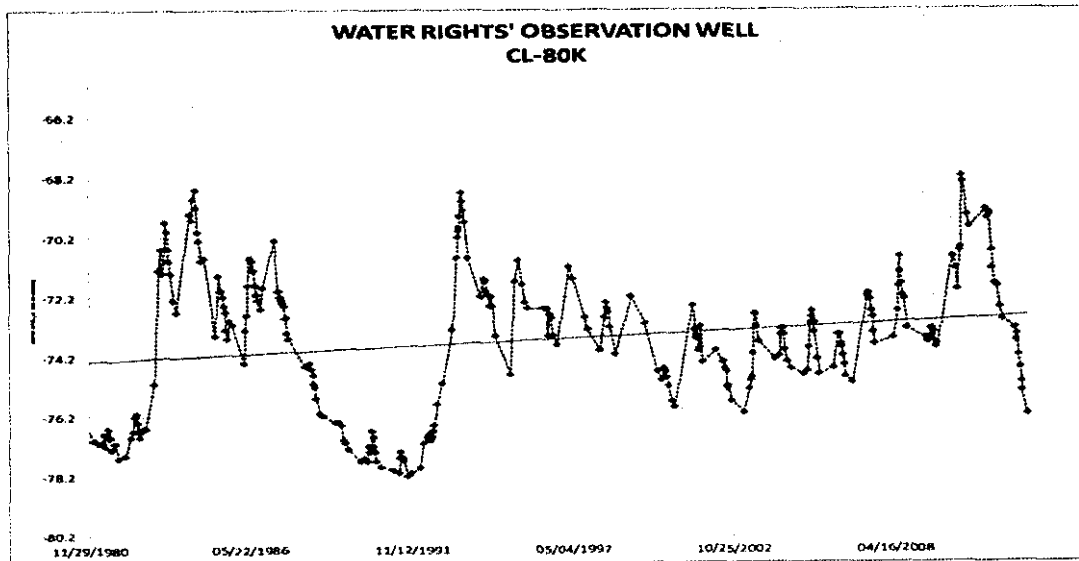


Figure 2. Hydrograph with an upward trending linear trend line for an observation well completed into the Upper Vermillion Missouri aquifer

The hydrograph for CL-80K documents that in the area of the observation well, there is currently more water in storage in the aquifer than when the well was completed and the linear trend line for the data shows a positive slope, indicating that in general, recharge has exceeded discharge in this area over the period of record.

Other observation wells completed into the Upper Vermillion Missouri aquifer document downward trending water levels, such as the hydrograph for TU-77F (see figure 3).

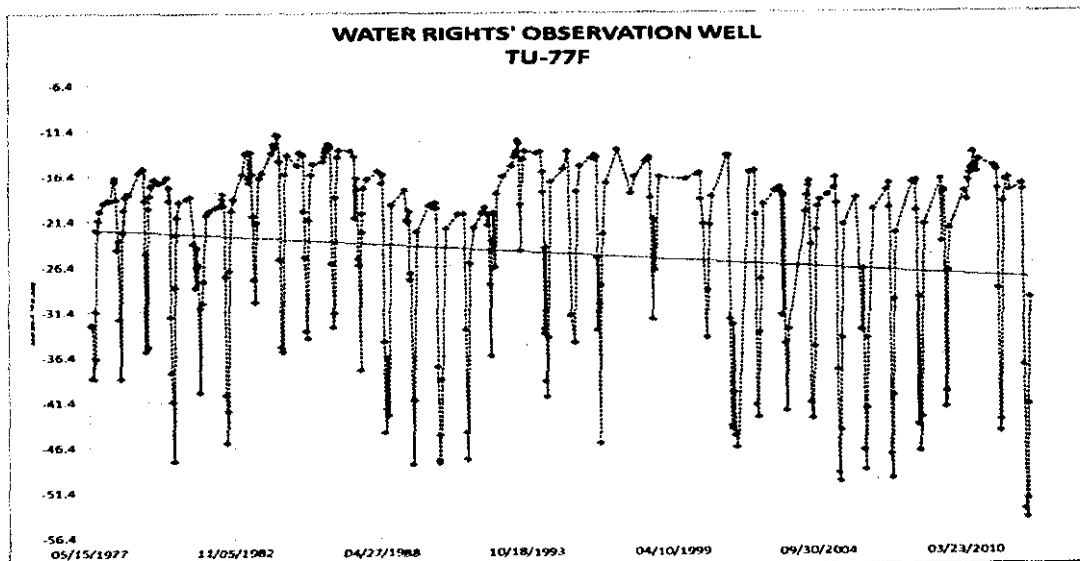


Figure 3. Hydrograph with a downward trending linear trend line for an observation well completed into the Upper Vermillion Missouri aquifer

The slope of the linear trend lines for observation wells completed into the Upper Vermillion Missouri aquifer are shown in Table 5.

OBSERVATION WELL	SLOPE (FT/YR)
CL-80K	0.0365
HT-81A	1.2045
LN-78B	0.073
LN-78E	0.073
MC-83G	-0.219
MC-83JR	-0.292
TU-77B	-0.1095
TU-77D	-0.00183
TU-77F	-0.146
TU-77G	-0.1095
TU-77H	-0.01825
TU-77I	-0.073
TU-77L	0.073
TU-77M	0.073
TU-77P	-0.146
TU-77S	0.3285
TU-77T	0.073
TU-77U	-0.146
TU-77V	0.1095
TU-77W	-0.073
TU-77X	0.1095
TU-77Y	-0.00183
TU-77Z	0.2555
TU-78B	0.0365
TU-80H	0.073
TU-80I	0.03285
TU-82A	-0.657
TU-83A	-0.292
TU-90A	-0.949

Table 5. Slope of the linear trend lines of observation wells completed into the Upper Vermillion Missouri aquifer

From Table 5 it can be seen that the slope of the trend lines for 15 of the 29 observation wells completed into the Upper Vermillion aquifer is negative (i.e. downward sloping). The observation wells with downward trending water levels are concentrated in two areas: an area in the north-central portion of the aquifer and an area in the northwest portion of the aquifer (see Figure 4). The first area is in the vicinity of South Lincoln Rural Water System wells and the second area is in the vicinity of TM Rural Water District wells.

The water use from the two areas of declining water levels has steadily increased (see Table 2). At this time, data is not available to determine if the water levels in these areas will stabilize under steady rural water system withdrawals.

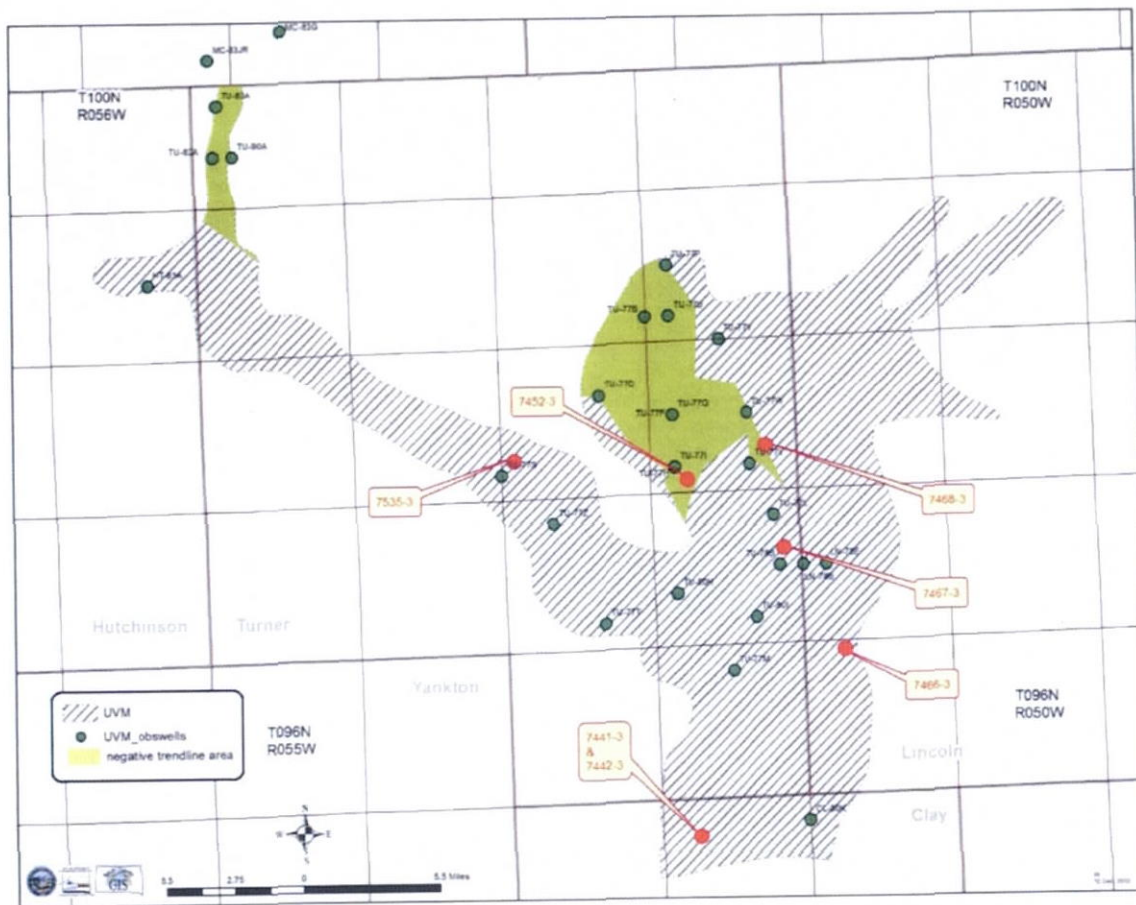


Figure 4. Upper Vermillion Missouri aquifer, locations of the applications discussed in this report, location of DENR-Water Rights' observation wells completed into the Upper Vermillion Missouri aquifer and the areas where water levels trend downward

CONCLUSIONS:

1. Water Permit Application No. 7441-3 proposes to appropriate up to 280 acre-feet per year from the Upper Vermillion Missouri aquifer.
2. Water Permit Application No. 7442-3 proposes to appropriate up to 80 acre-feet per year from the Upper Vermillion Missouri aquifer.
3. Water Permit Application No. 7452-3 proposes to appropriate up to 220 acre-feet per year from the Upper Vermillion Missouri aquifer.
4. Water Permit Application No. 7466-3 proposes to appropriate up to 304 acre-feet per year from the Upper Vermillion Missouri aquifer.
5. Water Permit Application No. 7467-3 proposes to appropriate up to 304 acre-feet per year from the Upper Vermillion Missouri aquifer.
6. Water Permit Application No. 7468-3 proposes to appropriate up to 220 acre-feet per year from the Upper Vermillion Missouri aquifer.
7. Water Permit Application No. 7535-3 proposes to appropriate up to 130 acre-feet per year from the Upper Vermillion Missouri aquifer.

8. The Upper Vermillion Missouri aquifer is a buried glacial outwash that underlies approximately 204,832 acres of Hutchinson, Turner, Lincoln and Clay Counties.
9. Recharge to Upper Vermillion Missouri aquifer is through infiltration of precipitation, inflow from the Sioux Quartzite, and leakage from the Niobrara aquifer.
10. The average annual recharge to the Upper Vermillion Missouri aquifer has been estimated to be 0.25 inches per year (4,267 ac-ft/yr).
11. A recharge rate based on a regional flow net analysis of 2012 observation well data was estimated to be approximately 5,836 ac-ft/yr.
12. Average annual discharge from the Upper Vermillion Missouri aquifer is estimated to be approximately 7,260 ac-ft/yr.
13. Future use permits reserve 740 ac-ft/yr from the Upper Vermillion Missouri aquifer which in theory can be fully developed.
14. Anticipated average annual withdrawal under current appropriations is expected to exceed average annual recharge estimates.
15. Since a source of recharge to the Upper Vermillion Missouri aquifer is leakage from the Niobrara aquifer, increased withdrawal from the Upper Vermillion Missouri aquifer will induce additional recharge from the Niobrara aquifer.
16. The amount of recharge that can be induced from the Niobrara aquifer has not been quantified.
17. Data from DENR-Water Rights Program observation wells documents downward trending water levels in 15 of the 29 observation wells completed into the Upper Vermillion Missouri aquifer.
18. Downward trending observation wells are currently concentrated in two areas corresponding to areas of TM Rural Water System pumping and South Lincoln Rural Water System pumping.
19. At this time, data is not available to determine if the water levels in these areas will stabilize under steady withdrawals.



Ken Buhler
DENR-Water Rights Program

REFERENCES:

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Water Rights, 2012b, Water Well Completion Reports, SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.

Water Rights, 2012c, Water Right/Permit Files, SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.

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Dated this 4th day of March, 2013.

By:

{01350196.1}

CERTIFICATE OF SERVICE

I hereby certify that on the 9th day of March, 2013, I caused to be served by United States first-class mail, postage prepaid, and by email a true and correct copy of the foregoing Notice of Appearance upon the following:

Mr. Jason Rumpca
Peterson, Stuart, Rumpca & Rasmussen
103 North 3rd Street
Beresford, SD 57004
Attorneys for Gary and Julie Peterson

Jerome Hult
45958 Hwy 18
Davis, SD 57021

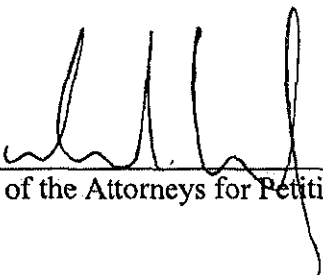
Bethel Hagen Trust
c/o Bruce Hagen
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Sioux Falls, SD 57108

Cleland Hagen Trust
c/o Bruce Hagen
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45067 284th Street
Hurley, SD 57036

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

Ms. Diane Best
Office of the Attorney General
1302 E Hwy 14, Suite 1
Pierre SD 57501-8501



One of the Attorneys for Petitioners in Opposition



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

March 12, 2013

NOTICE

denr.sd.gov

TO: A. Jason Rumpca, 103 N 3rd Street, Beresford SD 57004
Donald McCarty, PO Box 78, Brookings SD 57006
Jerome Hult, 45958 Hwy 18, Davis SD 57021
Donald Benson, 45067 284th Street, Hurley SD 57036
Jeremiah Welsh, 29217 460th Avenue, Centerville SD 57014
Brad Farrar, 28795 452nd Avenue, Viborg SD 57070
Darrell Osborn, 28838 463rd Avenue, Centerville SD 57014
Michael D Stevens, 28916 458th Avenue, Viborg SD 57070
Paul Peterson, 45610 282nd Street, Hurley SD 57036
Dr Bruce Hagen, 1300 W Murphy Drive, Sioux Falls SD 57108
Dr Bruce Hagen, 38736 Nasturtium Way, Palm Desert, CA 92211

FROM: Garland Erbele, Chief Engineer
Water Rights Program

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

The Water Management Board directed Diane Best to prepare proposed Findings of Fact, Conclusions of Law and a Final Decision in the matter of the Deferral of Water Permit Application Nos. 7441-3, 7442-3, 7452-3, 7466-3, 7535-3, 7467-3, 7468-3, 7558-3, 7587-3, 7588-3, 7600-3, 7601-3, 7602-3, 7603-3, 7623-3, 7633-3, 7653-3. The Board will consider adoption of Findings, Conclusions and Final Decision at 8:30 AM, on Thursday, May 2, 2013, in the Floyd Matthew Training Center, Joe Foss Building, 523 East Capitol Avenue, Pierre SD. Notice will be provided if there is a change in the hearing date or time.

The Board requested that a copy of the proposed Findings, Conclusions and Final Decision be mailed to each Board member, applicants and the petitioner by April 9, 2013. Written objections or comments in support of the proposed Findings, Conclusions and Final Decision, or alternative Findings, Conclusions and Final Decision are to be mailed to each Board member, the Board attorney (mailing list enclosed) and parties of record by April 19, 2013. Board counsel requests that the draft findings or alternative findings be provided in a WORD format file via email to jeff.hallem@state.sd.us.

At the Board's discretion, oral arguments by parties who timely filed written comments in opposition or support of the proposed Findings, Conclusions and Final Decision, or alternative Findings, Conclusions and Final Decision may be made on May 2, 2013. The public hearing was completed on March 6 - 7, 2013. No additional testimony will be received.

If you have questions about the findings process, please contact Diane Best at (605) 367-5880.

Enclosure

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

2013 WATER MANAGEMENT BOARD MEMBERS

Chad Comes **Vice-Chairman**
PO Box 308
Madison SD 57042

Leo Holzbauer
PO Box 877
Wagner SD 57380

Rodney Freeman Jr **Chairman**
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Tim Bjork **Secretary**
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BOARD ATTORNEY

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1302 E Hwy 14, Suite 1
Pierre, SD 57501

WATER RIGHTS PROGRAM

Department of Environment and
Natural Resources
Garland Erbele Chief Engineer
Water Rights Program
523 East Capitol Ave
Pierre SD 57501-3181

STAFF ATTORNEY

Diane Best - Assistant Attorney General
Office of Attorney General
Natural Resources Section
317 N Main
Sioux Falls SD 57104-6004

CERTIFICATION

I hereby certify that on March 12, 2013, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated March 12, 2013, regarding preparation of findings of fact, conclusions of law and final decision in the matter of Water Right Permit Application Nos. 7441-3, 7442-3, 7452-3, 7466-3, 7535-3, 7467-3, 7468-3, 7558-3, 7587-3, 7588-3, 7600-3, 7601-3, 7602-3, 7603-3, 7623-3, 7633-3, 7653-3., as set forth below:

A. Jason Rumpca, 103 N 3rd Street, Beresford SD 57004
Donald McCarty, PO Box 78, Brookings SD 57006
Jerome Hult, 45958 Hwy 18, Davis SD 57021
Donald Benson, 45067 284th Street, Hurley SD 57036
Jeremiah Welsh, 29217 460th Avenue, Centerville SD 57014
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Darrell Osborn, 28838 463rd Avenue, Centerville SD 57014
Michael D Stevens, 28916 458th Avenue, Viborg SD 57070
Paul Peterson, 45610 282nd Street, Hurley SD 57036
Dr Bruce Hagen, 1300 W Murphy Drive, Sioux Falls SD 57108
Dr Bruce Hagen, 38736 Nasturtium Way, Palm Desert, CA 92211
Diane Best, Assistant Attorney General, 317 N Main Avenue, Sioux Falls SD 57104

Sent Inter-Office

Jeff Hallem, Assistant Attorney General
George S Mickelson Criminal Justice Center
1302 E Hwy 14, Suite 1
Pierre SD 57501

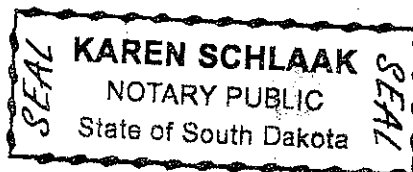
Gail Jacobson

Gail Jacobson
Water Rights Program, DENR

[illegible]

Sworn to, before me, this 12th day of March, 2013

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



STATE OF SOUTH DAKOTA

SOUTH DAKOTA WATER MANAGEMENT BOARD

WATER PERMIT APPLICATION NOS.	)	
7441-3 & 7442-3(GARY OR JULIE	)	
PETERSON); 7452-3 (JEROME HULT);	)	WATER MANAGEMENT BOARD
7466-3 (BETHEL HAGEN TRUST);	)	RULINGS ON PARTIES'
7467-3 & 7468-3 (CLELAND HAGEN	)	SUBMISSIONS.
TRUST); 7535-3(DONALD D	)	
BENSON); 7558-3 (BENDER HAGEN	)	
TRUST); 7587-3 & 7588-3 (PAUL	)	
PETERSEN); 7600-3, 7601-3, 7602-3	)	
& 7603-3 (MICHAEL D. STEVENS);	)	
7623-3 (DARRELL OSBORN);	)	
7633-3(BRAD FARRAR); and 7653-3	)	
(JEREMIAH WELSH)	)	

Pursuant to directions of the Water Management Board, counsel for the Department of Environment and Natural Resources, Water Rights Program (DENR) submitted DENR proposed Findings of Fact, Conclusions of Law and Final Decision. No submissions were received from the Applicants or Intervenors. The Board, upon review of the parties submissions and administrative record, and having orally entered its decision, hereby enters the following rulings:

A. DENR's proposed Findings of Fact Nos. 1-41, 46, 48-52 are accepted by the Board as consistent with and supported by the administrative record and the Board's oral decision. The first introductory paragraph was modified to reflect the hearing was held on March 6-7, 2013.

B. DENR's proposed Findings of Fact Nos. 42, 43 and 45 are accepted by the Board as consistent with and supported by the administrative record

and the Board's oral decision, as modified grammatically to reflect that the Petersons submitted two applications on September 26, 2012.

C. DENR's proposed Finding of Fact No. 44 is substantially accepted by the Board as consistent with and supported by the administrative record and the Board's oral decision, as modified to reflect that the Petersons submitted two applications on September 26, 2012, and that there were "five" not "six" other permit applications filed between October 1 and November 30.

D. DENR's proposed Finding of Fact No. 47 is accepted by the Board as consistent with and supported by the administrative record and the Board's oral decision, as modified grammatically to reflect that the Petersons jointly submitted application No. 7442-3 and to insert in proposed Finding of Fact No. 47 "No." before "5982-3" and "7442-3."

E. DENR's proposed Conclusions of Law 1-23 are accepted by the Board as consistent with and supported by the administrative record, the Board's oral decision, and the Findings of Fact adopted by the Board in the above rulings.

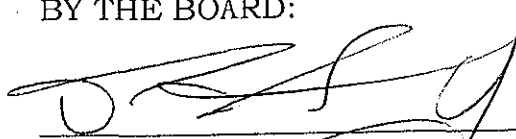
F. DENR's proposed Final Decision is accepted by the Board as consistent with and supported by the administrative record, the Board's oral decision, and the Findings of Fact and Conclusions of Law adopted by the Board in the above rulings.

G. The Board's attorney is directed to prepare Findings of Fact, Conclusions of Law and Final Decision consistent with the above rulings to be

executed by the chairman of the Board or the Board's designee without further notice or hearing.

Dated this 2nd day of May, 2013.

BY THE BOARD:

A handwritten signature in black ink, appearing to read 'Rodney Freeman, Jr.', written over a horizontal line.

Rodney Freeman, Jr.
Chairman, Water Management Board

STATE OF SOUTH DAKOTA

SOUTH DAKOTA WATER MANAGEMENT BOARD

WATER PERMIT APPLICATION NOS.	)	
7441-3 & 7442-3(GARY OR JULIE	)	
PETERSON); 7452-3 (JEROME HULT);	)	
7466-3 (BETHEL HAGEN TRUST);	)	
7467-3 & 7468-3 (CLELAND HAGEN	)	FINDINGS OF FACT,
TRUST); 7535-3(DONALD D	)	CONCLUSIONS OF LAW
BENSON); 7558-3 (BENDER HAGEN	)	AND FINAL DECISION
TRUST); 7587-3 & 7588-3 (PAUL	)	
PETERSEN); 7600-3, 7601-3, 7602-3	)	
& 7603-3 (MICHAEL D. STEVENS);	)	
7623-3 (DARRELL OSBORN);	)	
7633-3(BRAD FARRAR); and 7653-3	)	
(JEREMIAH WELSH)	)	

Hearing was held on March 6-7, 2013 before Board members Rodney Freeman (Chairman), Tim Bjork, Chad Comes, Peggy Dixon, Everett Hoyt, and Leo Holzbauer.

Applicants Gary and Julie Peterson were represented by A. Jason Rumpca. Applicants Bethel Hagen Trust, Cleland Hagen Trust, and Bender Hagen Trust appeared through an officer or trustee of the trusts, Bruce Hagen. Applicants Hult, Benson, Paul Petersen, Stevens, Osborn, and Farrar appeared without counsel. Applicant Welsh did not appear. The Department of Environment and Natural Resources, Water Rights Program and its Chief Engineer (jointly referred to as "DENR") was represented by Diane Best. Intervenors Todd and Carey Miller were represented by Don McCarty.

The Board, having considered the testimony, exhibits and legal argument and all records and documents on file and having entered its oral decision and rulings on the parties' submissions, now enters the following:

FINDINGS OF FACT

1. Each application seeks to appropriate water from the Upper Vermillion Missouri (UVM) aquifer for irrigation in Turner and Clay County. The applications were filed during the period from September 26, 2012 through January 22, 2013, and were heard together.

2. Except for Application No. 7442-3 (discussed separately below), each of the applications seeks authority to divert water under a new water right with a well to be constructed in the UVM.

3. The Chief Engineer recommends that each of the applications be deferred until a pending study of the UVM aquifer is completed, which is expected to occur prior to the spring of 2014. He explained that significant portions of the aquifer have experienced long term downward trending water levels. New appropriations from the aquifer should be deferred until it can be determined if water levels in these areas will stabilize under steady withdrawals. Pursuant to SDCL 46-2A-9, a permit to appropriate water may only be approved if there is a reasonable probability that unappropriated water is available.

4. Notice of each application was published in one official daily newspaper and in one official weekly newspaper in each county where the

proposed water wells are to be located, where the water is proposed to be used and where the project works are proposed to be located.

5. The Notices afforded an opportunity for intervention. Todd and Carey Miller intervened and appeared at hearing through counsel.

6. The Board considers whether (a) there is a reasonable probability that there is unappropriated water available for the Applicant's proposed use, (b) the proposed diversion can be developed without unlawful impairment of existing rights, (c) the proposed use would be a beneficial use and (d) the use would be in the public interest.

7. In considering water availability this Board must also examine whether the quantity of water withdrawn annually from the groundwater source would exceed the quantity of the average estimated annual recharge of water to the groundwater source if this permit was granted.

8. If the source of the water is older or lower than the Greenhorn Formation and a public water system has applied for a permit, the Board need not consider the recharge/withdrawal issue. Here, the aquifer is younger than and above the greenhorn formation. Also, a public water system is not involved. The withdrawal/recharge issue must be considered.

9. The UVM aquifer is a buried glacial outwash deposit that consists of fine sand to medium-pebble gravel. The aquifer underlies approximately 204,832 acres of Hutchinson, Turner, Lincoln and Clay Counties. The aquifer blends into the Lower Vermillion Missouri aquifer in northern Clay County. According to independent studies cited by DENR expert Ken Buhler, the

average thickness of the outwash is estimated to be 68 feet in Turner County and is estimated to be 100-150 feet thick in the areas proposed by these applications. The aquifer contains an estimated 1.8 million ac-ft of water in storage in Turner and Hutchinson Counties and an estimated 317,180 ac-ft of recoverable water in storage in Clay and Lincoln Counties.

10. The UVM aquifer is primarily, but not exclusively, under confined (artesian) conditions. Groundwater movement in the aquifer is to the south-southeast at a gradient that was estimated in independent studies to be approximately four feet per mile (ft/mi). However, based on DENR-Water Rights' observation wells the gradient was 4.3- 4.6 ft/mi in May 2012.

11. The UVM outwash generally overlies the Carlile Shale although Sioux quartzite directly underlies the aquifer in the northern portion of the aquifer. The UVM aquifer overlies the Niobrara Formation in western Turner County. The aquifer is generally buried by glacial till; however, in places it is overlain by and is hydraulically connected to the surficial Parker Centerville aquifer.

12. Recharge to the UVM aquifer occurs through: 1) direct infiltration of precipitation in areas where the aquifer is at or near ground surface; 2) inflow from fractures in the Sioux Quartzite; and 3) inflow from the Niobrara aquifer. Referring to past independent studies, Buhler testified that the recharge rate to the UVM has been estimated at 0.25 inches per acre per year calculated from regional flow net analysis. This would produce an average annual recharge to the overall UVM aquifer of 4,267 ac-ft/yr.

13. Buhler also evaluated the recharge potential of the UVM aquifer by undertaking a regional flow net analysis based specifically on May 2012 water level data from the DENR Observation Well Network. A flow net analysis is a calculation of the amount of water flowing through the aquifer. To do this, Buhler relied on (a) the average transmissivity of the aquifer based on the calculated transmissivity of irrigation wells in the aquifer where the data to allow these calculations was available, (b) the hydraulic gradient for the UVM based on data from the Observation Well Network, and (c) the distance of the appropriate cross section of the UVM. He found that the amount of water moving through the UVM is approximately 15.99 ac-ft/day or 5,836 ac-ft/yr. In order to sustain this volume of groundwater moving through the aquifer, the recharge rate in inches per acre per year based on the area of the aquifer would be 0.34 inches. This recharge rate cannot be considered “average annual recharge” since it used only 2012 data. The estimate does, however, agree in general with the average annual recharge estimate from the independent studies that Buhler consulted.

14. The recharge rates estimated for the UVM aquifer should be considered reflective of “existing conditions”. Buhler explained that independent studies have found that the southern 19.5 miles of the western boundary of the UVM in Turner County to be hydraulically connected to (and receiving recharge from) the Niobrara aquifer. Increased recharge will be induced from the Niobrara aquifer with increased pumping from the UVM.

15. Discharge from the UVM Missouri aquifer occurs naturally through groundwater outflow to the Lower Vermillion Missouri aquifer and also by well withdrawals. Reports on file with the DENR-Water Rights Program show that domestic use wells are completed into the UVM aquifer, however withdrawals from domestic users are not expected to be significant.

16. In addition to domestic use, there are currently 100 water rights/permits appropriating water from the UVM. Appropriations authorize municipal, commercial, rural water system and irrigation uses.

17. The cities of Viborg and Davis hold water rights to appropriate water from this aquifer, but they are supplied completely by TM Rural Water System. The City of Centerville receives 70% of its 64,000 gallons per day average from Lewis and Clark Rural Water System and 30% from the UVM. The average municipal water use from the UVM is 21.5 ac-ft/yr.

18. There are two commercial water rights from this aquifer. One is a concentrated animal feeding operation permitted for 1,800 head of beef cattle with an estimated average annual water use of 36 ac-ft/yr. The other is a fertilizer plant with an estimated average annual water use of 1,000,000 gallons per year (i.e. 3.07 ac-ft/yr).

19. Two rural water systems are supplied by the UVM aquifer: TM Rural Water System and South Lincoln Rural Water System. The water use for each of these systems has approached or exceeded 1000 ac-ft/yr since 2009.

20. The majority of the water pumped from the UVM aquifer is for irrigation use. In 1979 there were 56 irrigation permits; the number increased

to 79 in 2011. Irrigators report pumping annually and pumping has also increased during this period. Pumping exceeded 7000 ac-ft in some recent years, but the average of reported pumping from 1979- 2011 is 4865.42 ac-ft/yr.

21. There are two future use permits for this aquifer. TM Rural Water System holds both of them and they total 740 ac-ft year. A future use permit is a reservation of water and does not authorize withdrawals. However, in theory future use permits can be completely developed.

22. The total of well withdrawals from the UVM aquifer plus the amount of water that can be developed from future use permits is estimated to be approximately 7, 900 acre-feet per year assuming average municipal, commercial, and irrigation use; 2,250 ac-ft/yr rural water system use; and 740 ac-ft/yr from future use permits. The estimated average annual recharge is currently estimated to be approximately 5,836 ac-ft/yr. So, the current estimated average annual withdrawal from the UVM aquifer appears to exceed the estimated average annual recharge to the aquifer.

23. The DENR-Water Rights Program monitors 29 observation wells in the UVM. The observation well data shows seasonal fluctuations in water levels corresponding to recharge and discharge. The aquifer responds well to climatic conditions with rising water levels during wet years and gradually declining water levels during dry years.

24. The hydrograph for an observation well in Clay County in the southernmost part of the aquifer area studied (observation well CL-80K) shows

that there is currently more water in storage in the area of the well than when the well was completed. The linear trend line for this well data shows a positive slope, indicating that in general, recharge has exceeded discharge in this area over the period of record since the well was constructed in 1980.

25. Other observation wells in the UVM aquifer document downward trends in water levels. The slope of the trend lines for 15 of the 29 observation wells is negative (i.e. downward sloping). The observation wells with downward trending water levels are concentrated in two areas: an area in the north-central portion of the aquifer and an area in the northwest portion of the aquifer. The first area is in the vicinity of South Lincoln Rural Water System wells and the second is in the vicinity of TM Rural Water District wells.

26. The water use from the two areas of declining water levels has steadily increased. At this time, data is not available to determine if the water levels in these areas will stabilize under steady rural water system withdrawals.

27. This Board also heard evidence on whether the proposed uses would impair existing water rights. The DENR staff was unaware of any claims that any of the proposed uses would impair existing use of water from area wells. Further, no intervenor filed any objection claiming that granting the application would impair any use of wells for existing rights or domestic uses. Todd and Carey Miller did intervene with general concerns about the possible effect of the proposed applications on Swan Lake in Turner County.

28. Beneficial use is also a question. The beneficial use factor involves examining whether the use would be beneficial in the eyes of the appropriator and also in terms of the interest of the public in the best use of water supplies.

29. The use of water, as requested, would undoubtedly be beneficial to the applicants. They intend to use the water for irrigation and increasing crop yields, which would be beneficial to them.

30. The Board has previously found that irrigation is in the interest of the public in the utilization of water supplies. However, given the status of the evidence in this matter, the Board is unable to conclude irrigation of water from this particular aquifer is a beneficial use to the public at present.

31. Public interest is also a question. The Board has previously found that irrigation is in the public interest from the economic perspective of increasing crop yields and enhancing the economy. However, given the status of the evidence in this matter, the Board is unable to conclude irrigation of water from this particular aquifer is in the public interest at this time.

Application Nos. 7441-3 and 7442-3

32. The foregoing Findings of Fact are incorporated by reference.

33. Application Nos. 7441-3 and 7442-3 were filed on September 26, 2012, by Gary and Julie Peterson (Petersons).

34. Application No. 7441-3 proposes to appropriate up to 280 ac-ft/yr at a maximum diversion rate of 1.79 cfs from one well that would be approximately 175 feet deep. This application proposes to irrigate 140 acres.

35. Application No. 7442-3 proposes to appropriate up to 80 ac-ft/yr to irrigate 40 acres by using an existing well authorized by Water Right No. 5982-3. Water Right No. 5982-3 appropriates water at a maximum diversion rate of 2.28 cfs and the present application would not increase the total diversion rate.

36. Application Nos. 7441-3 and 7442-3 were filed before the rest of the above entitled applications. Petersons claim that these particular applications should be granted even if the other applications are deferred.

37. In particular, Petersons rely on the fact that the DENR issued a similar permit in 2012 for a nearby irrigator. The other permit, less than a mile from the site of Application No. 7441-3, was issued to Roger Hansen.

38. The Hansen application was filed on July 20, 2012, and when it was reviewed it was the only application from the UVM. While DENR's staff engineer, Adam Mathiowetz, questioned whether granting the permit would cause the withdrawal to exceed recharge in UVM based on overall data, he also looked at nearby observation wells and found that they were not trending downward. This conflicting data raised a "yellow flag" but Mathiowetz's report, dated September 18, 2012, favored approval of the Hansen permit. The Mathiowetz report was provided to the Chief Engineer who recommended approval. The Hansen application was published, there were no intervenors, and on October 9, 2012, the permit was granted directly by the Chief Engineer under SDCL 46-2A-23. The Hansen case was not heard by this Board.

39. Although the Petersons ask the Board to reject the Buhler testimony concerning the need for additional study in favor of the Mathiowetz

analysis for the Roger Hansen permit, the Board will not do so. Without impugning the Mathiowetz study, the Board finds that a review of the entire aquifer is necessary and not the local effects associated with one observation well. The data compiled by Ken Buhler shows that 15 of the 29 DENR observation wells are declining in this aquifer and this Board cannot ascertain, at this time, whether the area of declining water levels is expanding. This Board cannot “unring the bell” and determine that the earlier report by Mathiowetz should be accepted for any of these new applications from this aquifer. The Board accepts and relies on the extensive review conducted by DENR expert Ken Buhler.

40. At hearing, Gary Peterson testified that Roger Hansen had been irrigating in the summer of 2012. Based on the Hansen irrigation and Peterson’s own favorable past experience in obtaining permits in this aquifer, Peterson purchased nearby property to irrigate and applied for an irrigation permit for the newly purchased property.

41. Hansen was not authorized to irrigate the property in question in the summer of 2012. Also, the DENR made no promises to Peterson that either Application No. 7441-3 or 7442-3 would be granted.

42. Peterson pointed out that review did not begin immediately on the Petersons’ September 26 applications and that the Chief Engineer’s recommendation was not issued until December 18. The Chief Engineer testified that DENR received an extraordinary number of irrigation applications

in the fall of 2012. Other applications for this aquifer were filed on October 1, October 18 (3 applications), and in November while the review was pending.

43. Regardless of the timing of the review, the Petersons' applications would not have been considered by this Board earlier. This Board meets five times a year. The applications were filed on September 26, only a few days short of this Board's October 3 meeting. The Board met on December 5, but for a case to be heard then the analysis would have to have been completed and the recommendation issued early enough so that the notice could be prepared and submitted to newspapers in time for publication on or before November 15, twenty days before hearing. If the Chief Engineer issued the recommendation even 45-50 days from the date of the application, it would have been too late for publication for the December meeting. The Petersons applications were heard at the Board's next scheduled meeting on March 7, 2013.

44. Petersons' permit applications were filed September 26, 2012, but were followed by five other permit applications filed on October 1, October 18 (three applications), and November 30. They were analyzed together. Due to the "yellow flag" raised by Mathiowetz in the earlier Hansen application, Ken Buhler, who is head of the groundwater area in the Water Rights Program, asked another engineer, Joe Stonesifer, to take an independent look at the recharge/withdrawal analysis. Stonesifer reported back to Buhler that he encountered the same issues. Buhler then took over the review and conducted the analysis several ways (as set forth in the foregoing Findings). Ultimately,

Buhler's report favored deferral. The Chief Engineer adopted this analysis, recommended deferral, and provided notice of hearing before this Board. In the meantime, another eleven applications were filed in December and January and a second report was issued on February 4 that contained the same analysis for those new applications. The Chief Engineer also recommended deferral and scheduled hearing.

45. Petersons also claim Application No. 7442-3 should be granted because it seeks no additional water. The applicants request does not seek to transfer an irrigation right or permit away from one of its currently permitted parcels; the applicants clearly intend to maintain the right to irrigate their currently permitted parcel under one water permit and irrigate forty more acres under the new permit.

46. Chief Engineer Garland Erbele testified that this application, if granted, would in fact constitute appropriation of an additional volume of water even if the diversion rate is the same.

47. Under Water Right No. 5982-3 Petersons are currently entitled to divert water at a diversion rate of 1.64 cfs to irrigate 115 acres. This is the maximum diversion rate allowed by law (1 cfs per 70 acres). It is undisputed that the water right holders do not currently use the maximum diversion rate 24 hours per day throughout the irrigation season, since there is no need for such high diversions at consistent levels. The current application, if granted, would allow the applicants to pump water within the 1.64 cfs authorized diversion rate and for longer periods that they would otherwise do for the

existing permit. The center pivot would run at higher levels or for longer periods because more land would be irrigated. Application No. 7442-3, if granted, would cause more consistent sustained use of the aquifer than for the existing permit.

48. The Petersons seek to appropriate a greater volume of water, even if the instantaneous diversion rate remains the same. As set forth above, a new permit for a greater volume of water cannot be granted at this time in light of the need for additional study on the recharge/withdrawal analysis.

49. If the Board were to accept the Petersons' position that there is no legal or practical change in individual permits if the diversion rate is used for more acreage, then the Board would need to address the enhanced volume of water withdrawn when analyzing water availability for new permits.

50. To date, the Board has made its recharge/withdrawal analysis based, in significant part, on the volume of actual water withdrawals as reported by irrigators in annual reports. The Board has consistently recognized, that in any given year, a certain number of pivots or other irrigation systems are setting idle or are not pumping water continuously. The practice is that some acreage sits idle due to changes in equipment use, cropping patterns, enrollment in federal programs like CRP, precipitation considerations, and other management considerations. In practice, irrigators do not continuously use water at sustained maximum levels for all permitted acreage.

51. If irrigation permits were to move toward maximum diversion rates for longer periods or for larger acreages, the withdrawal analysis will need to

reflect the enhanced sustained withdrawal of water at maximum rates. The existing data shows that the UVM may be close to being fully appropriated under the existing pattern of use. If actual use moves toward greater, more sustained diversions (even within the peak currently allowed for each permit), the withdrawals would be much more likely to exceed recharge.

Ultimate Finding

52. Based on the entirety of the record and the foregoing Findings of Fact, there is insufficient evidence to grant any of the requested applications.

CONCLUSIONS OF LAW

1. The Board has jurisdiction. The applications fall within the Board's responsibility over water appropriation and regulation in Title 46, more specifically SDCL 46-2A-9.

2. Publication of the Notice of Hearing was properly made pursuant to SDCL 46-2A-4.

3. The published Notice of Hearing also allowed for petitions to intervene. Todd and Carey Miller filed a petition to intervene in Water Permit Application Nos. 7441-3, 7442-3, 7452-3, 7466-3, 7467-3, 7468-3, and 7535-

3. At hearing, the Millers made an oral motion to also intervene in the remaining water permit applications that were heard at the same time. The Board granted the request without objection.

4. The Chief Engineer has recommended deferral. The recommendation is not, however, binding on the Board. SDCL 46-2A-4(8).

5. The applicants are required to demonstrate by a preponderance of the evidence that the elements in SDCL 46-2A-9 have been met for the permits they are seeking. SDCL 46-2A-9 provides that 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." The first element in SDCL 46-2A-9 is whether there is water available for the appropriation. The aquifer is currently used extensively for irrigation as well as commercial, municipal, rural water system use and domestic use. The observation well data shows that this use has resulted in downward trends in areas of the aquifer. It is unknown, absent further study, whether the downward trends will expand.

6. Consideration of water availability also includes consideration of the criteria in SDCL 46-6-3.1 pertaining to recharge/withdrawal: whether "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."

7. Although there is an exception to the recharge/withdrawal consideration in SDCL 46-6-3.1, it applies only to applications filed by public water supply systems that intend to withdraw water from an aquifer older than

or stratigraphically lower than the Greenhorn aquifer. The exception does not apply here.

8. Administrative Rule of South Dakota Section 74:02:05:07 requires that "the Water Management Board shall rely upon the record of observation well measurements to determine that the quantity of water withdrawn annually from the aquifer does not exceed the estimated average annual recharge of the aquifer." The observation well data, along with the other Buhler testimony, is the best information reasonably available on the recharge/discharge issue. Buhler, a groundwater expert with many years of experience, was unable to conclude that recharge was exceeding withdrawals or vice versa.

9. Given the foregoing Findings of Fact and Conclusions of Law, the Board is unable to determine whether there is water available for the proposed water use.

10. The second element in SDCL 46-2A-9 is whether the proposed water use would impair existing rights. The evidence is insufficient to make a full determination at this point.

11. The third element in SDCL 46-2A-9 is whether the use of water would be a beneficial use. In this context, a beneficial use of water is one that is reasonable and useful and beneficial to the appropriator and that is consistent with the interest of the public in the best utilization of water supplies. SDCL 46-1-6(3).

12. The use of water, as requested, would undoubtedly be beneficial to the applicants since the purpose is to increase crop yields. The other part of

the beneficial use test is, however, whether the water use is in the interest of the public in terms of the best utilization of water supplies. SDCL 46-1-6(3). Given the foregoing determination, it is premature to determine whether the use of water for the applications at issue is a beneficial use of the water from the UVM aquifer.

13. Under the fourth element of SDCL 46-2A-9, the applicant must demonstrate that the proposed use is in the public interest. The public interest element requires weighing the general public interest in the local economy associated with farming and irrigation, along with any other public interest issues presented. Given the ruling below, it is premature for this Board to enter a ruling on the public interest issue.

14. No justification was provided by the Applicants for water permits 7452-2, 7535-3, 7603-3, and 7653-3 for their request for diversion rates of greater than 1 cfs per 70 acres. Such justification is required under SDCL 46-5-6. When this matter is heard following further study, the justification must be provided.

15. This Board adopts the Chief Engineer's recommendation of deferral. In light of the evidence presented, it is not possible to conclude that unappropriated water is available from the UVM to satisfy the proposed appropriations. Significant portions of the aquifer have experienced long-term downward trending water levels. New appropriations from the aquifer should be deferred until it can be determined if water levels in these areas will stabilize under steady withdrawals.

Application Nos. 7441-3 and 7442-3

16. The Petersons rely on the water permit issued to Roger Hansen in 2012. The Hansen permit was not contested and was granted directly by the Chief Engineer under SDCL 46-2A-23. The Board did not hear evidence on the Hansen permit, and is not bound by either the permit or the underlying rationale. Moreover, even if the Board had issued the prior permit, neither the prior analysis nor the prior permit would be binding. The Board is an administrative agency with quasi-judicial authority to consider the factors in SDCL 46-2A-9. As such, the Board holds authority to consider each case on its merit and is not bound to accept prior decisions as binding precedent.

Interstate Telephone Cooperative, Inc. v. Public Utilities Commission 518 N.W.2d 749 (S.D. 1994).

17. Although Gary Peterson invested in land relying on expectations that he would obtain a permit, DENR staff made no promises to him that either of the applications would be granted and there is no laches or estoppel issue. Moreover, based on the Chief Engineer's referral to the Board under SDCL 46-2A-23 and the contested status of this matter, the Board is the sole decision maker for the above entitled applications.

18. The Chief Engineer issued his recommendation more than 60 days after these applications were filed on September 26, but the Petersons were not harmed in a procedural sense, since March 7 is the first Board meeting where the permit would have been considered, due to the times for public notice and opportunity to intervene in SDCL 46-2A-4. If the Chief Engineer issued the

recommendation within the usual 60 days, it would have been too late to meet the December meeting.

19. In addition to the foregoing, Petersons' claim that Application No. 7442-3 should be granted because it seeks no additional water. Application No. 7442-3 was, however, filed as a request for a new permit. The purpose of new permits is to *appropriate water* (SDCL 46-5-10; SDCL 46-2A-9). This request does, in fact, seek to use additional water.

20. This is not a request to amend existing permit 5982-3 and was not published as such. This Board could not entertain it as an amendment. Further, existing irrigation permits may be amended only as provided in SDCL 46-5-30.4 through SDCL 46-5-34. Petersons' request does not seek to transfer an irrigation right or permit away from a currently permitted parcel under SDCL 46-5-30.4 and SDCL 46-5-34; the applicant clearly intends to maintain the right to irrigate its currently permitted parcel and also irrigate the new parcel. SDCL 46-5-31 also allows this Board to amend permits for changes in the place of use, but not for adding additional acreage as proposed here.

21. For a new permit, the applicant must prove each element in SDCL 46-2A-9. Each of these factors must be met and the permit must be denied if the applicant does not meet its burden of proof on any one of them.

22. The first element in SDCL 46-2A-9 is whether there is water available for the appropriation and it requires consideration of the criteria in SDCL 46-6-3.1. As set forth in the Findings of Fact, the Petersons' proposal to irrigate an additional 40 acres would appropriate more water than has been

historically used. A new permit cannot be granted at this time for the 40 acres as proposed in Application No. 7442-3, in light of SDCL 46-6-3.1.

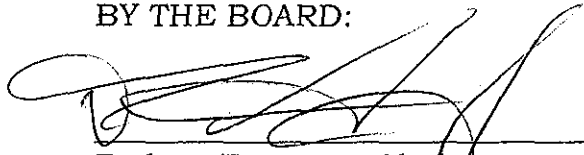
23. Based on the entirety of the record and the foregoing Findings of Fact, each of the foregoing applications should be deferred.

ORDER

Each of the above entitled applications is deferred until the pending study of the UVM Aquifer is completed, which is expected to occur prior to the spring of 2014. This matter is not final; DENR is directed to notice this matter for hearing once the study is completed. Accordingly, the applications, if ultimately granted, would hold priority dates relating back to the date of application under SDCL 46-2A-15.

Dated this 2nd day of May, 2013.

BY THE BOARD:


Rodney Freeman, Chairman
South Dakota Water Management Board



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

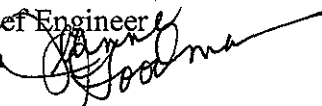
PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

May 6, 2013

NOTICE

TO: A. Jason Rumpca, 103 N 3rd Street, Beresford SD 57004
Donald McCarty, PO Box 78, Brookings SD 57006
Jerome Hult, 45958 Hwy 18, Davis SD 57021
Donald Benson, 45067 284th Street, Hurley SD 57036
Jeremiah Welsh, 29217 460th Avenue, Centerville SD 57014
Brad Farrar, 28795 452nd Avenue, Viborg SD 57070
Darrell Osborn, 28838 463rd Avenue, Centerville SD 57014
Michael D Stevens, 28916 458th Avenue, Viborg SD 57070
Paul Peterson, 45610 282nd Street, Hurley SD 57036
Dr Bruce Hagen, 1300 W Murphy Drive, Sioux Falls SD 57108
Dr Bruce Hagen, 38736 Nasturtium Way, Palm Desert, CA 92211

FROM: Jeanne Goodman, Chief Engineer
Water Rights Program 

SUBJECT: Adoption of Finding of Fact, Conclusion of Law and Final Decision

This is to notify you that the Water Management Board Rulings and the Final Decision, including Findings of Fact and Conclusions of Law, were adopted May 2, 2013, by the Water Management in the matter of the Deferral of Water Permit Application Nos. 7441-3, 7442-3, 7452-3, 7466-3, 7535-3, 7467-3, 7468-3, 7558-3, 7587-3, 7588-3, 7600-3, 7601-3, 7602-3, 7603-3, 7623-3, 7633-3, 7653-3. A copy of the Board Ruling and signed Findings of Fact, Conclusions of Law and Final Decision are enclosed.

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

Enclosures

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

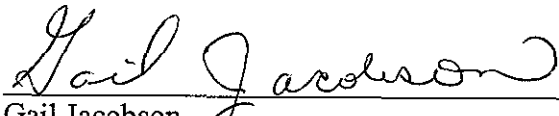
CERTIFICATION

I hereby certify that on May 6, 2013, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated May 6, 2013, regarding adoption of findings of fact, conclusions of law and final decision in the matter of Water Right Permit Application Nos. 7441-3, 7442-3, 7452-3, 7466-3, 7535-3, 7467-3, 7468-3, 7558-3, 7587-3, 7588-3, 7600-3, 7601-3, 7602-3, 7603-3, 7623-3, 7633-3, 7653-3, as set forth below:

A. Jason Rumpca, 103 N 3rd Street, Beresford SD 57004
Donald McCarty, PO Box 78, Brookings SD 57006
Jerome Hult, 45958 Hwy 18, Davis SD 57021
Donald Benson, 45067 284th Street, Hurley SD 57036
Jeremiah Welsh, 29217 460th Avenue, Centerville SD 57014
Brad Farrar, 28795 452nd Avenue, Viborg SD 57070
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Paul Peterson, 45610 282nd Street, Hurley SD 57036
Dr Bruce Hagen, 1300 W Murphy Drive, Sioux Falls SD 57108
Dr Bruce Hagen, 38736 Nasturtium Way, Palm Desert, CA 92211
Diane Best, Assistant Attorney General, 317 N Main Avenue, Sioux Falls SD 57104

Sent Inter-Office

Jeff Hallem, Assistant Attorney General
George S Mickelson Criminal Justice Center
1302 E Hwy 14, Suite 1
Pierre SD 57501

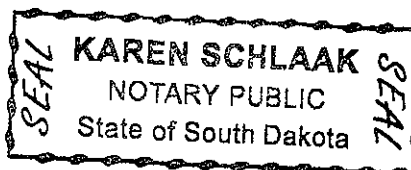


Gail Jacobson
Water Rights Program, DENR

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 6th day of May, 2013


Karen Schlaak
Notary Public
My Commission expires April 1, 2019



REPORT TO THE CHIEF ENGINEER ON
21 WATER PERMIT APPLICATIONS
FROM THE UPPER VERMILLION MISSOURI AQUIFER
FEBRUARY 1, 2014

HISTORY

Twenty one water permit applications proposing to appropriate water from the Upper Vermillion Missouri (UVM) aquifer were filed with the DENR-Water Rights Program since the fall of 2012. The Chief Engineer recommended deferral of 18 of the applications because at the time it was not possible to conclude that unappropriated water was available from the aquifer to satisfy the appropriations. The Water Management Board considered the permit applications along with the Chief Engineer's recommendation and concluded that "In light of the evidence presented, it is not possible to conclude that unappropriated water is available from the UVM to satisfy the proposed appropriations. Significant portions of the aquifer have experienced long-term downward trending water levels. New appropriations from the aquifer should be deferred until it can be determined if water levels in these areas will stabilize under steady withdrawals" (Water Permit Application Nos. 7441-3, et al, Conclusion of Law 15). Three additional applications were filed after February 25, 2013 and were recommended for deferral.

UPPER VERMILLION MISSOURI AQUIFER (UVM)

The Upper Vermillion Missouri aquifer is located in portions of Lincoln, Turner and Clay Counties. An index map for the area is shown in Figure 1.

Previous Investigations

The Upper Vermillion Missouri aquifer consists of a glacial outwash deposit that generally occurs in bedrock low areas. As delineated by Hedges and others (1982), the aquifer extends over an area of approximately 132,900 acres in Clay, Lincoln and Turner Counties. Subsequent investigations for Lincoln, Turner, and Hutchinson Counties (Lindgren and Hansen, 1990; and Niehus, 1994) interpreted the area hydrogeology in a manner that resulted in the configuration of the Upper Vermillion Missouri aquifer encompassing over 204,800 acres (see Figure 2).

2014

A study of the Upper Vermillion Missouri aquifer conducted by the DENR-Geological Survey in 2013-2014 established new boundaries for the main body of the aquifer in Turner County (see Figure 3). Although the southern boundary has not been delineated at this time, data shows that it extends south several miles from the original border as it merges with or transitions into the Lower Vermillion Missouri aquifer. The areal extent of the main body of the Upper Vermillion Missouri aquifer defined by these new boundaries is at least 117,000 acres. A channel deposit extending to the northwest from the main body of the Upper Vermillion Missouri aquifer may be hydrologically connected to the aquifer.

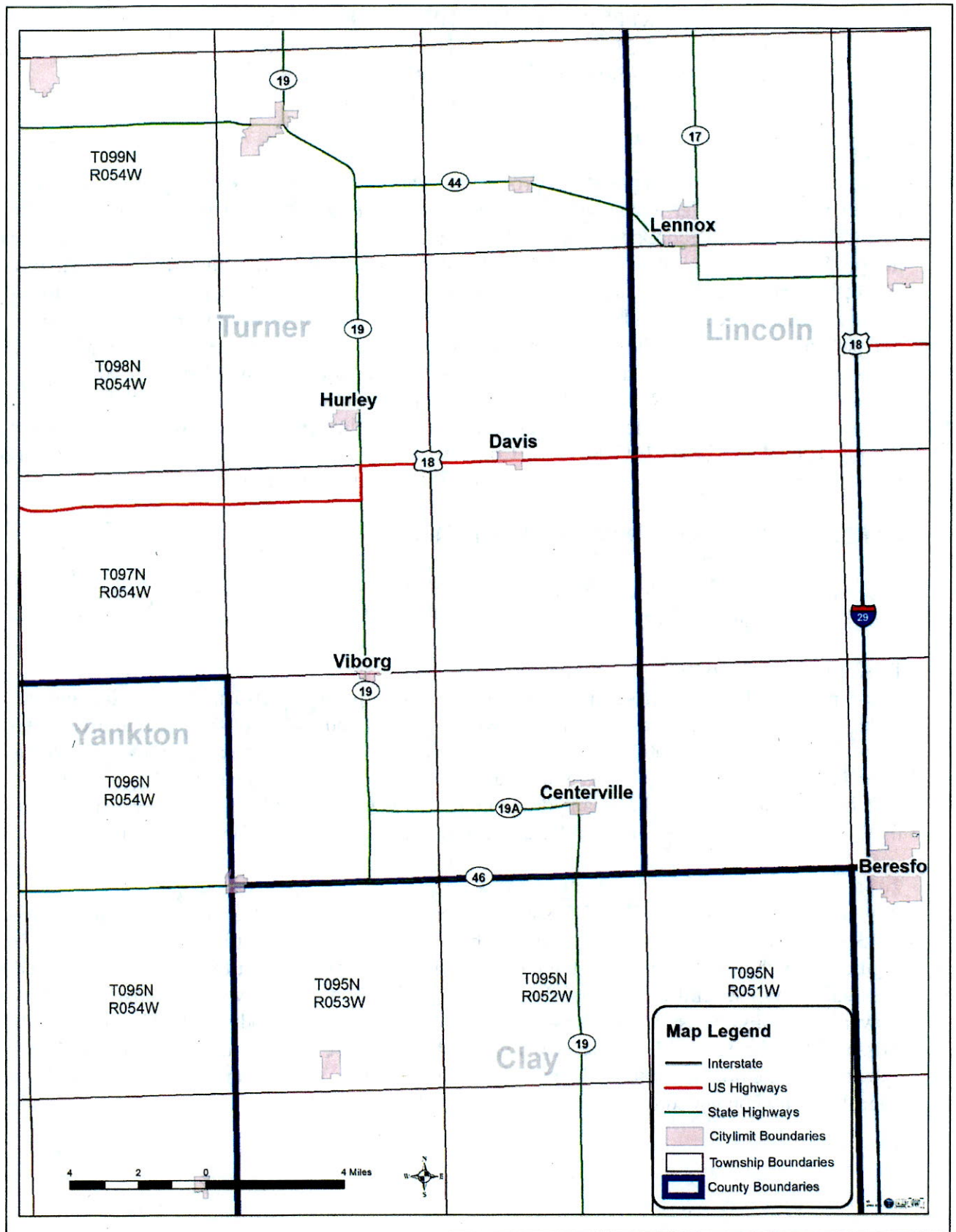


Figure 1. Index map for the area

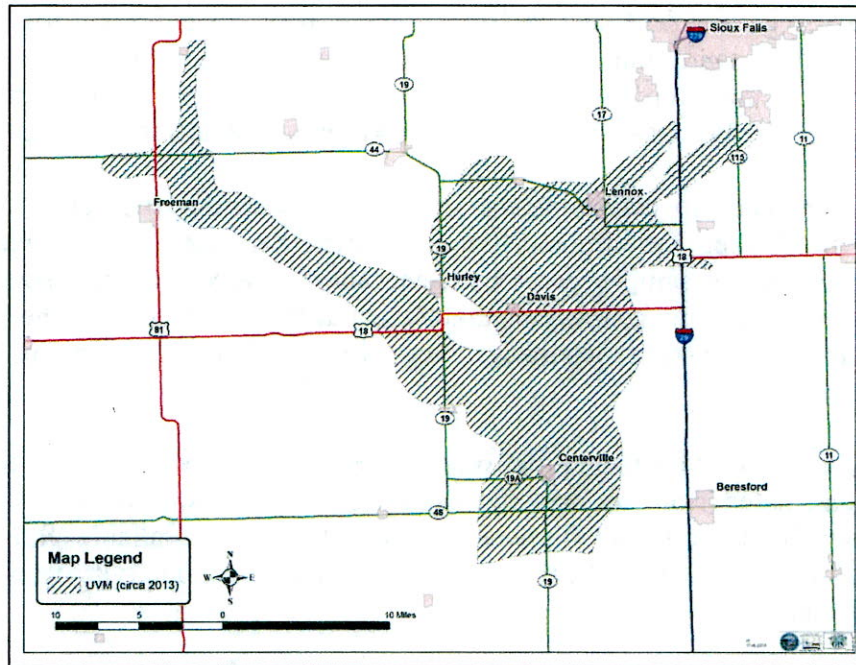


Figure 2. Areal extent of the Upper Vermillion Missouri aquifer considered in 2013 (Buhler, 2012)

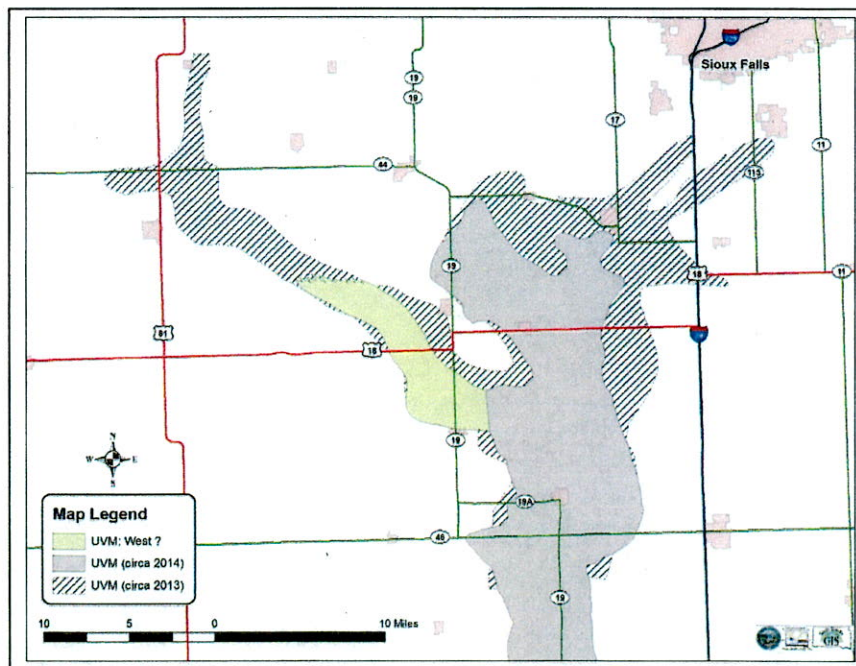


Figure 3. 2014 delineation of the Upper Vermillion Missouri aquifer with areal extent of the Upper Vermillion Missouri aquifer considered in 2013 (Buhler, 2012; modified from DENR-Geological Survey, in progress)

The Upper Vermillion Missouri aquifer occupies portions of a bedrock channel that generally trends north-south. The elevation of the aquifer varies along the length of the channel, but it is primarily below 1,200 feet mean sea level elevation (msl) and above 975 feet msl. The aquifer is

primarily buried by glacial drift, and the top of the aquifer can be over 150 feet below grade. The aquifer is predominantly under confined conditions, and the static water levels of wells in the aquifer typically range from 10-90 feet below grade. The potentiometric surface of the main body of the aquifer (see Figure 4) indicates a north to south groundwater flow direction.

Limited data is available to determine the aquifer characteristics (hydraulic conductivity and storativity) for the Upper Vermillion Missouri aquifer. As part of the ongoing Geological Survey study, sand/gravel samples were collected and analyzed for grain size. Results of the sieve analyses were used to estimate hydraulic conductivity values for the sieved samples. Reported hydraulic conductivity estimates range from 592 to 2,657 ft/day (SD-Geological Survey, in progress).

The hydraulic conductivity for the aquifer was also estimated based on aquifer thickness and the transmissivity calculated from the specific capacities of irrigation wells and two rural water system wells completed into the aquifer where sufficient data was available (Buhler, 2012; Water Rights, 2014b; and Water Rights, 2014c). These hydraulic conductivity values are shown in Table 1, Figure 5 and Figure 6.



Figure 4. January 21, 2014, potentiometric surface of the main body of Upper Vermillion Missouri aquifer in feet above mean sea level (SD-Geological Survey, in progress)

Permit/Right No.	Drawdown (ft)	Yield (gpm)	Specific Capacity SpC (gpm/ft)	Transmissivity T (gpd/ft)	Thickness b (ft)	Hydraulic Conductivity k (gpd/ft ²)	Hydraulic Conductivity k (ft/d)
1930-3	15	1200	80	160000	65	2462	329
3784-3	92	900	10	19600	45	436	58
3901-3	9	1000	111	222200	70	3174	424
4265-3	25	900	36	72000	40	1800	241
4560-3	83	800	10	19200	50	384	51
5259-3	6	1400	233	466600	116	4022	538
5352-3	20	2100	105	157500	178	885	118
5371-3	45	860	19	38200	28	1364	182
5425-3	22	1100	50	100000	48	2083	279
5632-3	24	800	33	66600	48	1388	185
5886-3	9	800	89	177800	55	3233	432
5899-3	25	800	32	106600	63	1692	226
5982-3	27	800	30	92400	73	1266	169
6054-3	25	900	36	72000	40	1800	241
6301-3	16	1100	69	137600	70	1966	263
6727-3	13	1100	85	170000	74	2297	307
6727-3	15	1100	73	146667	74	1982	265
6810-3	6	750	125	250000	66	3788	506
6868-3	10	900	90	180000	36	5000	668
6922-3	11	810	74	147200	87	1692	226
6968-3	11	840	76	152800	88	1736	232
6984-3	7	1200	171	342800	101	3394	454
7002-3	11	720	69	102900	115	895	120
7128-3	15	750	50	100000	94	1064	142
<i>Min</i>	6	720	10	19200	28	384	51
<i>Max</i>	92	2100	233	466600	178	5000	668
<i>Average</i>	23	985	73	145861	72	2075	277
<i>Std Dev</i>	22	289	50	98483	32	1143	153
<i>Std Dev/Average</i>	98.4%	29.4%	69.0%	67.5%	44.9%	55.1%	55.1%

Table 1. Production well data from the Upper Vermillion Missouri aquifer (Water Rights, 2014b; and Water Rights 2014c)

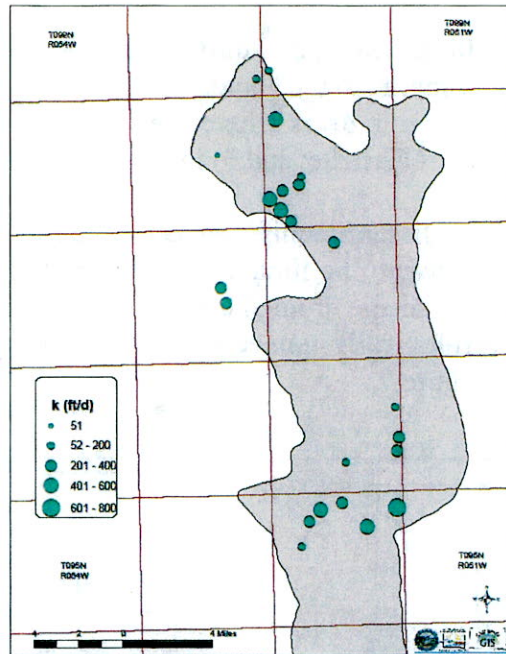


Figure 5. Location of production wells used to calculate hydraulic conductivity

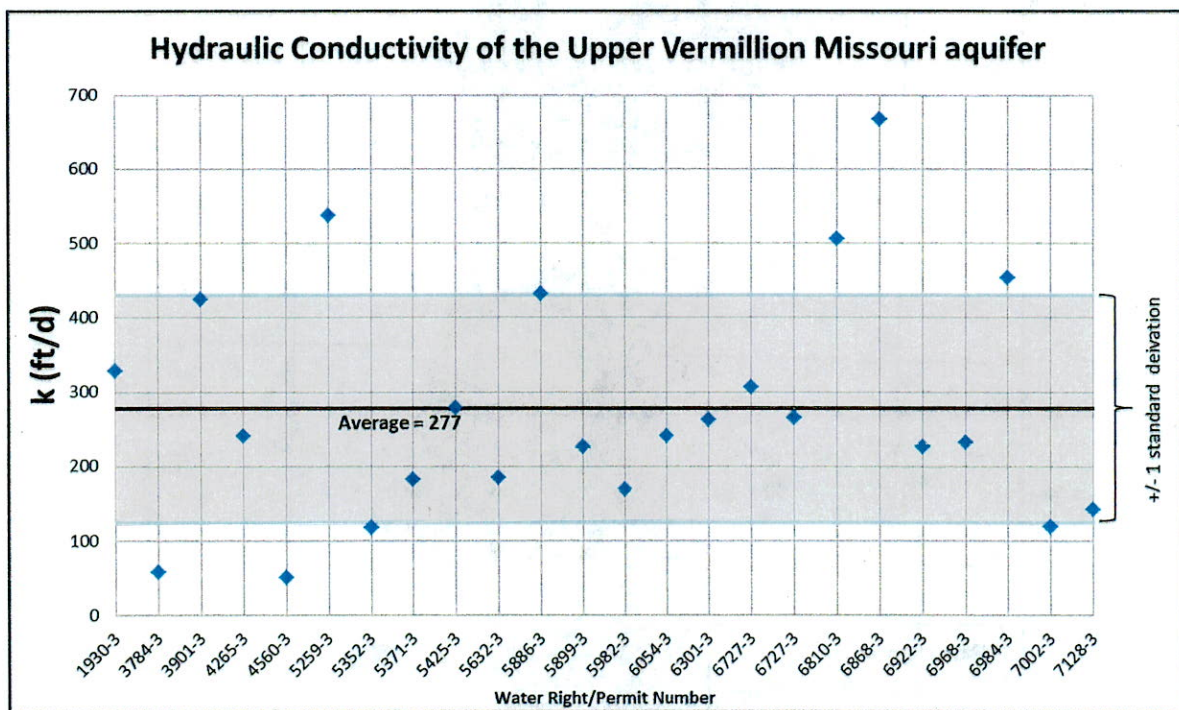


Figure 6. Chart showing the hydraulic conductivities, average hydraulic conductivity and one standard deviation of the Upper Vermillion Missouri aquifer at production wells where data is available (Water Rights, 2014b; and Water Rights 2014c).

Recharge:

Recharge to the Upper Vermillion Missouri aquifer has not been quantified. Lindgren and Hansen (1990) postulated that recharge to the Upper Vermillion Missouri aquifer occurs through: 1) direct infiltration of precipitation in areas where the aquifer is at or near ground surface; 2) inflow from fractures in the Sioux Quartzite; and 3) inflow from the Niobrara aquifer.

Although the Upper Vermillion Missouri aquifer appears to be in contact with the quartzite and Niobrara aquifer, these areas appear to be limited. The likely source of recharge to the Upper Vermillion Missouri aquifer is leakage from the overlying Parker Centerville aquifer (PAC) where the two aquifers are hydrologically connected. Areas of potential interconnection between the two aquifers are shown in Figure 7.

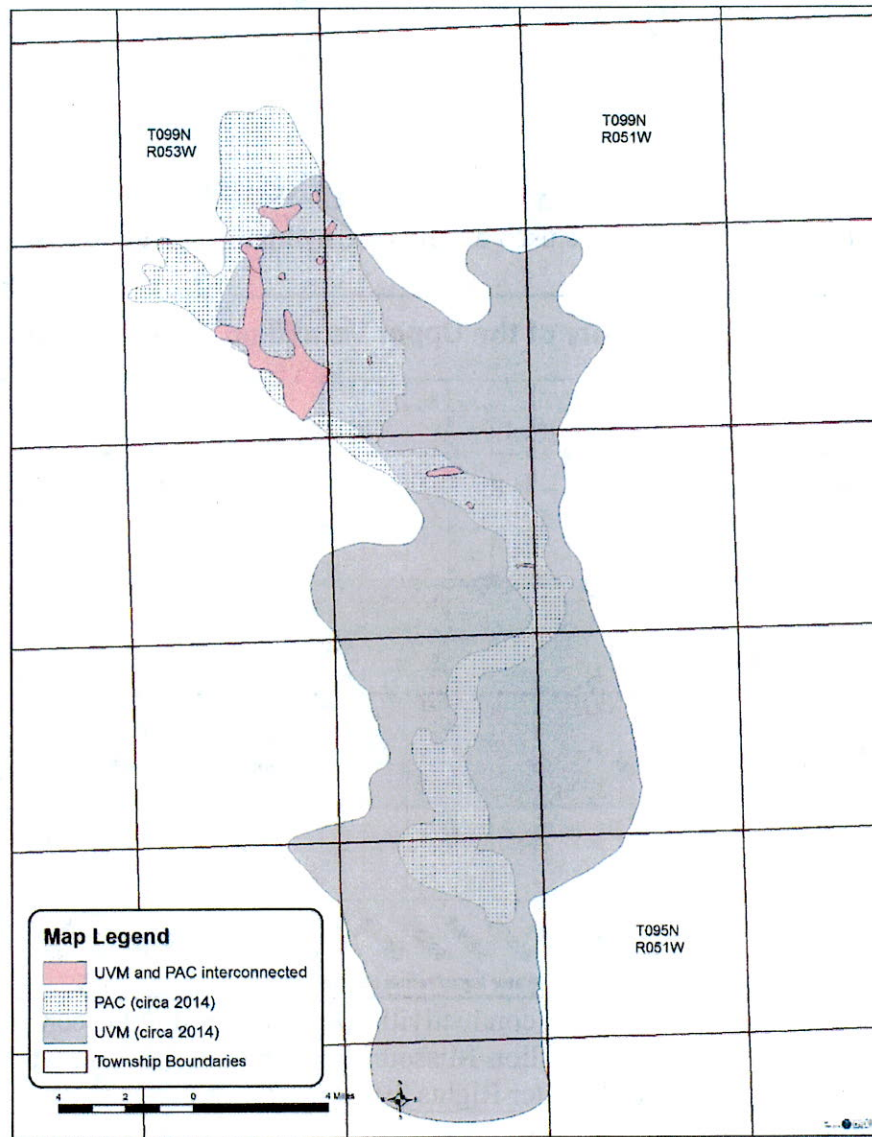


Figure 7. Areal extent of the Upper Vermillion Missouri (UVM) aquifer, the Parker Centerville (PAC) aquifer, and areas where the two aquifers are potentially interconnected (SD-Geological Survey, in progress).

MANAGEMENT UNITS

A system of aquifer and management unit designations for South Dakota was designed to establish a bookkeeping framework of hydrologic data (Hedges and others, 1982). The aquifer and management unit boundaries were chosen to coincide with hydrogeologic boundaries that are "identifiable and which can be documented." Actual boundaries between units were based on one or more of the following criteria:

1. Thinning and/or constriction of the aquifer or management unit.
2. Facies change from high to low permeability of aquifer material.
3. Change from water-table to artesian conditions and vice versa.
4. Ground-water divide.
5. Ground-water discharge point such as stream or lake.
6. Presence of streamflow gaging station.

Although previous aquifer delineations (Hedges and others, 1982; and Lindgren and Hansen, 1990) both identified areas with anomalous gradients of the potentiometric surfaces, they considered the Upper Vermillion Missouri aquifer a single unit.

As the result of work done by the DENR- Geological Survey in 2013-2014, identifiable geologic and hydrologic data suggests two boundaries establishing three management units within the Upper Vermillion Missouri aquifer. Proposed management units are shown in Figure 8.

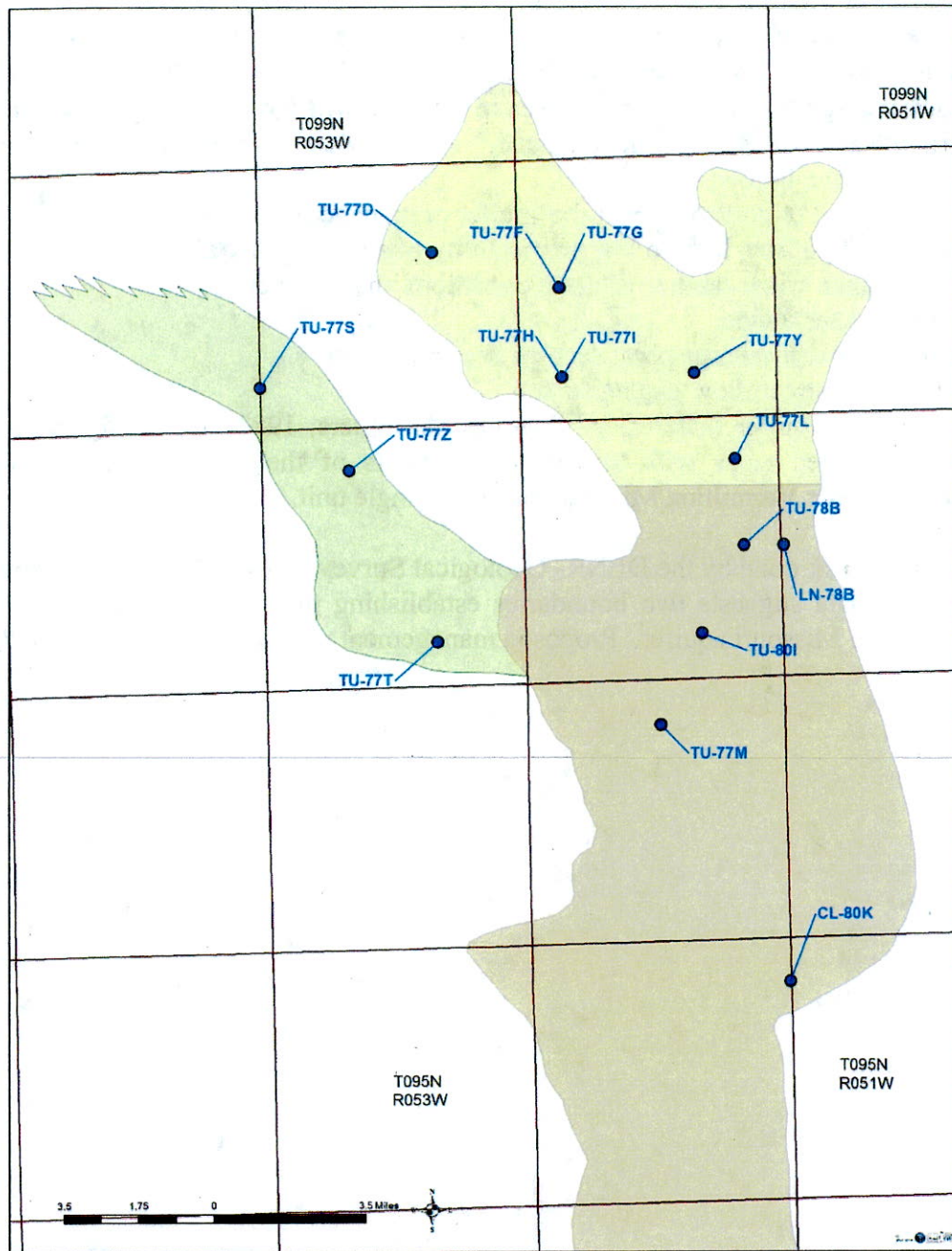


Figure 8. Proposed management units for the Upper Vermillion Missouri aquifer

South Management Unit/West Management Unit Boundary:

In the southeastern portion of T097N-R053W or the southwestern portion of T097N-R052W, three sets of data (i.e. bedrock topography, outwash lithology and aquifer potentiometric surface) identify a boundary between the West management unit and the South management unit of the aquifer.

Bedrock Topography:

Near the confluence of the bedrock channel that enters from the west with the channel that contains the main body of the Upper Vermillion Missouri aquifer, the western channel below 1,100 feet msl constricts by over 20% within three miles (see Figures 9, 10 and 11).

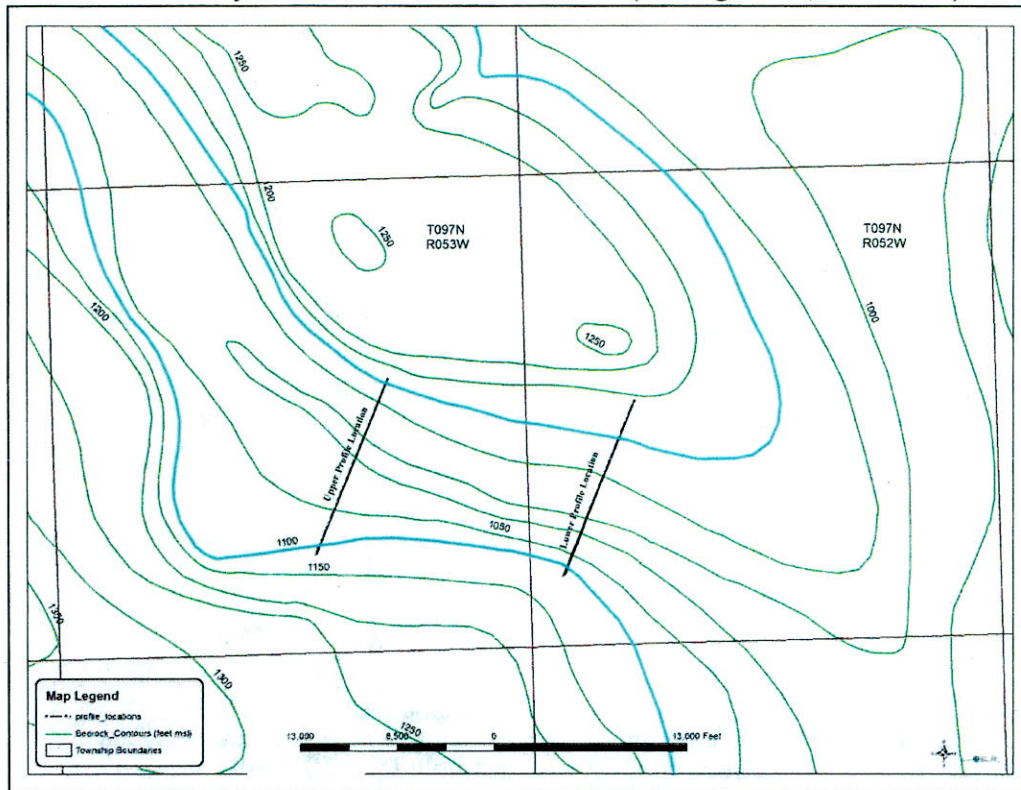


Figure 9. Location of bedrock channel profiles (modified from SD-Geological Survey, in progress)

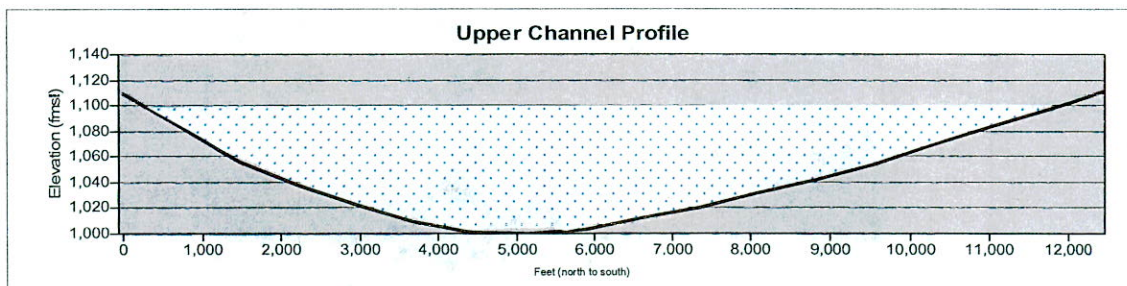


Figure 10. Upper Channel Profile

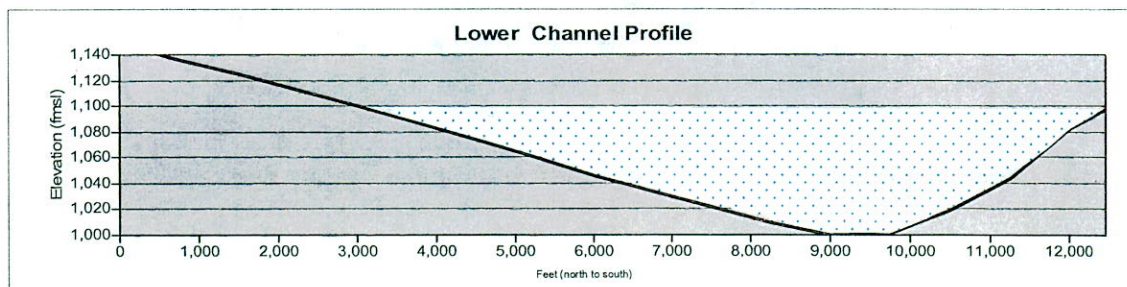
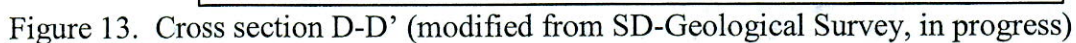
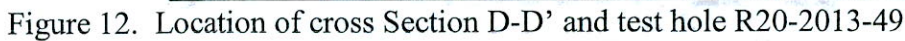


Figure 11. Lower Channel Profile

A west to east cross section through this area indicates the outwash in the western channel thins from approximately 100 feet thick to approximately 50 feet thick across this confluence area. In addition, geologists' logs identify the outwash as "very clayey" in the vicinity of a test hole drilled in the SE¼ of Section 24, T97N-R53W (see Figures 12 and 13).



Potentiometric Surface:

A profile of the potentiometric surface near the confluence of the west bedrock channel with the main bedrock channel containing the Upper Vermillion Missouri aquifer identifies a change in the gradient in the area (see Figures 14 and 15). This suggests a lower permeability area that would create a boundary condition.

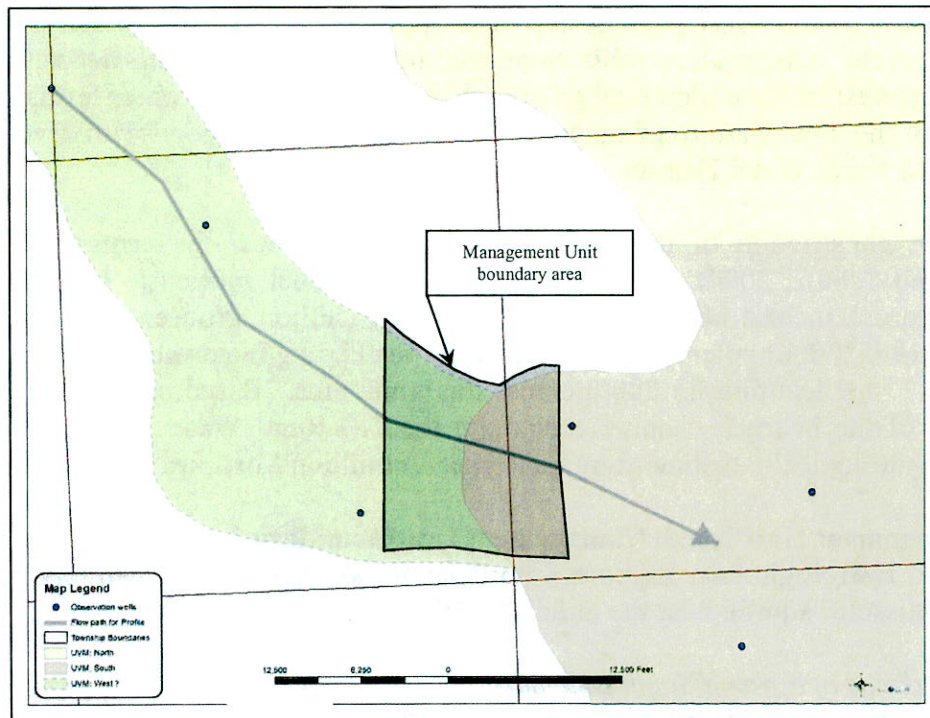


Figure 14. Location of Flow path for Potentiometric Surface Profile

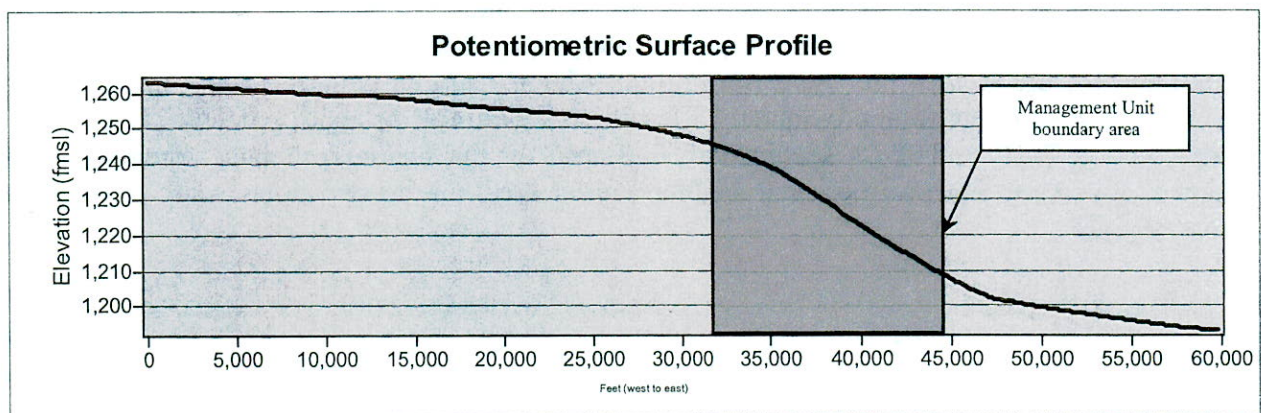


Figure 15. Potentiometric surface profile showing the boundary between the west and south management units of the Upper Vermillion Missouri aquifer

West Management Unit/Northwest Management Unit Boundary:

The West management unit of the Upper Vermillion Missouri aquifer appears to extend northwest beyond the limit used for this report. Data is not available to determine the areal extent of this management unit.

A basal outwash deposit occupies a southeast trending bedrock channel that originates approximately 30 miles northwest of the minimal northwest limit of the proposed West management unit (Tomhave and Schulz, 2004). Past delineations of the Upper Vermillion Missouri aquifer included this outwash deposit as part of the aquifer beginning approximately 18 miles beyond the known northwest limit of the proposed West management unit (see Figures 2 and 8). Water levels of observation wells completed into this basal outwash approximately 15 miles northwest of the West management unit appear to approximately correspond to UVM: West water levels. Observation wells completed into the basal outwash deposit approximately 15 miles northwest of have identified an area of downward trending water levels. The area and chronology of the downward trending water levels appear to correspond with development of the aquifer by TM Rural Water District.

A significant constriction of this bedrock channel exists near the center of T100N-R55W (Tomhave and Schulz, 2004). The narrowing of the channel appears to be located in an area where the bedrock incised by the channel changes. In addition, profiles of the pre-development (circa 1990, 1995, 2000) potentiometric surface all identify a groundwater flow gradient decrease from (e.g. 3.7 -1.5 feet/mile in 2000) across this same area. Based on this available data, the northern tip of the bedrock channel containing the TM Rural Water District wells should be considered hydrologically distinct from the Upper Vermillion Missouri: West aquifer.

South Management Unit/North Management Unit Boundary:

Geologic and hydrologic data suggests a north/south boundary in the main body of the Upper Vermillion Missouri aquifer near the middle of T97N-R52W.

Geologic evidence of a North/South Boundary:

The bedrock topography identifies a narrowing of the channel containing the Upper Vermillion Missouri aquifer near the middle of T97N-R052W. Geologic cross sections constructed near this area and their location are shown in Figures 16, 17, and 18. The cross sectional area of the Upper Vermillion Missouri aquifer has been outlined in blue in Figures 17 and 18, and the area reported by the DENR-Geological Survey (in progress) is labeled for each cross section. The data indicates the area of the Upper Vermillion Missouri aquifer contracts from approximately 3.3 million square feet to approximately 2.8 million square feet or approximately 15% between cross section B-B' and cross section C-C'. Based on the bedrock channel topography, the channel appears to narrow (i.e. even smaller aquifer area) one to two miles south of the C-C' cross section.

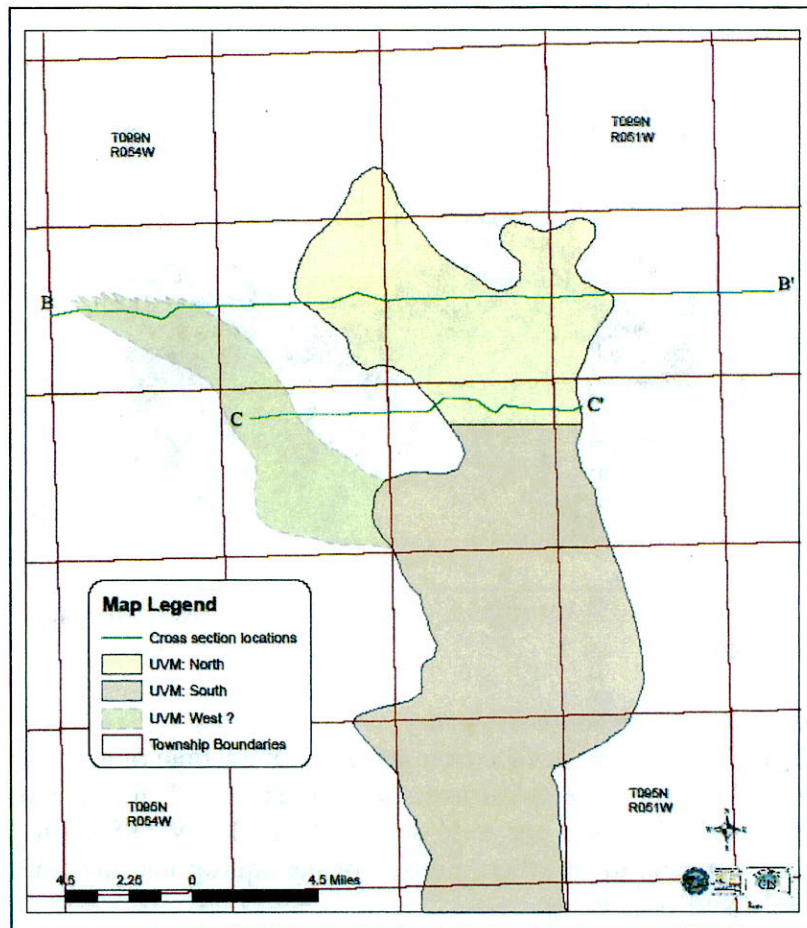


Figure 16. Cross section locations for Figures 17 and 18.

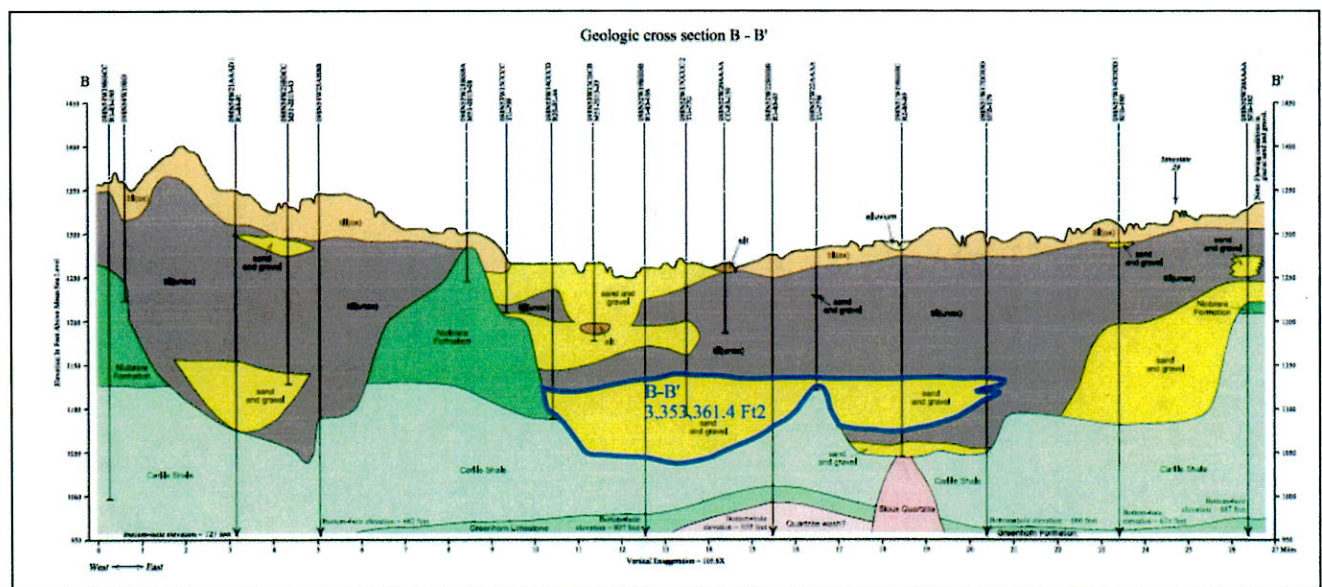


Figure 17. Cross section B-B' through Upper Vermillion Missouri aquifer (SD-Geological Survey, in progress)

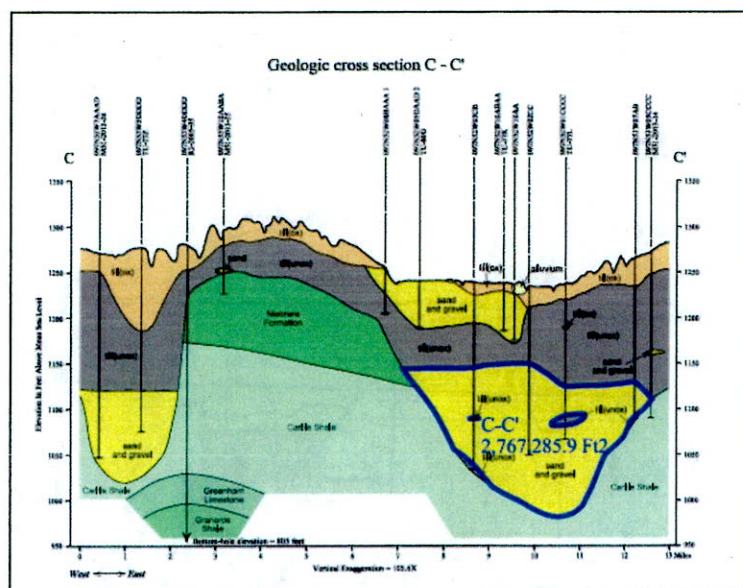


Figure 18. Cross Section C-C' through Upper Vermillion Missouri aquifer (SD-Geological Survey, in progress)

Hydrologic evidence of a North/South Boundary:

The gradient of the potentiometric surface changes from an average of approximately 4.2 feet per mile north of the T97N-T98N line to an average gradient of 9.1 feet per mile in T97N to an average of approximately 3.0 feet per mile south of the T97N-T98N line. This suggests a hydrologic boundary between the northern portion of the aquifer and the southern portion of the aquifer (see Figure 19 and Figure 20).

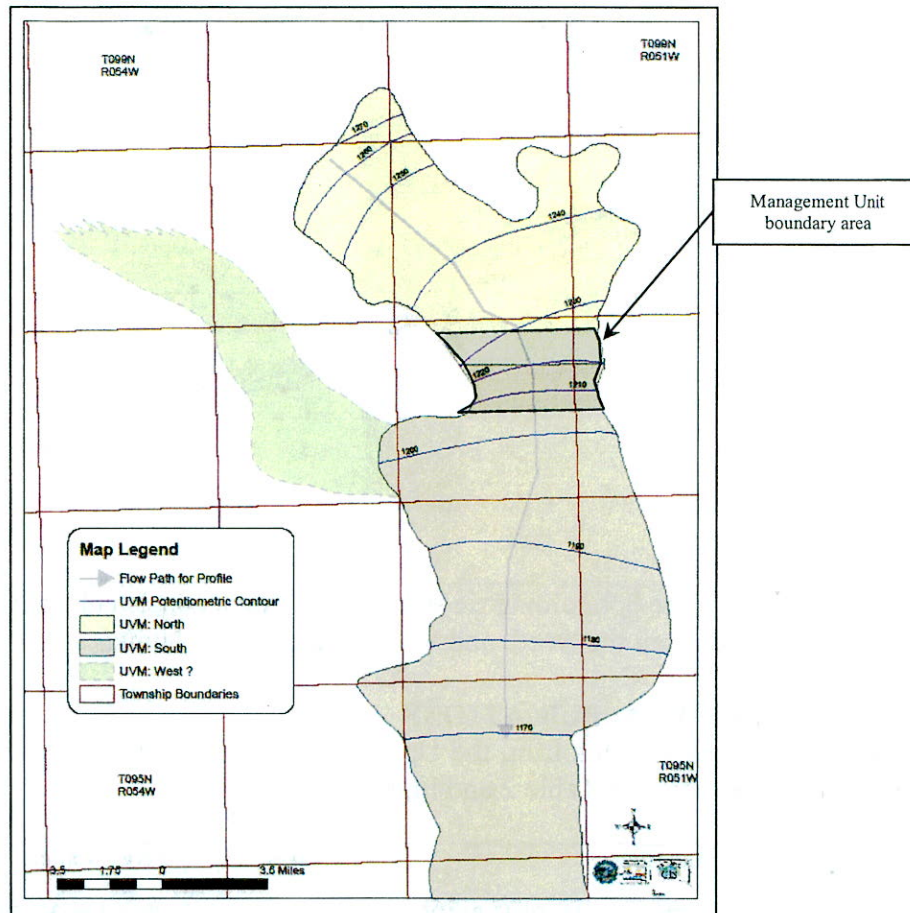


Figure 19. Location of Flow path for potentiometric surface profile

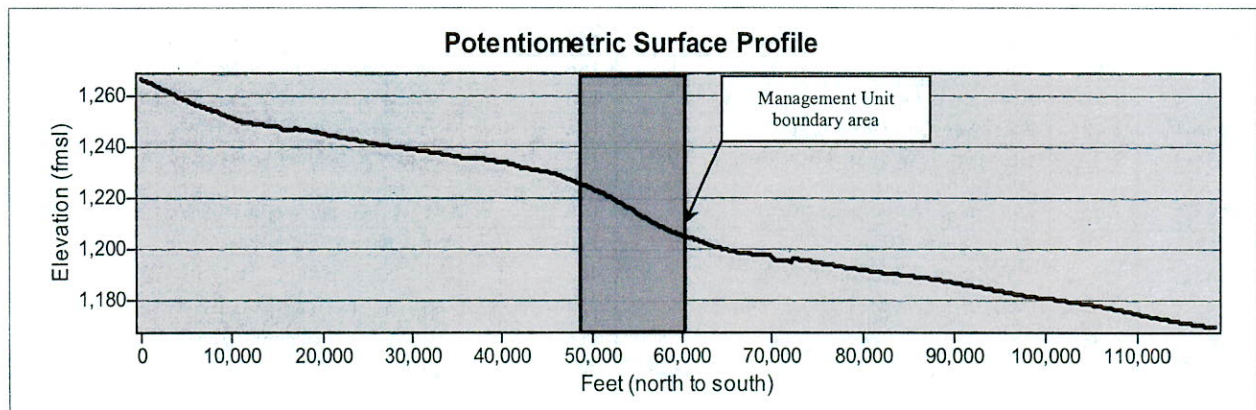


Figure 20. Potentiometric surface profile showing boundary between the north and south management units of the Upper Vermillion Missouri aquifer

The gradient change appears to exist regardless of the climatic conditions or variations in recharge and withdrawal from the aquifer (see Figure 21).

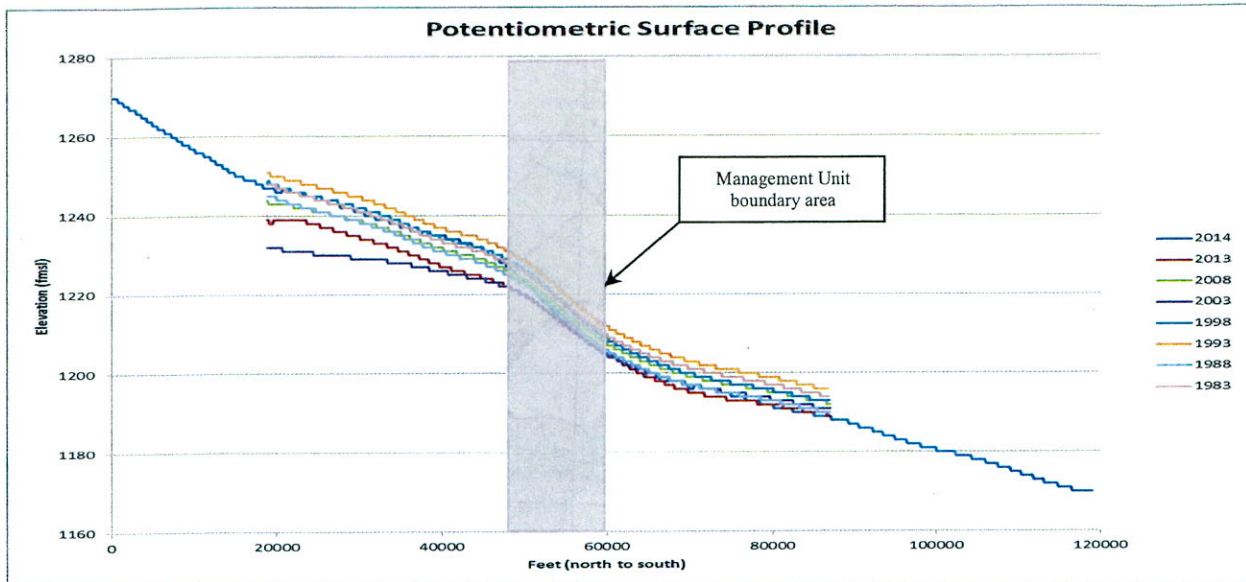


Figure 21. Profile of the potentiometric surface showing a consistent gradient change at the boundary between the North and South Management Units.

DEFERRED PERMIT APPLICATIONS

The water permit applications from the Upper Vermillion Missouri aquifer that are currently in deferred status are shown in Table 2 and Figure 22.

Permit No.	CFS	Well Location	Acres	Acre Location
7535-3	1.78	SW¼ NW¼ Sec. 30, T98N-R53W	65	NW¼ Sec. 30, T98N-R53W
7588-3	1.78	SW¼ Sec. 19, T98N-R53W	160	SW¼ Sec. 19, T98N-R53W
7602-3	1.89	Between NW¼ & NE¼ Sec. 34, T97N-R53W	132	E½NW¼, W½NE¼ Sec. 34, T97N-R53W
7633-3	1.78	SW¼ Sec. 32, T98N-R53W	152	SW¼ of Sec. 32, T98N-R53W
7715-3	2.22	SW¼ Sec. 16, T97N-R53W	156	SW¼ Sec. 16, T97N-R53W
7452-3	1.78	SW¼NE¼ Sec. 32, T98N-R52W	110	W½NE¼, SE¼NE¼ Sec. 32, T98N-R52W
7468-3	1.78	NE¼ Sec. 26, T96N-R51W	152	NE¼ Sec. 26, T96N-R51W
7558-3	1.78	Between NW¼ & SW¼ Sec. 1, T98N-R52W	120	N½SW¼, S½NW¼ Sec. 1, T98N-R52W
7587-3	1.78	SE¼ Sec. 10, T98N-R53W	160	SW¼ Sec. 10, T98N-R53W
7441-3	1.79	SE¼ Sec. 8, T95N-R52W	140	SE¼ Sec. 8, T95N-R52W
7442-3	No add'l	NW¼ Sec. 17, T95N-R52W	40	W½ NE¼ Sec. 17, T95N-R52W
7466-3	1.78	NE¼ Sec. 5, T96N-R51W	152	NE¼ Sec. 5, T96N-R51W
7467-3	1.78	NW¼ Sec. 13, T97N-R52W	152	NW¼ Sec. 13, T97N-R52W
7600-3	3.56	NE¼NW¼ & SW¼ Sec. 12, T96N-R52W (2 wells)	180	NW¼, N½SW¼ Sec. 12, T96N-R52W
7601-3	1.89	NE¼ Sec. 25, T-97N-R53W	132	NE¼ Sec. 25, T97N-R53W
7603-3	1.78	NE¼ Sec. 33, T97N-R52W	120	NE¼ Sec. 33, T97N-R52W
7623-3	1.89	SE¼NW¼ Sec. 24, T97N-R52W	140	NW¼, W½NE¼ Sec 24, T97N-R52W
7653-3	1.67	SW¼ Sec. 8, T96N-R52W	85	W½SW¼, NE¼SW¼ Sec. 8, T96N-R52W
7690-3	1.78	NE¼ Sec. 29, T96N-R52W	160	NE¼ Sec. 29, T95N-R52W
7900-3	1.89	NW¼NE¼ Sec.6, T95N-R51W	136	NE¼ Sec. 6, T95N-R51W
7919-3	1.83	NE¼ Sec. 9, T95N-R52W	83.83	NE¼ Sec. 9, T95N-R52W

Table 2. Deferred Water Permit Applications from the Upper Vermillion Missouri aquifer

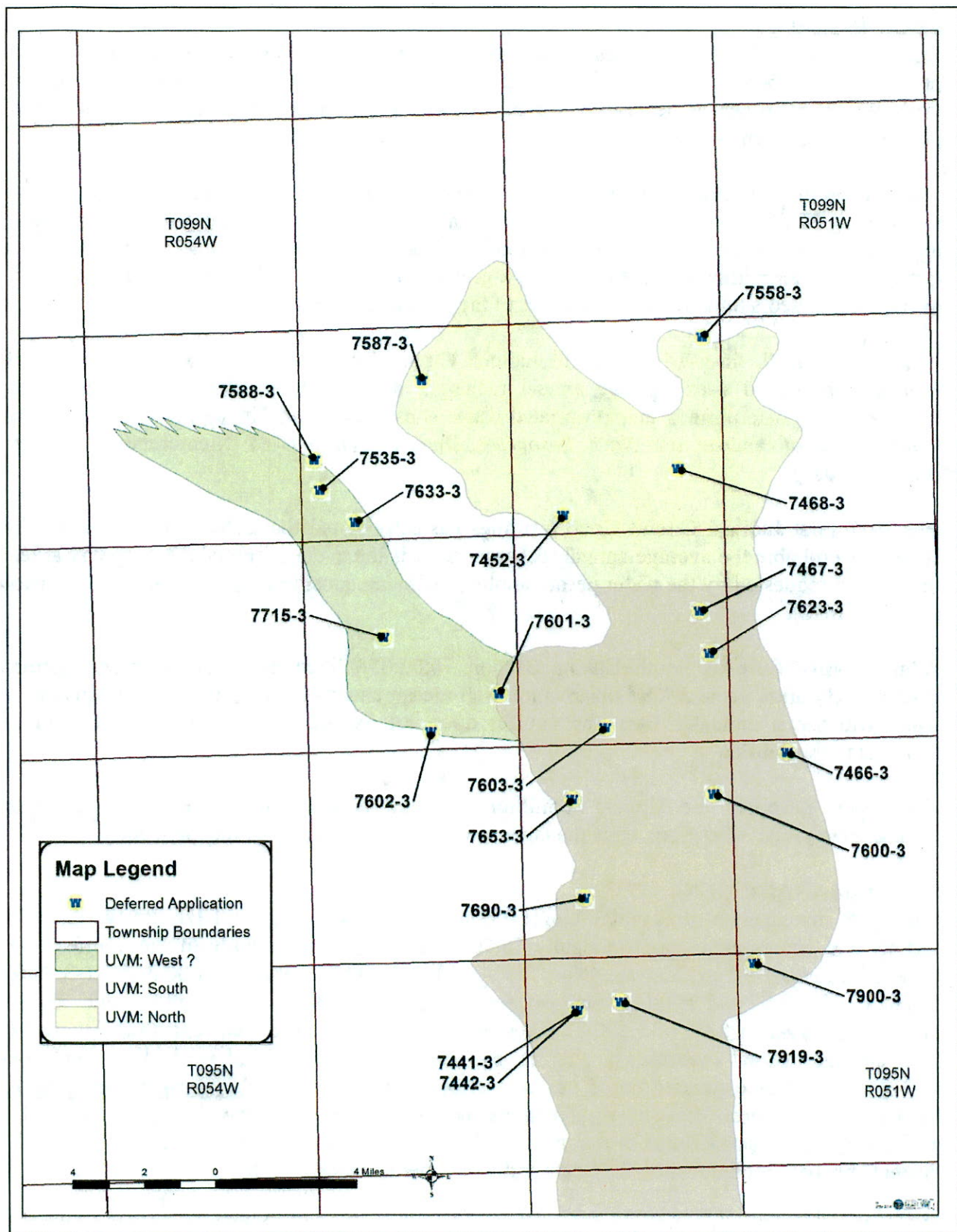


Figure 22. Location of deferred water permit applications and suggested management units of the Upper Vermillion Missouri aquifer

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.

The probability of unappropriated water available from the aquifer can be evaluated by considering SDCL 46-6-3.1 which requires "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."

In applying SDCL 46-6-3.1, the Sixth Judicial Circuit Court ruled in 2005 that if the Water Management Board uses average annual recharge, then it should also use average annual withdrawals to determine if unappropriated water is available from the aquifer (*Hines v. South Dakota Dept. of Environ. and Nat'l. Resources, Hughes County 04-37* (Memorandum Decision, April 29, 2005)).

The 2012 First Judicial Circuit Court's rulings basically stated that data must be presented to show it is probable the average annual recharge exceeds the average annual discharge by at least the amount requested by the water permit application being considered (Memorandum Decision, April 11, 2012).

Administrative Rule of South Dakota Section 74:02:05:07 requires the Water Management Board to rely upon the record of observation well measurements to determine that the quantity of water withdrawn annually from the aquifer does not exceed the estimated average annual recharge to the aquifer.

This report proposes the Upper Vermillion Missouri aquifer can be separated into three management units. Therefore, each management unit will be addressed independently.

SOUTH MANAGEMENT UNIT:

The South management unit of the Upper Vermillion extends south of T97N-R52W into Clay County and encompasses approximately 78,820 acres of the main body of the aquifer. Ten deferred water permit applications (Nos. 7441-3, 7442-3, 7466-3, 7467-3, 7600-3, 7601-3, 7603-3, 7623-3, 7653-3, and 7900-3) and two new permit applications (Nos. 7690-3, and 7919-3) propose to irrigate a total of 1,520.83 acres from the South management unit (See Figure 22). The average annual withdrawal that is expected to be associated with these proposed appropriations was estimated based on the *average application rate per permitted acreage* for the Upper Vermillion Missouri aquifer (from Table 3) to be 760.4 acre-feet per year. The availability of unappropriated water from this unit was assessed in terms of SDCL 46-6-3.1 through evaluating observation well data and a flow net analysis.

Year	Permitted Acres	Pumpage (ac-ft)	Rate (in/ac)
1979	10350.3	3247	3.764529
1980	9550.3	5082	6.385559
1981	9954.3	4159	5.013713
1982	9878.2	3778.57	4.590193
1983	9815.2	2983.12	3.647143
1984	9815.2	2791	3.412259
1985	9935.2	2479	2.994202
1986	9935.2	3544	4.280538
1987	9848.2	3781	4.607136
1988	9854.2	6753.1	8.22362
1989	10157.2	5758.6	6.803371
1990	10828.7	6626.2	7.342931
1991	10725.7	6220	6.958986
1992	10807.9	1793.2	1.990988
1993	9677.9	534.5	0.662747
1994	9284.9	4313.79	5.575233
1995	9704.9	4484.34	5.544836
1996	9820.2	4672.19	5.709281
1997	9755.2	5408	6.652452
1998	9855.2	5343.85	6.506839
1999	9863.2	5056.06	6.151423
2000	9863.2	6181.55	7.520744
2001	9863.2	6195.66	7.537911
2002	10143.2	7169.69	8.482163
2003	10143.2	5930.9	7.016602
2004	9823.2	7414.06	9.057
2005	9981.2	6856.39	8.243165
2006	10139.2	7906.32	9.35733
2007	10482.5	6983.2	7.994124
2008	11224.5	7467.98	7.983942
2009	11319.6	3878.92	4.112075
2010	11399.3	150.49	0.15842
2011	11399.3	5615.12	5.911016
2012	11458.3	13229.64	13.85508
Min	9284.9	150.49	0.15842
Max	11458.3	13229.64	13.85508
Avg	10195.8	5111.4	6.0

Table 3. Irrigation application rate **per permitted acre** for the Upper Vermillion Missouri aquifer (Water Rights, 1980-2013)

Observation well Data:

The DENR-Water Rights Program monitors five observation wells completed into the South management unit of the Upper Vermillion Missouri aquifer (see Figure 8 for locations). Hydrographs for the observation wells (Figures 23-27) all show upward trending water levels over their periods of record. Hydrographs for the observation wells document changes in climatic conditions along with temporal impacts of pumping. Since climatic conditions mask temporal impacts, well withdrawals from this management unit are not stressing the system to the extent where natural discharge is impacted. Therefore, groundwater outflow is available for “capture.” The observation wells in this management unit document unappropriated water is available for appropriation.

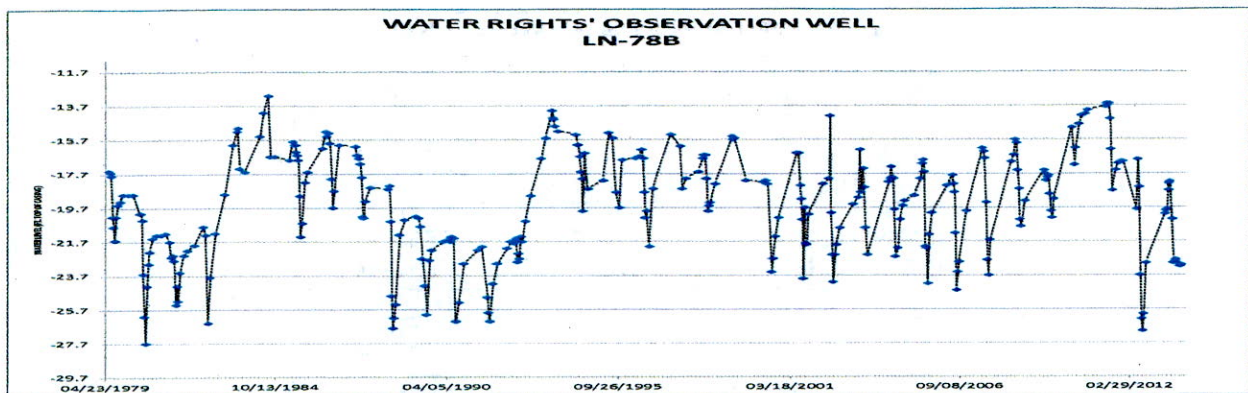


Figure 23. Hydrograph for an observation well completed into the UVM: South (Water Rights, 2014a)

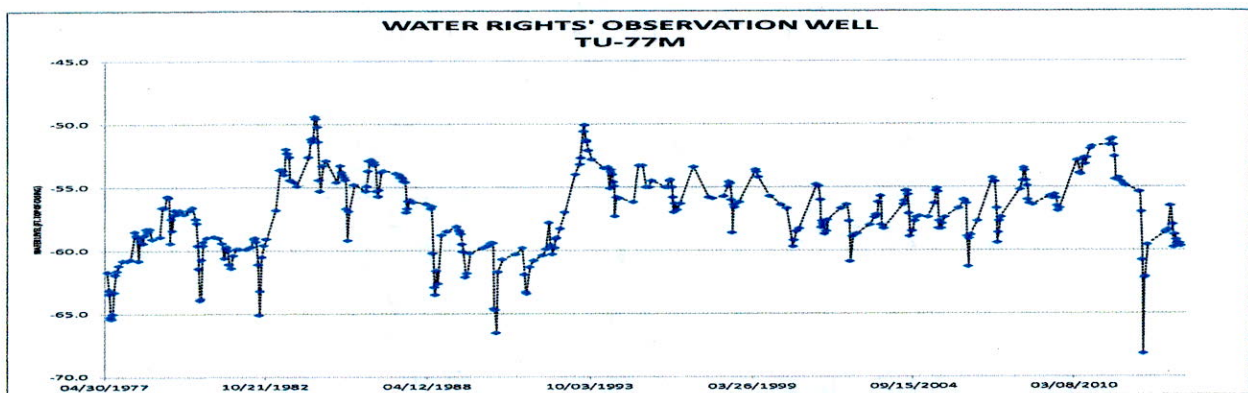


Figure 24. Hydrograph for an observation well completed into the UVM: South (Water Rights, 2014a)

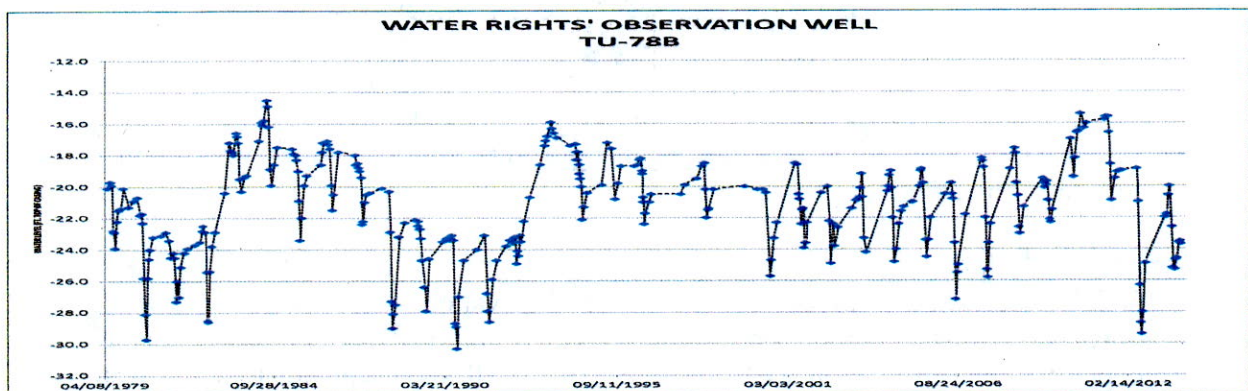


Figure 25. Hydrograph for an observation well completed into the UVM: South (Water Rights, 2014a)

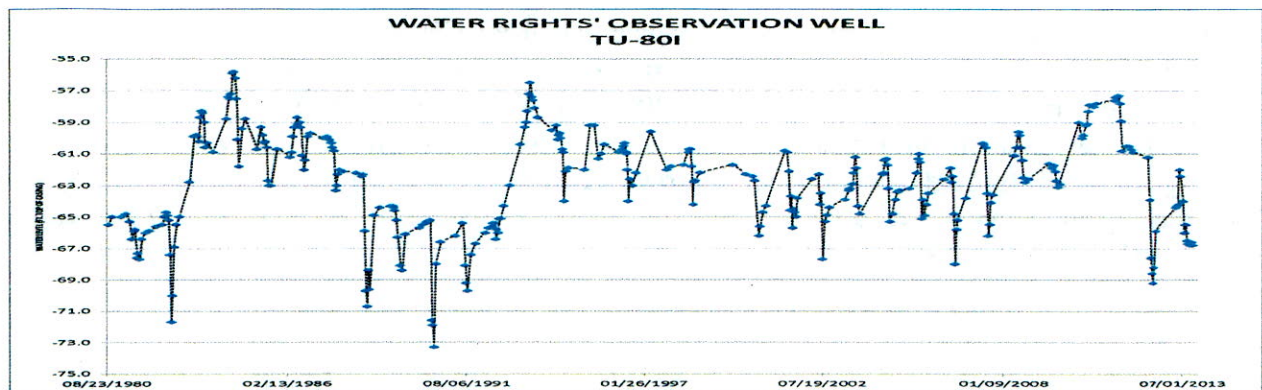


Figure 26. Hydrograph for an observation well completed into the UVM: South (Water Rights, 2014a)

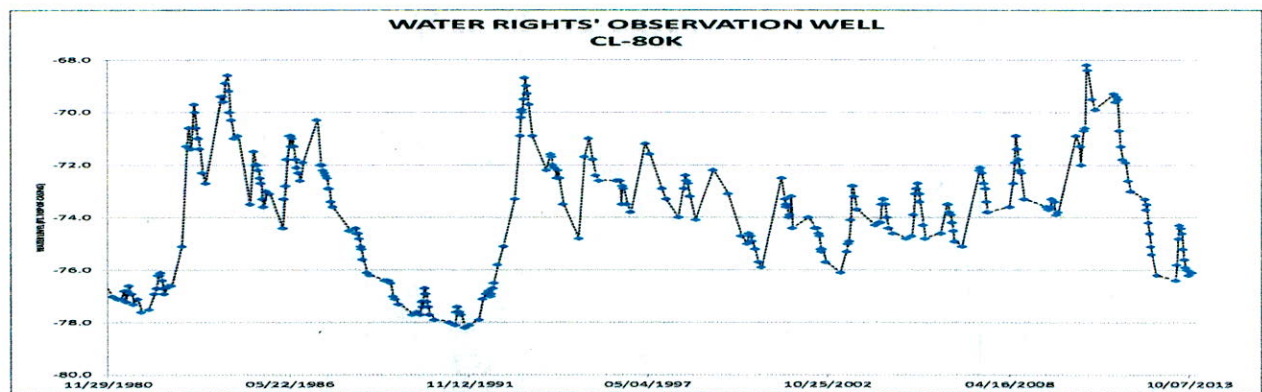


Figure 27. Hydrograph for an observation well completed into the UVM: South (Water Rights, 2014a)

2014 Flow Net Analysis:

Inflows to and outflows from the South management unit of the Upper Vermillion Missouri aquifer were evaluated by interpreting a regional flow net analysis based on the January 21, 2014, water level data from the aquifer. A flow net analysis is a calculation of the amount of water flowing through the aquifer according to the equation:

$$Q = kAI \cdot .0084$$

Where:

Q= flow (ac-ft/yr)

k= Hydraulic Conductivity (ft/d)

A= Area (ft²)

I= Hydraulic gradient (ft/ft)

.0084= conversion constant

The average hydraulic conductivity from Table 1 (277 ft/d) was applied over the entire aquifer. The cross sectional area reported by the DENR-Geological Survey (in progress) for each cross section (see values in blue on the cross sections) was used in the calculations. The gradient of the potentiometric surface on January 21, 2014, at each cross section was used for the hydraulic gradient. The amount of groundwater outflow from a management unit represents the volume of

water recharging the unit that exceeds discharges from the unit. Groundwater flow was calculated at two locations near the southern extent of the South management unit at cross sections F-F' and G-G' (see Figures 28, 29, 30). The flow calculation data is shown in Table 4. The flow net analysis indicates that there is at least 5,673 acre-feet of water leaving this management unit through groundwater outflow. Therefore, there is a reasonable probability that unappropriated water is available to supply the 760.4 acre-feet per year expected to be used by these twelve applications.

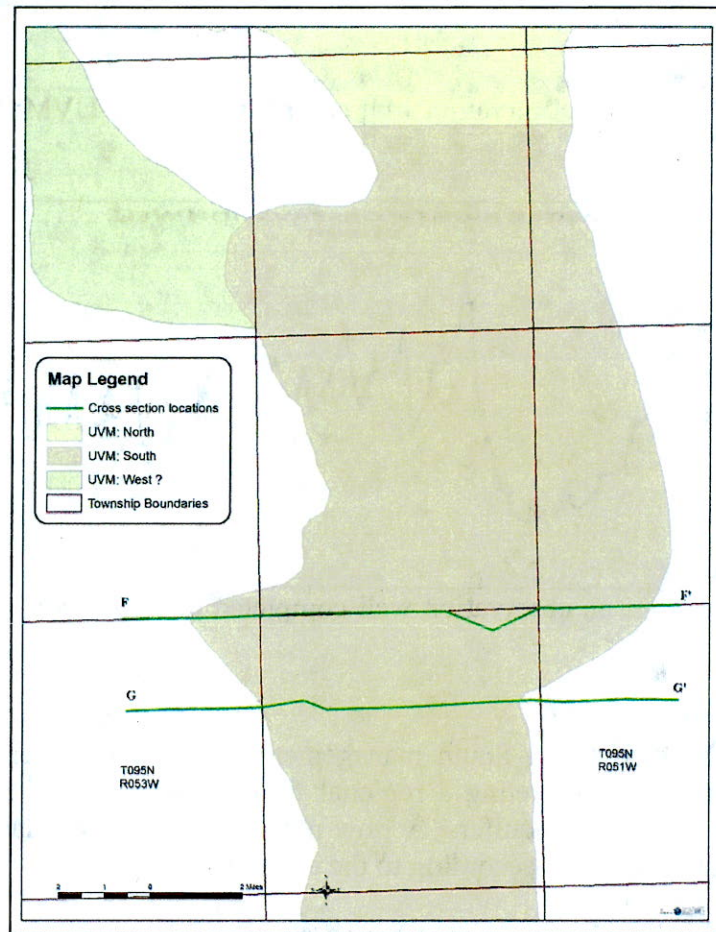


Figure 28. Map showing the location of cross Sections F-F' and G-G'

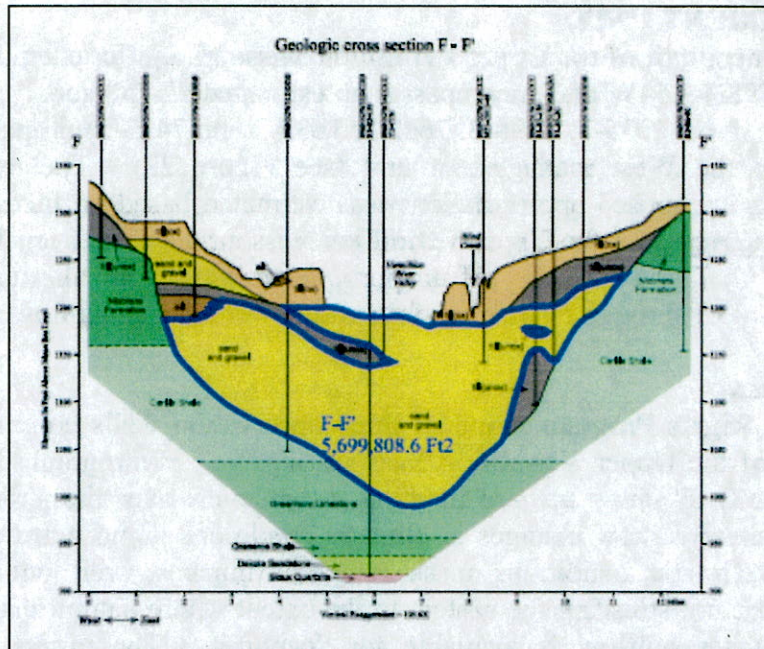


Figure 29. Geologic cross section at F-F' (SD-Geological Survey, in progress)

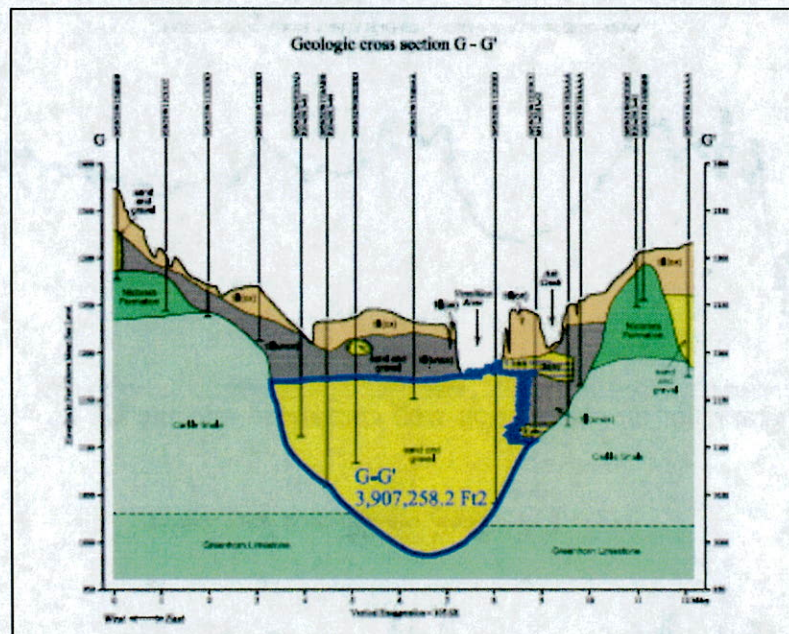


Figure 30. Geologic cross section at G-G' (SD-Geological Survey, in progress)

Cross Section	Area (ft2)	Hydraulic Gradient (ft/ft)	K (ft/day)	Q (ft3/day)	Q (ac-ft/yr)
F-F'	5,699,809	0.00062	277	978,885	<u>8,223</u>
G-G'	3907258	0.00062	277	671,033	<u>5,637</u>

Table 4. Groundwater flow at southern portion of the South management unit

WEST MANAGEMENT UNIT:

The West management unit of the Upper Vermillion Missouri aquifer extends west from T97N-R53W to at least T98N-R54W and encompasses an estimated 22,750 acres. Five deferred water permit applications (Nos. 7535-3, 7588-3, 7602-3, 7633-3 and 7433-3) propose to irrigate a total of 665 acres from the West management unit (see Figure 22). The expected withdrawal associated with these proposed appropriations was estimated based on the *average application rate per permitted acreage* for the Upper Vermillion Missouri aquifer (from Table 3) to be 332.5 acre-feet per year. The availability of unappropriated water from this unit was assessed in terms of SDCL 46-6-3.1 through evaluating observation well data and a flow net analysis.

Observation well data

The DENR-Water Rights Program monitors three observation wells completed into the West management unit of the Upper Vermillion Missouri aquifer. Hydrographs for the observation wells (Figures 31-33) all show upward trending water levels over the period of record. The observation wells clearly show changes in climatic conditions along with temporal impacts of pumping. Since climatic conditions mask temporal impacts, well withdrawals from this management unit are not stressing the system to the extent where natural discharge is impacted. Therefore groundwater outflow is available for “capture”. The observation wells in this management unit document that unappropriated water is available for appropriation.

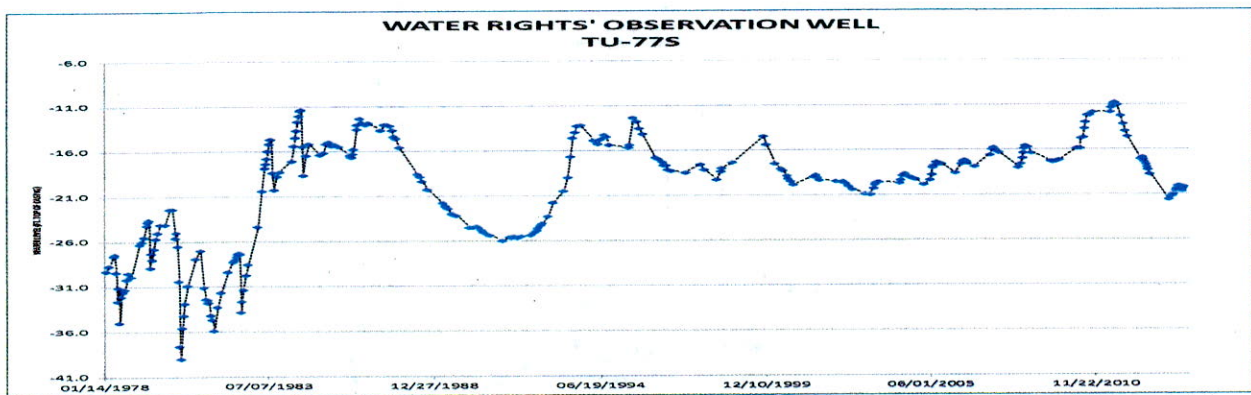


Figure 31. Hydrograph for an observation well completed into the UVM: West (Water Rights, 2014a)

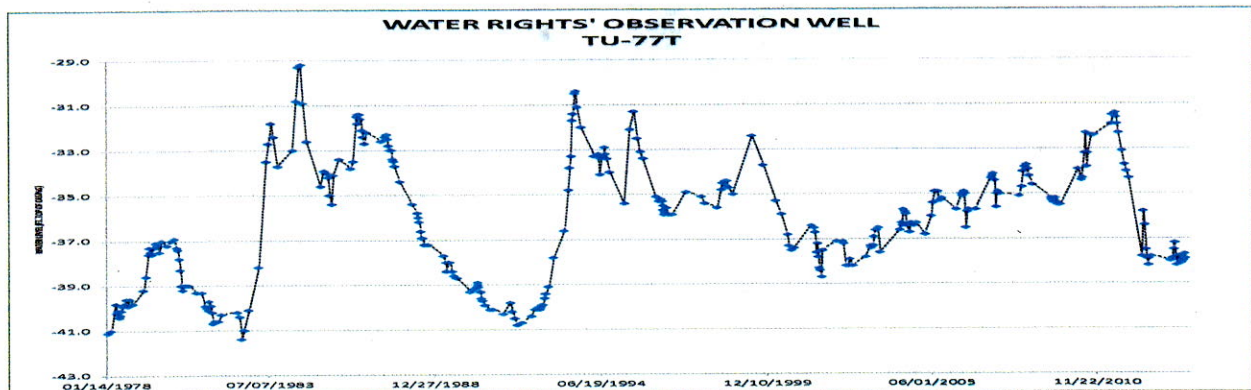


Figure 32. Hydrograph for an observation well completed into the UVM: West (Water Rights, 2014a)

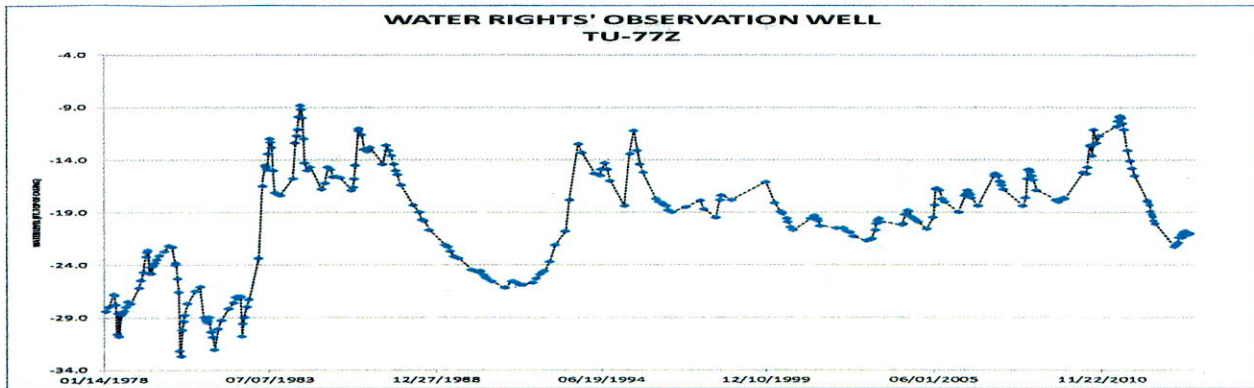


Figure 33. Hydrograph for an observation well completed into the UVM: West (Water Rights, 2014a)

2014 Flow Net Analysis:

The amount of groundwater outflow from the management unit represents the volume of recharge water exceeding withdrawals. Flow was calculated at the location where cross section AA-AA' bisects outwash (See Figures 34 and 35). The calculated flow, using the same equation discussed earlier for the South management unit, is shown in Table 5. The flow net analysis indicates that there is at least 2,681 acre-feet of water leaving this management unit through groundwater outflow. Therefore, there is a reasonable probability that unappropriated water is available to supply the 332.5 acre-feet per year expected to be used by these five applications.

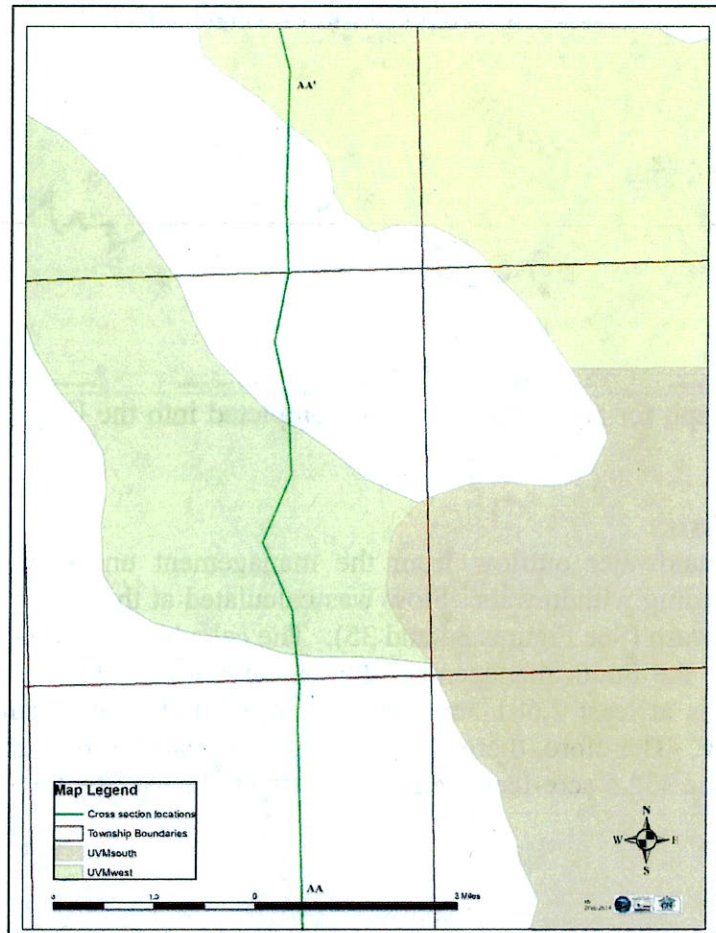


Figure 34. Map showing the location of cross section AA-AA'

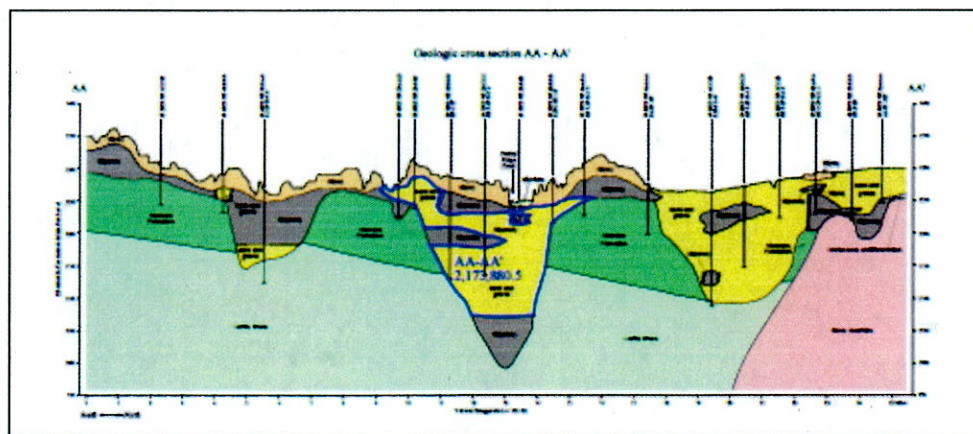


Figure 35. Geologic Cross Section at AA-AA' (SD-Geological Survey, in progress)

Cross Section	Area (ft ²)	Hydraulic Gradient (ft/ft)	K (ft/day)	Q (ft ³ /day)	Q (ac-ft/yr)
AA-AA'	2,173,880	0.00053	277	319,147	2,681

Table 5. Groundwater flow at eastern portion of the West management unit

NORTH MANAGEMENT UNIT:

The North management unit of the Upper Vermillion Missouri aquifer extends north of T97N-R52W and encompasses an estimated 38,110 acres. Four deferred water permit applications (Nos. 7452-3, 7468-3, 7558-3, 7587-3) propose to irrigate a total of 542 acres from the West management unit (See Figure 22). The expected withdrawal associated with these proposed appropriations was estimated based on the *average application rate per permitted acreage* for the Upper Vermillion Missouri aquifer (from Table 3) to be 271 acre-feet per year. The availability of unappropriated water from this unit was assessed in terms of SDCL 46-6-3.1 through evaluating observation well data.

Observation well Data:

The DENR-Water Rights Program monitors seven observation wells completed into the North management unit of the Upper Vermillion Missouri aquifer (see Figure 8 for locations). Hydrographs for the observation wells (see Figures 36-42) all show downward trending water levels (blue trend line on hydrographs) over the period of record. Trend lines for the minimum annual water levels (green trend lines on hydrographs) are also all trending downward. Except for observation well TU-77F, the maximum annual water level trend (red line on hydrographs) has shown an upward trend.

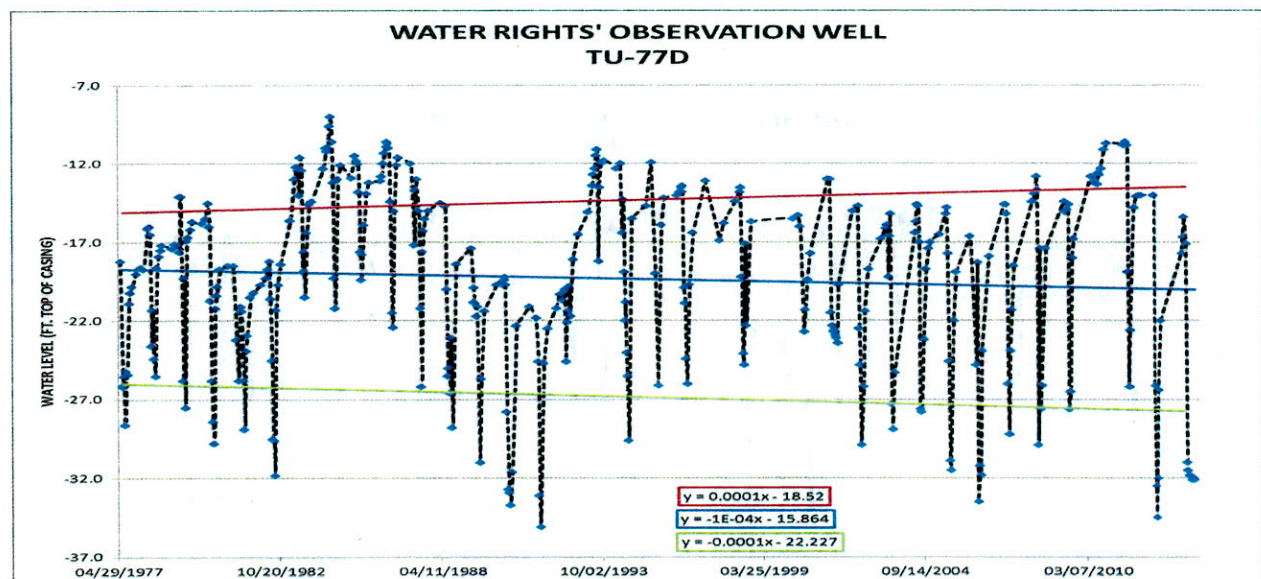


Figure 36. Hydrograph of an observation well completed into the North management unit of the Upper Vermillion Missouri aquifer with trend line (blue), minimum annual water level trend line (green), and maximum annual overall water level trend line (red) (Water Rights, 2014a).

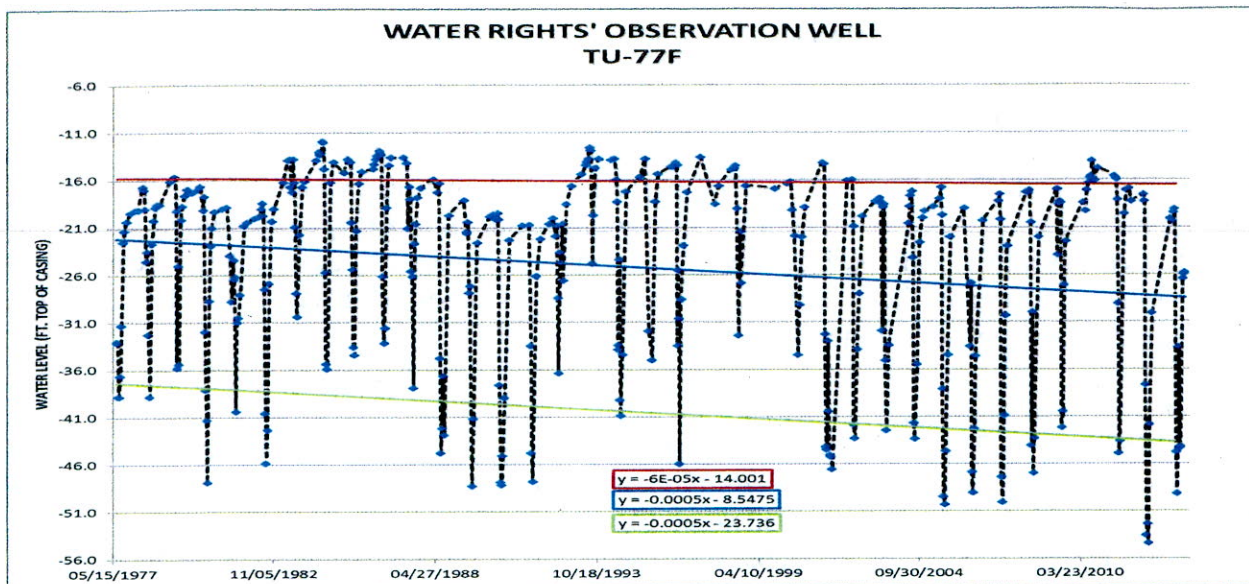


Figure 37. Hydrograph of an observation well completed into the North management unit of the Upper Vermillion Missouri aquifer with trend line (blue), minimum annual water level trend line (green), and maximum annual overall water level trend line (red) (Water Rights, 2014a).

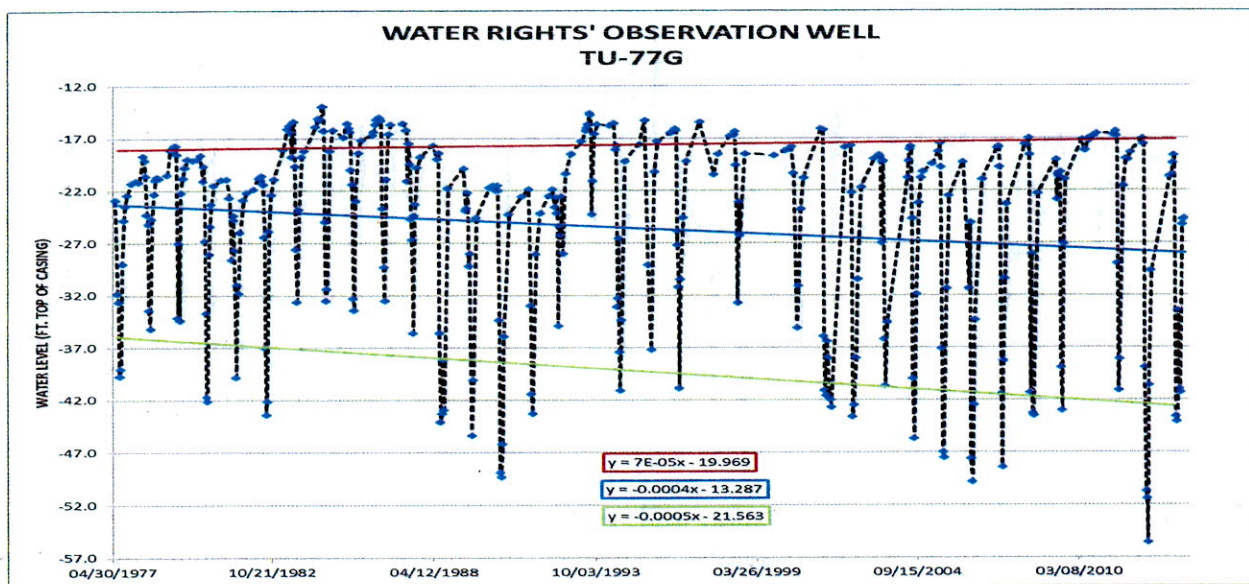


Figure 38. Hydrograph of an observation well completed into the North management unit of the Upper Vermillion Missouri aquifer with trend line (blue), minimum annual water level trend line (green), and maximum annual overall water level trend line (red) (Water Rights, 2014a).

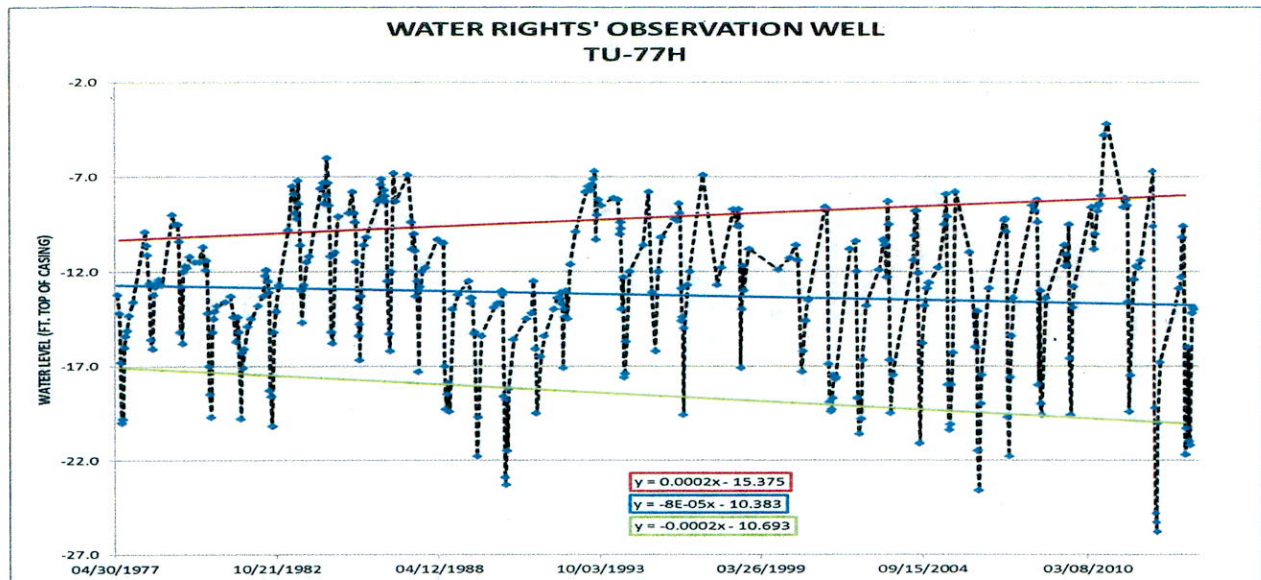


Figure 39. Hydrograph of an observation well completed into the North management unit of the Upper Vermillion Missouri aquifer with trend line (blue), minimum annual water level trend line (green), and maximum annual water level trend line (red) (Water Rights, 2014a).

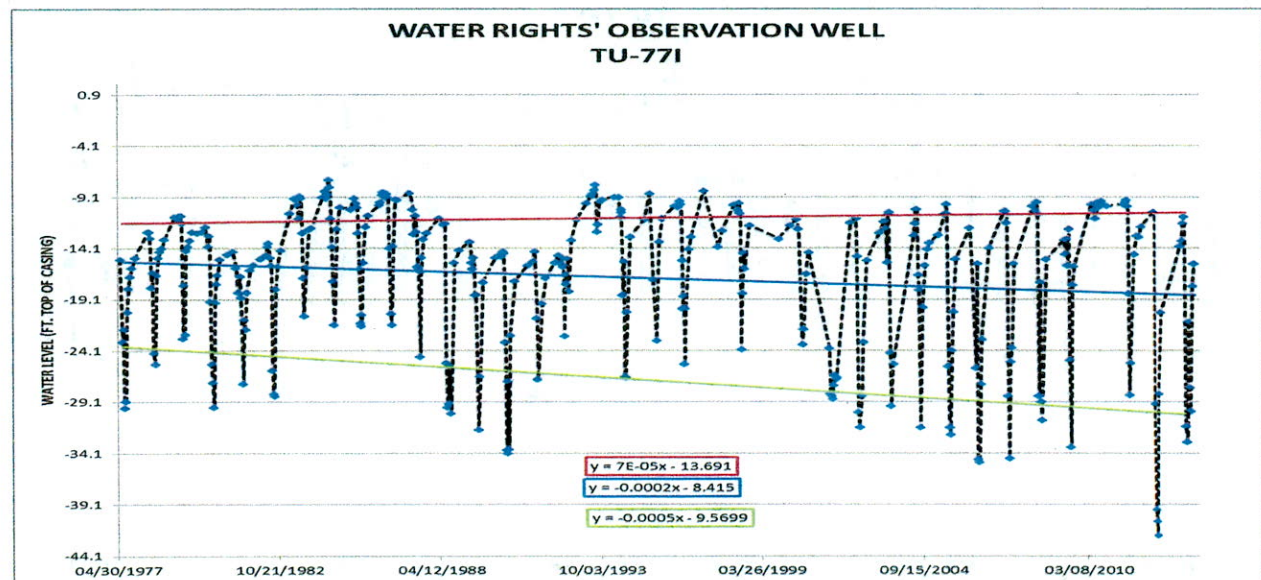


Figure 40. Hydrograph of an observation well completed into the North management unit of the Upper Vermillion Missouri aquifer with trend line (blue), minimum annual water level trend line (green), and maximum annual water level trend line (red) (Water Rights, 2014a).

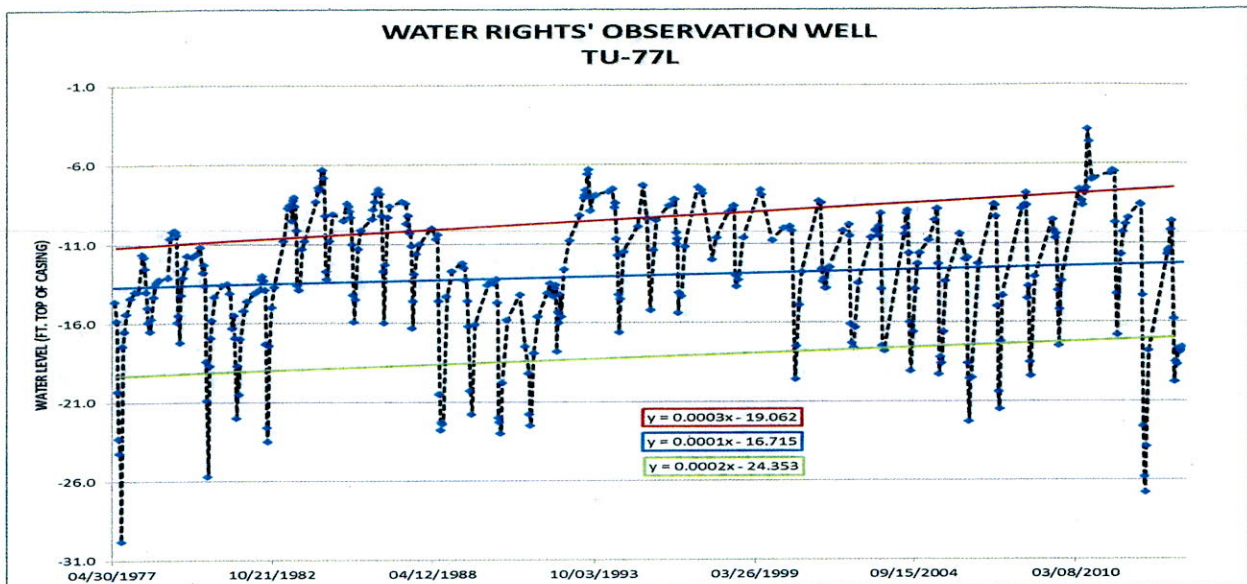


Figure 41. Hydrograph of an observation well completed into the North management unit of the Upper Vermillion Missouri aquifer with trend line (blue), minimum annual water level trend line (green), and maximum annual water level trend line (red) (Water Rights, 2014a).

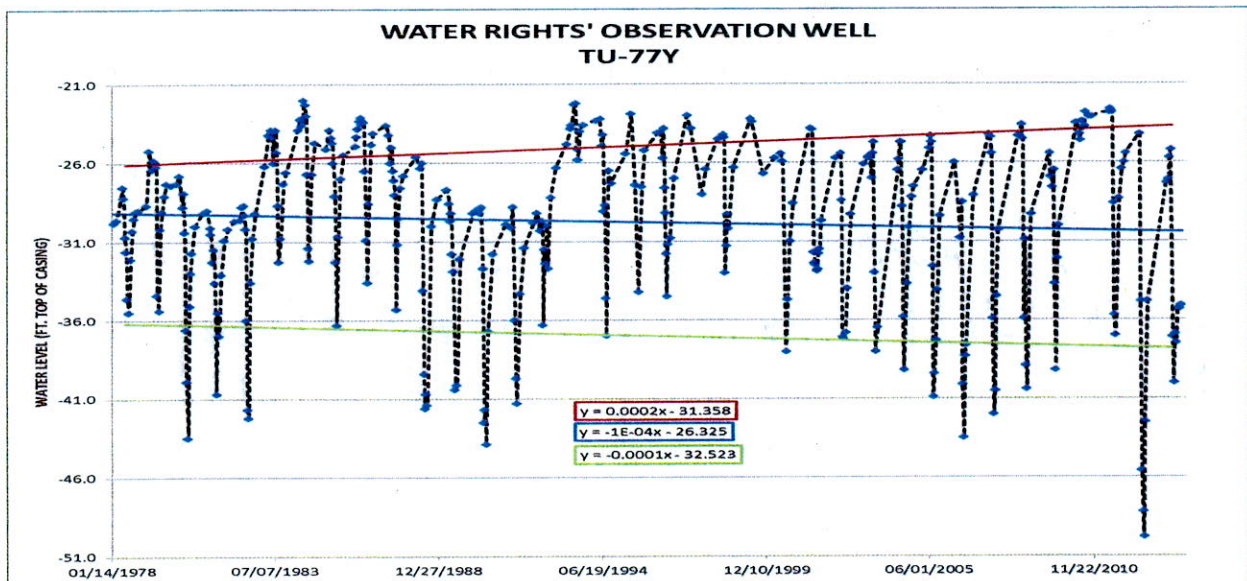


Figure 42. Hydrograph of observation well completed into the North Management Unit of the Upper Vermillion Missouri aquifer with trend line (blue), minimum annual water level trend line (green), and Maximum annual water level trend line (red) (Water Rights, 2014a).

Profiles of the potentiometric surface along a flow path crossing the southern boundary of the North management unit of the Upper Vermillion Missouri aquifer (see Figures 43 and 44) documents that the gradient of the potentiometric surface decreases from 0.000459 ft/ft (2.42 ft/mile) to 0.000228 ft/ft (1.20 ft/mile) when pumping is at a maximum.

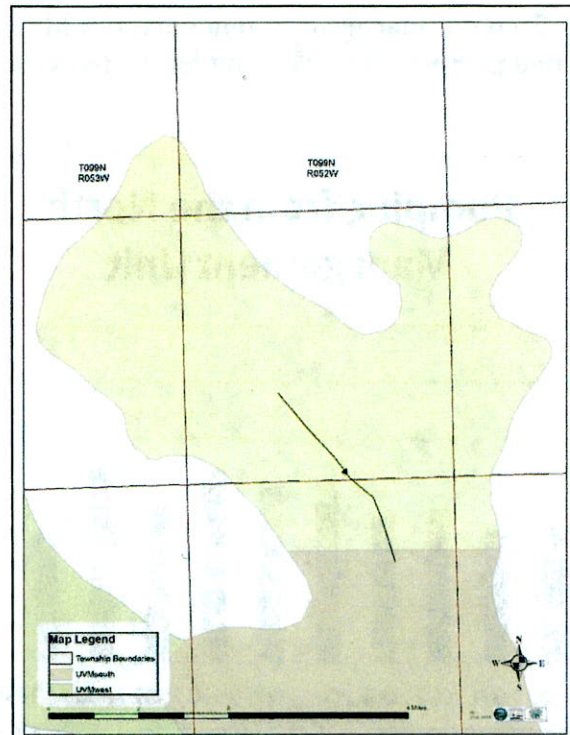


Figure 43. Map showing location of potentiometric surface profile.

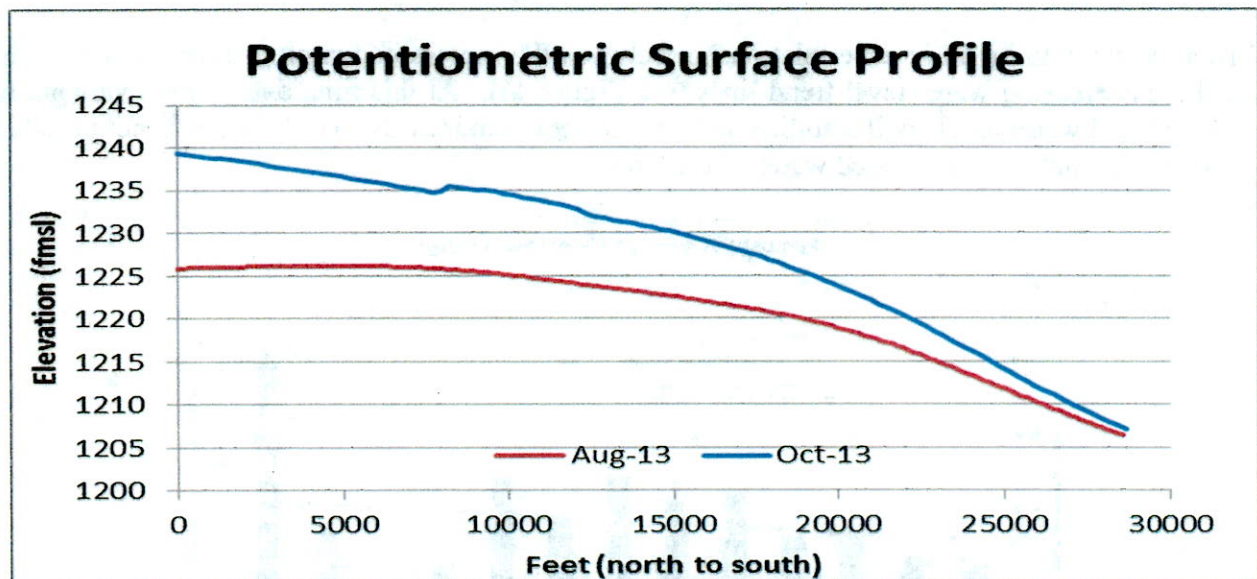


Figure 44. Profile of the potentiometric surface showing stress in North management unit.

The change in slope demonstrates that this portion of the aquifer is being stressed by well withdrawals to the extent that temporal effects are no longer masked by climatic conditions. Unlike the other management units of the Upper Vermillion Missouri aquifer, it is not possible to conclude that unappropriated water is available from this area based on observation well data.

Reported well withdrawals from this management unit have steadily increased in recent years (see Figure 45). The reported pumping from this unit has increased at an average of 80 ac-ft/yr since 2000.

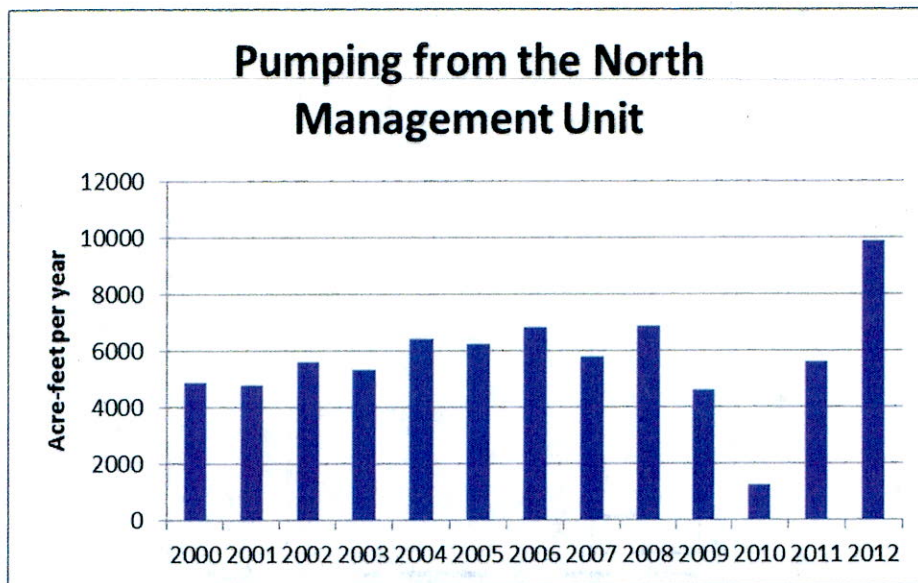


Figure 45. Pumping from the North management unit of the Upper Vermillion Missouri aquifer (Water Rights 1980-2013; Water Rights 2000-2013).

There appears to be an inverse relationship between the increased pumping from the north unit and the decreasing water level trend lines (see Figure 46). At this time data is not available to determine if water levels will stabilize under consistent withdrawals. Therefore, it is not possible to conclude that unappropriated water is available.

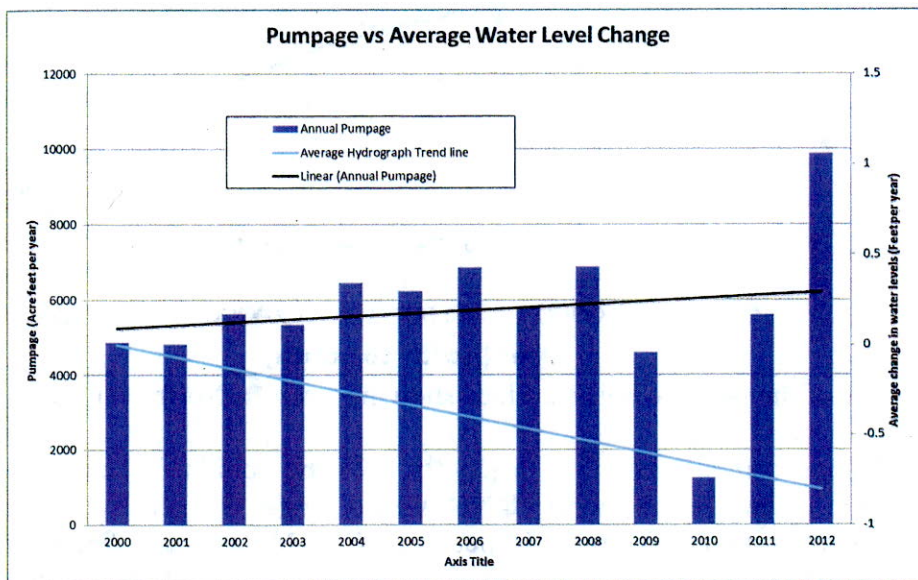


Figure 46. Pumping from the North management unit of the Upper Vermillion Missouri aquifer with trend line plotted with observation well water level trend line data. (Water Rights 1980-2013; Water Rights 2000-2013 and Water Rights 2014a)

Since the observation well data does not support “that the quantity of water withdrawn annually from the aquifer does not exceed average annual recharge to the aquifer” as required by ARSD 74:02:05:07 further evaluation of water availability from North management unit, including a flow net analysis was not performed.

IMPAIRMENT OF EXISTING RIGHTS

Since the Upper Vermillion Missouri aquifer is primarily under artesian conditions, drawdown due to pumping may be fairly large near an individual production well. Drawdown measured in pumping tests of irrigation wells (see Table 1) ranged from 6-92 feet. Well interference has historically not been a problem from the aquifer. Figures 47 and 48 show the location of selected DENR-Water Rights observation wells in relation to concentrations of irrigation wells. Hydrographs for the observation wells (Figures 37, 38, 39, 40 and 24) document drawdown of 5-25 feet. Considering the artesian pressure of the aquifer and natural water level fluctuations, drawdown of that magnitude should not be considered significant.

The Water Management Board has consistently recognized that to place water to maximum beneficial use a certain amount of drawdown may occur. SDCL 46-6-6.1 does not require protection of artesian head pressure as a means of groundwater delivery. However, reasonable domestic use must be assured before irrigation use is allowed. Therefore, when considering irrigation projects, the Water Management Board must give consideration to maintaining artesian head pressure as a method of delivery for domestic wells. To balance interests between irrigation use and delivery of groundwater by artesian pressure, ARSD 74:02:04:20(7) defines an adversely impacted domestic well as:

“a well in which the pump intake was set at least 20 feet below the top of the aquifer at the time of construction or, if the aquifer is less than 20 feet thick, is as near to the bottom of the aquifer as is practical and the water level of the aquifer has declined to a level that the pump will no longer deliver sufficient water for the well owner’s needs.”

Depending on the specific characteristics of the Upper Vermillion Missouri aquifer at the proposed well sites, some existing well owners may need to lower their pumps to accommodate possible reduction of head pressure. Therefore, there is a reasonable probability that any well interference from the proposed appropriation will not adversely or unlawfully impair existing nearby wells.

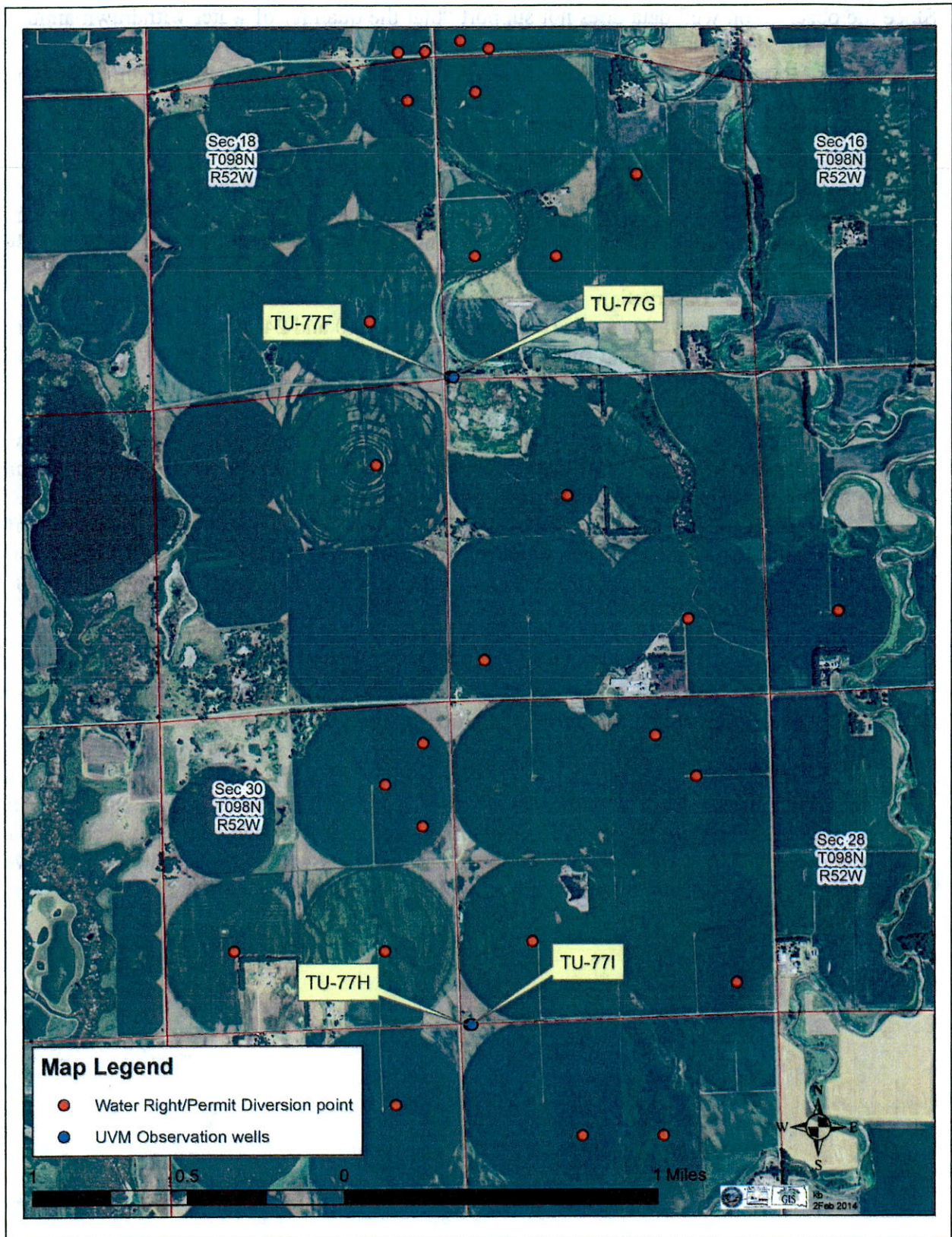


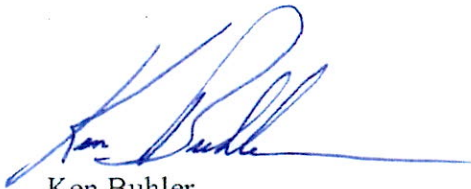
Figure 47. Location of DENR-Water Rights' observation wells TU-77F, G, H, I in relation to irrigation diversion points.



Figure 48. Location of DENR-Water Rights' observation well TU-77M in relation to irrigation diversion points.

CONCLUSIONS:

1. The Water Management Board deferred 18 water permit applications from the Upper Vermillion Missouri aquifer in 2013, because portions of the aquifer have experienced long-term downward trending water levels.
2. Since the Board's initial action to defer the original applications for further study, one additional application has been deferred and two applications are public noticed for deferral.
3. At the time the Board considered the applications, information was not available to distinguish management units within the aquifer.
4. Data is now available to consider three management units of the Upper Vermillion Missouri aquifer.
5. There is a reasonable probability that unappropriated water is available to accommodate the appropriations proposed from the South and West management units of the Upper Vermillion Missouri aquifer (Water Permit Application Nos. 7441-3, 7442-3, 7466-3, 7467-3, 7600-3, 7601-3, 7603-3, 7609-3, 7623-3, 7653-3, 7690-3, 7900-3 and 7919-3; and Water Permit Application Nos. 7535-3, 7588-3, 7602-3, 7633-3 and 7715-3.)
6. There is a reasonable probability that the proposed appropriations from the South and West management units can be made without adversely impacting existing water rights.
7. Data is not available at this time to conclude that unappropriated water is available from the North management unit of the Upper Vermillion Missouri aquifer.



Ken Buhler
DENR-Water Rights Program

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Buhler, K.A., 2012, Report to the Chief Engineer on Water Permit Application No. 7441-3 & 7442-3, Gary or Julie Peterson; Water Permit Application No. 7452-3, Jerome Hult; Water Permit Application No. 7466-3, Bethel Hagen Trust; Water Permit Application No. 7467-3 & 7468-3, Cleland Hagen Trust; and Water Permit Application No. 7535-3 Donald D Benson, December 11, 2012: SD DENR- Water Rights Program

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Water Rights, 2014c, Water Right/Permit Files, SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.



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February 7, 2014

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Sincerely,

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Natural Resources Engineer
605 773-3352

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February 7, 2014

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Natural Resources Engineer
605 773-3352

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NOTICE OF HEARING ON APPLICATIONS TO APPROPRIATE WATER FROM
MANAGEMENT UNITS OF THE UPPER VERMILLION MISSOURI AQUIFER

Twenty one applications proposing to appropriate water for irrigation from the Upper Vermillion Missouri (UVM) aquifer were filed in 2012 and 2013. The Chief Engineer recommended deferral because at the time it was not possible to conclude that unappropriated water was available from the aquifer. Nineteen of the applications were formally deferred by the Water Management Board pending study of the UVM aquifer. Two other applications (Nos. 7690-3 and 7919-3) are currently public noticed for a March 6, 2014, hearing with a recommendation of deferral.

The South Dakota Geologic Survey (SDGS) conducted work in 2013 - 2014 which established new boundaries for the main body of the aquifer. This work done by the SDGS has been analyzed by the Water Rights Program and provides identifiable geologic and hydrologic data documenting two boundaries establishing three management units within the UVM aquifer. The Water Rights Program is proposing designating North, South and West management units of the UVM aquifer. Observation well data and a flow net analysis has been conducted on each management unit to determine whether unappropriated water is available.

All UVM applications are now scheduled before the Water Management Board for consideration. The Chief Engineer has revised the recommendation to approval for those applications within the boundary of the South Management Unit and the West Management Unit. The Chief Engineer recommends that applications within the North Management Unit remain deferred. The report to the Chief Engineer and the recommendations are available at <http://denr.sd.gov/des/wr/pubnotice.aspx> or by contacting the Water Rights Program at (605) 773-3352.

This notice schedules a hearing before the Water Management Board beginning at 10:30 AM, on Thursday, March 6, 2014, in the Floyd Matthew Training Center, Joe Foss Building, 523 E Capitol Avenue, Pierre SD. Listed below is a description of each application, the Chief Engineer's recommendation, and the procedure to file a petition to intervene in the hearing process.

South Management Unit of the Upper Vermillion Missouri Aquifer (Approval Recommendation)

Application No. 7441-3 filed by Gary E or Julie A Peterson, 45913 299th St, Centerville SD 57014 proposes to appropriate 1.78 cubic feet of water per second (cfs) from one well to be approximately 175 feet deep located in the center of the SE 1/4 Section 8 for irrigation of 140 acres located in the SE 1/4 Section 8; all in T95N-R52W.

Application No. 7442-3 filed by Gary E or Julie A Peterson, 45913 299th St, Centerville SD 57014 proposes to irrigate 40 additional acres. Water Right No. 5982-3 authorizes 1.64 cubic feet of water per second (cfs) from one well that is 165 feet deep located in the SE 1/4 NW 1/4 Section 17 to irrigate 115 acres located in the NW 1/4 Section 17; all in T95N-R52W. The application is proposing to irrigate an additional 40 acres located in the W 1/2 NE 1/4 Section 17-T95N-R52W from the existing well. This application, if approved does not authorize any increase in the developed diversion rate. The Water Management Board did authorize a change in the location of acres without an increase in the diversion rate authority or acres authorized by Water Right No. 5982-3.

Application No. 7466-3 filed by Bethel Hagen Trust, c/o Bruce Hagen, 1300 W Murphy Dr. Sioux Falls SD 57108 proposes to appropriate 1.78 cfs from one well to be approximately 169 feet deep located in approximate center of the NE 1/4 Section 5 for irrigation of 152 acres located in the NE 1/4 Section 5; all in T96N-R51W.

Application No. 7467-3 filed by Cleland Hagen Trust, c/o Bruce Hagen, 1300 W Murphy Dr. Sioux Falls SD 57108 proposes to appropriate 1.78 cfs from one well to be approximately 134 feet deep located in the

• approximate center of the NW 1/4 Section 13 for irrigation of 152 acres located in the NW 1/4 Section 13; all in T97N-R52W.

Application No. 7600-3 filed by Michael D Stevens, 28916 458th Ave, Viborg SD 57070 proposes to appropriate 3.56 cfs from two wells to be approximately 200 feet deep located in the NE 1/4 NW 1/4 and the approximate center of the SW 1/4 Section 12 for irrigation of 180 acres located in the NW 1/4, N 1/2 SW 1/4 Section 12; all in T96N-R52W. The applicant is proposing to locate a pivot in the center of SW 1/4 Section 12 to irrigate the entire SW 1/4. A portion of Water Permit No. 7128-3 held by Paul Shubeck authorizes irrigation of the S 1/2 SW 1/4 Section 12-T96N-R52W.

Application No. 7601-3 filed by Michael D Stevens, 28916 458th Ave, Viborg SD 57070 proposes to appropriate 1.89 cfs from one well to be approximately 200 feet deep located in the approximate center of the NE 1/4 Section 25 to irrigate 132 acres located in the NE 1/4 Section 25; all in T97N-R53W.

Application No. 7603-3 filed by Michael D Stevens, 28916 458th Ave, Viborg SD 57070 proposes to appropriate 1.78 cfs from one well to be approximately 150 feet deep located in the approximate center of the NE 1/4 Section 33 to irrigate 120 acres located in the NE 1/4 Section 33; all in T97N-R52W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Application No. 7623-3 filed by Darrell Osborn, 28838 463rd Ave, Centerville SD 57014 proposes to appropriate 1.89 cfs from one well to be approximately 140 feet deep located in the SE 1/4 NW 1/4 Section 24 for irrigation of 140 acres located in the NW 1/4, W 1/2 NE 1/4 Section 24; all in T97N-R52W.

Application No. 7653-3 filed by Jeremiah Welsh, 29217 460th Ave, Centerville SD 57014 proposes to appropriate 1.67 cfs from one well to be approximately 180 feet deep located in the approximate center of the SW 1/4 Section 8 for irrigation of 85 acres located in the W 1/2 SW 1/4, NE 1/4 SW 1/4 Section 8; all in T96N-R52W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Application No. 7690-3 filed by Tim or David Ostrem, 45924 300 St, Wakonda SD 57073 proposes to appropriate 1.78 cfs from one well to be approximately 50 - 90 feet deep located in the center of the NE 1/4 Section 29 for irrigation of 160 acres located in the NE 1/4, E 1/2 NW 1/4 Section 29; all in T96N-R52W.

Application No. 7900-3 filed by Leon Thompson, 401 S 11th St, Beresford SD 57004 proposes to appropriate 1.89 cfs from one well to be approximately 151 feet deep located in the NW 1/4 NE 1/4 Section 6 for irrigation of 136 acres located in the NE 1/4 Section 6; all in T95N-R51W.

Application No. 7919-3 filed by Larry & Marlene Erickson, 29859 461st Ave, Centerville SD 57014 proposes to appropriate 1.83 cfs from one well to be approximately 75 feet deep located in the approximate center of the NE 1/4 Section 9 for irrigation of 83.83 acres located in the NE 1/4 Section 9; all in T95N-R52W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application Nos. 7441-3, 7442-3, 7466-3, 7467-3, 7600-3, 7601-3, 7603-3, 7623-3, 7653-3, 7690-3, 7900-3 and 7919-3 from the South Management Unit of the Upper Vermillion Missouri Aquifer 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.

North Management Unit of the Upper Vermillion Missouri Aquifer (Deferral Recommendation)

Application No. 7452-3 filed by Jerome Hult, 45958 Hwy 18, Davis SD 57021 proposes to appropriate 1.78 cfs from one well to be approximately 190 feet deep located in SW 1/4 NE 1/4 Section 32 for irrigation of 110 acres located in the W 1/2 NE 1/4, SE 1/4 NE 1/4 Section 32; all in T98N-R52W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Application No. 7468-3 filed by Cleland Hagen Trust, c/o Bruce Hagen, 1300 W Murphy Dr. Sioux Falls SD 57108 proposes to appropriate 1.78 cfs from one well approximately 134 feet deep located in the approximate center of the NE 1/4 Section 26 for irrigation of 152 acres located in the NE 1/4 Section 26; all in T98N-R52W.

Application No. 7558-3 filed by Cleland Trust, 38736 Nasturtium Way, Palm Desert CA 92211 has filed an application for a water permit to appropriate 1.78 cfs from one well to be approximately 275 feet deep located in the approximate center between the NW 1/4 and the SW 1/4 Section 1 for irrigation of 120 acres located in the N 1/2 SW 1/4, S 1/2 NW 1/4 Section 1; all in T98N-R52W.

Application No. 7587-3 filed by Paul Petersen, 45610 282nd St, Hurley SD 57036 proposes to appropriate 1.78 cfs from one well to be approximately 100 feet deep located in the approximate center of the SE 1/4 Section 10 for irrigation of 160 acres located in the SW 1/4 Section 10; all in T98N-R53W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends continuing DEFERRAL of Application Nos. 7452-3, 7468-3, 7558-3 and 7587-3 from the North Management Unit of the Upper Vermillion Missouri Aquifer until information is available to determine if there is reasonable probability that there is unappropriated water available for the applicant's proposed use. Pursuant to SDCL 46-2A-9, a permit to appropriate water may be issued only if there is a reasonable probability that unappropriated water is available.

West Management Unit of the Upper Vermillion Missouri Aquifer (Approval Recommendation)

Application No. 7535-3 filed by Donald D Benson, 45067 284th St, Hurley SD 57036 proposes to appropriate 1.78 cfs from one well to be approximately 220 feet deep located in the SW 1/4 NW 1/4 Section 30 for irrigation of 65 acres located in the NW 1/4 Section 30; all in T98N-R53W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Application No. 7588-3 filed by Paul Petersen, 45610 282nd St, Hurley SD 57036 proposes to appropriate 1.78 cfs from one well to be approximately 145 feet deep located in the approximate center of the SW 1/4 Section 19 to irrigate 160 acres located in the SW 1/4 Section 19; all in T98N-R53W.

Application No. 7602-3 filed by Michael D Stevens, 28916 458th Ave, Viborg SD 57070 proposes to appropriate 1.89 cfs from one well to be approximately 140 feet deep located in the approximate center between the NW 1/4 and the NE 1/4 Section 34 for irrigation of 132 acres located in the E 1/2 NW 1/4 and the W 1/2 NE 1/4 Section 34; all in T97N-R53W.

Application No. 7633-3 filed by Brad Farrar, 28795 452nd Ave, Viborg SD 57070 proposes to appropriate 1.78 cfs from one well to be approximately 205 feet deep located in the center of the SW 1/4 Section 32 for irrigation of 152 acres located in the SW 1/4 Section 32; all in T98N-R53W.

Application No. 7715-3 filed by Allen Vannorsdel, 45515 288th St, Viborg SD 57070 proposes to appropriate 2.22 cfs from one well to be approximately 160 feet deep located in the center of the SW 1/4 Section 16 for irrigation of 156 acres located in the SW 1/4 Section 16; all in T97N-R53W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application Nos. 7535-3, 7588-3, 7602-3, 7633-3 and 7715-3 from the West Management Unit of the Upper Vermillion Missouri Aquifer 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.

SDCL 46-2A-4(10) provides that "if the applicant does not contest the recommendation of the Chief Engineer and no petition to oppose a specific application is received, the Chief Engineer shall act on the application pursuant to the Chief Engineer's recommendation and no hearing may be held before the board, unless the Chief Engineer makes a finding that an application, even if uncontested, presents important issues of public

✓ policy or public interest that should be heard by the board.” In this case, the Chief Engineer finds that these applications present important issues of public interest that should be heard.

The Water Management Board will consider these applications beginning at 10:30 AM. on Thursday, March 6, 2014, in the Matthew Training Center, Joe Foss Building, 523 E. Capitol Ave. Pierre SD. The agenda time is an estimate. The Chief Engineer's recommendations are not final or binding upon the Board. The Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny these applications based on the facts presented at the public hearing.

Any interested person who intends to participate in the hearing shall file a petition to oppose or support specific applications and the petition shall be filed with BOTH the applicant and Chief Engineer. The applicant must also file a petition if opposed to the Chief Engineer's recommendation on their applications. 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 are given above. A petition filed by either an interested person or the applicant must be filed by February 24, 2014. The petition may be informal, but shall be in writing and shall include a statement describing the petitioner's interest in any of the applications, the petitioner's reasons for opposing or supporting specific applications, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained. The party that previously petitioned as an intervenor retains party status. 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.

The March 6, 2014, hearing date will be automatically delayed for at least 20 days upon written request to the Chief Engineer from the applicant or any person who has filed a petition to oppose or support of an above listed application. The request for an automatic delay must be filed by February 24, 2014. If an automatic delay is requested, the hearing will be rescheduled for a future Board meeting and personal notice will be provided to the applicants and to all petitioners regarding the time, date and location.

Contact Eric Gronlund by February 24, 2014 at the above Chief Engineer's address to request copies of the staff report, recommendations, applications or 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.

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 publication, and the applicable date to give notice to the Chief Engineer is February 24, 2014. 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; and Board Rules ARSD 74:02:01:01 thru 74:02:01:25.02; 74:02:01:35.01.

Steven M. Pirner, Secretary, Department of Environment and Natural Resources. Published once at an approximate cost of _____.

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Department of Environment and Natural Resources
Attn: Karen Schlaak
Water Rights Program
523 E Capitol Ave., Joe Foss Building
Pierre, SD 57501

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Customer Number: 1435497
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Department of Environment and Natural Resources

Argus Leader AFFIDAVIT OF PUBLICATION

STATE OF SOUTH DAKOTA

COUNTY OF MINNEHAHA } ss

Linda Schulte being duly sworn, says: That The Argus Leader is, and during all the times hereinafter mentioned was, a daily legal newspaper as defined by SDCL 17-2-21, as amended published at Sioux Falls, Minnehaha County, South Dakota; that affiant is and during all of said times, was an employee of the publisher of such newspaper and has personal knowledge of the facts stated in this affidavit; that the notice, order or advertisement, a printed copy of which is hereto attached, was published in said newspaper upon

Thursday, the 13 day of February 2014,
_____, the _____ day of _____ 2014,
_____, the _____ day of _____ 2014,
_____, the _____ day of _____ 2014,
_____, the _____ day of _____ 2014,
_____, the _____ day of _____ 2014,
_____, the _____ day of _____ 2014,

and that \$392.57 was charged for publishing the same

Linda Schulte

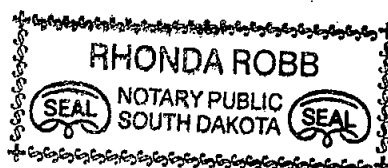
Subscribed and sworn to before me 2/13/2014

[Signature]

Notary Public, South Dakota

My Commission expires ~~December 22, 2015~~

4/24/20



aquifer. Nineteen of the applications were formally deferred 40 acres located in the W 1/2 by the Water Management NE 1/4 Section 17-T95N-R52W Board pending study of the from the existing well. This ap- UVM aquifer. Two other appli- cations (Nos. 7690-3 and 7919- 3) are currently public noticed developed diversion rate. The for a March 6, 2014, hearing Water Management Board did with a recommendation of de- ferral.

The South Dakota Geologic Survey (SDGS) conducted a study in 2013 - 2014 which es- tablished new boundaries for the main body of the aquifer by Bethel Hagen Trust, c/o Bruce Hagen, 1300 W. Murphy Dr. Sioux Falls SD 57108 pro- poses to appropriate 1.78 cfs from one well to be ap- proximately 169 feet deep located in the NE 1/4 Section 5 for irrigation of 152 acres located in the NE 1/4 Section 5; all in T96N- R51W.

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All UVM applications are now scheduled before the Water Management Board for consid- eration. The Chief Engineer has revised the recommenda- tion to approve for those appli- cations within the boundary of the South Management Unit and the West Management Unit. The Chief Engineer recom- mends that applications within the North Management Unit remain deferred. The re- port to the Chief Engineer and the recommendations are available at: <http://cent.sdv.gov/des/wr/pb/notice.aspx> or by contacting the Water Rights Program at (605) 773-3352.

This notice schedules a hear- ing before the Water Manage- ment Board beginning at 10:30 AM on Thursday, March 6, 2014, in the Floyd Matthew Training Center, Joe Foss Building, 523 E. Capitol Ave., Pierre, SD. Listed below is a description of each applica- tion. The Chief Engineer's recom- mendations and the proce- dure to file a petition to inter- vene in the hearing process.

South Management Unit of the Upper Vermillion Missouri Aquifer (Approval) Recommen- dation) Application No. 7441-3 filed by Gary E. or Julie A. Peterson, 45913 299th St, Centerville SD 57014 proposes to appropriate 1.78 cubic feet of water per second (cfs) from one well to be approximately 175 feet deep located in the center of the SE 1/4 Section 8 for irri- gation of 140 acres located in the SE 1/4 Section 8; all in T95N- R52W.

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posing to irrigate an additional 40 acres located in the W 1/2 by the Water Management NE 1/4 Section 17-T95N-R52W Board pending study of the from the existing well. This ap- plication, if approved does not authorize any increase in the approximately 180 feet deep developed diversion rate. The Water Management Board did with a recommendation of de- ferral.

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Application No. 7690-3 filed by Tim or David Ostrom, 45924 300 St, Watkonda SD 57073 proposes to appropriate 1.78 cfs from one well to be ap- proximately 50 - 90 feet deep locat- ed in the center of the NE 1/4 Section 29 for irrigation of 160 acres located in the NE 1/4, E 1/2 NW 1/4 Section 29; all in T96N-R52W.

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Application No. 7587-3 filed by Paul Petersen, 45610 282nd St, Hurley SD 57036 proposes to appropriate 1.78 cfs from one well to be ap- proximately 100 feet deep located in the approximate center of the SE 1/4 Section 10 for irrigation of 180 acres located in the SW 1/4 Section 10; all in T98N- R53W.

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West Management Unit of the Upper Vermillion Missouri Aquifer (Approval) Recommen- dation) Application No. 7535-3 filed on Thursday, March 6, 2014, by Donald D. Benson, 45067 284th St, Hurley SD 57036 pro- poses to appropriate 1.78 cfs from one well to be approxi- mately 220 feet deep located in the SW 1/4 NW 1/4 Section 30 for irrigation of 65 acres locat- ed in the NW 1/4 Section 30; authorized to 1) approve, 2) ap- prove with qualifications, 3) de- nial, or 4) deny these applica- tions based on the facts pre- sented at the public hearing.

Application No. 7588-3 filed by Paul Petersen, 45610 282nd St, Hurley SD 57036 proposes to appropriate 1.78 cfs from one well to be approxi- mately 145 feet deep located in the approximate center of the SW 1/4 Section 19 to irrigate 160 acres located in the SW 1/4 Section 19; all in T98N- R53W.

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Application No. 7633-3 filed by Brad Farrar, 28795 452nd Ave, Viborg SD 57070 propos- es to appropriate 1.78 cfs from one well to be approximately 205 feet deep located in the center of the SW 1/4 Section

32 for irrigation of 152 acres lo- cated in the SW 1/4 Section 32; all in T98N-R53W.

Application No. 7715-3 filed by Allen Vannorsdel, 45515 288th St, Viborg SD 57070 pro- poses to appropriate 2.22 cfs from one well to be approxi- mately 160 feet deep located in the center of the SW 1/4 Sec- tion 16 for irrigation of 155 acres located in the SW 1/4 Section 16; all in T97N-R53W. Pursuant to SDCL 46-2A-2, the Chief Engineer recom- mends APPROVAL of Applica- tion Nos. 7535-3, 7588-3, 7602- 3, 7633-3 and 7715-3 from the West Management Unit of the Upper Vermillion Missouri Aquifer, because 1) any person who has filed a peti- tion to oppose or support of an above listed application. The request for an automatic delay must be filed by Febru- ary 24, 2014. If an automatic delay is requested, the hearing will be rescheduled for a future Board meeting and personal notice will be provided to the applicants and to all petitioners regarding the time, date and location.

Contact Eric Gronlund by Febru- ary 24, 2014 at the above Chief Engineer's address to re- quest copies of the staff report, recommendations, applications, or other information. Notice is given to individuals with disa- bilities that this hearing is be- ing held in a physically acces- sible place. Please notify the Department of Environ- ment 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 tele- phone number for making ar- rangements is (605) 773-3352.

Under SDCL 1-26-17(7) noti- ce must state that "If the amount in controversy exceeds \$2,500.00 or if a property right may be terminated, any party contesting the contested case may re- quire the agency to use the Of- fice 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(1). This is a No- tice of Hearing service is be- ing provided by publication, and the applicable date to give notice to the Chief Engineer is February 24, 2014. However, the since this particular matter is a water permit application and not a monetary controversy in excess of \$2,500.00 or termi- nation of a property right the Chief Engineer disputes the applicability of this provision [605/773-3352] and the appli- cant's mailing address are giv-

As applicable, the following parties who provide the legal authority and jurisdiction under which the hearing will be held and the particular statutes and rules pertaining to this applica- tion: SDCL 1-26-16 thru 1-26- 28, SDCL 46-1 thru 46-19, 46-21 thru 46-23, 46-25 thru 46-29, 46-31 thru 46-33, 46-35 thru 46-39, 46-41 thru 46-43, 46-45 thru 46-47, 46-49 thru 46-51, 46-53 thru 46-55, 46-57 thru 46-59, 46-61 thru 46-63, 46-65 thru 46-67, 46-69 thru 46-71, 46-73 thru 46-75, 46-77 thru 46-79, 46-81 thru 46-83, 46-85 thru 46-87, 46-89 thru 46-91, 46-93 thru 46-95, 46-97 thru 46-99, 47-1 thru 47-3, 47-5 thru 47-7, 47-9 thru 47-11, 47-13 thru 47-15, 47-17 thru 47-19, 47-21 thru 47-23, 47-25 thru 47-27, 47-29 thru 47-31, 47-33 thru 47-35, 47-37 thru 47-39, 47-41 thru 47-43, 47-45 thru 47-47, 47-49 thru 47-51, 47-53 thru 47-55, 47-57 thru 47-59, 47-61 thru 47-63, 47-65 thru 47-67, 47-69 thru 47-71, 47-73 thru 47-75, 47-77 thru 47-79, 47-81 thru 47-83, 47-85 thru 47-87, 47-89 thru 47-91, 47-93 thru 47-95, 47-97 thru 47-99, 48-1 thru 48-3, 48-5 thru 48-7, 48-9 thru 48-11, 48-13 thru 48-15, 48-17 thru 48-19, 48-21 thru 48-23, 48-25 thru 48-27, 48-29 thru 48-31, 48-33 thru 48-35, 48-37 thru 48-39, 48-41 thru 48-43, 48-45 thru 48-47, 48-49 thru 48-51, 48-53 thru 48-55, 48-57 thru 48-59, 48-61 thru 48-63, 48-65 thru 48-67, 48-69 thru 48-71, 48-73 thru 48-75, 48-77 thru 48-79, 48-81 thru 48-83, 48-85 thru 48-87, 48-89 thru 48-91, 48-93 thru 48-95, 48-97 thru 48-99, 49-1 thru 49-3, 49-5 thru 49-7, 49-9 thru 49-11, 49-13 thru 49-15, 49-17 thru 49-19, 49-21 thru 49-23, 49-25 thru 49-27, 49-29 thru 49-31, 49-33 thru 49-35, 49-37 thru 49-39, 49-41 thru 49-43, 49-45 thru 49-47, 49-49 thru 49-51, 49-53 thru 49-55, 49-57 thru 49-59, 49-61 thru 49-63, 49-65 thru 49-67, 49-69 thru 49-71, 49-73 thru 49-75, 49-77 thru 49-79, 49-81 thru 49-83, 49-85 thru 49-87, 49-89 thru 49-91, 49-93 thru 49-95, 49-97 thru 49-99, 50-1 thru 50-3, 50-5 thru 50-7, 50-9 thru 50-11, 50-13 thru 50-15, 50-17 thru 50-19, 50-21 thru 50-23, 50-25 thru 50-27, 50-29 thru 50-31, 50-33 thru 50-35, 50-37 thru 50-39, 50-41 thru 50-43, 50-45 thru 50-47, 50-49 thru 50-51, 50-53 thru 50-55, 50-57 thru 50-59, 50-61 thru 50-63, 50-65 thru 50-67, 50-69 thru 50-71, 50-73 thru 50-75, 50-77 thru 50-79, 50-81 thru 50-83, 50-85 thru 50-87, 50-89 thru 50-91, 50-93 thru 50-95, 50-97 thru 50-99, 51-1 thru 51-3, 51-5 thru 51-7, 51-9 thru 51-11, 51-13 thru 51-15, 51-17 thru 51-19, 51-21 thru 51-23, 51-25 thru 51-27, 51-29 thru 51-31, 51-33 thru 51-35, 51-37 thru 51-39, 51-41 thru 51-43, 51-45 thru 51-47, 51-49 thru 51-51, 51-53 thru 51-55, 51-57 thru 51-59, 51-61 thru 51-63, 51-65 thru 51-67, 51-69 thru 51-71, 51-73 thru 51-75, 51-77 thru 51-79, 51-81 thru 51-83, 51-85 thru 51-87, 51-89 thru 51-91, 51-93 thru 51-95, 51-97 thru 51-99, 52-1 thru 52-3, 52-5 thru 52-7, 52-9 thru 52-11, 52-13 thru 52-15, 52-17 thru 52-19, 52-21 thru 52-23, 52-25 thru 52-27, 52-29 thru 52-31, 52-33 thru 52-35, 52-37 thru 52-39, 52-41 thru 52-43, 52-45 thru 52-47, 52-49 thru 52-51, 52-53 thru 52-55, 52-57 thru 52-59, 52-61 thru 52-63, 52-65 thru 52-67, 52-69 thru 52-71, 52-73 thru 52-75, 52-77 thru 52-79, 52-81 thru 52-83, 52-85 thru 52-87, 52-89 thru 52-91, 52-93 thru 52-95, 52-97 thru 52-99, 53-1 thru 53-3, 53-5 thru 53-7, 53-9 thru 53-11, 53-13 thru 53-15, 53-17 thru 53-19, 53-21 thru 53-23, 53-25 thru 53-27, 53-29 thru 53-31, 53-33 thru 53-35, 53-37 thru 53-39, 53-41 thru 53-43, 53-45 thru 53-47, 53-49 thru 53-51, 53-53 thru 53-55, 53-57 thru 53-59, 53-61 thru 53-63, 53-65 thru 53-67, 53-69 thru 53-71, 53-73 thru 53-75, 53-77 thru 53-79, 53-81 thru 53-83, 53-85 thru 53-87, 53-89 thru 53-91, 53-93 thru 53-95, 53-97 thru 53-99, 54-1 thru 54-3, 54-5 thru 54-7, 54-9 thru 54-11, 54-13 thru 54-15, 54-17 thru 54-19, 54-21 thru 54-23, 54-25 thru 54-27, 54-29 thru 54-31, 54-33 thru 54-35, 54-37 thru 54-39, 54-41 thru 54-43, 54-45 thru 54-47, 54-49 thru 54-51, 54-53 thru 54-55, 54-57 thru 54-59, 54-61 thru 54-63, 54-65 thru 54-67, 54-69 thru 54-71, 54-73 thru 54-75, 54-77 thru 54-79, 54-81 thru 54-83, 54-85 thru 54-87, 54-89 thru 54-91, 54-93 thru 54-95, 54-97 thru 54-99, 55-1 thru 55-3, 55-5 thru 55-7, 55-9 thru 55-11, 55-13 thru 55-15, 55-17 thru 55-19, 55-21 thru 55-23, 55-25 thru 55-27, 55-29 thru 55-31, 55-33 thru 55-35, 55-37 thru 55-39, 55-41 thru 55-43, 55-45 thru 55-47, 55-49 thru 55-51, 55-53 thru 55-55, 55-57 thru 55-59, 55-61 thru 55-63, 55-65 thru 55-67, 55-69 thru 55-71, 55-73 thru 55-75, 55-77 thru 55-79, 55-81 thru 55-83, 55-85 thru 55-87, 55-89 thru 55-91, 55-93 thru 55-95, 55-97 thru 55-99, 56-1 thru 56-3, 56-5 thru 56-7, 56-9 thru 56-11, 56-13 thru 56-15, 56-17 thru 56-19, 56-21 thru 56-23, 56-25 thru 56-27, 56-29 thru 56-31, 56-33 thru 56-35, 56-37 thru 56-39, 56-41 thru 56-43, 56-45 thru 56-47, 56-49 thru 56-51, 56-53 thru 56-55, 56-57 thru 56-59, 56-61 thru 56-63, 56-65 thru 56-67, 56-69 thru 56-71, 56-73 thru 56-75, 56-77 thru 56-79, 56-81 thru 56-83, 56-85 thru 56-87, 56-89 thru 56-91, 56-93 thru 56-95, 56-97 thru 56-99, 57-1 thru 57-3, 57-5 thru 57-7, 57-9 thru 57-11, 57-13 thru 57-15, 57-17 thru 57-19, 57-21 thru 57-23, 57-25 thru 57-27, 57-29 thru 57-31, 57-33 thru 57-35, 57-37 thru 57-39, 57-41 thru 57-43, 57-45 thru 57-47, 57-49 thru 57-51, 57-53 thru 57-55, 57-57 thru 57-59, 57-61 thru 57-63, 57-65 thru 57-67, 57-69 thru 57-71, 57-73 thru 57-75, 57-77 thru 57-79, 57-81 thru 57-83, 57-85 thru 57-87, 57-89 thru 57-91, 57-93 thru 57-95, 57-97 thru 57-99, 58-1 thru 58-3, 58-5 thru 58-7, 58-9 thru 58-11, 58-13 thru 58-15, 58-17 thru 58-19, 58-21 thru 58-23, 58-25 thru 58-27, 58-29 thru 58-31, 58-33 thru 58-35, 58-37 thru 58-39, 58-41 thru 58-43, 58-45 thru 58-47, 58-49 thru 58-51, 58-53 thru 58-55, 58-57 thru 58-59, 58-61 thru 58-63, 58-65 thru 58-67, 58-69 thru 58-71, 58-73 thru 58-75, 58-77 thru 58-79, 58-81 thru 58-83, 58-85 thru 58-87, 58-89 thru 58-91, 58-93 thru 58-95, 58-97 thru 58-99, 59-1 thru 59-3, 59-5 thru 59-7, 59-9 thru 59-11, 59-13 thru 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RECEIVED

FEB 18 2014

WATER RIGHTS
PROGRAM

AFFIDAVIT OF PUBLICATION

YANKTON DAILY PRESS AND DAKOTAN

Department of Environment and Natural Resources
Water Rights Program - Joe Foss Building
523 East Capitol
Pierre, SD 57501

STATE OF SOUTH DAKOTA
COUNTY OF YANKTON

KELLY HERTZ BEING FIRST DULY SWORN ON OATH DEPOSES
AND SAYS THAT HE IS THE MANAGING EDITOR OF, YANKTON
MEDIA INC, A CORPORATION, THE PRINTER AND THE PUBLISHER OF THE
YANKTON DAILY PRESS AND DAKOTAN, A LEGAL DAILY NEWSPAPER
PUBLISHED AND CIRCULATED IN THE CITY OF YANKTON, SAID COUNTY
AND STATE, AND ONE OF THE OFFICIAL NEWSPAPERS OF THE SAID
COUNTY OF FACTS STATED IN THIS AFFIDAVIT; THAT THE ANNEXED
Notice of Hearing on Applications

TAKEN FROM THE PAPER, IN WHICH IT WAS LAST PUBLISHED IN THE
NEWSPAPER ON THE 13th DAY OF February 2014
THAT THE FULL AMOUNT OF THE FEE CHARGED FOR THE PUBLICATION
OF SAID NOTICE TO WIT \$190.99 ENSURES TO THE
BENEFITS OF THE PUBLISHER OF SAID NEWSPAPER AND THAT NO
AGREEMENT AND UNDERSTANDING FOR THE DIVISION THEREOF HAS
BEEN MADE WITH ANY OTHER PERSON, AND THAT NO PART THEREOF
HAS BEEN AGREED TO BE PAID TO ANY PERSON WHOMSOEVER.

PUBLISHED ON: 2/13/2014

FILED ON: 2/13/2014

2+13

NOTICE OF HEARING ON
APPLICATIONS TO
APPROPRIATE WATER FROM
MANAGEMENT UNITS OF
THE UPPER VERMILLION
MISSOURI AQUIFER

Twenty one applications propos-
ing to appropriate water for irriga-
tion from the Upper Vermillion
Missouri (UVM) aquifer were
filed in 2012 and 2013. The Chief
Engineer recommended deferral
because at the time it was not pos-
sible to conclude that unappropri-
ated water was available from the
aquifer. Nineteen of the applica-
tions were formally deferred by
the Water Management Board
pending study of the UVM aquif-
er. Two other applications
(Nos. 7690-3 and 7919-3) are cur-
rently public noticed for a March
6, 2014, hearing with a recom-
mendation of deferral.

The South Dakota Geologic Sur-
vey (SDGS) conducted work in
2013 - 2014 which established
new boundaries for the main body
of the aquifer. This work done by
the SDGS has been analyzed by

[Signature]
SUBSCRIBED AND SWORN TO BEFORE ME THIS 13th DAY OF February

2014

[Signature]
NOTARY PUBLIC, SOUTH DAKOTA
MY COMMISSION EXPIRES 6/11/2019

the Water Rights Program and provides identifiable geologic and hydrologic data documenting two boundaries establishing three management units within the UVM aquifer. The Water Rights Program is proposing designating North, South and West management units of the UVM aquifer. Observation well data and a flow net analysis has been conducted on each management unit to determine whether unappropriated water is available.

All UVM applications are now scheduled before the Water Management Board for consideration. The Chief Engineer has revised the recommendation to approval for those applications within the boundary of the South Management Unit and the West Management Unit. The Chief Engineer recommends that applications within the North Management Unit remain deferred. The report to the Chief Engineer and the recommendations are available at <http://denr.sd.gov/des/wr/pubnotice.aspx> or by contacting the Water Rights Program at (605) 773-3352.

This notice schedules a hearing before the Water Management Board beginning at 10:30 AM, on Thursday, March 6, 2014, in the Floyd Matthew Training Center, Joe Foss Building, 523 E Capitol Avenue, Pierre SD. Listed below is a description of each application, the Chief Engineer's recommendation, and the procedure to file a petition to intervene in the hearing process.

South Management Unit of the Upper Vermillion Missouri Aquifer (Approval Recommendation)

Application No. 7441-3 filed by Gary E or Julie A Peterson, 45913 299th St, Centerville SD 57014 proposes to appropriate 1.78 cubic feet of water per second (cfs) from one well to be approximately 175 feet deep located in the center of the SE 1/4 Section 8 for irrigation of 140 acres located in the SE 1/4 Section 8; all in T95N-R52W.

Application No. 7442-3 filed by Gary E or Julie A Peterson, 45913 299th St, Centerville SD 57014 proposes to irrigate 40 additional acres. Water Right No. 5982-3 authorizes 1.64 cubic feet of water per second (cfs) from one well that is 165 feet deep located in the SE 1/4 NW 1/4 Section 17 to irrigate 115 acres located in the NW 1/4 Section 17; all in T95N-R52W. The application is proposing to irrigate an additional 40 acres located in the W 1/2 NE

1/4 Section 17-T95N-R52W from the existing well. This application, if approved does not authorize any increase in the developed diversion rate. The Water Management Board did authorize a change in the location of acres without an increase in the diversion rate authority or acres authorized by Water Right No. 5982-3.

Application No. 7466-3 filed by Bethel Hagen Trust, c/o Bruce Hagen, 1300 W Murphy Dr. Sioux Falls SD 57108 proposes to appropriate 1.78 cfs from one well to be approximately 169 feet deep located in approximate center of the NE 1/4 Section 5 for irrigation of 152 acres located in the NE 1/4 Section 5; all in T96N-R51W.

Application No. 7467-3 filed by Cleland Hagen Trust, c/o Bruce Hagen, 1300 W Murphy Dr. Sioux Falls SD 57108 proposes to appropriate 1.78 cfs from one well to be approximately 134 feet deep located in the approximate center of the NW 1/4 Section 13 for irrigation of 152 acres located in the NW 1/4 Section 13; all in T97N-R52W.

Application No. 7600-3 filed by Michael D Stevens, 28916 458th Ave, Viborg SD 57070 proposes to appropriate 3.56 cfs from two wells to be approximately 200 feet deep located in the NE 1/4 NW 1/4 and the approximate center of the SW 1/4 Section 12 for irrigation of 180 acres located in the NW 1/4, N 1/2 SW 1/4 Section 12; all in T96N-R52W. The applicant is proposing to locate a pivot in the center of SW 1/4 Section 12 to irrigate the entire SW 1/4. A portion of Water Permit No. 7128-3 held by Paul Shubeck authorizes irrigation of the S 1/2 SW 1/4 Section 12-T96N-R52W.

Application No. 7601-3 filed by Michael D Stevens, 28916 458th Ave, Viborg SD 57070 proposes to appropriate 1.89 cfs from one well to be approximately 200 feet deep located in the approximate center of the NE 1/4 Section 25 to irrigate 132 acres located in the NE 1/4 Section 25; all in T97N-R53W.

Application No. 7603-3 filed by Michael D Stevens, 28916 458th Ave, Viborg SD 57070 proposes to appropriate 1.78 cfs from one well to be approximately 150 feet deep located in the approximate center of the NE 1/4 Section 33 to irrigate 120 acres located in the NE 1/4 Section 33; all in T97N-R52W. The applicant is requesting a diversion rate greater

than the statutory limit of 1 cfs per 70 acres.

Application No. 7623-3 filed by Darrell Osborn, 28838 463rd Ave, Centerville SD 57014 proposes to appropriate 1.89 cfs from one well to be approximately 140 feet deep located in the SE 1/4 NW 1/4 Section 24 for irrigation of 140 acres located in the NW 1/4, W 1/2 NE 1/4 Section 24; all in T97N-R52W.

Application No. 7653-3 filed by Jeremiah Welsh, 29217 460th Ave, Centerville SD 57014 proposes to appropriate 1.67 cfs from one well to be approximately 180 feet deep located in the approximate center of the SW 1/4 Section 8 for irrigation of 85 acres located in the W 1/2 SW 1/4, NE 1/4 SW 1/4 Section 8; all in T96N-R52W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Application No. 7690-3 filed by Tim or David Ostrem, 45924 300 St, Wakonda SD 57073 proposes to appropriate 1.78 cfs from one well to be approximately 50 - 90 feet deep located in the center of the NE 1/4 Section 29 for irrigation of 160 acres located in the NE 1/4, E 1/2 NW 1/4 Section 29; all in T96N-R52W.

Application No. 7900-3 filed by Leon Thompson, 401 S 11th St, Beresford SD 57004 proposes to appropriate 1.89 cfs from one well to be approximately 151 feet deep located in the NW 1/4 NE 1/4 Section 6 for irrigation of 136 acres located in the NE 1/4 Section 6; all in T95N-R51W.

Application No. 7919-3 filed by Larry & Marlene Erickson, 29859 461st Ave, Centerville SD 57014 proposes to appropriate 1.83 cfs from one well to be approximately 75 feet deep located in the approximate center of the NE 1/4 Section 9 for irrigation of 83.83 acres located in the NE 1/4 Section 9; all in T95N-R52W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application Nos. 7441-3, 7442-3, 7466-3, 7467-3, 7600-3, 7601-3, 7603-3, 7623-3, 7653-3, 7690-3, 7900-3 and 7919-3 from the South Management Unit of the Upper Vermillion Missouri Aquifer 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.

North Management Unit of the Upper Vermillion Missouri Aquifer (Deferral Recommendation)

Application No. 7452-3 filed by Jerome Hult, 45958 Hwy 18, Davis SD 57021 proposes to appropriate 1.78 cfs from one well to be approximately 190 feet deep located in SW 1/4 NE 1/4 Section 32 for irrigation of 110 acres located in the W 1/2 NE 1/4, SE 1/4 NE 1/4 Section 32; all in T98N-R52W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Application No. 7468-3 filed by Cleland Hagen Trust, c/o Bruce Hagen, 1300 W Murphy Dr. Sioux Falls SD 57108 proposes to appropriate 1.78 cfs from one well approximately 134 feet deep located in the approximate center of the NE 1/4 Section 26 for irrigation of 152 acres located in the NE 1/4 Section 26; all in T98N-R52W.

Application No. 7558-3 filed by Cleland Trust, 38736 Nasturtium Way, Palm Desert CA 92211 has filed an application for a water permit to appropriate 1.78 cfs from one well to be approximately 275 feet deep located in the approximate center between the NW 1/4 and the SW 1/4 Section 1 for irrigation of 120 acres located in the N 1/2 SW 1/4, S 1/2 NW 1/4 Section 1; all in T98N-R52W.

Application No. 7587-3 filed by Paul Petersen, 45610 282nd St, Hurley SD 57036 proposes to appropriate 1.78 cfs from one well to be approximately 100 feet deep located in the approximate center of the SE 1/4 Section 10 for irrigation of 160 acres located in the SW 1/4 Section 10; all in T98N-R53W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends continuing DEFERRAL of Application Nos. 7452-3, 7468-3, 7558-3 and 7587-3 from the North Management Unit of the Upper Vermillion Missouri Aquifer until information is available to determine if there is reasonable probability that there is unappropriated water available for the applicant's proposed use. Pursuant to SDCL 46-2A-9, a permit to appropriate water may be issued only if there is a reasonable probability that unappropriated water is available.

West Management Unit of the Upper Vermillion Missouri Aquifer

for (Approval Recommendation)

Application No. 7535-3 filed by Donald D Benson, 45067 284th St, Hurley SD 57036 proposes to appropriate 1.78 cfs from one well to be approximately 220 feet deep located in the SW 1/4 NW 1/4 Section 30 for irrigation of 65 acres located in the NW 1/4 Section 30; all in T98N-R53W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Application No. 7588-3 filed by Paul Petersen, 45610 282nd St, Hurley SD 57036 proposes to appropriate 1.78 cfs from one well to be approximately 145 feet deep located in the approximate center of the SW 1/4 Section 19 to irrigate 160 acres located in the SW 1/4 Section 19; all in T98N-R53W.

Application No. 7602-3 filed by Michael D Stevens, 28916 458th Ave, Viborg SD 57070 proposes to appropriate 1.89 cfs from one well to be approximately 140 feet deep located in the approximate center between the NW 1/4 and the NE 1/4 Section 34 for irrigation of 132 acres located in the E 1/2 NW 1/4 and the W 1/2 NE 1/4 Section 34; all in T97N-R53W.

Application No. 7633-3 filed by Brad Farrar, 28795 452nd Ave, Viborg SD 57070 proposes to appropriate 1.78 cfs from one well to be approximately 205 feet deep located in the center of the SW 1/4 Section 32 for irrigation of 152 acres located in the SW 1/4 Section 32; all in T98N-R53W.

Application No. 7715-3 filed by Allen Vannorsdel, 45515 288th St, Viborg SD 57070 proposes to appropriate 2.22 cfs from one well to be approximately 160 feet deep located in the center of the SW 1/4 Section 16 for irrigation of 156 acres located in the SW 1/4 Section 16; all in T97N-R53W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application Nos. 7535-3, 7588-3, 7602-3, 7633-3 and 7715-3 from the West Management Unit of the Upper Vermillion Missouri Aquifer 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.

SDCL 46-2A-4(10) provides that "if the applicant does not contest the recommendation of the Chief

Engineer and no petition to oppose a specific application is received, the Chief Engineer shall act on the application pursuant to the Chief Engineer's recommendation and no hearing may be held before the board, unless the Chief Engineer makes a finding that an application, even if uncontested, presents important issues of public policy or public interest that should be heard by the board." In this case, the Chief Engineer finds that these applications present important issues of public interest that should be heard.

The Water Management Board will consider these applications beginning at 10:30 AM. on Thursday, March 6, 2014, in the Matthew Training Center, Joe Foss Building, 523 E. Capitol Ave. Pierre SD. The agenda time is an estimate. The Chief Engineer's recommendations are not final or binding upon the Board. The Board is authorized to 1) approve, 2) approve with qualifications, 3) defer or 4) deny these applications based on the facts presented at the public hearing.

Any interested person who intends to participate in the hearing shall file a petition to oppose or support specific applications and the petition shall be filed with BOTH the applicant and Chief Engineer. The applicant must also file a petition if opposed to the Chief Engineer's recommendation on their applications. 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 are given above. A petition filed by either an interested person or the applicant must be filed by February 24, 2014. The petition may be informal, but shall be in writing and shall include a statement describing the petitioner's interest in any of the applications, the petitioner's reasons for opposing or supporting specific applications, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained. The party that previously petitioned as an intervenor retains party status. 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.

The March 6, 2014, hearing date

will be automatically delayed for at least 20 days upon written request to the Chief Engineer from the applicant or any person who has filed a petition to oppose or support of an above listed application. The request for an automatic delay must be filed by February 24, 2014. If an automatic delay is requested, the hearing will be rescheduled for a future Board meeting and personal notice will be provided to the applicants and to all petitioners regarding the time, date and location.

Contact Eric Gronlund by February 24, 2014 at the above Chief Engineer's address to request copies of the staff report, recommendations, applications or 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.

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 publication, and the applicable date to give notice to the Chief Engineer is February 24, 2014. 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; and Board Rules ARSD 74:02:01:01 thru 74:02:01:25:02; 74:02:01:35:01.

Steven M. Pirner, Secretary, Department of Environment and Natural Resources.
Published once at an approximate cost of \$190.99.

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FEB 21 2014

WATER RIGHTS
PROGRAM

AFFIDAVIT OF PUBLICATION

PLAIN TALK

DENR
Joe Foss Building
523 East Capitol
Pierre, SD 57501

STATE OF SOUTH DAKOTA
COUNTY OF CLAY

*Plain Talk
201 W Cherry St
Vermillion 57069*

TERA SCHMIDT BEING FIRST DULY SWORN ON OATH DEPOSES
AND SAYS THAT SHE IS THE CLASSIFIED MANAGER OF YANKTON
MEDIA INC., A CORPORATION, THE PRINTER AND THE PUBLISHER OF THE
PLAIN TALK, A LEGAL WEEKLY NEWSPAPER PUBLISHED AND CIRCULATED
IN THE CITY OF VERMILLION, SAID COUNTY AND STATE, AND ONE OF THE
OFFICIAL NEWSPAPERS OF THE SAID COUNTY OF FACTS STATED IN THIS
AFFIDAVIT; THAT THE ANNEXED
Applications to Appropriate Water

TAKEN FROM THE PAPER, IN WHICH IT WAS LAST PUBLISHED IN THE
NEWSPAPER ON THE 14 DAY OF February 2014
THAT THE FULL AMOUNT OF THE FEE CHARGED FOR THE PUBLICATION
OF SAID NOTICE TO WIT \$190.99 ENSURES TO THE
BENEFITS OF THE PUBLISHER OF SAID NEWSPAPER AND THAT NO
AGREEMENT AND UNDERSTANDING FOR THE DIVISION THEREOF HAS
BEEN MADE WITH ANY OTHER PERSON, AND THAT NO PART THEREOF
HAS BEEN AGREED TO BE PAID TO ANY PERSON WHOMSOEVER.

PUBLISHED ON: 2/14/14

FILED ON: 2/13/14

Tera A Schmidt

SUBSCRIBED AND SWORN TO BEFORE ME THIS

18th

DAY OF

February

2014

NOTARY PUBLIC, SOUTH DAKOTA

MY COMMISSION EXPIRES

8/19/2015

**NOTICE OF HEARING ON
APPLICATIONS TO
APPROPRIATE WATER FROM
MANAGEMENT UNITS OF
THE UPPER VERMILLION
MISSOURI AQUIFER**

Twenty one applications propos-
ing to appropriate water for irriga-
tion from the Upper Vermillion
Missouri (UVM) aquifer were
filed in 2012 and 2013. The Chief
Engineer recommended deferral
because at the time it was not pos-
sible to conclude that unappropri-
ated water was available from the
aquifer. Nineteen of the applica-
tions were formally deferred by
the Water Management Board
pending study of the UVM aq-
uifer. Two other applications
(Nos. 7690-3 and 7919-3) are cur-
rently public noticed for a March
6, 2014, hearing with a recom-
mendation of deferral.

The South Dakota Geologic Sur-
vey (SDGS) conducted work in
2013 - 2014 which established
new boundaries for the main body
of the aquifer. This work done by
the SDGS has been analyzed by
the Water Rights Program and
provides identifiable geologic and
hydrologic data documenting two
boundaries establishing three
management units within the
UVM aquifer. The Water Rights
Program is proposing designating
North, South and West manage-
ment units of the UVM aquifer.
Observation well data and a flow
net analysis has been conducted
on each management unit to deter-
mine whether unappropriated wa-
ter is available.

All UVM applications are now
scheduled before the Water Man-
agement Board for consideration.
The Chief Engineer has revised
the recommendation to approval
for those applications within the
boundary of the South Manage-
ment Unit and the West Manage-
ment Unit. The Chief Engineer
recommends that applications
within the North Management
Unit remain deferred. The report
to the Chief Engineer and the rec-
ommendations are available at
[http://denr.sd.gov/des/wr/pubno-
tice.aspx](http://denr.sd.gov/des/wr/pubnotice.aspx) or by contacting the Wa-
ter Rights Program at (605)
773-3352.

This notice schedules a hearing
before the Water Management
Board beginning at 10:30 AM, on
Thursday, March 6, 2014, in the
Floyd Matthew Training Center,
Joe Foss Building, 523 E Capitol
Avenue, Pierre SD. Listed below
is a description of each applica-
tion, the Chief Engineer's recom-
mendation, and the procedure to
file a petition to intervene in the
hearing process.

South Management Unit of the Upper Vermillion Missouri Aquifer (Approval Recommendation)

Application No. 7441-3 filed by Gary E or Julie A Peterson, 45913 299th St, Centerville SD 57014 proposes to appropriate 1.78 cubic feet of water per second (cfs) from one well to be approximately 175 feet deep located in the center of the SE 1/4 Section 8 for irrigation of 140 acres located in the SE 1/4 Section 8; all in T95N-R52W.

Application No. 7442-3 filed by Gary E or Julie A Peterson, 45913 299th St, Centerville SD 57014 proposes to irrigate 40 additional acres. Water Right No. 5982-3 authorizes 1.64 cubic feet of water per second (cfs) from one well that is 165 feet deep located in the SE 1/4 NW 1/4 Section 17 to irrigate 115 acres located in the NW 1/4 Section 17; all in T95N-R52W. The application is proposing to irrigate an additional 40 acres located in the W 1/2 NE 1/4 Section 17-T95N-R52W from the existing well. This application, if approved does not authorize

any increase in the developed diversion rate. The Water Management Board did authorize a change in the location of acres without an increase in the diversion rate authority or acres authorized by Water Right No. 5982-3.

Application No. 7466-3 filed by Bethel Hagen Trust, c/o Bruce Hagen, 1300 W Murphy Dr. Sioux Falls SD 57108 proposes to appropriate 1.78 cfs from one well to be approximately 169 feet deep located in approximate center of the NE 1/4 Section 5 for irrigation of 152 acres located in the NE 1/4 Section 5; all in T96N-R51W.

Application No. 7467-3 filed by Cleland Hagen Trust, c/o Bruce Hagen, 1300 W Murphy Dr. Sioux Falls SD 57108 proposes to appropriate 1.78 cfs from one well to be approximately 134 feet deep located in the approximate center of the NW 1/4 Section 13 for irrigation of 152 acres located in the NW 1/4 Section 13; all in T97N-R52W.

Application No. 7600-3 filed by Michael D Stevens, 28916 458th Ave, Viborg SD 57070 proposes to appropriate 3.56 cfs from two wells to be approximately 200 feet deep located in the NE 1/4 NW 1/4 and the approximate center of the SW 1/4 Section 12 for irrigation of 180 acres located in the NW 1/4, N 1/2 SW 1/4 Section 12; all in T96N-R52W. The applicant is proposing to locate a pivot in the center of SW 1/4 Section 12 to irrigate the entire SW 1/4. A portion of Water Permit No. 7128-3 held by Paul Shubeck authorizes irrigation of the S 1/2 SW 1/4 Section 12-T96N-R52W.

Application No. 7601-3 filed by Michael D Stevens, 28916 458th Ave, Viborg SD 57070 proposes to appropriate 1.89 cfs from one well to be approximately 200 feet deep located in the approximate center of the NE 1/4 Section 25 to irrigate 132 acres located in the NE 1/4 Section 25; all in T97N-R53W.

Application No. 7603-3 filed by Michael D Stevens, 28916 458th Ave, Viborg SD 57070 proposes to appropriate 1.78 cfs from one well to be approximately 150 feet deep located in the approximate center of the NE 1/4 Section 33 to irrigate 120 acres located in the NE 1/4 Section 33; all in T97N-R52W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Application No. 7623-3 filed by Darrell Osborn, 28838 463rd Ave, Centerville SD 57014 proposes to appropriate 1.89 cfs from one well to be approximately 140 feet deep located in the SE 1/4 NW 1/4 Section 24 for irrigation of 140 acres located in the NW 1/4, W 1/2 NE 1/4 Section 24; all in T97N-R52W.

Application No. 7653-3 filed by Jeremiah Welsh, 29217 460th Ave, Centerville SD 57014 proposes to appropriate 1.67 cfs from one well to be approximately 180 feet deep located in the approximate center of the SW 1/4 Section 8 for irrigation of 85 acres located in the W 1/2 SW 1/4, NE 1/4 SW 1/4 Section 8; all in T96N-R52W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Application No. 7690-3 filed by Tim or David Ostrem, 45924 300 St, Wakonda SD 57073 proposes to appropriate 1.78 cfs from one well to be approximately 50 - 90 feet deep located in the center of the NE 1/4 Section 29 for irrigation of 160 acres located in the NE 1/4, E 1/2 NW 1/4 Section 29; all in T96N-R52W.

Application No. 7900-3 filed by Leon Thompson, 401 S 11th St, Beresford SD 57004 proposes to appropriate 1.89 cfs from one well to be approximately 151 feet deep located in the NW 1/4 NE 1/4 Section 6 for irrigation of 136 acres located in the NE 1/4 Section 6; all in T95N-R51W.

Application No. 7919-3 filed by Larry & Marlene Erickson, 29859 461st Ave, Centerville SD 57014 proposes to appropriate 1.83 cfs from one well to be approximately 75 feet deep located in the approximate center of the NE 1/4 Section 9 for irrigation of 83.83 acres located in the NE 1/4 Section 9; all in T95N-R52W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application Nos. 7441-3, 7442-3, 7466-3, 7467-3, 7600-3, 7601-3, 7603-3, 7623-3, 7653-3, 7690-3, 7900-3 and 7919-3 from the South Management Unit of the Upper Vermillion Missouri Aquifer 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.

North Management Unit of the Upper Vermillion Missouri Aquifer (Deferral Recommendation)

Application No. 7452-3 filed by Jerome Hult, 45958 Hwy 18, Davis SD 57021 proposes to appropriate 1.78 cfs from one well to be approximately 190 feet deep located in SW 1/4 NE 1/4 Section 32 for irrigation of 110 acres located in the W 1/2 NE 1/4, SE 1/4 NE 1/4 Section 32; all in T98N-R52W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Application No. 7468-3 filed by Cleland Hagen Trust, c/o Bruce Hagen, 1300 W Murphy Dr. Sioux Falls SD 57108 proposes to appropriate 1.78 cfs from one well approximately 134 feet deep located in the approximate center of the NE 1/4 Section 26 for irrigation of 152 acres located in the NE 1/4 Section 26; all in T98N-R52W.

Application No. 7558-3 filed by Cleland Trust, 38736 Nasturtium Way, Palm Desert CA 92211 has filed an application for a water permit to appropriate 1.78 cfs from one well to be approximately 275 feet deep located in the approximate center between the NW 1/4 and the SW 1/4 Section 1 for irrigation of 120 acres located in the N 1/2 SW 1/4, S 1/2 NW 1/4 Section 1; all in T98N-R52W.

Application No. 7587-3 filed by Paul Petersen, 45610 282nd St, Hurley SD 57036 proposes to appropriate 1.78 cfs from one well to be approximately 100 feet deep located in the approximate center of the SE 1/4 Section 10 for irrigation of 160 acres located in the SW 1/4 Section 10; all in T98N-R53W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends continuing DEFERRAL of Application Nos. 7452-3, 7468-3, 7558-3 and 7587-3 from the North Management Unit of the Upper Vermillion Missouri Aquifer until information is available to determine if there is reasonable probability that there is unappropriated water available for the applicant's proposed use. Pursuant to SDCL 46-2A-9, a permit to appropriate water may be issued only if there is a reasonable probability that unappropriated water is available.

West Management Unit of the Upper Vermillion Missouri Aquifer (Approval Recommendation)

Application No. 7535-3 filed by Donald D Benson, 45067 284th St, Hurley SD 57036 proposes to appropriate 1.78 cfs from one well to be approximately 220 feet deep located in the SW 1/4 NW 1/4 Section 30 for irrigation of 65 acres located in the NW 1/4 Section 30; all in T98N-R53W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

58/61

Application No. 7588-3 filed by Paul Petersen, 45610 282nd St, Hurley SD 57036 proposes to appropriate 1.78 cfs from one well to be approximately 145 feet deep located in the approximate center of the SW 1/4 Section 19 to irrigate 160 acres located in the SW 1/4 Section 19; all in T98N-R53W.

Application No. 7602-3 filed by Michael D Stevens, 28916 458th Ave, Viborg SD 57070 proposes to appropriate 1.89 cfs from one well to be approximately 140 feet deep located in the approximate center between the NW 1/4 and the NE 1/4 Section 34 for irrigation of 132 acres located in the E 1/2 NW 1/4 and the W 1/2 NE 1/4 Section 34; all in T97N-R53W.

Application No. 7633-3 filed by Brad Farrar, 28795 452nd Ave, Viborg SD 57070 proposes to appropriate 1.78 cfs from one well to be approximately 205 feet deep located in the center of the SW 1/4 Section 32 for irrigation of 152 acres located in the SW 1/4 Section 32; all in T98N-R53W.

Application No. 7715-3 filed by Allen Vannorsdel, 45515 288th St, Viborg SD 57070 proposes to appropriate 2.22 cfs from one well to be approximately 160 feet deep located in the center of the SW 1/4 Section 16 for irrigation of 156 acres located in the SW 1/4 Section 16; all in T97N-R53W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application Nos. 7535-3, 7588-3, 7602-3, 7633-3 and 7715-3 from the West Management Unit of the Upper Vermillion Missouri Aquifer 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.

SDCL 46-2A-4(10) provides that "if the applicant does not contest the recommendation of the Chief Engineer and no petition to oppose a specific application is re-

ceived, the Chief Engineer shall act on the application pursuant to the Chief Engineer's recommendation and no hearing may be held before the board, unless the Chief Engineer makes a finding that an application, even if uncontested, presents important issues of public policy or public interest that should be heard by the board." In this case, the Chief Engineer finds that these applications present important issues of public interest that should be heard.

The Water Management Board will consider these applications beginning at 10:30 AM. on Thursday, March 6, 2014, in the Matthew Training Center, Joe Foss Building, 523 E. Capitol Ave. Pierre SD. The agenda time is an estimate. The Chief Engineer's recommendations are not final or binding upon the Board. The Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny these applications based on the facts presented at the public hearing.

Any interested person who intends to participate in the hearing shall file a petition to oppose or support specific applications and the petition shall be filed with BOTH the applicant and Chief Engineer. The applicant must also file a petition if opposed to the Chief Engineer's recommendation on their applications. 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 are given above. A petition filed by either an interested person or the applicant must be filed by February 24, 2014. The petition may be informal, but shall be in writing and shall include a statement describing the petitioner's interest in any of the applications, the petitioner's reasons for opposing or supporting specific applications, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained. The party that previously petitioned as an intervener retains party status. 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.

The March 6, 2014, hearing date will be automatically delayed for at least 20 days upon written request to the Chief Engineer from the applicant or any person who has filed a petition to oppose or support of an above listed application. The request for an automatic delay must be filed by February 24, 2014. If an automatic delay is requested, the hearing will be rescheduled for a future Board meeting and personal notice will be provided to the applicants and to all petitioners regarding the time, date and location.

Contact Eric Gronlund by February 24, 2014 at the above Chief Engineer's address to request copies of the staff report, recommendations, applications or 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.

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 publication, and the applicable date to give notice to the Chief Engineer is February 24, 2014. 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; and

Board Rules ARSD 74:02:01:01 thru 74:02:01:25:02; 74:02:01:35:01.

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

Published once at an approximate cost of \$190.99.

Published February 14, 2014.

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FEB 21 2014

WATER RIGHTS
PROGRAM

Form 8

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)

County of Lincoln) SS

I, Debbie Schmiest

certify that the attached printed Notice was taken

from the Lennex

Independent

printed and published in Lennex

County of Lincoln and

state of South Dakota. The notice was published

in the newspaper on the following date:

2-13-14

Cost of Printing \$159.25

Debbie Schmiest
(Signature)

Publisher
(Title)

2-18-14
(Date Signed)

NOTICE OF HEARING ON APPLICATIONS TO APPROPRIATE WATER FROM MANAGEMENT UNITS OF THE UPPER VERMILLION MISSOURI AQUIFER

Twenty one applications proposing to appropriate water for irrigation from the Upper Vermillion Missouri (UVM) aquifer were filed in 2012 and 2013. The Chief Engineer recommended deferral because at the time it was not possible to conclude that unappropriated water was available from the aquifer. Nineteen of the applications were formally deferred by the Water Management Board pending study of the UVM aquifer. Two other applications (Nos. 7690-3 and 7919-3) are currently public noticed for a March 6, 2014, hearing with a recommendation of deferral.

The South Dakota Geologic Survey (SDGS) conducted work in 2013 and 2014 which established new boundaries for the main body of the aquifer. This work done by the SDGS has been analyzed by the Water Rights Program and provides identifiable geologic and hydrologic data documenting two boundaries establishing three management units within the UVM aquifer. The Water Rights Program is proposing designating North, South and West management units of the UVM aquifer. Observation well data and a flow net analysis has been conducted on each management unit to determine whether unappropriated water is available.

All UVM applications are now scheduled before the Water Management Board for consideration. The Chief Engineer has revised the recommendation to approval for those applications within the boundary of the South Management Unit and the West Management Unit. The Chief Engineer recommends that applications within the North Management Unit remain deferred. The report to the Chief Engineer and the recommendations are available at <http://dend.sd.gov/des/wr/pubnotice.aspx> or by contacting the Water Rights Program at (605) 773-3352.

This notice schedules a hearing before the Water Management Board beginning at 10:30 AM, on Thursday, March 6, 2014, in the Floyd Matthew Training Center, Joe Foss Building, 523 E Capitol Avenue, Pierre SD. Listed below is a description of each application, the Chief Engineer's recommendation, and the procedure to file a petition to intervene in the hearing process.

South Management Unit of the Upper Vermillion Missouri Aquifer (Approval Recommendation)

Application No. 7441-3 filed by Gary E or Julie A Peterson, 45913 299th St, Centerville SD 57014 proposes to appropriate 1.78 cubic feet of water per second (cfs) from one well to be approximately 175 feet deep located in the center of the SE 1/4 Section 8 for irrigation of 140 acres located in the SE 1/4 Section 8; all in T95N-R52W.

Application No. 7442-3 filed by Gary E or Julie A Peterson, 45913 299th St, Centerville SD 57014 proposes to irrigate 40 additional acres. Water Right No. 5982-3 authorizes 1.64 cubic feet of water per second (cfs) from one well that is 165 feet deep located in the SE 1/4 NW 1/4 Section 17 to irrigate 115 acres located in the NW 1/4 Section 17; all in T95N-R52W. The application is proposing to irrigate an additional 40 acres located in the W 1/2 NE 1/4 Section 17-T95N-R52W from the existing well. This application, if approved does not authorize any increase in the developed diversion rate. The Water Management Board did authorize a change in the location of acres without an increase in the diversion rate authority or acres authorized by Water Right No. 5982-3.

Application No. 7466-3 filed by Bethel Hagen Trust, c/o Bruce Hagen, 1300 W Murphy Dr. Sioux Falls SD 57108 proposes to appropriate 1.78 cfs from one well to be approximately 169 feet deep located in approximate center of the NE 1/4 Section 5 for irrigation of 152 acres located in the NE 1/4 Section 5; all in T96N-R51W.

Application No. 7467-3 filed by Oeland Hagen Trust, c/o Bruce Hagen, 1300 W Murphy Dr. Sioux Falls SD 57108 proposes to appropriate 1.78 cfs from one well to be approximately 134 feet deep located in the approximate center of the NW 1/4 Section 13 for irrigation of 152 acres located in the NW 1/4 Section 13; all in T97N-R52W.

Application No. 7600-3 filed by Michael D Stevens, 28916 458th Ave, Viborg SD 57070 proposes to appropriate 3.56 cfs from two wells to be approximately 200 feet deep located in the NE 1/4 NW 1/4 and the approximate center of the SW 1/4 Section 12 for irrigation of 180 acres located in the NW 1/4, N 1/2 SW 1/4 Section 12; all in T96N-R52W. The applicant is proposing to locate a pivot in the center of SW 1/4 Section 12 to irrigate the entire SW 1/4. A portion of Water Permit No. 7128-3 held by Paul Shubeck authorizes irrigation of the S 1/2 SW 1/4 Section 12-T96N-R52W.

Application No. 7601-3 filed by Michael D Stevens, 28916 458th Ave, Viborg SD 57070 proposes to appropriate 1.89 cfs from one well to be approximately 200 feet deep located in the approximate center of the NE 1/4 Section 25 to irrigate 132 acres located in the NE 1/4 Section 25; all in T97N-R53W.

Application No. 7603-3 filed by Michael D Stevens, 28916 458th Ave, Viborg SD 57070 proposes to appropriate 1.78 cfs from one well to be approximately 150 feet deep located in the approximate center of the NE 1/4 Section 33 to irrigate 120 acres located in the NE 1/4 Section 33; all in T97N-R52W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Application No. 7623-3 filed by Darrell Osborn, 28838 463rd Ave, Centerville SD 57014 proposes to appropriate 1.89 cfs from one well to be approximately 140 feet deep located in the SE 1/4 NW 1/4 Section 24 for irrigation of 140 acres located in the NW 1/4, W 1/2 NE 1/4 Section 24; all in T97N-R52W.

Application No. 7653-3 filed by Jeremiah Welsh, 29217 460th Ave, Centerville SD 57014 proposes to appropriate 1.67 cfs from one well to be approximately 180 feet deep located in the approximate center of

85 acres located in the W 1/2 SW 1/4, NE 1/4 SW 1/4 Section 8; all in T96N-R52W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Application No. 7690-3 filed by Tim or David Ostrem, 45924 300 St, Wakonda SD 57073 proposes to appropriate 1.78 cfs from one well to be approximately 50 - 90 feet deep located in the center of the NE 1/4 Section 29 for irrigation of 160 acres located in the NE 1/4; E 1/2 NW 1/4 Section 29; all in T96N-R52W.

Application No. 7900-3 filed by Leon Thompson, 401 S 11th St, Bedford SD 57004 proposes to appropriate 1.89 cfs from one well to be approximately 151 feet deep located in the NW 1/4 NE 1/4 Section 6 for irrigation of 136 acres located in the NE 1/4 Section 6; all in T95N-R51W.

Application No. 7919-3 filed by Larry & Marlene Erickson, 29859 461st Ave, Centerville SD 57014 proposes to appropriate 1.83 cfs from one well to be approximately 75 feet deep located in the approximate center of the NE 1/4 Section 9 for irrigation of 83.83 acres located in the NE 1/4 Section 9; all in T95N-R52W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application Nos. 7441-3, 7442-3, 7466-3, 7467-3, 7600-3, 7601-3, 7603-3, 7623-3, 7653-3, 7690-3, 7900-3 and 7919-3 from the South Management Unit of the Upper Vermillion Missouri Aquifer 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.

North Management Unit of the Upper Vermillion Missouri Aquifer (Deferral Recommendation)

Application No. 7452-3 filed by Jerome Hult, 45958 Hwy 18, Davis SD 57021 proposes to appropriate 1.78 cfs from one well to be approximately 190 feet deep located in SW 1/4 NE 1/4 Section 32 for irrigation of 110 acres located in the W 1/2 NE 1/4, SE 1/4 NE 1/4 Section 32; all in T98N-R52W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Application No. 7468-3 filed by Cleland Hagen Trust, c/o Bruce Hagen, 1300 W Murphy Dr. Sioux Falls SD 57108 proposes to appropriate 1.78 cfs from one well approximately 134 feet deep located in the approximate center of the NE 1/4 Section 26 for irrigation of 152 acres located in the NE 1/4 Section 26; all in T98N-R52W.

Application No. 7558-3 filed by Cleland Trust, 38736 Nasturtium Way, Palm Desert CA 92211 has filed an application for a water permit to appropriate 1.78 cfs from one well to be approximately 275 feet deep located in the approximate center between the NW 1/4 and the SW 1/4 Section 1 for irrigation of 120 acres located in the N 1/2 SW 1/4, S 1/2 NW 1/4 Section 1; all in T98N-R52W.

Application No. 7587-3 filed by Paul Petersen, 45610 282nd St, Hurley SD 57036 proposes to appropriate 1.78 cfs from one well to be approximately 100 feet deep located in the approximate center of the SE 1/4 Section 10 for irrigation of 160 acres located in the SW 1/4 Section 10; all in T98N-R53W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends continuing DEFERRAL of Application Nos. 7452-3, 7468-3, 7558-3 and 7587-3 from the North Management Unit of the Upper Vermillion Missouri Aquifer until information is available to determine if there is reasonable probability that there is unappropriated water available for the applicant's proposed use. Pursuant to SDCL 46-2A-9, a permit to appropriate water may be issued only if there is a reasonable probability that unappropriated water is available.

West Management Unit of the Upper Vermillion Missouri Aquifer (Approval Recommendation)

Application No. 7535-3 filed by Donald D Benson, 45067 284th St, Hurley SD 57036 proposes to appropriate 1.78 cfs from one well to be approximately 220 feet deep located in the SW 1/4 NW 1/4 Section 30 for irrigation of 65 acres located in the NW 1/4 Section 30; all in T98N-R53W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Application No. 7588-3 filed by Paul Petersen, 45610 282nd St, Hurley SD 57036 proposes to appropriate 1.78 cfs from one well to be approximately 145 feet deep located in the approximate center of the SW 1/4 Section 19 to irrigate 160 acres located in the SW 1/4 Section 19; all in T98N-R53W.

Application No. 7602-3 filed by Michael D Stevens, 28916 458th Ave, Viborg SD 57070 proposes to appropriate 1.89 cfs from one well to be approximately 140 feet deep located in the approximate center between the NW 1/4 and the NE 1/4 Section 34 for irrigation of 132 acres located in the E 1/2 NW 1/4 and the W 1/2 NE 1/4 Section 34; all in T97N-R53W.

Application No. 7633-3 filed by Brad Farrar, 28795 452nd Ave, Viborg SD 57070 proposes to appropriate 1.78 cfs from one well to be approximately 205 feet deep located in the center of the SW 1/4 Section 32 for irrigation of 152 acres located in the SW 1/4 Section 32; all in T98N-R53W.

Application No. 7715-3 filed by Allen Vannorsdel, 45515 288th St, Viborg SD 57070 proposes to appropriate 2.22 cfs from one well to be approximately 160 feet deep located in the center of the SW 1/4 Section 16 for irrigation of 156 acres located in the SW 1/4 Section 16; all in T97N-R53W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application Nos. 7535-3, 7588-3, 7602-3, 7633-3 and 7715-3 from the West Management Unit of the Upper Vermillion Missouri Aquifer 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.

SDCL 46-2A-4(10) provides that "if the applicant does not contest the recommendation of the Chief Engineer and no petition to oppose a specific application is received, the Chief Engineer shall act on the application pursuant to the Chief Engineer's recommendation and no hearing may be held before the board, unless the Chief Engineer makes a finding that an application, even if uncontested, presents important issues of public policy or public interest that should be heard by the board." In this case, the Chief Engineer finds that these applications present important issues of

public interest that should be heard.

The Water Management Board will consider these applications beginning at 10:30 AM, on Thursday, March 6, 2014, in the Matthew Training Center, Joe Foss Building, 523 E. Capitol Ave. Pierre SD. The agenda time is an estimate. The Chief Engineer's recommendations are not final or binding upon the Board. The Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny these applications based on the facts presented at the public hearing.

Any interested person who intends to participate in the hearing shall file a petition to oppose, or support specific applications and the petition shall be filed with BOTH the applicant and Chief Engineer. The applicant must also file a petition if opposed to the Chief Engineer's recommendation on their applications. 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 are given above. A petition filed by either an interested person or the applicant must be filed by February 24, 2014. The petition may be informal, but shall be in writing and shall include a statement describing the petitioner's interest in any of the applications, the petitioner's reasons for opposing or supporting specific applications, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained. The party that previously petitioned as an intervenor retains party status. 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.

The March 6, 2014, hearing date will be automatically delayed for at least 20 days upon written request to the Chief Engineer from the applicant or any person who has filed a petition to oppose or support of an above listed application. The request for an automatic delay must be filed by February 24, 2014. If an automatic delay is requested, the hearing will be rescheduled for a future Board meeting and personal notice will be provided to the applicants and to all petitioners regarding the time, date and location.

Contact Eric Gronlund by February 24, 2014 at the above Chief Engineer's address to request copies of the staff report, recommendations, applications or 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.

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 publication, and the applicable date to give notice to the Chief Engineer is February 24, 2014. 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; and Board Rules ARSD 74:02:01:01 thru 74:02:01:25.02; 74:02:01:35.01.

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

Published once at an approximate cost of \$159.25.

RECEIVED

FEB 24 2014

WATER RIGHTS
PROGRAM

Affidavit of Publication

STATE OF SOUTH DAKOTA
COUNTY OF TURNER

I, Robin Schneider of the City of Parker, County of Turner, State of South Dakota being first duly sworn on oath, deposes and says: The New Era is a weekly legal newspaper of general circulation, printed and published in the City of Parker, in said County of Turner, by The New Era, New Century Press, publishers, and has been such legal newspaper during the times hereinafter mentioned; that the said newspaper has been in existence as such legal newspaper for more than one year prior to the publication of the notice hereunto attached, and has during all of said publication of the notice hereunto attached, and has during all of said time had, and now has, more than 200 bona fide subscribers; that the undersigned, The affiant, is the Office Manager of the said newspaper, in charge of the advertisement department thereof and has personal knowledge of all the facts stated in this affidavit and the advertisement headed:

#5760 Notice of Hearing on Applications to Appropriate Water From
Management Units of the Upper Vermillion Missouri Aquifer

_____ printed copy of hereto attached, is printed and published in the said newspaper for one successive weeks, one each week and on the same day of the week, on the following dates, to wit:

On Thursday, the 13th day of Feb. , 2013

That \$160.53 being the full amount of the fees for publication of the attached notices insures solely for the benefits of the publishers of the said newspaper, that no arrangement or understanding for a division thereof has been made with any other person and that no part thereof has been agreed to be paid to any other person whomsoever.

see attached

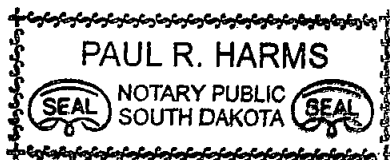
Robin Schneider
Subscribed and sworn to before me this 19th

Day of February 2014

Paul R. Harms
Notary Public, Turner County, South Dakota

My Commission Expires: March 20, 2018

Publication Fee \$
Notary Fees \$
Total \$160.53



**NOTICE OF HEARING ON
APPLICATIONS
TO APPROPRIATE WATER FROM
MANAGEMENT UNITS OF THE
UPPER VERMILLION MISSOURI
AQUIFER**

Twenty one applications proposing to appropriate water for irrigation from the Upper Vermillion Missouri (UVM) aquifer were filed in 2012 and 2013. The Chief

Engineer recommended deferral because at the time it was not possible to conclude that unappropriated water was available from the aquifer. Nineteen of the applications were formally deferred by the Water Management Board pending study of the UVM aquifer. Two other applications (Nos. 7690-3 and 7919-3) are currently public noticed for a March 6, 2014, hearing with a recommendation of deferral.

The South Dakota Geologic Survey (SDGS) conducted work in 2013 - 2014, which established new boundaries for the main body of the aquifer. This work done by the SDGS has been analyzed by the Water Rights Program and provides identifiable geologic and hydrologic data documenting two boundaries establishing three management units within the UVM aquifer. The Water Rights Program is proposing designating North, South and West management units of the UVM aquifer. Observation well data and a flow net analysis has been conducted on each management unit to determine whether unappropriated water is available.

All UVM applications are now scheduled before the Water Management Board for consideration. The Chief Engineer has revised the recommendation to approval for those applications within the boundary of the South Management Unit and the West Management Unit. The Chief Engineer recommends that applications within the North Management Unit remain deferred. The report to the Chief Engineer and the recommendations are available at <http://denr.sd.gov/des/wr/pubnotice.aspx> or by contacting the Water Rights Program at (605) 773-3352.

This notice schedules a hearing before the Water Management Board beginning at 10:30 a.m., on Thursday, March 6, 2014, in the Floyd Matthew Training Center, Joe Foss Building, 523 E Capitol Avenue, Pierre, SD. Listed below is a description of each application, the Chief Engineer's recommendation, and the procedure to file a petition to intervene in the hearing process.

South Management Unit of the Upper Vermillion Missouri Aquifer (Approval Recommendation)

Application No. 7441-3 filed by Gary E or Julie A Peterson, 45913 299th St, Centerville, SD 57014 proposes to appropriate 1.78 cu-

bic feet of water per second (cfs) from one well to be approximately 175 feet deep located in the center of the SE 1/4 Section 8 for irrigation of 140 acres located in the SE 1/4 Section 8; all in T95N-R52W.

Application No. 7442-3 filed by Gary E or Julie A Peterson, 45913 299th St, Centerville, SD 57014 proposes to irrigate 40 additional acres. Water Right No. 5982-3 authorizes 1.64 cubic feet of water per second (cfs) from one well that is 165 feet deep located in the SE 1/4 NW 1/4 Section 17 to irrigate 115 acres located in the NW 1/4 Section 17; all in T95N-R52W. The application is proposing to irrigate an additional 40 acres located in the W 1/2 NE 1/4 Section 17-T95N-R52W from the existing well. This application, if approved does not authorize any increase in the developed diversion rate. The Water Management Board did authorize a change in the location of acres without an increase in the diversion rate authority or acres authorized by Water Right No. 5982-3.

Application No. 7466-3 filed by Bethel Hagen Trust, c/o Bruce Hagen, 1300 W Murphy Dr. Sioux Falls SD 57108 proposes to appropriate 1.78 cfs from one well to be approximately 169 feet deep located in approximate center of the NE 1/4 Section 5 for irrigation of 152 acres located in the NE 1/4 Section 5; all in T96N-R51W.

Application No. 7467-3 filed by Cleland Hagen Trust, c/o Bruce Hagen, 1300 W Murphy Dr. Sioux Falls, SD 57108 proposes to appropriate 1.78 cfs from one well to be approximately 134 feet deep located in the approximate center of the NW 1/4 Section 13 for irrigation of 152 acres located in the NW 1/4 Section 13; all in T97N-R52W.

Application No. 7600-3 filed by Michael D Stevens, 28916 458th Ave, Viborg, SD 57070 proposes to appropriate 3.56 cfs from two wells to be approximately 200 feet deep located in the NE 1/4 NW 1/4 and the approximate center of the SW 1/4 Section 12 for irrigation of 180 acres located in the NW 1/4, N 1/2 SW 1/4 Section 12; all in T96N-R52W. The applicant is proposing to locate a pivot in the center of SW 1/4 Section 12 to irrigate the entire SW 1/4. A portion of Water Permit No. 7128-3 held by Paul Shubeck authorizes irrigation of the S 1/2 SW 1/4 Section 12-T96N-R52W.

Application No. 7601-3 filed by Michael D Stevens, 28916 458th Ave, Viborg, SD 57070 proposes to appropriate 1.89 cfs from one well to be approximately 200 feet deep located in the approximate center of the NE 1/4 Section 25 to irrigate 132 acres located in the NE 1/4 Section 25; all in T97N-R53W.

Application No. 7603-3 filed by Michael D Stevens, 28916 458th Ave, Viborg SD 57070 proposes to appropriate 1.78 cfs from one well to be approximately 150 feet deep located in the approximate center of the NE 1/4 Section 33 to irrigate 120 acres located in the NE 1/4 Section 33; all in T97N-R52W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Application No. 7623-3 filed by Darrell Osborn, 28838 463rd Ave, Centerville SD 57014 proposes to appropriate 1.89 cfs from one well to be approximately 140 feet deep located in the SE 1/4 NW 1/4 Section 24 for irrigation of 140 acres located in the NW 1/4, W 1/2 NE 1/4 Section 24; all in T97N-R52W.

Application No. 7653-3 filed by Jeremiah Welsh, 29217 460th Ave, Centerville SD 57014 proposes to appropriate 1.67 cfs from one well to be approximately 180 feet deep located in the approximate center of the SW 1/4 Section 8 for irrigation of 85 acres located in the W 1/2 SW 1/4, NE 1/4 SW 1/4 Section 8; all in T96N-R52W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Application No. 7690-3 filed by Tim or David Ostrem, 45924 300 St, Wakonda SD 57073 proposes to appropriate 1.78 cfs from one well to be approximately 50 - 90 feet deep located in the center of the NE 1/4 Section 29 for irrigation of 160 acres located in the NE 1/4, E 1/2 NW 1/4 Section 29; all in T96N-R52W.

Application No. 7900-3 filed by Leon Thompson, 401 S 11th St, Beresford SD 57004 proposes to appropriate 1.89 cfs from one well to be approximately 151 feet deep located in the NW 1/4 NE 1/4 Section 6 for irrigation of 136 acres located in the NE 1/4 Section 6; all in T95N-R51W.

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Application No. 7587-3 filed by Paul Petersen, 45610 282nd St, Hurley, SD 57036 proposes to appropriate 1.78 cfs from one well to be approximately 100 feet deep located in the approximate center of the SE 1/4 Section 10 for irrigation of 160 acres located in the SW 1/4 Section 10; all in T98N-R53W.

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Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application Nos. 7535-3, 7588-3, 7602-3, 7633-3 and 7715-3 from the West Management Unit of the Upper Vermillion Missouri Aquifer

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.

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Any interested person who in-

tends to participate in the hearing shall file a petition to oppose or support specific applications and the petition shall be filed with BOTH the applicant and Chief Engineer. The applicant must also file a petition if opposed to the Chief Engineer's recommendation on their applications. 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 are given above. A petition filed by either an interested person or the applicant must be filed by Feb. 24, 2014. The petition may be informal, but shall be in writing and shall include a statement describing the petitioner's interest in any of the applications, the petitioner's reasons for opposing or supporting specific applications, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained. The party that previously petitioned as an intervenor retains party status. 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.

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at least 20 days upon written request to the Chief Engineer from the applicant or any person who has filed a petition to oppose or support of an above listed application. The request for an automatic delay must be filed by Feb. 24, 2014. If an automatic delay is requested, the hearing will be rescheduled for a future Board meeting and personal notice will be provided to the applicants and to all petitioners regarding the time, date and location.

Contact Eric Gronlund by Feb. 24, 2014 at the above Chief Engineer's address to request copies of the staff report, recommendations, applications or 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.

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1-26-17." This is a Notice of Hearing, service is being provided by publication, and the applicable date to give notice to the Chief Engineer is Feb. 24, 2014. 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; and Board Rules ARSD 74:02:01:01 thru 74:02:01:25.02; 74:02:01:35.01.

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

Published once at the total approximate cost of \$160.53.

(#5760,02/13/14, The New Era)

AFFIDAVIT OF PUBLICATION

STATE OF SOUTH DAKOTA)

:SS

COUNTY OF TURNER)

Allyson M. Hill, being first duly sworn, on oath says the CENTERVILLE JOURNAL is a WEEKLY newspaper published in CENTERVILLE in said county of TURNER, State of South Dakota; and that she is authorized to and does make this affidavit on behalf of said CENTERVILLE JOURNAL; that affiant has personal knowledge of all facts stated in this affidavit; that said newspaper is a legal newspaper as defined by SDCL 17-2-2.1 through 17-2-2.4 inclusive as amended, has a bona fide circulation of at least two hundred copies WEEKLY, has been published in the English language within said county and has been admitted to the United States mail under the second class mailing privilege, for at last one year continuously 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 said notice, a printed copy of which taken from the paper in which the same was published is hereto attached and is made part of this affidavit, was published in said newspaper

1 time(s) as follows: that the first publication of said

notice in said newspaper aforesaid was on Thursday

the 13 day of February, 2014,

and that the succeeding publications were severally

on Thursday, the ____ day of _____, 2014;

on Thursday, the ____ day of _____, 2014;

on Thursday, the ____ day of _____, 2014;

on Thursday, the ____ day of _____, 2014;

Affiant further says that the full amount of the fees charged for the publication of said notice inures to the benefit of the publishers of said newspaper; that no agreement of understanding for the division thereof has been made with any other person, that no part therefore has been agreed to be paid to any person whomsoever; and that the fees charged for the publication thereof are:

DOLLARS (\$) 147³⁸

(x) Allyson M. Hill Allyson M. Hill

Subscribed and sworn to before me this 27 day of

February, 2014

Notary Public

My commission expires 11/14/2018.



NOTICE OF HEARING ON APPLICATIONS TO APPROPRIATE WATER FROM MANAGEMENT UNITS OF THE UPPER VERMILLION MISSOURI AQUIFER

Twenty one applications proposing to appropriate water for irrigation from the Upper Vermillion Missouri (UVM) aquifer were filed in 2012 and 2013. The Chief Engineer recommended deferral because at the time it was not possible to conclude that unappropriated water was available from the aquifer. Nineteen

of the applications were formally deferred by the Water Management Board pending study of the UVM aquifer. Two other applications (Nos. 7690-3 and 7919-3) are currently public noticed for a March 6, 2014, hearing with a recommendation of deferral.

The South Dakota Geologic Survey (SDGS) conducted work in 2013 - 2014 which established new boundaries for the main body of the aquifer. This work done by the SDGS has been analyzed by the Water Rights Program and provides identifiable geologic and hydrologic data documenting two boundaries establishing three management units within the UVM aquifer. The Water Rights Program is proposing designating North, South and West management units of the UVM aquifer. Observation well data and a flow net analysis has been conducted on each management unit to determine whether unappropriated water is available.

All UVM applications are now scheduled before the Water Management Board for consideration. The Chief Engineer has revised the recommendation to approval for those applications within the boundary of the South Management Unit and the West Management Unit. The Chief Engineer recommends that applications within the North Management Unit remain deferred. The report to the Chief Engineer and the recommendations are available at <http://icnr.sd.gov/des/wr/pubnotice.aspx> or by contacting the Water Rights Program at (605) 773-3352.

This notice schedules a hearing before the Water Management Board beginning at 10:30 AM, on Thursday,

March 6, 2014, in the Floyd Matthew Training Center, Joe Foss Building, 523 E Capitol Avenue, Pierre SD. Listed below is a description of each application, the Chief Engineer's recommendation, and the procedure to file a petition to intervene in the hearing process.

South Management Unit of the Upper Vermillion Missouri Aquifer (Approval Recommendation)

Application No. 7441-3 filed by Gary E or Julie A Peterson, 45913 299th St, Centerville SD 57014 proposes to appropriate 1.78 cubic feet of water per second (cfs) from one well to be approximately 175 feet deep located in the center of the SE 1/4 Section 8 for irrigation of 140 acres located in the SE 1/4 Section 8; all in T95N-R52W.

Application No. 7442-3 filed by Gary E or Julie A Peterson, 45913 299th St, Centerville SD 57014 proposes to irrigate 40 additional acres. Water Right No. 5982-3 authorizes 1.64 cubic feet of water per second (cfs) from one well that is 165 feet deep located in the SE 1/4 NW 1/4 Section 17 to irrigate 115 acres located in the NW 1/4 Section 17; all in T95N-R52W. The application is proposing to irrigate an additional 40 acres located in the W 1/2 NE 1/4 Section 17-T95N-R52W from the existing well. This application, if approved does not authorize any increase in the developed diversion rate. The Water Management Board did authorize a change in the location of acres without an increase in the diversion rate authority or acres authorized by Water Right No. 5982-3.

Application No. 7466-3 filed by Bethel Hagen Trust, c/o Bruce Hagen, 1300 W Murphy Dr. Sioux Falls SD 57108 proposes to appropriate 1.78 cfs from one well to be approximately 169 feet deep located in approximate center of the NE 1/4 Section 5 for irrigation of 152 acres located in the NE 1/4 Section 5; all in T96N-R51W.

Application No. 7467-3 filed by Cleland Hagen Trust, c/o Bruce Hagen, 1300 W Murphy Dr. Sioux Falls SD 57108 proposes to appropriate 1.78 cfs from one well to be approximately 134 feet deep located in the approximate center of the NW 1/4 Section 13 for irrigation of 152 acres located in the NW 1/4 Section 13; all in T97N-R52W.

Application No. 7600-3 filed by Michael D Stevens, 28916 458th Ave, Viborg SD 57070 proposes to appropriate 3.56 cfs from two wells to be approximately 200 feet deep located in the NE 1/4 NW 1/4 and the approximate center of the

SW 1/4 Section 12 for irrigation of 180 acres located in the NW 1/4, N 1/2 SW 1/4 Section 12; all in T96N-R52W. The applicant is proposing to locate a pivot in the center of SW 1/4 Section 12 to irrigate the entire SW 1/4. A portion of Water Permit No. 7128-3 held by Paul Shubeck authorizes irrigation of the S 1/2 SW 1/4 Section 12-T96N-R52W.

Application No. 7601-3 filed by Michael D Stevens, 28916 458th Ave, Viborg SD 57070 proposes to appropriate 1.89 cfs from one well to be approximately 200 feet deep located in the approximate center of the NE 1/4 Section 25 to irrigate 132 acres located in the NE 1/4 Section 25; all in T97N-R53W.

Application No. 7603-3 filed by Michael D Stevens, 28916 458th Ave, Viborg SD 57070 proposes to appropriate 1.78 cfs from one well to be approximately 150 feet deep located in the approximate center of the NE 1/4 Section 33 to irrigate 120 acres located in the NE 1/4 Section 33; all in T97N-R52W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Application No. 7623-3 filed by Darrell Osborn, 28838 463rd Ave, Centerville SD 57014 proposes to appropriate 1.89 cfs from one well to be approximately 140 feet deep located in the SE 1/4 NW 1/4 Section 24 for irrigation of 140 acres located in the NW 1/4, W 1/2 NE 1/4 Section 24; all in T97N-R52W.

Application No. 7653-3 filed by Jeremiah Welsh, 29217 460th Ave, Centerville SD 57014 proposes to appropriate 1.67 cfs from one well to be approximately 180 feet deep located in the approximate center of the SW 1/4 Section 8 for irrigation of 85 acres located in the W 1/2 SW 1/4, NE 1/4 SW 1/4 Section 8; all in T96N-R52W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Application No. 7690-3 filed by Tim or David Ostrem, 45924 300 St, Wakonda SD 57073 proposes to appropriate 1.78 cfs from one well to be approximately 50 - 90 feet deep located in the center of the NE 1/4 Section 29 for irrigation of 160 acres located in the NE 1/4, E 1/2 NW 1/4 Section 29; all in T96N-R52W.

Application No. 7900-3 filed by Leon Thompson, 401 S 11th St, Beresford SD 57004 proposes to appropriate 1.89 cfs from one well to be approximately 151 feet deep located in the NW 1/4 NE 1/4 Section 6 for irrigation of 136 acres located in the NE 1/4 Section 6; all in T95N-R51W

Application No. 7919-3 filed by Larry & Marlene Erickson, 29859 461st Ave, Centerville SD 57014 proposes to appropriate 1.83 cfs from one well to be approximately 75 feet deep located in the approxi-

mate center of the NE 1/4 Section 9 for irrigation of 83.83 acres located in the NE 1/4 Section 9; all in T95N-R52W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application Nos. 7441-3, 7442-3, 7466-3, 7467-3, 7600-3, 7601-3, 7603-3, 7623-3, 7653-3, 7690-3, 7900-3 and 7919-3 from the South Management Unit of the Upper Vermillion Missouri Aquifer 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.

North Management Unit of the Upper Vermillion Missouri Aquifer (Deferral Recommendation)

Application No. 7452-3 filed by Jerome Hult, 45958 Hwy 18, Davis SD 57021 proposes to appropriate 1.78 cfs from one well to be approximately 190 feet deep located in SW 1/4 NE 1/4 Section 32 for irrigation of 110 acres located in the W 1/2 NE 1/4, SE 1/4 NE 1/4 Section 32; all in T98N-R52W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Application No. 7468-3 filed by Cleland Hagen Trust, c/o Bruce Hagen, 1300 W Murphy Dr. Sioux Falls SD 57108 proposes to appropriate 1.78 cfs from one well approximately 134 feet deep located in the approximate center of the NE 1/4 Section 26 for irrigation of 152 acres located in the NE 1/4 Section 26; all in T98N-R52W.

Application No. 7558-3 filed by Cleland Trust, 38736 Nasturtium Way, Palm Desert CA 92211 has filed an application for a water permit to appropriate 1.78 cfs from one well to be approximately 275 feet deep located in the approximate center between the NW 1/4 and the SW 1/4 Section 1 for irrigation of 120 acres located in the N 1/2 SW 1/4, S 1/2 NW 1/4 Section 1; all in T98N-R52W.

Application No. 7587-3 filed by Paul Petersen, 45610 282nd St, Hurley SD 57036 proposes to appropriate 1.78 cfs from one well to be approximately 100 feet deep located in the approximate center of the SE 1/4 Section 10 for irrigation of 160 acres

located in the SW 1/4 Section 10; all in T98N-R53W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends continuing DEFERRAL of Application Nos. 7452-3, 7468-3, 7558-3 and 7587-3 from the North Management Unit of the Upper Vermillion Missouri Aquifer until information is available to determine if there is reasonable probability that there is unappropriated water available for the applicant's proposed use. Pursuant to SDCL 46-2A-9, a permit to appropriate water may be issued only if there is a reasonable probability that unappropriated water is available.

West Management Unit of the Upper Vermillion Missouri Aquifer (Approval Recommendation)

Application No. 7535-3 filed by Donald D Benson, 45067 284th St, Hurley SD 57036 proposes to appropriate 1.78 cfs from one well to be approximately 220 feet deep located in the SW 1/4 NW 1/4 Section 30 for irrigation of 65 acres located in the NW 1/4 Section 30; all in T98N-R53W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Application No. 7588-3 filed by Paul Petersen, 45610 282nd St, Hurley SD 57036 proposes to appropriate 1.78 cfs from one well to be approximately 145 feet deep located in the approximate center of the SW 1/4 Section 19 to irrigate 160 acres located in the SW 1/4 Section 19; all in T98N-R53W.

Application No. 7602-3 filed by Michael D Stevens, 28916 458th Ave, Viborg SD 57070 proposes to appropriate 1.89 cfs from one well to be approximately 140 feet deep located in the approximate center between the NW 1/4 and the NE 1/4 Section 34 for irrigation of 132 acres located in the E 1/2 NW 1/4 and the W 1/2 NE 1/4 Section 34; all in T97N-R53W.

Application No. 7633-3 filed by Brad Farrar, 28795 452nd Ave, Viborg SD 57070 proposes to appropriate 1.78 cfs from one well to be approximately 205 feet deep located in the center of the SW 1/4 Section 32 for irrigation of 152 acres located in the SW 1/4 Section 32; all in T98N-R53W.

Application No. 7715-3 filed by Allen Vannorsdel, 45515 288th St, Viborg SD 57070 proposes to appropriate 2.22 cfs from one well to be approximately 160 feet deep located in the center of the SW 1/4 Section 16 for irrigation of 156 acres located in the SW 1/4 Section 16; all in T97N-R53W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application Nos. 7535-3, 7588-3, 7602-3, 7633-3 and 7715-3 from the West Management Unit of the Upper Vermillion Missouri Aquifer 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.

SDCL 46-2A-4(10) provides that "if the applicant does not contest the recommendation of the Chief Engineer and no petition to oppose a specific application is received, the Chief Engineer shall act on the application pursuant to the Chief Engineer's recommendation and no hearing may be held before the board, unless the Chief Engineer makes a finding that an application, even if uncontested, presents important issues of public policy or public interest that should be heard by the board." In this case, the Chief Engineer finds that these applications present important issues of public interest that should be heard.

The Water Management Board will consider these applications beginning at 10:30 AM. on Thursday, March 6, 2014, in the Matthew Training Center, Joe Foss Building, 523 E. Capitol Ave. Pierre SD. The agenda time is an estimate. The Chief Engineer's recommendations are not final or binding upon the Board. The Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny these applications based on the facts presented at the public hearing.

Any interested person who intends to participate in the hearing shall file a petition to oppose or support specific applications and the petition shall be filed with BOTH the applicant and Chief Engineer. The applicant must also file a petition if opposed to the Chief Engineer's recommendation on their applications. 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 are given above. A petition filed by either an interested person or the applicant must be filed by February 24, 2014. The petition may be informal, but shall be in writing and shall include a state-

ment describing the petitioner's interest in any of the applications, the petitioner's reasons for opposing or supporting specific applications, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

The party that previously petitioned as an intervener retains party status. 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.

The March 6, 2014, hearing date will be automatically delayed for at least 20 days upon written request to the Chief Engineer from the applicant or any person who has filed a petition to oppose or support of an above listed application. The request for an automatic delay must be filed by February 24, 2014. If an automatic delay is requested, the hearing will be rescheduled for a future Board meeting and personal notice will be provided to the applicants and to all petitioners regarding the time, date and location.

Contact Eric Gronlund by February 24, 2014 at the above Chief Engineer's address to request copies of the staff report, recommendations, applications or 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.

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 publication, and the applicable date to give notice to the Chief Engineer is February 24, 2014. 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; and Board Rules ARSD 74:02:01:01 thru 74:02:01:25.02; 74:02:01:35.01.

*Steven M. Pirmer, Secretary,
Department of Environment and
Natural Resources.*

Published once at an approximate cost of \$147.38

AFFIDAVIT OF PUBLICATION

STATE OF SOUTH DAKOTA)

:SS

COUNTY OF TURNER)

Allyson M. Hill, being first duly sworn, on oath says the VIBORG ENTERPRISE is a WEEKLY newspaper published in VIBORG in said county of TURNER, State of South Dakota; and that she is authorized to and does make this affidavit on behalf of said VIBORG ENTERPRISE; that affiant has personal knowledge of all facts stated in this affidavit; that said newspaper is a legal newspaper as defined by SDCL 17-2-2.1 through 17-2-2.4 inclusive as amended, has a bona fide circulation of at least two hundred copies WEEKLY, has been published in the English language within said county and has been admitted to the United States mail under the second class mailing privilege, for at last one year continuously 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 said notice, a printed copy of which taken from the paper in which the same was published is hereto attached and is made part of this affidavit, was published in said newspaper

1 time(s) as follows: that the first publication of said

notice in said newspaper aforesaid was on Thursday

the 13 day of February, 2014,

and that the succeeding publications were severally

on Thursday, the ____ day of _____, 2014;

on Thursday, the ____ day of _____, 2014;

on Thursday, the ____ day of _____, 2014;

on Thursday, the ____ day of _____, 2014;

Affiant further says that the full amount of the fees charged for the publication of said notice inures to the benefit of the publishers of said newspaper; that no agreement of understanding for the division thereof has been made with any other person, that no part therefore has been agreed to be paid to any person whomsoever; and that the fees charged for the publication thereof are:

DOLLARS (\$) 147³⁸

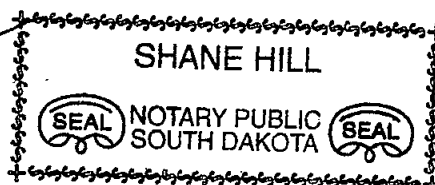
(x) Allyson M. Hill, Allyson M. Hill

Subscribed and sworn to before me this 27 day of

February, 2014

Notary Public

My commission expires 11/14/2018



NOTICE OF HEARING ON APPLICATIONS TO APPROPRIATE WATER FROM MANAGEMENT UNITS OF THE UPPER VERMILLION MISSOURI AQUIFER

Twenty one applications proposing to appropriate water for irrigation from the Upper Vermillion Missouri (UVM) aquifer were filed in 2012 and 2013. The Chief Engineer recommended deferral because at the time it was not possible to conclude that unappropriated water was available from the aquifer. Nineteen of the applications were formally deferred by the Water Management Board pending study of the UVM aquifer. Two other applications (Nos. 7690-3 and 7919-3) are currently public noticed for a March 6, 2014, hearing with a recommendation of deferral.

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Floyd Matthew Training Center, Joe Foss Building, 523 E Capitol Avenue, Pierre SD. Listed below is a description of each application, the Chief Engineer's recommendation, and the procedure to file a petition to intervene in the hearing process.

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mit to appropriate 1.78 cfs from one well to be approximately 275 feet deep located in the approximate center between the NW 1/4 and the SW 1/4 Section 1 for irrigation of 120 acres located in the N 1/2 SW 1/4, S 1/2 NW 1/4 Section 1; all in T98N-R52W.

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Application No. 7588-3 filed by Paul Petersen, 45610 282nd St, Hurley SD 57036 proposes to appropriate 1.78 cfs from one well to be approximately 145 feet deep located in the approximate center of the SW 1/4 Section 19 to irrigate 160 acres located in the SW 1/4 Section 19; all in T98N-R53W.

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The Water Management Board will consider these applications beginning at 10:30 AM. on Thursday, March 6, 2014, in the Matthew Training Center, Joe Foss Building, 523 E. Capitol Ave. Pierre SD. The agenda time is an estimate. The Chief Engineer's recommendations are not final or binding upon the Board. The Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny these applications based on the facts presented at the public hearing.

Any interested person who intends to participate in the hearing shall file a petition to oppose or support specific applications and the petition shall be filed with BOTH the

applicant and Chief Engineer. The applicant must also file a petition if opposed to the Chief Engineer's recommendation on their applications. 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 are given above. A petition filed by either an interested person or the applicant must be filed by February 24, 2014. The petition may be informal, but shall be in writing and shall include a statement describing the petitioner's interest in any of the applications, the petitioner's reasons for opposing or supporting specific applications, and the signature and mailing address of

the petitioner or the petitioner's legal counsel, if legal counsel is obtained. The party that previously petitioned as an intervener retains party status. 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.

The March 6, 2014, hearing date will be automatically delayed for at least 20 days upon written request to the Chief Engineer from the applicant or any person who has filed a petition to oppose or support of an above listed application. The request for an automatic delay must be filed by February 24, 2014. If an automatic delay is requested, the hearing will be rescheduled for a future Board meeting and personal notice will be provided to the applicants and to all petitioners regarding the time, date and location.

Contact Eric Gronlund by February 24, 2014 at the above Chief Engineer's address to request copies of the staff report, recommendations, applications or 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.

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 publication, and the applicable date to give notice to the Chief Engineer is February 24, 2014. 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; and Board Rules ARSD 74:02:01:01 thru 74:02:01:25:02; 74:02:01:35:01.

*Steven M. Pirner, Secretary,
Department of Environment and
Natural Resources.
Published once at an approximate
cost of \$147.38.*

February 18, 2014

PAYMENT REQUEST FORM

PAYEE: Argus Leader
PO Box 677349
Dallas TX 75267-7349

FROM: DENR Water Rights Program
523 E. Capitol Ave
Pierre, SD 57501-3181

DESCRIPTION OF SERVICE, PRODUCE OR TRANSFER

Notice of Hearing for UVM Aquifer permits # 1435497

AMOUNT: \$392.57

FUNDING SOURCE:

GENERAL: X

FEDERAL:

OTHER:

COMMENTS:

AUTHORIZATION:

Nail Jackson 2-18-14

I declare and affirm under the penalties of perjury that this claim is in all things, true and correct. I further agree to comply with the provisions of the Civil Rights Act of 1964 and regulations issued thereunder relating to nondiscrimination in federal assisted programs.

February 19, 2014

PAYMENT REQUEST FORM

PAYEE: Daily Press & Dakotan
319 Walnut
Yankton SD 57078

FROM: DENR Water Rights Program
523 E. Capitol Ave
Pierre, SD 57501-3181

DESCRIPTION OF SERVICE, PRODUCE OR TRANSFER

Public notice for UVM hearing

AMOUNT: \$190.99

FUNDING SOURCE:

GENERAL: X

FEDERAL:

OTHER:

COMMENTS:

AUTHORIZATION:

Gail Jacobson 2-19-14

I declare and affirm under the penalties of perjury that this claim is in all things, true and correct. I further agree to comply with the provisions of the Civil Rights Act of 1964 and regulations issued thereunder relating to nondiscrimination in federal assisted programs.

February 21, 2014

PAYMENT REQUEST FORM

PAYEE: Plain Talk
201 W Cherry St
Vermillion SD 57069

FROM: DENR Water Rights Program
523 E. Capitol Ave
Pierre, SD 57501-3181

DESCRIPTION OF SERVICE, PRODUCE OR TRANSFER

Public notice for UVM hearing

AMOUNT: \$190.99

FUNDING SOURCE:

GENERAL: X

FEDERAL:

OTHER:

COMMENTS:

AUTHORIZATION:

Gail Jackson 2-21-14

I declare and affirm under the penalties of perjury that this claim is in all things, true and correct. I further agree to comply with the provisions of the Civil Rights Act of 1964 and regulations issued thereunder relating to nondiscrimination in federal assisted programs.

February 21, 2014

PAYMENT REQUEST FORM

PAYEE: Lennox Independent
PO Box 76
Lennox SD 57039

FROM: DENR Water Rights Program
523 E. Capitol Ave
Pierre, SD 57501-3181

DESCRIPTION OF SERVICE, PRODUCE OR TRANSFER

Public notice for UVM hearing #2286

AMOUNT: \$159.25

FUNDING SOURCE:

GENERAL: X

FEDERAL:

OTHER:

COMMENTS:

AUTHORIZATION:

Gail Jackson 2-21-14

I declare and affirm under the penalties of perjury that this claim is in all things, true and correct. I further agree to comply with the provisions of the Civil Rights Act of 1964 and regulations issued thereunder relating to nondiscrimination in federal assisted programs.

February 24, 2014

PAYMENT REQUEST FORM

PAYEE: New Century Press (New Era)
PO Box 28
Rock Rapids IA 51246

FROM: DENR Water Rights Program
523 E. Capitol Ave
Pierre, SD 57501-3181

DESCRIPTION OF SERVICE, PRODUCE OR TRANSFER

Public notice for UVM hearing # 5760

AMOUNT: \$160.53

FUNDING SOURCE:

GENERAL: X

FEDERAL:

OTHER:

COMMENTS:

AUTHORIZATION: *Gail Jacobson - 2-24-14*

I declare and affirm under the penalties of perjury that this claim is in all things, true and correct. I further agree to comply with the provisions of the Civil Rights Act of 1964 and regulations issued thereunder relating to nondiscrimination in federal assisted programs.

March 4, 2014

PAYMENT REQUEST FORM

PAYEE: Star Publishing
PO Box H
Centerville SD 57014

FROM: DENR Water Rights Program
523 E. Capitol Ave
Pierre, SD 57501-3181

DESCRIPTION OF SERVICE, PRODUCE OR TRANSFER

Public notice for UVM hearing--Viborg & Centerville papers
#'s 02132245 & 0212260 (\$147.38 each)

AMOUNT: \$294.76

FUNDING SOURCE:

GENERAL: X

FEDERAL:

OTHER:

COMMENTS:

AUTHORIZATION:

Gail Jackson 3-4-14

I declare and affirm under the penalties of perjury that this claim is in all things, true and correct. I further agree to comply with the provisions of the Civil Rights Act of 1964 and regulations issued thereunder relating to nondiscrimination in federal assisted programs.



DEPARTMENT OF ENVIRONMENT
and NATURAL RESOURCES

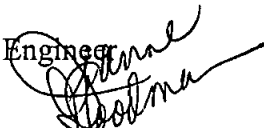
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov



February 10, 2014

NOTICE

TO: A. Jason Rumpca, 103 N 3rd Street, Beresford SD 57004
Donald McCarty, PO Box 78, Brookings SD 57006
Gary or Julie Peterson, 45913 299th Street, Centerville SD 57014
Jerome Hult, 45958 Hwy 18, Davis SD 57021
Donald Benson, 45067 284th Street, Hurley SD 57036
Jeremiah Welsh, 29217 460th Avenue, Centerville SD 57014
Brad Farrar, 28795 452nd Avenue, Viborg SD 57070
Darrell Osborn, 28838 463rd Avenue, Centerville SD 57014
Michael D Stevens, 28916 458th Avenue, Viborg SD 57070
Paul Peterson, 45610 282nd Street, Hurley SD 57036
Dr Bruce Hagen, 1300 W Murphy Drive, Sioux Falls SD 57108
Dr Bruce Hagen, 38736 Nasturtium Way, Palm Desert, CA 92211
Allen Vannorsdel, 45515 288th Street, Viborg SD 57070
Leon Thompson, 401 S 11th Street, Beresford SD 57004
Tim or David Ostrem, 45924 300 St, Wakonda SD 57073
Larry and Marlene Erickson, 29859 461st Avenue, Centerville SD 57014

FROM: Jeanne Goodman, Chief Engineer
Water Rights Program 

SUBJECT: Scheduling Hearing before Water Management Board on Deferred Applications for Irrigation from the Upper Vermillion Missouri Aquifer

Twenty one applications proposing to appropriate water for irrigation from the Upper Vermillion Missouri (UVM) aquifer were filed between the fall of 2012 through 2013. The Chief Engineer recommended deferral of the applications because at the time it was not possible to conclude that unappropriated water is available from the aquifer. Nineteen of the applications have been formally deferred by the Water Management Board until study of the UVM aquifer is completed. Two other applications (Nos. 7690-3 and 7919-3) are currently public noticed for a March 6, 2014, hearing with a recommendation of deferral.

The South Dakota Geologic Survey (SDGS) conducted work in 2013 and early 2014 which established new boundaries for the main body of the aquifer. This work done by the SDGS has been analyzed by the Water Rights Program and provides identifiable geologic and hydrologic data documenting two boundaries which if implemented, establish three management units within the UVM aquifer. The Water Rights Program is proposing designating North, South and West Management Units of the UVM aquifer. Each management unit was analyzed to determine the availability of unappropriated water. Enclosed is the staff report to the

Chief Engineer that provides 1) the basis for designation of the three management units, and 2) an evaluation of water availability for each unit.

The Chief Engineer has revised the recommendation to approval for those applications within the boundary of the South Management Unit and West Management Unit. Attached is a table that provides a listing of the proposed applications, the applicant and the management location where each application is located. Revised recommendations are enclosed to each applicant specific to the applications they have pending. For those applicants in the North Management Unit, the original recommendation for deferral remains in place. Those desiring to view all the revised recommendations may find them on-line at <http://denr.sd.gov/des/wr/pubnotice.aspx>.

This notice schedules a hearing before the Water Management Board on these applications beginning at 10:30 AM, on Thursday, March 6, 2014, in the Floyd Matthew Training Center, Joe Foss Building, 523 E Capitol Avenue, Pierre SD. The agenda time is an estimate and may be delayed due to prior agenda items.

A notice of hearing on the applications setting forth the management unit boundaries, the Chief Engineer's revised recommendations, and scheduling a March 6th hearing before the Water Management Board will be published the week of February 10, 2014, in accordance with SDCL 46-2A-4. Enclosed is the public notice.

If you have any questions regarding the report, revised recommendation, public notice or the water permitting process, please contact Eric Gronlund or Ken Buhler at (605) 773-3352.

Enclosures

c: Diane Best, Assistant Attorney General
Ann Mines, Assistant Attorney General

Pending Applications from the Upper Vermillion Missouri Aquifer Designated by Management Units

West Management Unit – recommend for approval

North Management Unit – recommend continued deferral

South Management Unit – recommend for approval

Permit No.	Applicant	Management Unit of UVM Aquifer	CFS	Well Location	Acres	Acre Location
7535-3	Donald Benson	West	1.78	SW¼ NW¼ Sec. 30, T98N-R53W	65	NW¼ Sec. 30, T98N-R53W
7588-3	Paul Peterson	West	1.78	SW¼ Sec. 19, T98N-R53W	160	SW¼ Sec. 19, T98N-R53W
7602-3	Michael Stevens	West	1.89	Between NW¼ & NE¼ Sec. 34, T97N-R53W	132	E½NW¼, W½NE¼ Sec. 34, T97N-R53W
7633-3	Brad Farrar	West	1.78	SW¼ Sec. 32, T98N-R53W	152	SW¼ Sec. 32, T98N-R53W
7715-3	Allen Vannorsdel	West	2.22	SW ¼ Section 16, T97N- R53W	156	SW ¼ Sec. 16, T97N-R53W
7452-3	Jerome Hult	North	1.78	SW¼NE¼ Sec. 32, T98N-R52W	110	W½NE¼, SE¼NE¼ Sec. 32, T98N-R52W
7468-3	Cleland Hagen Trust	North	1.78	NE¼ Sec. 26, T98N-R52W	152	NE¼ Sec. 26, T98N-R52W
7558-3	Cleland Hagen Trust	North	1.78	Between NW¼ & SW¼ Sec. 1, T98N-R52W	120	N½SW¼, S½NW¼ Sec. 1, T98N-R52W
7587-3	Paul Peterson	North	1.78	SE¼ Sec. 10, T98N-R53W	160	SW¼ Sec. 10, T98N-R53W
7441-3	Gary/Julie Peterson	South	1.79	SE¼ Sec. 8, T95N-R52W	140	SE¼ Sec. 8, T95N-R52W
7442-3	Gary/Julie Peterson	South	no add'l	NW¼ Sec. 17, T95N-R52W	40	W½ NE¼ Sec. 17, T95N-R52W
7466-3	Bethel Hagen Trust	South	1.78	NE¼ Sec. 5, T96N-R51W	152	NE¼ Sec. 5, T96N-R51W
7467-3	Cleland Hagen Trust	South	1.78	NW¼ Sec. 13, T97N-R52W	152	NW¼ Sec. 13, T97N-R52W
7600-3	Michael Stevens	South	3.56	NE¼NW¼ & SW¼ Sec. 12, T96N-R52W (2 wells)	180	NW¼, N½SW¼ Sec. 12, T96N-R52W
7601-3	Michael Stevens	South	1.89	NE¼ Sec. 25, T-97N-R53W	132	NE¼ Sec. 25, T97N-R53W
7603-3	Michael Stevens	South	1.78	NE¼ Sec. 33, T97N-R52W	120	NE¼ Sec. 33, T97N-R52W
7623-3	Darrel Osborn	South	1.89	SE¼NW¼ Sec. 24, T97N-R52W	140	NW¼, W½NE¼ Sec 24, T97N-R52W
7653-3	Jeremiah Welsh	South	1.67	SW¼ Sec. 8, T96N-R52W	85	W½SW¼, NE¼SW¼ Sec. 8, T96N-R52W
7690-3	Tim/David Ostrem	South	1.78	NE¼ Sec. 29, T96N-R52W	160	NE¼ Sec. 29, T95N-R52W
7900-3	Leon Thompson	South	1.89	NW¼NE¼ Sec.6, T95N-R51W	136	NE¼ Sec. 6, T95N-R51W
7919-3	Larry/Marlene Erickson	South	1.83	NE¼ Sec. 9, T95N-R52W	83.83	NE¼ Sec. 9, T95N-R52W

CERTIFICATION

I hereby certify that on February 11, 2014, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelope(s) containing a Notice dated February 11, 2014 regarding scheduling a hearing in the matter of Water Right Permit Nos. 7441-3, 7442-3, 7452-3, 7466-3, 7535-3, 7467-3, 7468-3, 7558-3, 7587-3, 7588-3, 7600-3, 7601-3, 7602-3, 7603-3, 7623-3, 7633-3, 7653-3, 7690-3, 7715-3, 7900-3, and 7919-3 as set forth below:

A. Jason Rumpca, 103 N 3rd Street, Beresford SD 57004
Donald McCarty, PO Box 78, Brookings SD 57006
Gary or Julie Peterson, 45913 299th Street, Centerville SD 57014
Jerome Hult, 45958 Hwy 18, Davis SD 57021
Donald Benson, 45067 284th Street, Hurley SD 57036
Jeremiah Welsh, 29217 460th Avenue, Centerville SD 57014
Brad Farrar, 28795 452nd Avenue, Viborg SD 57070
Darrell Osborn, 28838 463rd Avenue, Centerville SD 57014
Michael D Stevens, 28916 458th Avenue, Viborg SD 57070
Paul Peterson, 45610 282nd Street, Hurley SD 57036
Dr Bruce Hagen, 1300 W Murphy Drive, Sioux Falls SD 57108
Dr Bruce Hagen, 38736 Nasturtium Way, Palm Desert, CA 92211
Allen Vannorsdel, 45515 288th Street, Viborg SD 57070
Leon Thompson, 401 S 11th Street, Beresford SD 57004
Tim or David Ostrem, 45924 300 St, Wakonda SD 57073
Larry and Marlene Erickson, 29859 461st Avenue, Centerville SD 57014
Diane Best, Assistant Attorney General, 317 N Main Ave, Sioux Falls SD 57104

Sent Interoffice to:

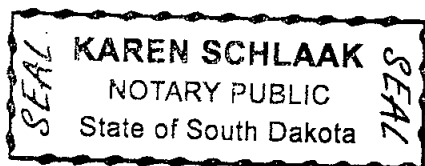
Ann Mines, Assistant Attorney General, 1302 E Hwy 14, Suite 1, Pierre SD 57501


Gail Jacobson
Secretary/Water Rights

[illegible]

Sworn to, before me, this 11th day of February, 2014.

Karen Schlaak
Karen Schlaak
Notary Public
My Commission expires April 1, 2019





**DEPARTMENT OF ENVIRONMENT
and NATURAL RESOURCES**

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



March 11, 2014

NOTICE

TO: Jerome Hult, 45958 Hwy 18, Davis SD 57021
Paul Peterson, 45610 282nd Street, Hurley SD 57036
Dr Bruce Hagen, 1300 W Murphy Drive, Sioux Falls SD 57108
Dr Bruce Hagen, 38736 Nasturtium Way, Palm Desert, CA 92211

FROM: Jeanne Goodman, Chief Engineer
Water Rights Program

SUBJECT: Deferral of Water Permit Application Nos. 7452-3, 7468-3, 7558-3 and 7587-3

On March 6, 2014, the Water Management Board considered twenty one applications for irrigation from the Upper Vermillion Missouri aquifer. The Board approved seventeen of those applications and continued deferral of the four applications in the portion of the aquifer designated as the North management unit of the Upper Vermillion Missouri aquifer. The four that remain deferred are:

Water Permit Application Nos. 7452-3, Jerome Hult
Water Permit Application Nos. 7468-3, Cleland Hagen Trust,
Water Permit Application Nos. 7558-3, Cleland Hagen Trust
Water Permit Application Nos. 7587-3, Paul Peterson

The Board's action was to defer these four applications for one additional year. Future notice will be provided when the applications are scheduled to come back before the Board in March of 2015.

If you have questions regarding the deferral, please contact Eric Gronlund at (605) 773-3352.

c: Ann Mines, Assistant Attorney General
Matt Naasz, Assistant Attorney General

CERTIFICATION

I hereby certify that on March 11, 2014, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated March 11, 2014, regarding continued deferral in the matter of Water Right Permit Application Nos. 7452-3, 7468-3, 7558-3 and 7587-3, as set forth below:

Jerome Hult, 45958 Hwy 18, Davis SD 57021
Paul Peterson, 45610 282nd Street, Hurley SD 57036
Dr Bruce Hagen, 1300 W Murphy Drive, Sioux Falls SD 57108
Dr Bruce Hagen, 38736 Nasturtium Way, Palm Desert, CA 92211

Sent Notice Inter-Office mail to:

Ann Mines, Assistant Attorney General,
8501 George S Mickelson Criminal Justice
1302 E. Hwy 14, Suite 1, Pierre SD 57501-8501

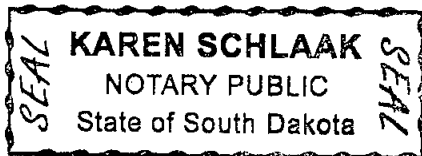
Matt Naasz, Assistant Attorney General,
8501 George S Mickelson Criminal Justice
1302 E. Hwy 14, Suite 1, Pierre SD 57501-8501


Gail Jacobson
Water Rights Program, DENR

[illegible]

Sworn to, before me, this 11th day of March, 2014

Karen Schlaak
Karen Schlaak
Notary Public
My Commission expires April 1, 2019





DEPARTMENT OF ENVIRONMENT
and NATURAL RESOURCES

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



March 17, 2014

NOTICE

TO: A. Jason Rumpca, 103 N 3rd Street, Beresford SD 57004
Donald McCarty, PO Box 78, Brookings SD 57006
Gary or Julie Peterson, 45913 299th Street, Centerville SD 57014
Jerome Hult, 45958 Hwy 18, Davis SD 57021
Donald Benson, 45067 284th Street, Hurley SD 57036
Jeremiah Welsh, 29217 460th Avenue, Centerville SD 57014
Brad Farrar, 28795 452nd Avenue, Viborg SD 57070
Darrell Osborn, 28838 463rd Avenue, Centerville SD 57014
Michael D Stevens, 28916 458th Avenue, Viborg SD 57070
Paul Peterson, 45610 282nd Street, Hurley SD 57036
Dr Bruce Hagen, 1300 W Murphy Drive, Sioux Falls SD 57108
Dr Bruce Hagen, 38736 Nasturtium Way, Palm Desert, CA 92211
Allen Vannorsdel, 45515 288th Street, Viborg SD 57070
Leon Thompson, 401 S 11th Street, Beresford SD 57004
Tim or David Ostrem, 45924 300 St, Wakonda SD 57073
Larry and Marlene Erickson, 29859 461st Avenue, Centerville SD 57014

FROM: *for* Jeanne Goodman, Chief Engineer
Water Rights Program

Eric Henderson

SUBJECT: Order

This is to notify applicants of the Water Management Board's Order in the matter of water permit applications from the Upper Vermillion Missouri Aquifer considered at hearing before the Water Management Board on March 6, 2014.

South Dakota statutes provide that decisions of the Board may be appealed to the Courts to the extent that they constitute final agency decisions. Any appeals from decisions of the South Dakota Water Management Board must be filed within thirty days of this notice and be in accordance with procedures established in SDCL 1-26-31.

Enclosure

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

RECEIVED

MAR 14 2014

WATER RIGHTS
PROGRAM

STATE OF SOUTH DAKOTA

SOUTH DAKOTA WATER MANAGEMENT BOARD

WATER PERMIT APPLICATION NOS.)
7441-3 & 7442-3(GARY OR JULIE)
PETERSON); 7452-3 (JEROME HULT);)
7466-3 (BETHEL HAGEN TRUST);)
7467-3 & 7468-3 (CLELAND HAGEN)
TRUST); 7535-3(DONALD D)
BENSON); 7558-3 (CLELAND HAGEN)
TRUST); 7587-3 & 7588-3 (PAUL)
PETERSEN); 7600-3, 7601-3, 7602-3)
& 7603-3 (MICHAEL D. STEVENS);)
7623-3 (DARRELL OSBORN);)
7633-3(BRAD FARRAR); 7653-3)
(JEREMIAH WELSH); 7690-3 (TIM OR)
DAVID OSTREM); 7715-3 (ALLEN)
VANNORSDEL); 7900-3 (LEON)
THOMPSON); and 7919-3 (LARRY AND)
MARLENE ERICKSON))

FINAL ORDER

Hearing on the above entitled applications was held on March 6, 2014 before Board members Jim Hutmacher, Rodney Freeman, Tim Bjork, Chad Comes (Chairman), Everett Hoyt, and Leo Holzbauer pursuant to Notice dated February 10, 2014 . No applicants were present. At the hearing the Department of Natural Resources Water Rights Program presented evidence and argument for the Board's consideration.

The Board, having considered the testimony, exhibits and legal argument and all records and documents on file and having entered its oral decision and rulings on the parties' submissions, now enters its ruling as follows:

1. The Board incorporates the Ken Buhler report dated February 1, 2014, as its Findings of Fact.

2. The Board finds that the Upper Vermillion Missouri aquifer should be divided into three management units as presented in the Buhler report; and hereby adopts this finding for purposes of these and future water permit applications.

3. The Board concludes, with respect to the South and West Management Units, that the legal standard has been met to grant water permits under SDCL §§ 46-2A-9 and 46-6-3.1.

4. With respect to the North Management Unit, there is insufficient evidence to determine, with a reasonable probability, whether the withdrawals would exceed recharge if the permits were granted. Additional study is warranted.

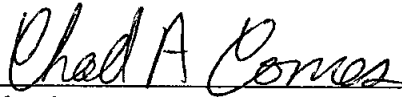
5. The Board hereby grants all permits to the Applicants from the West and South Units as recommended by the Chief Engineer on February 7, 2014, except that the acre feet limitation on permits 7603-3, 7535-3, 7653-3, and 7919-3 may not exceed 2 acre feet of water per acre per year. The permit applications granted are: 7441-3 & 7442-3 (Gary or Julie Peterson); 7466-3 (Bethel Hagen Trust); 7467-3 (Cleland Hagen Trust); 7535-3 (Donald D. Benson); 7588-3 (Paul Peterson); 7600-3, 7601-3, 7602-3 & 7603-3 (Michael D. Stevens); 7623-3 (Darrell Osborn); 7633-3 (Brad Farrar); 7653-3 (Jeremiah Welsh); 7690-3 (Tim or David Ostrem); 7715-3 (Allen Vannorsdel); 7900-3 (Leon Thompson); and 7919-3 (Larry and Marlene Erickson)

6. The Board further defers permits 7452-3 (Jerome Hult), 7468-3 (Cleland Hagen Trust), 7558-3 (Cleland Hagen Trust), and 7587-3 (Paul Peterson)

from the North Management Unit of the Upper Vermillion Missouri Aquifer for one year. This ruling on these 4 permits is not final; DENR is directed to notice this matter after one year. Accordingly, the applications, if ultimately granted, would hold priority dates relating back to the date of application under SDCL § 46-2A-15.

Dated this 10th day of March, 2014.

BY THE BOARD:

A handwritten signature in black ink that reads "Chad A. Comes". The signature is written in a cursive style with a horizontal line underneath it.

Chad Comes, Chairman
South Dakota Water Management Board

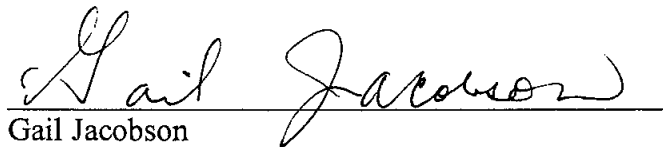
CERTIFICATION

I hereby certify that on March 17, 2014, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated March 17, 2014, regarding the order in the matter of Water Right Permit Application Nos. 7441-3, 7442-3, 7452-3, 7466-3, 7535-3, 7467-3, 7468-3, 7558-3, 7587-3, 7588-3, 7600-3, 7601-3, 7602-3, 7603-3, 7623-3, 7633-3, 7653-3, 7715-3, 7900-3, 7690-3 and 7919-3 as set forth below:

A. Jason Rumpca, 103 N 3rd Street, Beresford SD 57004
Donald McCarty, PO Box 78, Brookings SD 57006
Jerome Hult, 45958 Hwy 18, Davis SD 57021
Donald Benson, 45067 284th Street, Hurley SD 57036
Jeremiah Welsh, 29217 460th Avenue, Centerville SD 57014
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Allen Vannorsdel, 45515 288th Street, Viborg SD 57070
Leon Thompson, 401 S 11th Street, Beresford SD 57004
Tim or David Ostrem, 45924 300 St, Wakonda SD 57073
Larry and Marlene Erickson, 29859 461st Avenue, Centerville SD 57014
Diane Best, Assistant Attorney General, 317 N Main Avenue, Sioux Falls SD 57104

Sent Interoffice to:

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



Gail Jacobson
Water Rights Program, DENR

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 17th day of March, 2014.



Karen Schlaak
Notary Public
My Commission expires April 1, 2019



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

April 14, 2015

Dr. Bruce Hagen
1300 W Murphy Drive
Sioux Falls SD 57108

SUBJECT: Update on Deferred Water Permit Application Nos. 7468-3 and 7558-3

Dear Dr. Hagen:

You filed Water Permit Application Nos. 7468-3 and 7558-3 to appropriate water from the Upper Vermillion Missouri (UVM) aquifer for irrigation in Turner County. In March of 2013, the Water Management Board deferred applications, including yours, pending completion of a study of the aquifer. The Department of Environment and Natural Resources (DENR)-South Dakota Geological Survey Program conducted field work throughout that spring and summer and based on their early work, the Board in March 2014, approved a number of permits after considering separate management units for the aquifer. The Board continued to defer applications (including yours) in the "north management unit" of the aquifer to allow additional study and data collection of the aquifer.

The study was completed in February 2015. DENR-Water Rights is reviewing the study findings to evaluate the availability of unappropriated water from the north management unit. We are committed to process these applications as soon as possible and the review and recommendation process will be completed in time to bring this matter before the Board at their July 8 – 9, 2015, meeting.

If you have questions regarding the status of your applications, please contact Eric Gronlund at (605) 773-3352.

Sincerely,

Jeanne Goodman, Chief Engineer
Water Rights Program

c: Dr. Bruce Hagen, 38736 Nasturtium Way, Palm Desert, CA 92211



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
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**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 7558-3, Cleland Trust**

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. 7558-3, Cleland Trust, c/o Dr. Bruce Hagen, 1300 W Murphy Drive, Sioux Falls SD 57108.

The Chief Engineer is recommending APPROVAL of Application No. 7558-3 because 1) there is reasonable probability that there is unappropriated water available for the applicant's proposed use, 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. The well approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The well authorized by Permit No. 7558-3 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.
3. Pursuant to SDCL 46-5-6 which allows a greater diversion rate if the method of irrigation, time constraints, or type of soils so requires, Permit No. 7558-3 authorizes a maximum diversion rate of 1.78 cfs for the irrigation of 120 acres with an annual volume not to exceed 2 acre feet of water per acre per year.
4. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

See report on application for additional information.

Jeanne Goodman, Chief Engineer
May 18, 2015

REPORT TO THE CHIEF ENGINEER
ON
THE NORTH MANAGEMENT UNIT OF THE UPPER VERMILLION AQUIFER
APRIL 21, 2015

HISTORY

A number of water permit applications proposing to appropriate water from the Upper Vermillion Missouri aquifer were filed with the South Dakota Department of Environment and Natural Resources (DENR)-Water Rights Program since the fall of 2012. The Chief Engineer recommended deferral of approximately 20 applications until data was available to determine whether approval of the additional permits from the aquifer would cause average annual withdrawals from the aquifer to exceed the average annual recharge to the aquifer (i.e. determine the probability of unappropriated water available from the aquifer). Interpretation of geologic and hydrologic data produced by the DENR-Geological Survey in 2013-2014, resulted in considering three management units (North, South and West units) within the Upper Vermillion Missouri aquifer (Buhler, 2014). The Water Management Board adopted the three management unit approach to dealing with appropriations from the Upper Vermillion Missouri aquifer at its March 6, 2014, meeting. The deferred water permit applications that proposed appropriations from the south and west management units of the aquifer were approved at the March 2014 Water Management Board meeting because it was determined there was unappropriated water available.

However, three applications proposing to appropriate water from the North management unit remain in deferred status because there was insufficient data to determine that unappropriated water was available. They include Water Permit Application No. 7468-3, Cleland Hagen Trust; Water Permit Application No. 7558-3, Cleland Trust; and Water Permit Application No. 7587-3, Paul Peterson.

Water Permit Application No. 7468-3 proposes to appropriate water from the Upper Vermillion Missouri: North aquifer using one well approximately 206 feet deep, located in the approximate center of the NE $\frac{1}{4}$ of Section 26, T98N-R52W. Water is to be diverted at a maximum diversion rate of 1.78 cubic feet of water per second (cfs) for the irrigation of 152 acres located in the NE $\frac{1}{4}$ of Section 26, T98N-R52W, in Turner County.

Water Permit Application No. 7558-3 proposes to appropriate water from the Upper Vermillion Missouri: North aquifer using one well approximately 275 feet deep, located in the approximate center between the NW $\frac{1}{4}$ and the SW $\frac{1}{4}$ of Section 1, T98N-R52W. Water is to be diverted at a maximum diversion rate of 1.78 cfs for the irrigation of 120 acres located in the N $\frac{1}{2}$ SW $\frac{1}{4}$, S $\frac{1}{2}$ NW $\frac{1}{4}$ of Section 1, T98N-R52W, in Turner County. This application is proposing a diversion rate greater than the statutory limit of one cfs per 70 acres.

Water Permit Application No. 7587-3 proposes to appropriate water from the Upper Vermillion Missouri: North aquifer using one well approximately 100 feet deep, located in the approximate center of the SE $\frac{1}{4}$ of Section 10, T98N-R53W. Water is to be diverted at a maximum diversion rate of 1.78 cfs for the irrigation of 160 acres located in the SW $\frac{1}{4}$ of Section 10, T98N-R53W in Turner County.

Recently, Water Permit Application No. 8126-3, proposing an appropriation from the North management unit was filed with the DENR-Water Rights Program by David, Cathy, Brian, and Krista Smit. Water Permit Application No. 8126-3 proposes to appropriate water from the North management unit of the Upper Vermillion aquifer using two wells approximately 200 feet deep, located in the NE $\frac{1}{4}$ SW $\frac{1}{4}$ and the SE $\frac{1}{4}$ NW $\frac{1}{4}$ Section 33, T98N-R52W. Water is to be diverted at a maximum diversion rate of 3.78 cfs for the irrigation of 220 acres located in the NW $\frac{1}{4}$, NE $\frac{1}{4}$ SW $\frac{1}{4}$, W $\frac{1}{2}$ SE $\frac{1}{4}$, W $\frac{1}{2}$ NE $\frac{1}{4}$ of Section 33, T98N-R52W. This application is proposing a diversion rate greater than the statutory limit of one cfs per 70 acres.

GEOLOGY AND AQUIFER CHARACTERISTICS:

The Upper Vermillion Missouri aquifer is a glacial outwash deposit that generally occupies a north-south trending bedrock channel in Turner, Lincoln and Clay Counties. A study of the Upper Vermillion Missouri aquifer conducted by the DENR-Geological Survey in 2013-2014 established new boundaries for the main body of the aquifer in Turner County (Holmes and Filipovic, 2015). Although the southern boundary of the Upper Vermillion Missouri (South management unit) has not been delineated at this time, data shows that it extends south several miles from the original border as it merges with or transitions into the Lower Vermillion Missouri aquifer. The areal extent of the main body (North and South management units) of the Upper Vermillion Missouri aquifer as defined by these new boundaries is at least 117,000 acres. A channel deposit extending to the northwest from the main body of the Upper Vermillion Missouri aquifer may be hydrologically connected to the aquifer.

The transmissivity of the Upper Vermillion Missouri aquifer was estimated using the specific capacities of irrigation wells and two rural water system wells completed into the aquifer where sufficient data was available. Transmissivity values ranged from 19,200 – 466,600 gpd/ft and the average transmissivity for the aquifer was estimated to be 145,861 gpd/ft (Buhler, 2014).

As the result of work done by the DENR- Geological Survey in 2013-2014, identifiable geologic and hydrologic data suggests two boundaries establishing three management units within the Upper Vermillion Missouri aquifer (Buhler, 2014). Geologic and hydrologic data suggests a boundary between the North management and South management units of the Upper Vermillion Missouri aquifer near the middle of T97N-R52W (Buhler, 2014).

The North management unit of the Upper Vermillion Missouri aquifer extends north of T97N-R52W and encompasses an estimated 38,110 acres (see Figure 1). The North Management unit of the Upper Vermillion Missouri aquifer (UVM:N) is typically buried and under confined conditions. However, the Parker Centerville aquifer overlies the Upper Vermillion Missouri aquifer in places, and the two aquifers are in direct hydrologic contact over approximately 2,930 acres (Holmes and Filipovic, 2015) (see Figure 2). Where the Parker Centerville aquifer directly overlies the Upper Vermillion Missouri: North aquifer, the UVM:N is under unconfined conditions.

A reliable average annual recharge estimate is not available for the Upper Vermillion Missouri: North aquifer, but the source of recharge is “most likely from precipitation rather than inflow from other buried aquifers. The leakage from the overlying Parker-Centerville aquifer to the

Vermillion-Missouri aquifer is the likely source of recharge where the two aquifers are in direct contact...” (Holmes and Filipovic, 2015). Discharge from the UVM:N is through groundwater outflow to the South management unit of the Upper Vermillion Missouri and well withdrawals.

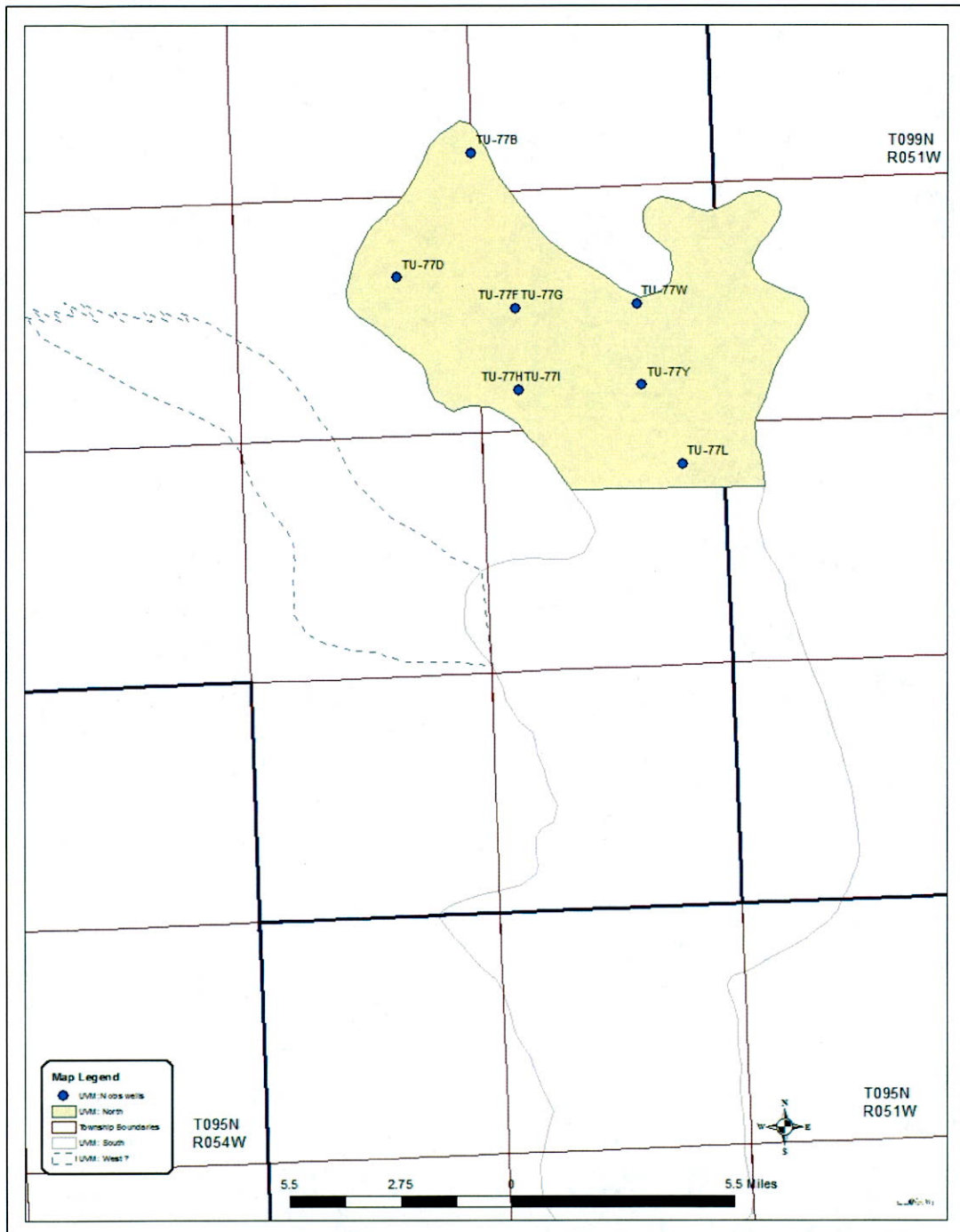


Figure 1. Map showing the location and areal extent of the North management unit of the Upper Vermillion aquifer and the location of DENR-Water Rights' observation wells completed into the aquifer.

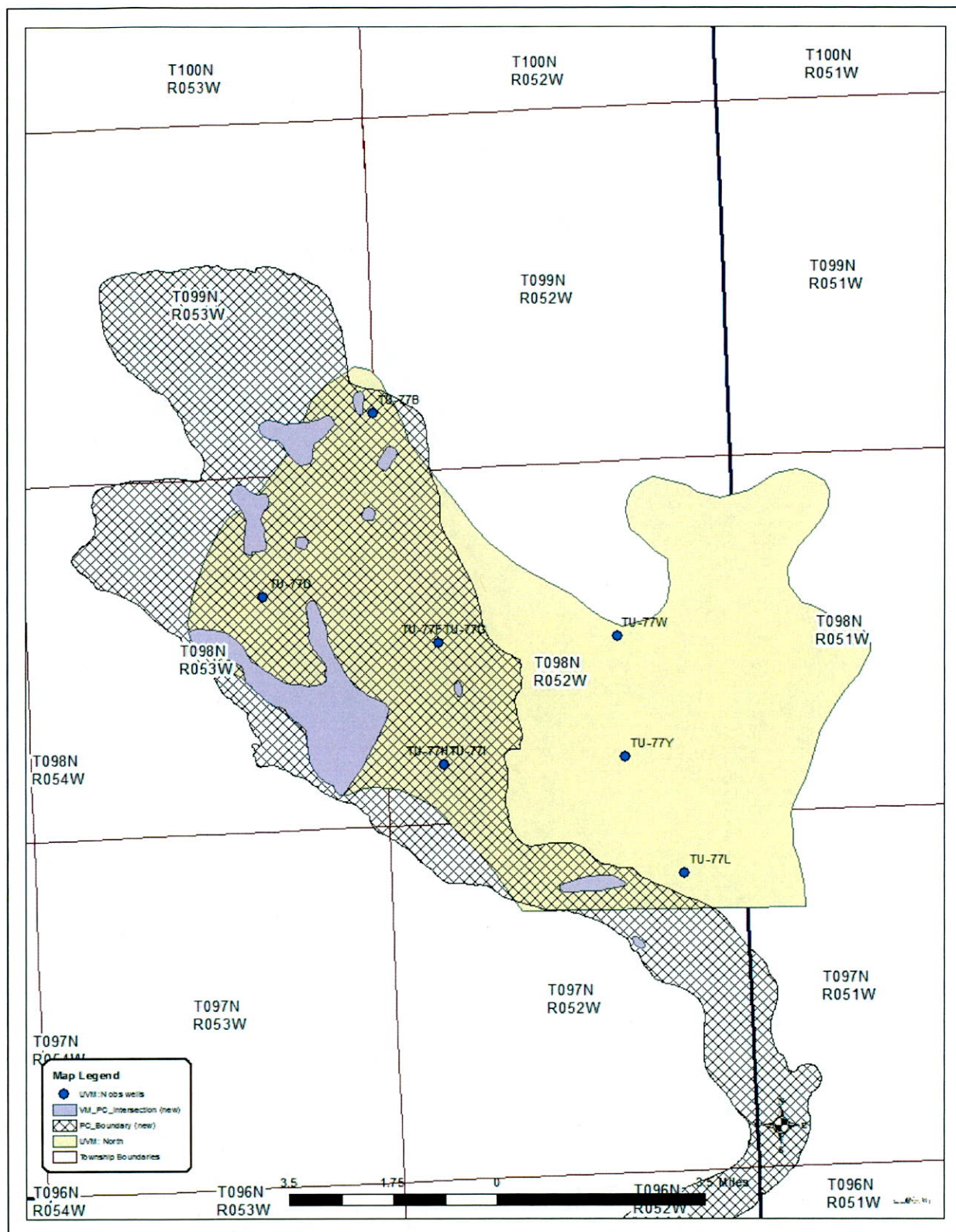


Figure 2. Upper Vermillion: North aquifer, Parker Centerville aquifer and areas where the two aquifers are in direct hydrologic connection (i.e. where the UVM:N is under unconfined conditions) (modified from Holmes and Filipovic, 2015).

SOUTH DAKOTA CODIFIED LAW (SDCL) 46-2A-9

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

WATER AVAILABILITY

The probability of unappropriated water availability from the aquifer can be evaluated by considering SDCL 46-6-3.1 which requires "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."

In applying SDCL 46-6-3.1, the Sixth Judicial Circuit Court ruled in 2005 that if the Water Management Board uses average annual recharge, then it should also use average annual withdrawals to determine if unappropriated water is available from the aquifer (*Hines v. South Dakota Dept. of Environ. and Nat'l. Resources, Hughes County 04-37* (Memorandum Decision, April 29, 2005)).

A 2012 First Judicial Circuit Court's rulings basically stated that data must be presented to show it is probable the average annual recharge exceeds the average annual discharge by at least the amount requested by the water permit application being considered (*Hanson County Dairy v. Robert Bender and Stace Nelson*) (Memorandum Decision, April 11, 2012).

Later in 2012, the First Judicial Circuit Court stated that the determination whether or not it is probable that the quantity of water withdrawn will exceed the quantity of the average estimated annual recharge is to be based on the best information reasonably available, and that nothing in South Dakota law requires a recharge study (*Longview Farms, LLP v. South Dakota Dept. of Environ. and Nat'l. Resources*), (Memorandum Decision, May 17, 2012).

The three deferred water permit applications (Nos. 7468-3, 7558-3, 7587-3) and single new permit application (No. 8126-3) propose to irrigate a total of 652 acres from the North Management Unit of the Upper Vermillion Missouri aquifer. The expected withdrawal associated with these proposed appropriations was estimated based on the *average application rate per permitted acreage* for the Upper Vermillion Missouri aquifer for 1979-2012 (Buhler, 2014) to be 326 acre-feet per year. The availability of unappropriated water from this unit was assessed in terms of SDCL 46-6-3.1 through evaluating observation well data.

Buhler (2013) demonstrated a reliable average annual recharge estimate is not available for the Upper Vermillion Missouri: North aquifer. Therefore, a hydrologic budget comparing the estimated average annual recharge to the aquifer with the estimated average annual withdrawal from the aquifer cannot be completed. There are 57 water rights/permits appropriating water from the UVM:N aquifer. Historic well withdrawals reported from the UVM:N aquifer are shown in Figure 3.

The best information available to evaluate recharge as it compares to withdrawal for the Upper Vermillion Missouri: North aquifer is through the analysis of observation well data. Furthermore, Administrative Rule of South Dakota Section 74:02:05:07 requires the Water Management Board to rely upon the record of observation well measurements and other data to determine that the quantity of water withdrawn annually from the aquifer does not exceed the estimated average annual recharge to the aquifer.

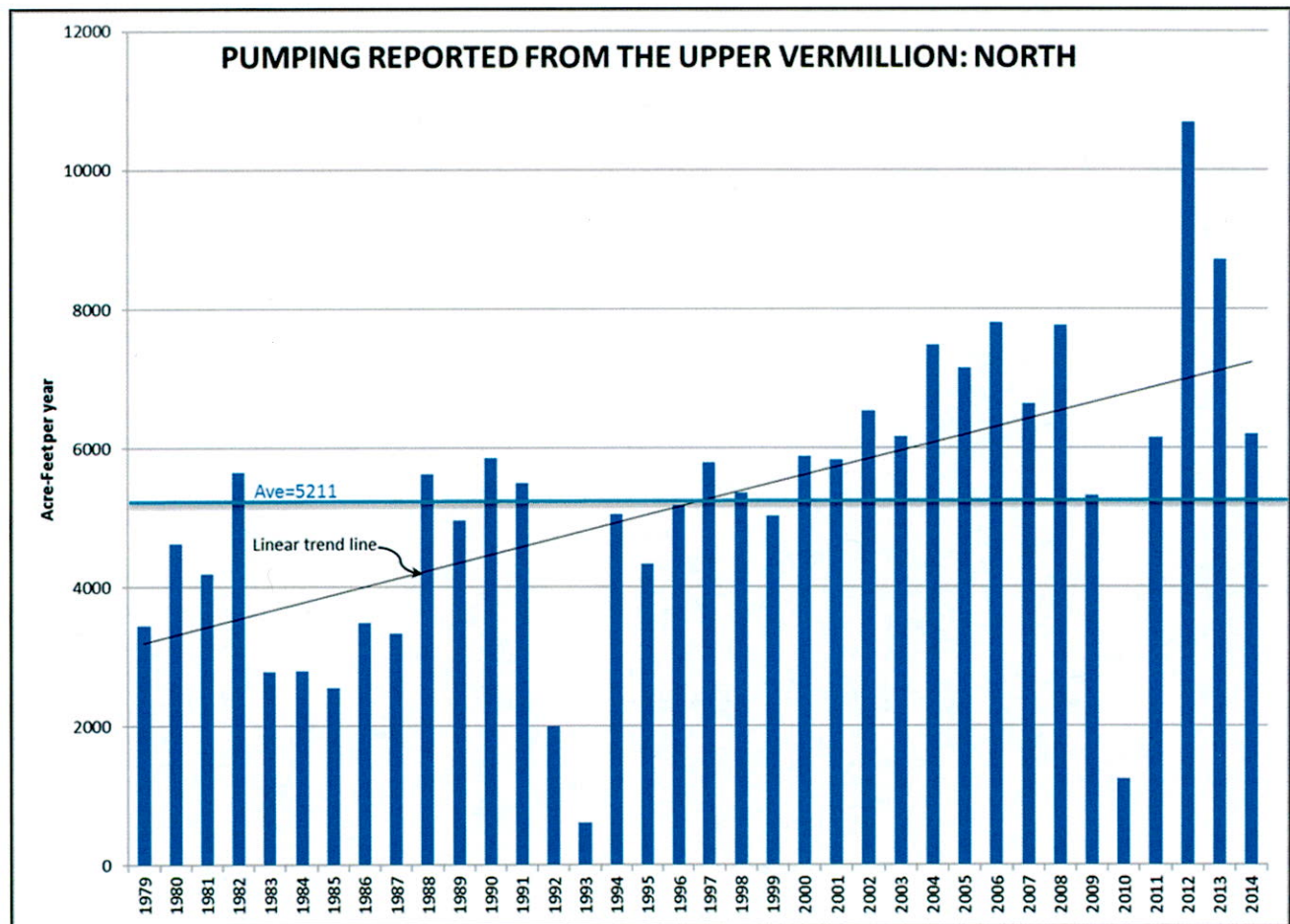


Figure 3. Historic well withdrawals reported by appropriative right holders from the Upper Vermillion Missouri: North aquifer (Water Rights, 1980-2015)

Observation Well Data:

The DENR-Water Rights Program monitors nine observation wells completed into the North Management unit of the Upper Vermillion Missouri aquifer. Hydrographs for these observation wells are shown in Figures 4-12 (Water Rights, 2015a).

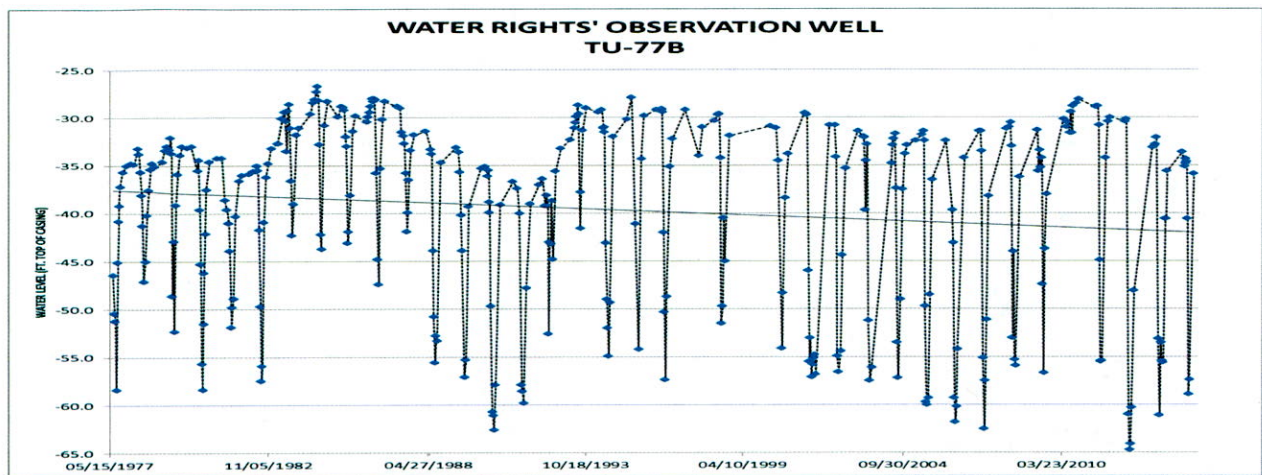


Figure 4. Hydrograph including linear trend line for observation well completed into the UVM:N aquifer (see Figure 1 for location).

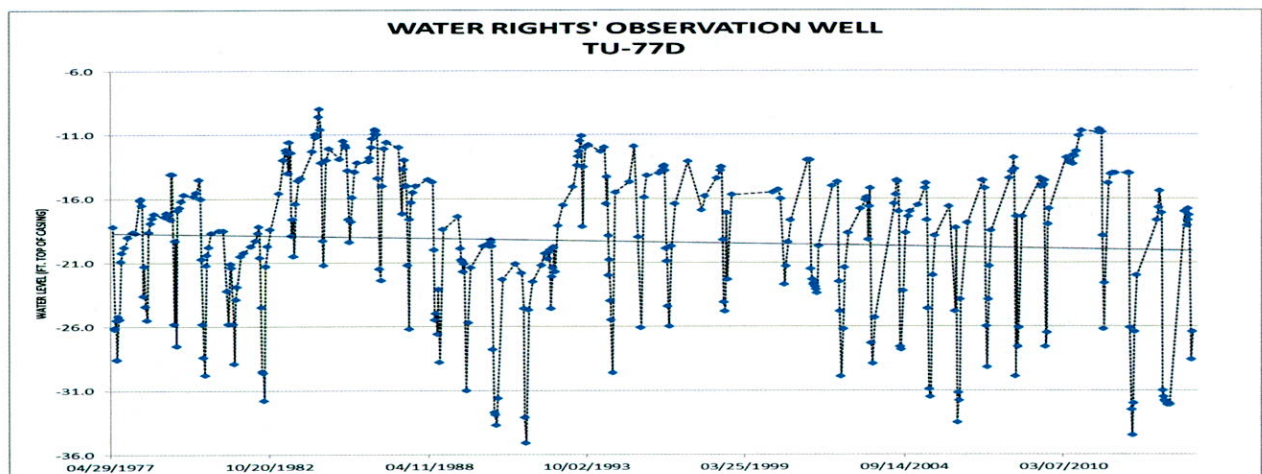


Figure 5. Hydrograph including linear trend line for observation well completed into the UVM:N aquifer (see Figure 1 for location).

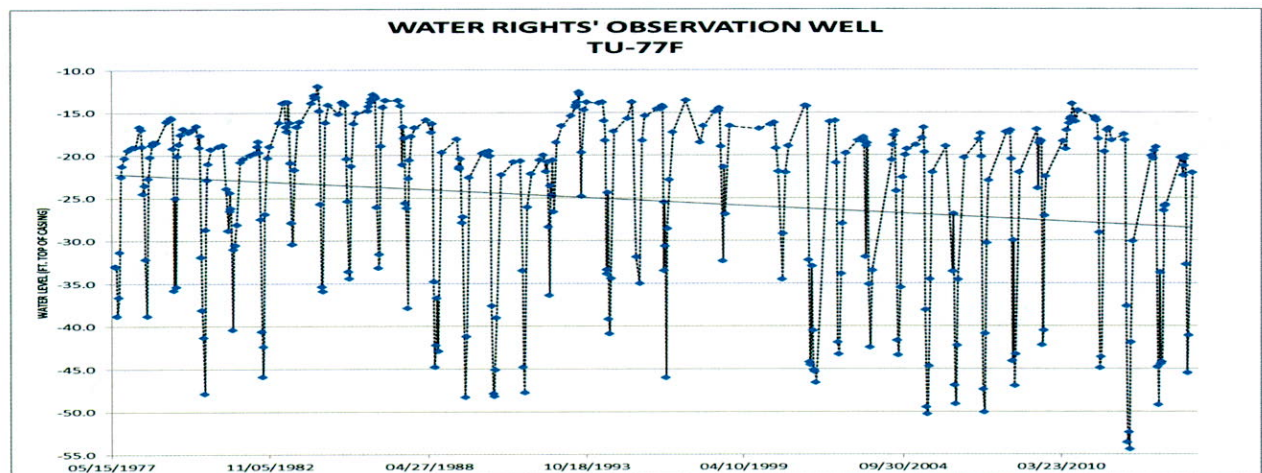


Figure 6. Hydrograph including linear trend line for observation well completed into the UVM:N aquifer (see Figure 1 for location).

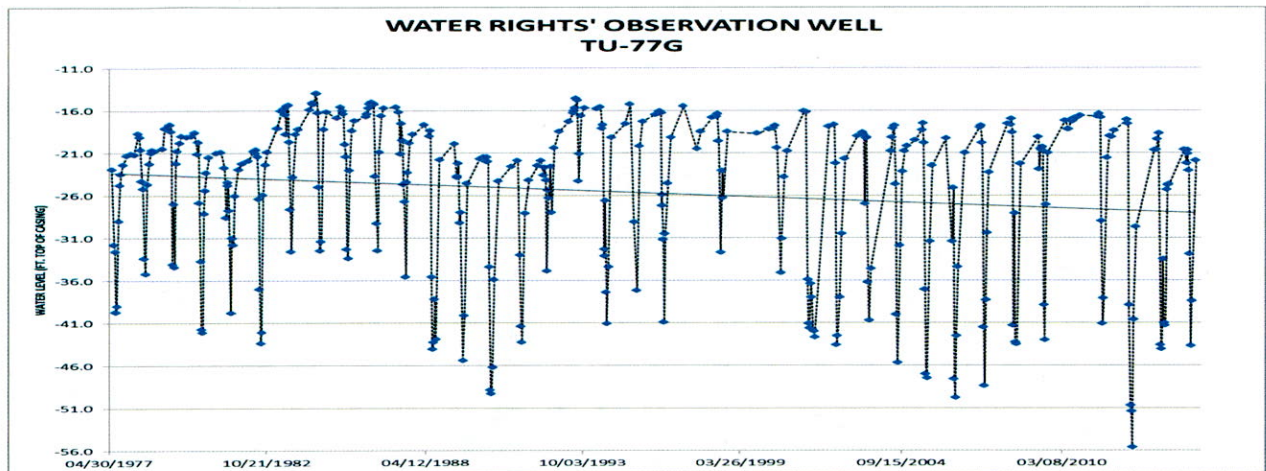


Figure 7. Hydrograph including linear trend line for observation well completed into the UVM:N aquifer (see Figure 1 for location).

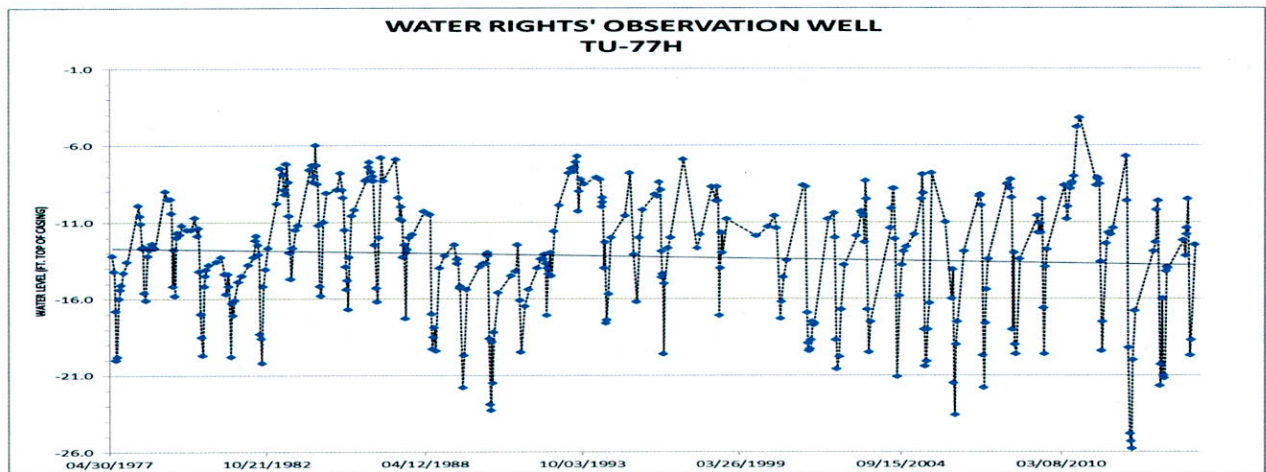


Figure 8. Hydrograph including linear trend line for observation well completed into the UVM:N aquifer (see Figure 1 for location).

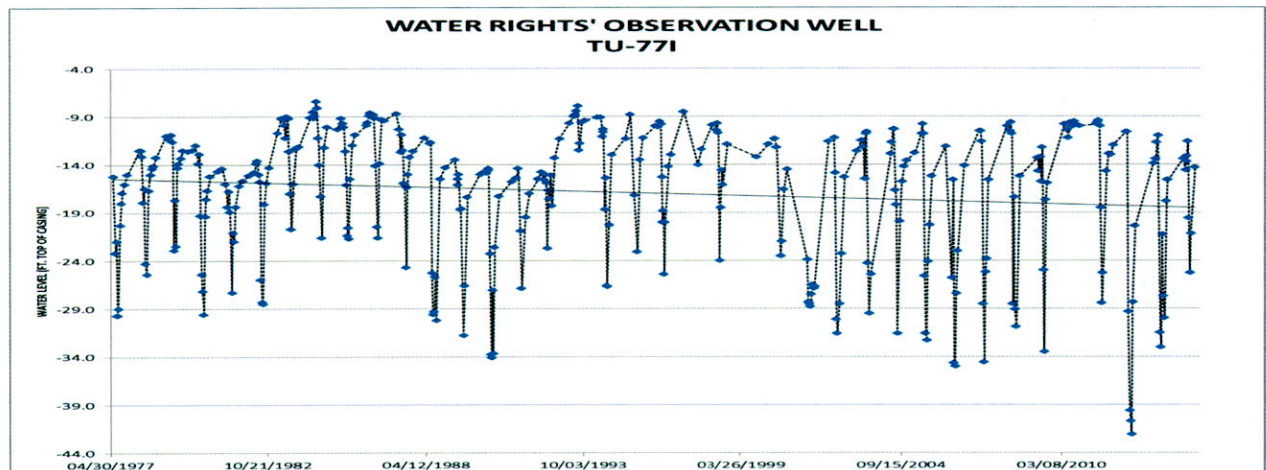


Figure 9. Hydrograph including linear trend line for observation well completed into the UVM:N aquifer (see Figure 1 for location).

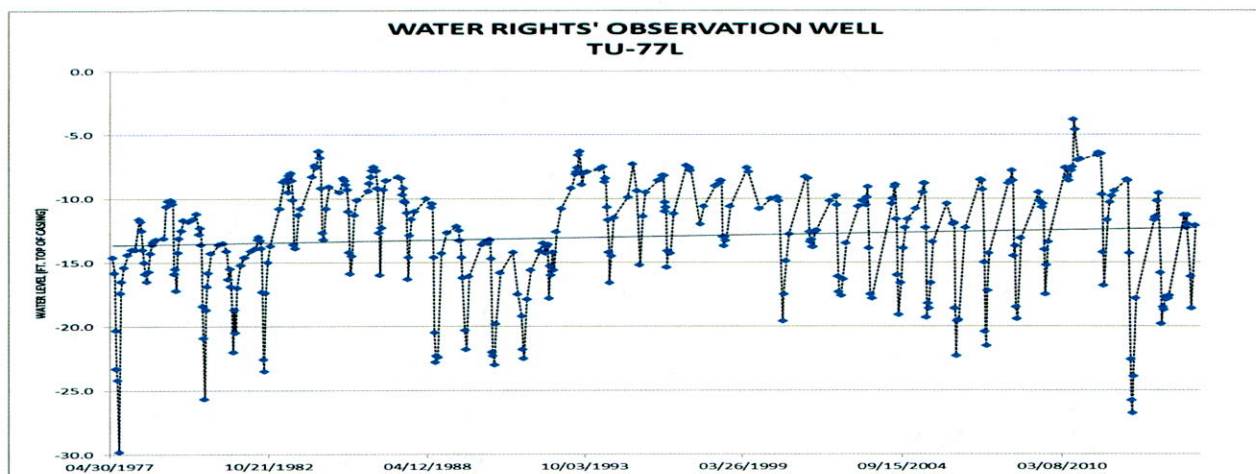


Figure 10. Hydrograph including linear trend line for observation well completed into the UVM:N aquifer (see Figure 1 for location).

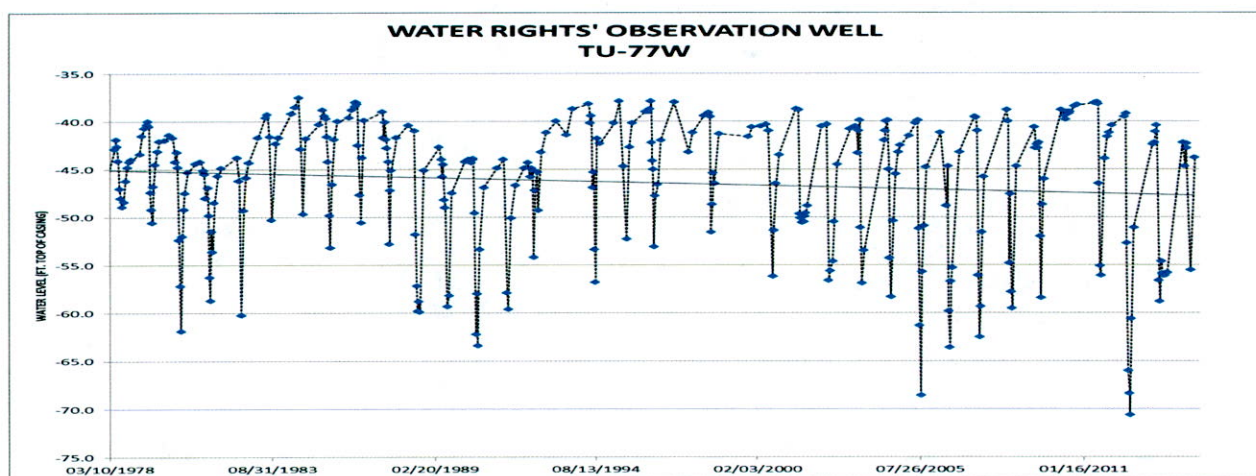


Figure 11. Hydrograph including linear trend line for observation well completed into the UVM:N aquifer (see Figure 1 for location).

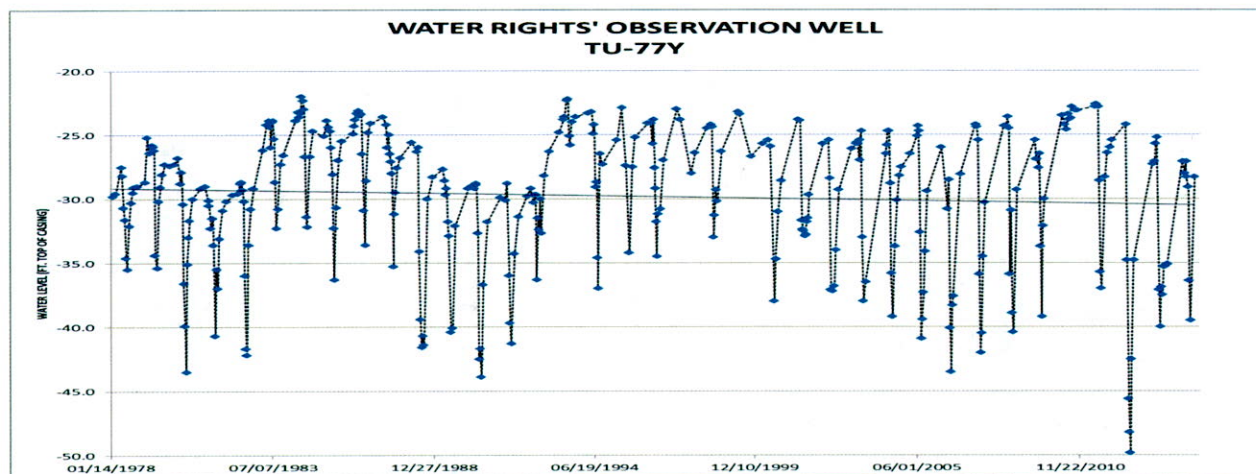


Figure 12. Hydrograph including linear trend line for observation well completed into the UVM:N aquifer (see Figure 1 for location).

Observation well data shows the potentiometric surface of the UVM:N aquifer is typically less than 70 feet below grade. The hydrographs document that seasonal variations of the potentiometric surface are significant, yet the potentiometric surface readily recovers. With the exception of Observation Well TU-77L (Figure 10), the hydrographs all document downward trending water levels over the period of record.

The Upper Vermillion: North is predominately under confined conditions and therefore, by nature, the potentiometric surface is very responsive to pumping (i.e. a small change of water stored in the aquifer results in a fairly large change in the head pressure). This can be illustrated using the Theis Solution, which is a graphical method typically used to analyze an aquifer test to determine aquifer transmissivity and storativity. The Theis Solution is based on a number of simplifying assumptions that are rarely all met, but still can be useful. By assuming a transmissivity and storativity, a graph with the shape of the cone of depression near a pumping well can be developed for a given pumping rate over a time period.

Assuming the transmissivity of the Upper Vermillion Missouri aquifer is 145,861 gpd/ft (see above) and the aquifer has a storativity of 0.0004 (considered reasonable for a confined aquifer), with a pumping rate of 1.78 cfs for a 90 day pumping period, the theoretical drawdown cone that would result is shown in Figure 13. Drawdown 500 feet from the production well is estimated to be 7.51 feet and at a distance of one mile from the pumping well, drawdown is predicted to be 4.55 feet. Ten miles from the production well, drawdown is estimated to be 1.69 feet ("Theis Equation Calculator").

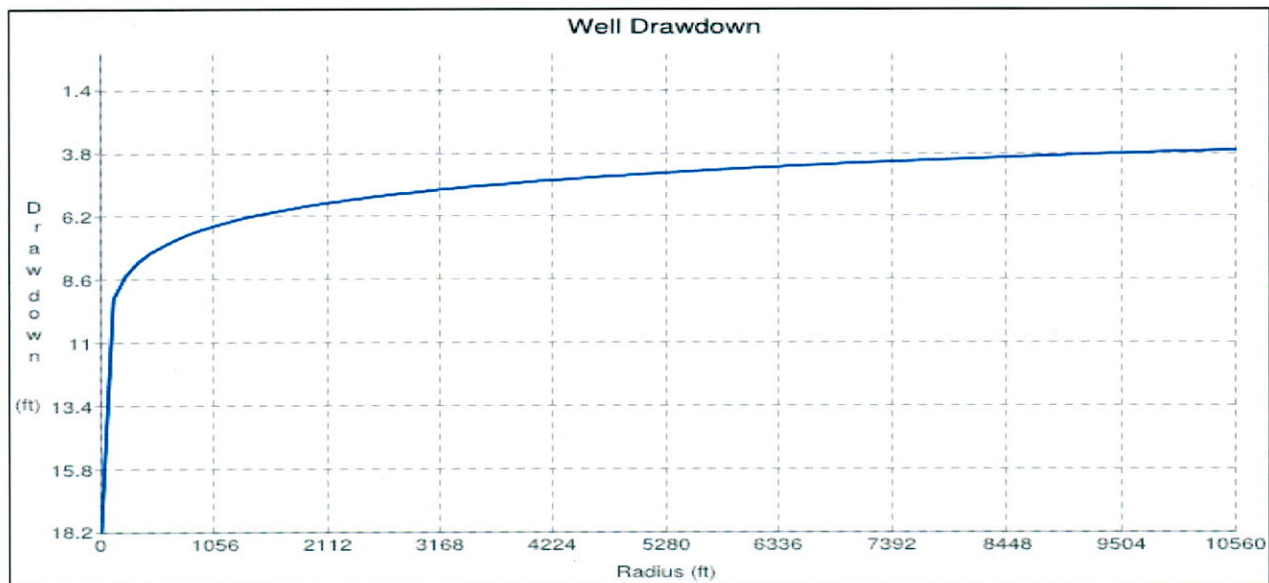


Figure 13. Drawdown predicated by the Theis solution assuming $T=145,861$, $S=0.0004$, $Q=1.78$ cfs, $t=90$ days (modified from ("Theis Equation Calculator")).

Drawdown will be greater than predicted by the Theis Solution if the drawdown cone intersects an aquifer boundary and if the cones of depression of two or more wells overlap (see Figure 14).

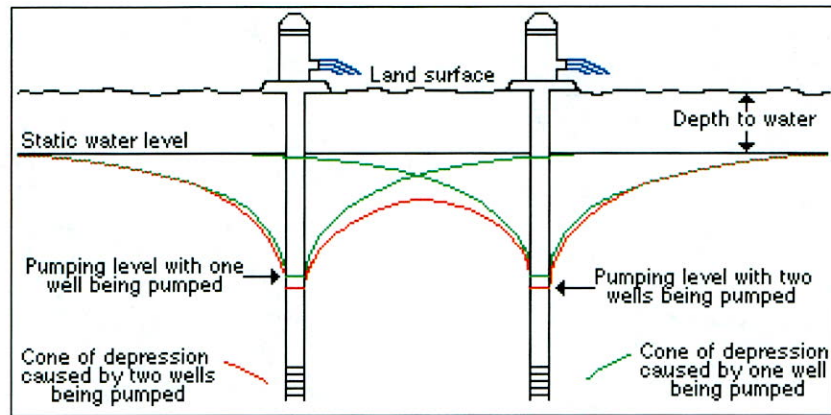


Figure 14. Illustration of mutual interference between wells and the resulting cones of depression (Kansas Geological Survey, 1998)

The location of the DENR-Water Rights observation wells with respect to diversion points for water rights/permits appropriating water from the UVM:N, is shown in Figure 15. Considering the proximity of high capacity wells to the observation wells, water level measurements taken from the observation wells likely are influenced by pumping. The amplitude of seasonal fluctuations of the potentiometric surface appears to be greatest in observation wells nearest the greater density of high capacity wells.

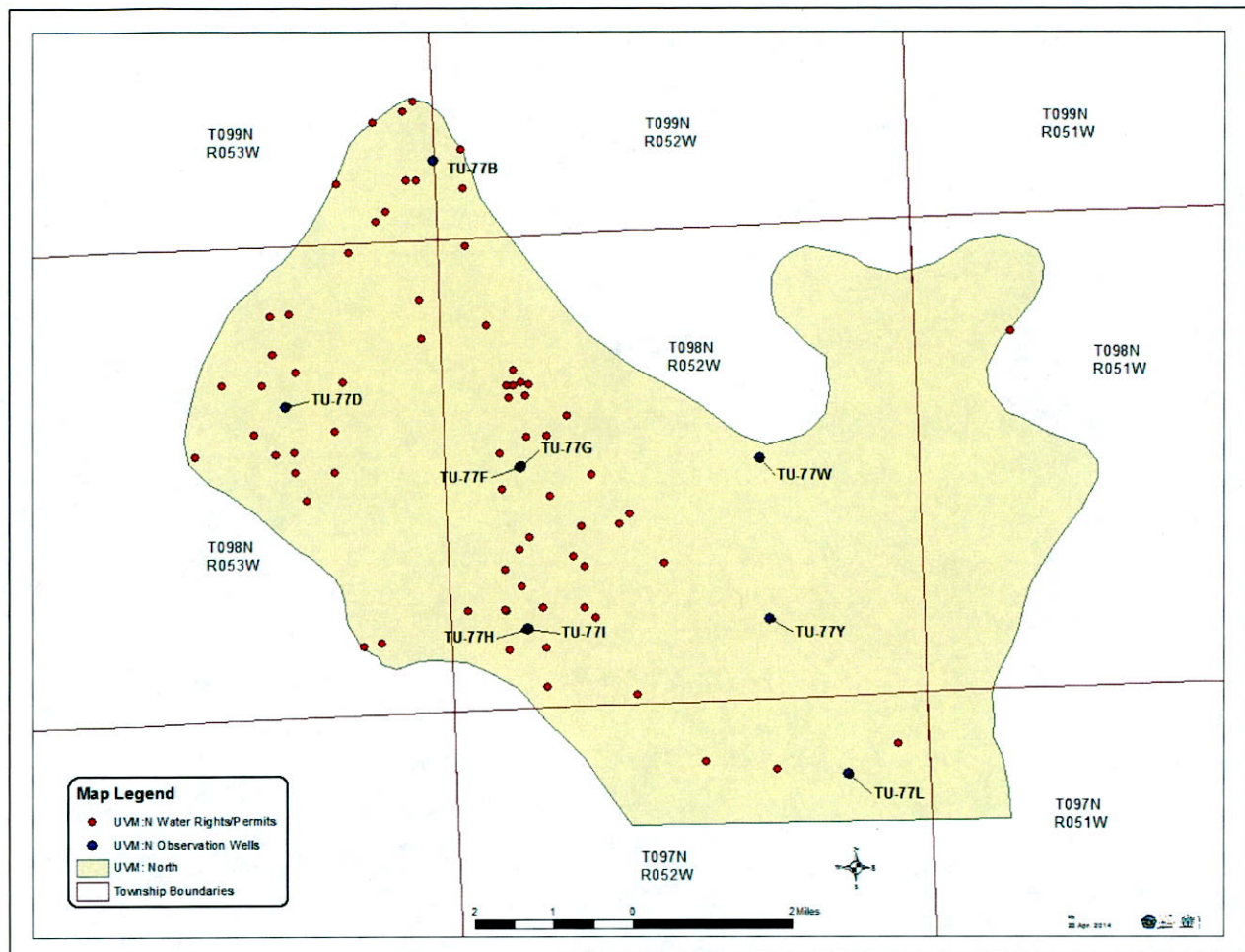


Figure 15. Map showing the UVM:N aquifer, location of DENR-Water Rights' Observation Wells, and location of diversion points for water rights/permits appropriating water from the aquifer (Water Rights, 2015b).

Linear trend lines for the maximum and minimum annual water levels were compared to linear trend lines for the entire data set, and there appears to be a relationship between the trend line for minimum annual water levels and the trend line for the entire data set. An example of this apparent relationship is shown in Figure 16.

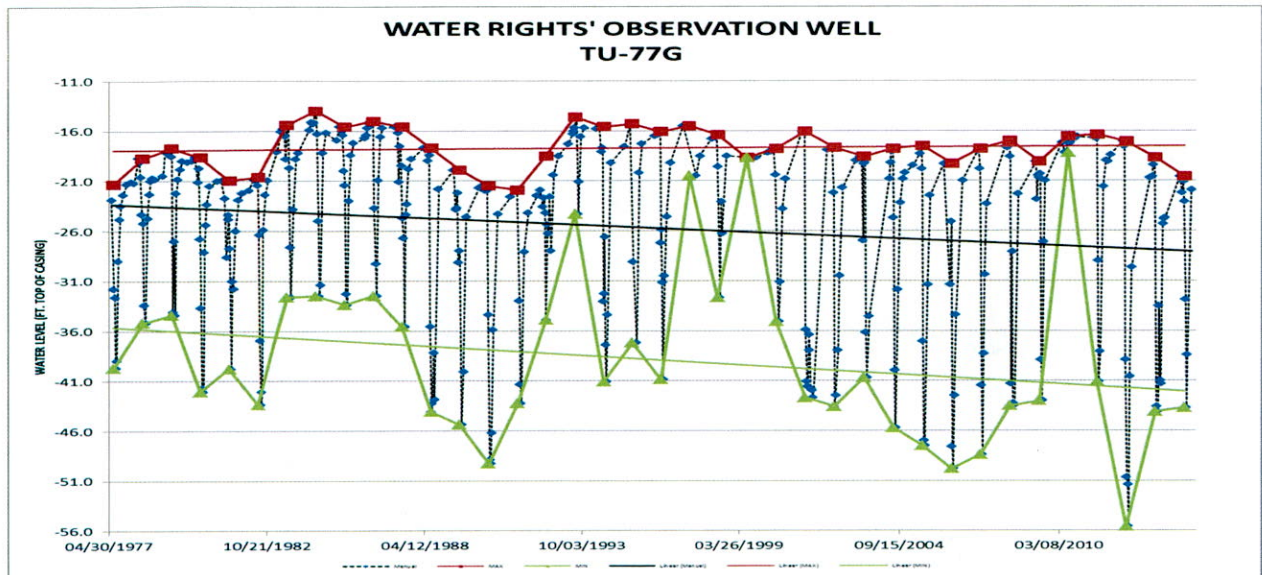


Figure 16. Hydrograph of an observation well completed into the North management unit of the Upper Vermillion Missouri aquifer with trend line, minimum annual water level trend line, and maximum annual overall water level trend line (Water Rights, 2015a).

The hydrograph shown in Figure 16 is representative of seven of the nine DENR-Water Rights' observation wells monitoring the UVM:N aquifer. These seven hydrographs show downward trending minimum annual readings, downward trending trend lines for the entire dataset, and upward trending maximum annual readings. The two observation wells with hydrographs dissimilar to the other seven hydrographs are TU-77L and TU-77F. Trend lines for the hydrograph for TU-77L trend upward for the minimum annual readings, the maximum annual readings and for the entire dataset (see Figure 17).

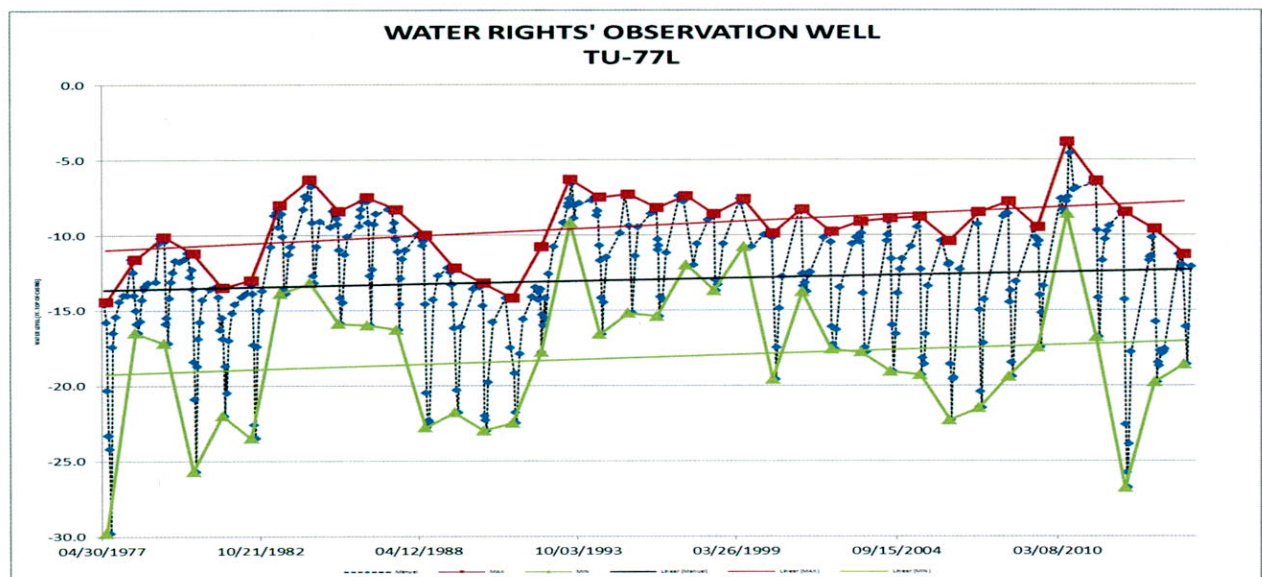


Figure 17. Hydrograph for observation well TU-77L with trend line, minimum annual water level trend line, and maximum annual overall water level trend line (Water Rights, 2015a).

Trend lines for the hydrograph for TU-77F trend downward for the minimum annual readings, the maximum annual readings and for the entire dataset (see Figure 18).

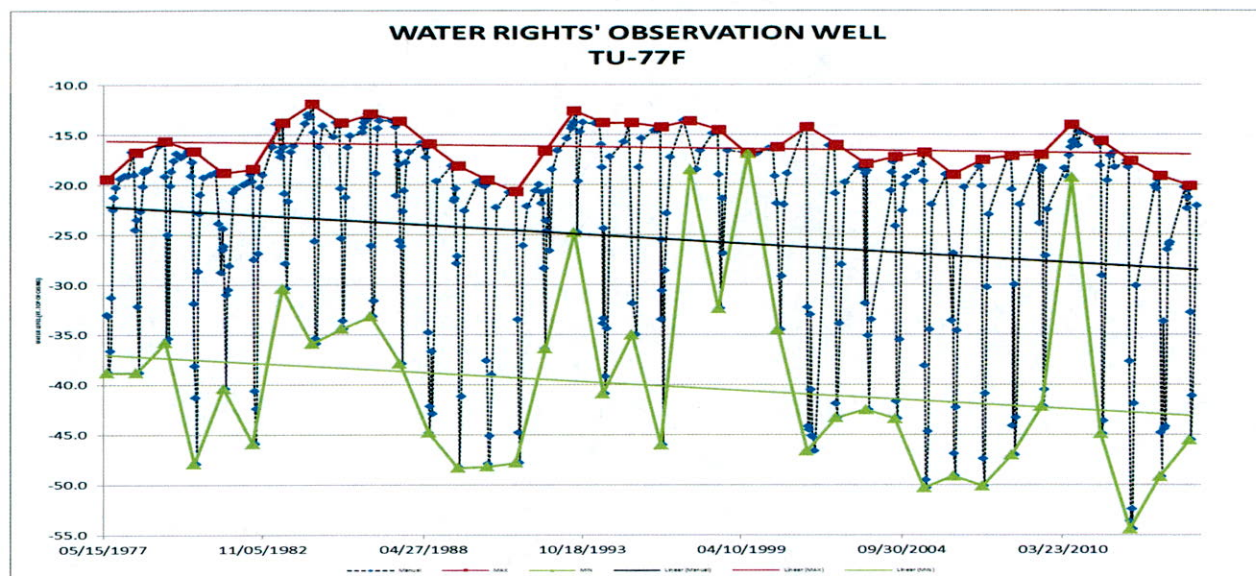


Figure 18. Hydrograph for observation well TU-77F with trend line, minimum annual water level trend line, and maximum annual overall water level trend line (Water Rights, 2015a).

Observation well TU-77L likely responds uniquely due to the fact that the development in the vicinity of the observation well has been essentially stable since 1977. All three trend lines for observation well TU-77F trend downward, likely due to drawdown from South Lincoln Rural Water System wells (Water Right Nos. 6435-3 and 6767-3), located within one mile of the observation well. Rural water system use results in year round pumping. Pumping reported by South Lincoln Rural Water System is shown in Figure 19.

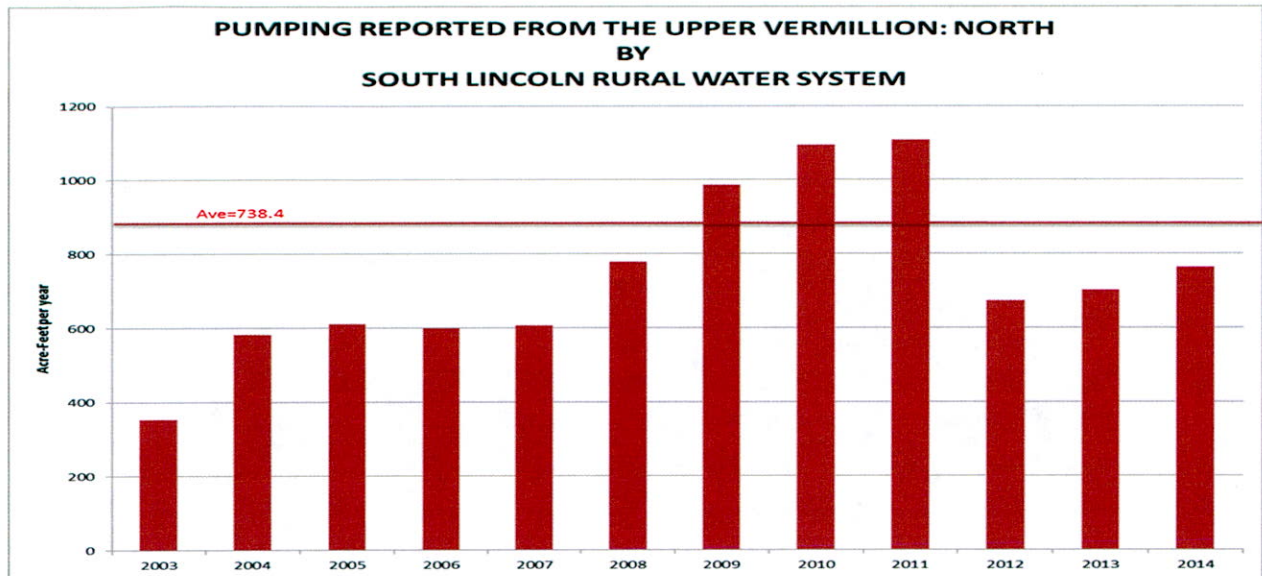


Figure 19. Pumping reported from the Upper Vermillion: North aquifer by South Lincoln Rural Water System (Water Rights, 2004-2015)

The DENR-Water Rights program observation wells are typically measured eight to twelve times per year. However, the timing of these readings is not evenly distributed throughout the year. The monthly distribution of the 3,308 readings taken from the nine UVM:N observation wells between 1978 and 2014 is shown in Figure 20.

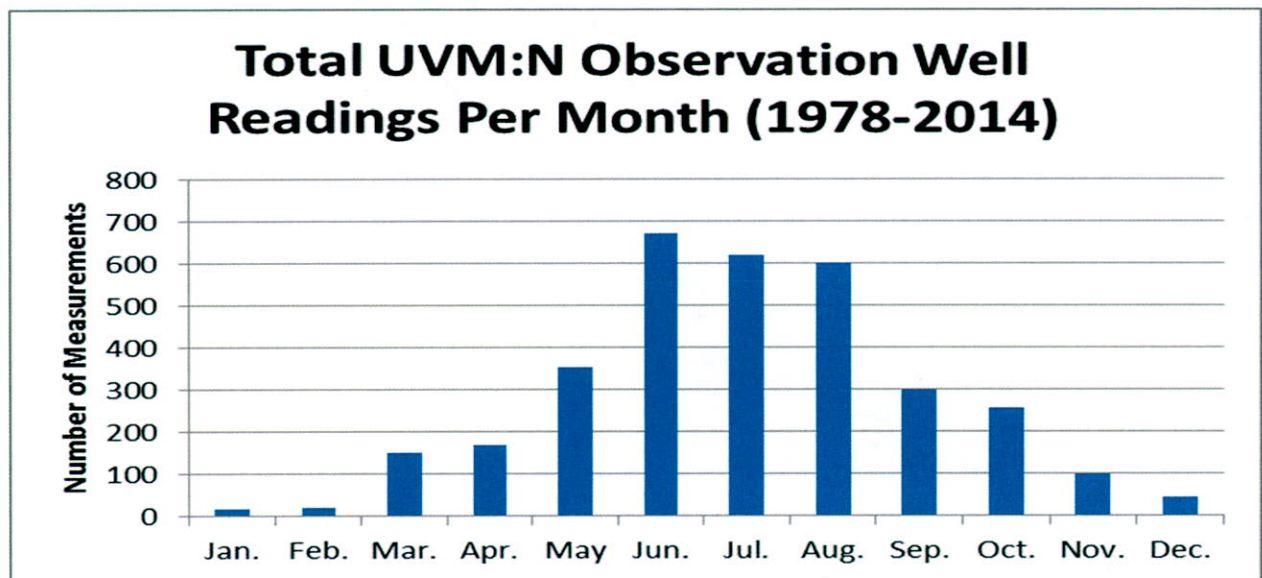


Figure 20. Monthly distribution of water level readings taken from DENR-Observation Wells completed into the Upper Vermillion Missouri: North aquifer for 1978-2014 (Water Rights, 2015a).

As shown in Figure 21, fifty- seven percent of the water level readings taken from the UVM:N aquifer were taken during the twenty- five percent of the year when irrigation is at a maximum (June, July, August). Since the preponderance of readings is taken when drawdown is greatest,

the observation well data is likely biased toward minimum annual water level readings. Since a well withdrawal from the aquifer by appropriative users has increased (see Figure 3), drawdown has increased.

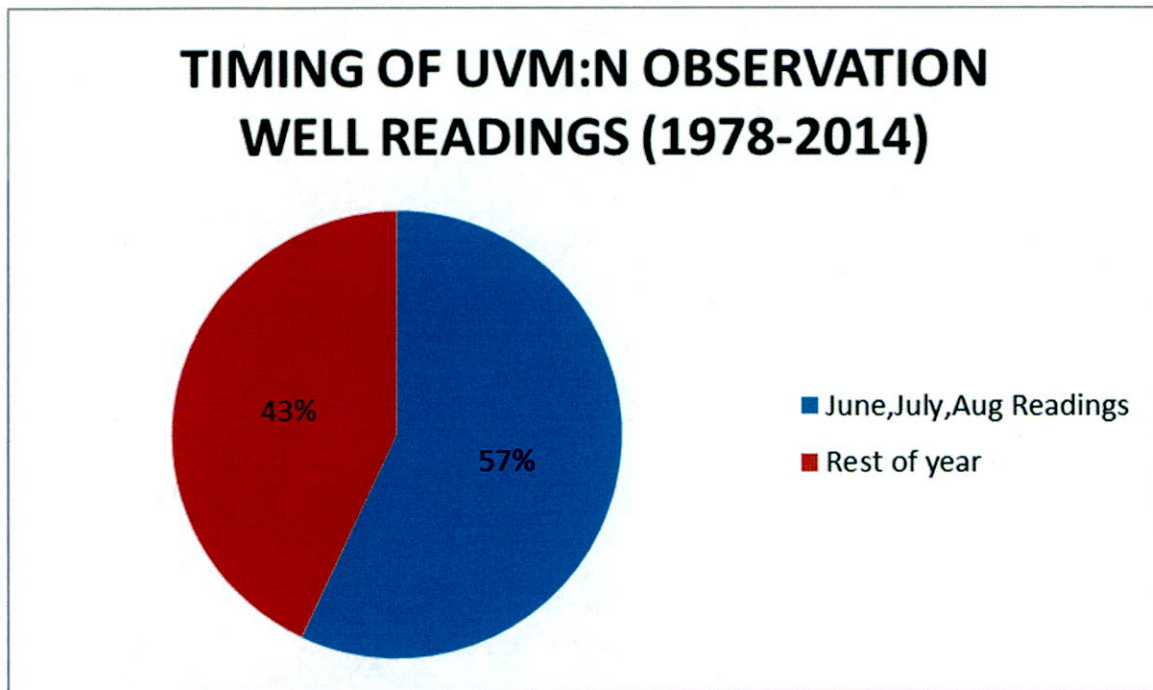


Figure 21. Distribution of water level readings taken from DENR-Observation Wells completed into the Upper Vermillion Missouri: North aquifer for 1978-2014 (Water Rights, 2015a).

To account for any bias in the hydrograph trend lines that may be introduced by well interference (i.e. drawdown), hydrographs were developed using the earliest reading taken in May each year. Since the period of November through April would not include irrigation pumping and only limited recharge, early May readings can be considered representative of nearly static conditions for the aquifer. Hydrographs with linear trend lines for early May observation well measurements are shown in Figures 22-30 data.

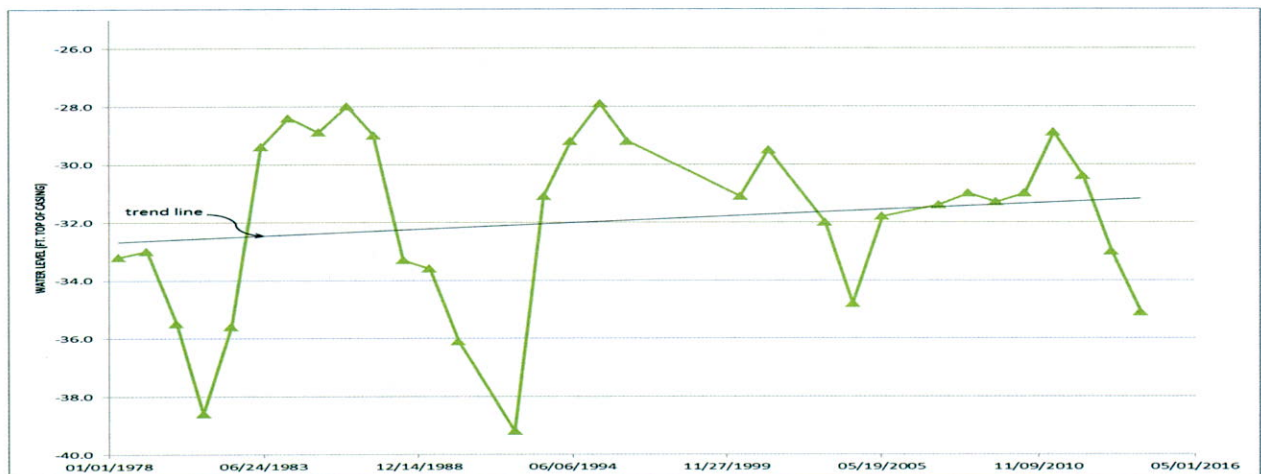


Figure 22. TU-77B May water level measurements with trend line

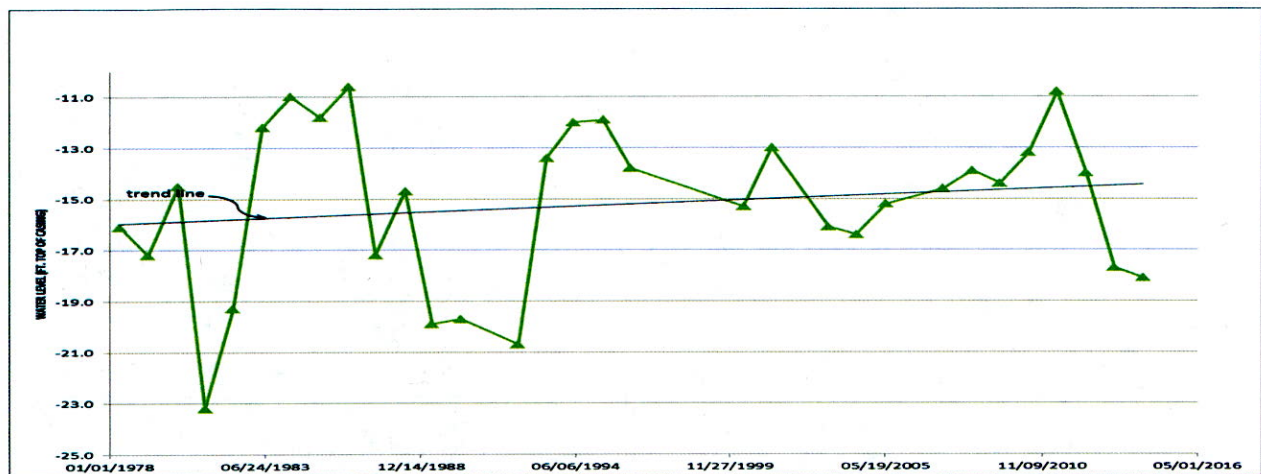


Figure 23. TU-77D May water level measurements with trend line

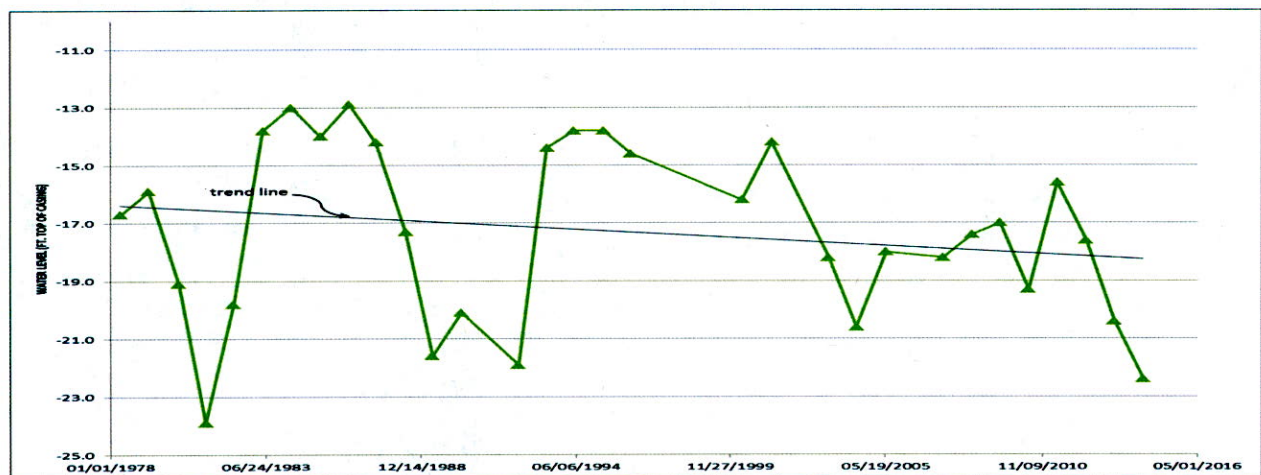


Figure 24. TU-77F May water level measurements with trend line

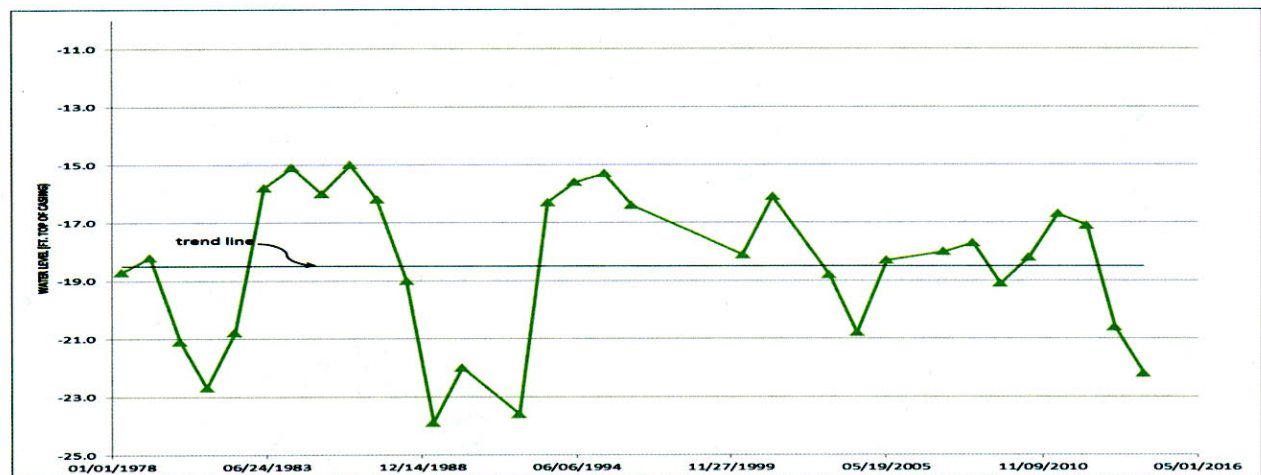


Figure 25. TU-77G May water level measurements with trend line

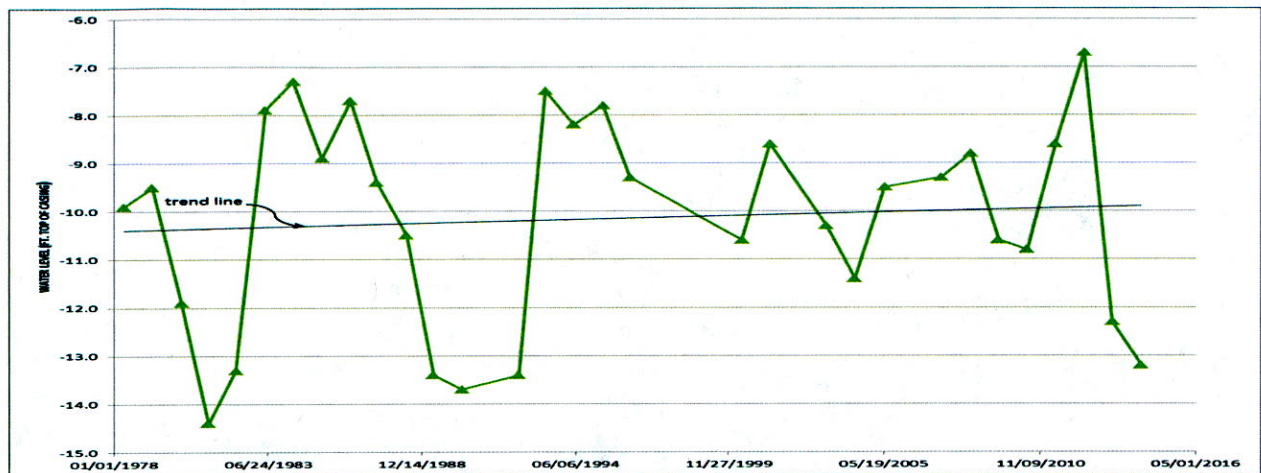


Figure 26. TU-77H May water level measurements with trend line

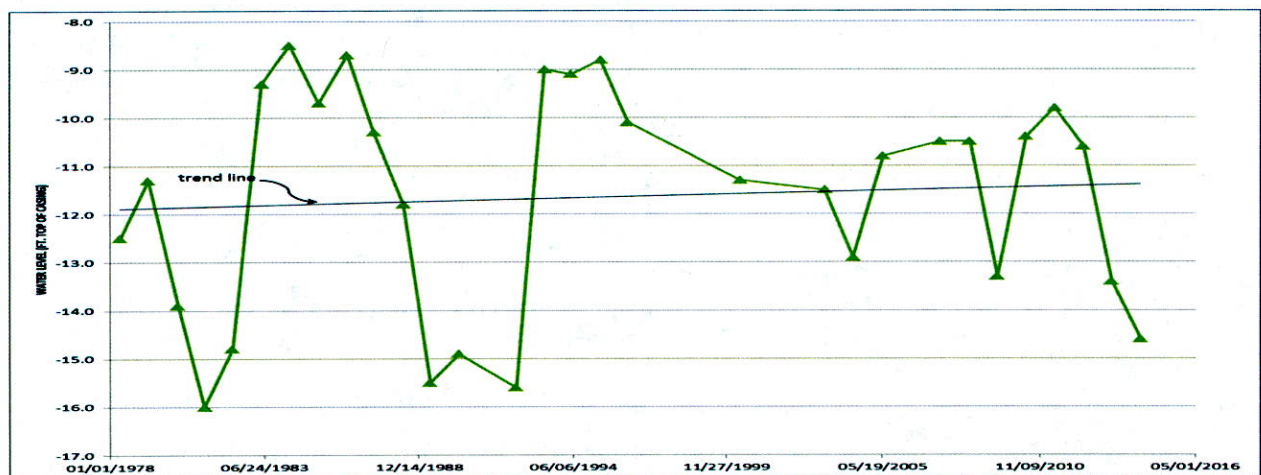


Figure 27. TU-77I May water level measurements with trend line

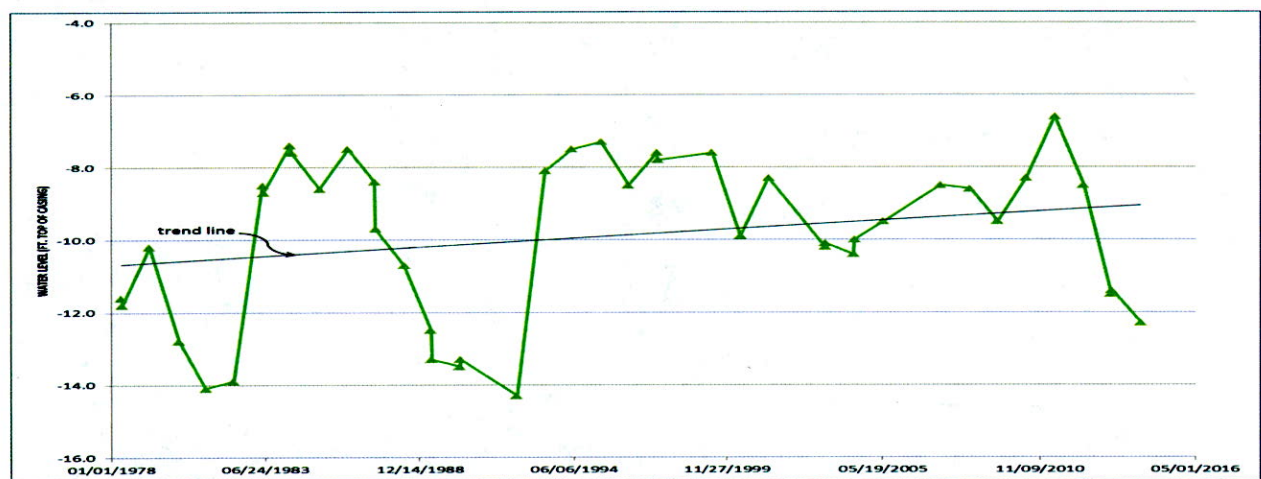


Figure 28. TU-77L May water level measurements with trend line

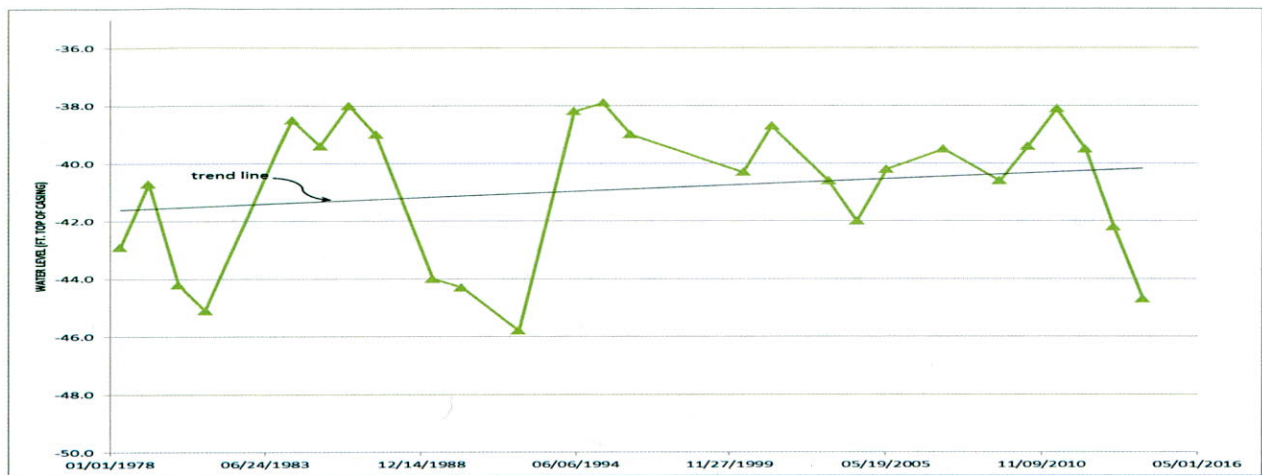


Figure 29. TU-77W May water level measurements with trend line



Figure 30. TU-77Y May water level measurements with trend line

The hydrographs plotted for “static conditions” for the Upper Vermillion: North aquifer (Figures 22-30), with the exception of the hydrograph for observation well TU-77F, document stable or upward trending water levels throughout the period of record. As noted above, the aquifer in the vicinity of observation well TU-77F, has likely not equilibrated to increased development by South Lincoln Rural Water System.

Above average irrigation withdrawals typically correspond with below average precipitation and vice versa. It is difficult to differentiate whether water level fluctuations are a response to climatic conditions or withdrawals. However, considering the increased development from the aquifer over the period of record (see Figure 3), and the stable to rising potentiometric surface documented by the May hydrographs, (see Figures 22-30), it is clear that increased development has not been as significant to the system as recharge to and natural discharge from the UVM:N. Since natural discharge from the aquifer can be captured for well withdrawals and greater pumping may induce greater recharge, hydrographs for static conditions for the UVM:N aquifer document that unappropriated water is available from the aquifer.

As stated earlier, leakage from the overlying Parker Centerville aquifer (PAC) to the Upper Vermillion Missouri: North aquifer (UVM:N), where the two aquifers are hydrologically connected, is the likely source of recharge to the UVM:N aquifer. Since “static condition” water levels in the UVM:N have remained stable or increased with an increase of pumping, recharge from the PAC has apparently increased. The DENR-Water Rights Program monitors 10 observation wells completed into the PAC where it overlies the UVM:N aquifer. Trend lines for all of the hydrographs for these PAC observation wells are trending upward, although leakage to the UVM: N has theoretically increased. Therefore, additional leakage (recharge) can be induced, and additional water is available for appropriation.

The profile of the potentiometric surface of the Upper Vermillion Missouri aquifer was determined based on observation well data for several time periods. Figure 31 shows the comparison of the plots of these profiles over time. The North management unit is represented to the left of the “Management Unit boundary area” on the graph.

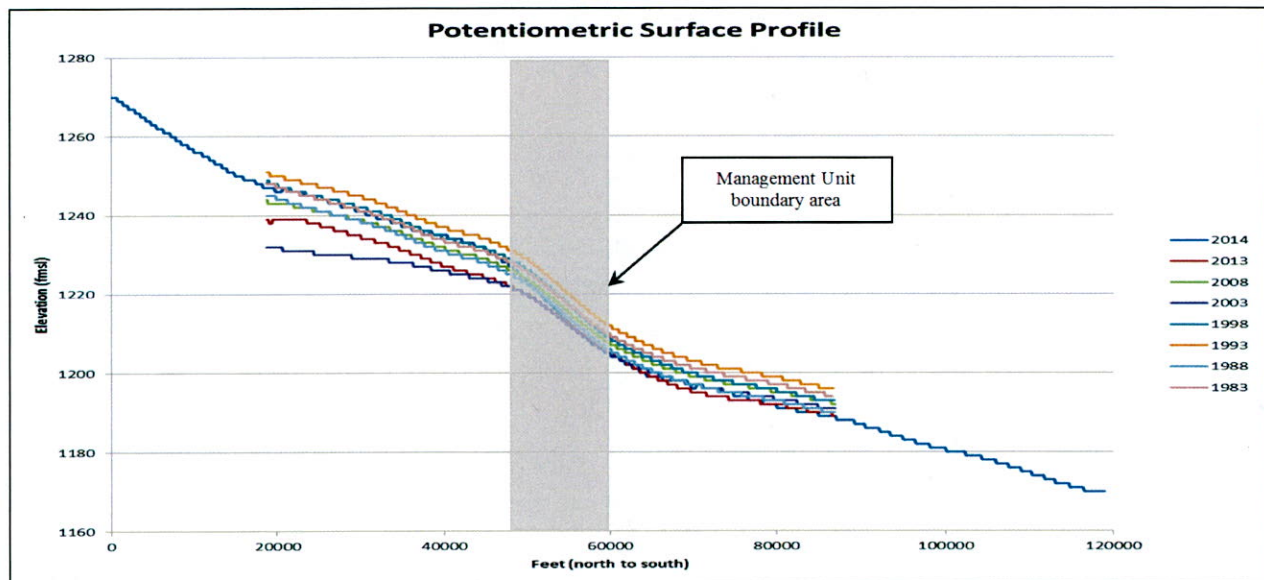


Figure 31. Profile of the potentiometric surface showing a consistent gradient in the North management units of the Upper Vermillion Missouri aquifer (Buhler, 2014).

Groundwater outflow from an aquifer can be calculated according to the equation: $Q = TIL$

Where:

Q = flow

T = Transmissivity

I = Hydraulic gradient

L = Cross sectional length

Since the hydraulic gradient of the North management unit of the Upper Vermillion Missouri aquifer has remained essentially constant, the outflow from the aquifer has also remained constant. With increased well withdrawals, constant groundwater outflow could only occur if recharge to the system increased. Currently, recharge and groundwater outflow from the Upper Vermillion Missouri: North aquifer dominate the hydrologic system, and the absence of stress on

the system from well withdrawals indicates that either additional recharge can be induced or groundwater outflow can be captured or both. Therefore analysis of the potentiometric surface of the aquifer over time indicates that unappropriated water is available from the aquifer.

EXISTING WATER RIGHTS/PERMITS

As the Upper Vermillion Missouri: North aquifer is currently delineated, there are 57 water rights/permits appropriating water from the aquifer. The approximate location of these diversion points are shown in Figure 32, and the appropriations are identified in Table 1.

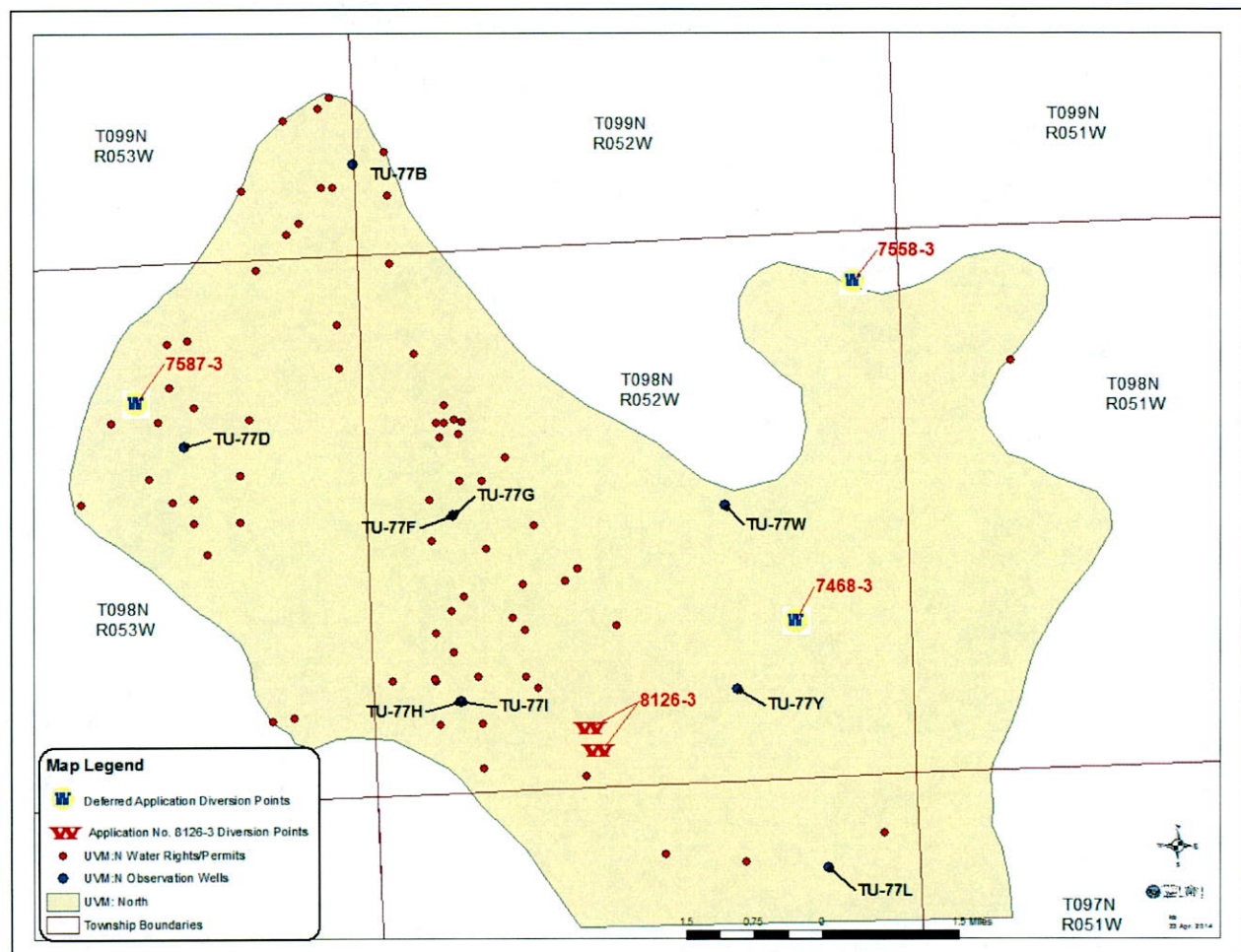


Figure 32. Approximate location of DENR-Water Rights' observation wells; existing water rights/permit diversion points; diversion points proposed by deferred Water Permit Application Nos. 7468-3, 7558-3, and 7587-3; and Water Permit Application No. 8126-3 (Water Rights, 2015a, Water Rights, 2015b).

Table 1. Water Rights/Permits appropriating water from the UVM:N (Water Rights, 2015b)

PERMIT NO	NAME	STATUS	USE	CFS	ACRES
1771-3	GARY KNOCK	LC	IRR	1.33	160
1930-3	MARY G MADSEN	LC	IRR	2	132
1930-3A	LAROHN HAGENA	LC	IRR	1.56	132
1967-3	JAY & CALVIN GRABER	LC	IRR	1.88	136
2230-3	PINE KNOLL INC	LC	IRR	1.95	136
2499-3	RUSSELL C ERICKSON	LC	IRR	1.11	140
2852-3	PAUL PETERSEN	LC	IRR	2	210
3156-3	GLENNIS M TELLINGHUISEN	LC	IRR	1.88	132
3158-3	SHERYL FAST	LC	IRR	0.5	35
3410-3	HORNER FAMILY LTD PTRSHP	LC	IRR	1.6	112
3411-3	BAR K CATTLE CO INC	LC	IRR	1.97	138
3541-3	PINEKNOLL MOBILE HOME PARK	LC	IRR	3	228
3610-3	JEFFREY L HAAN	LC	IRR	2.12	331
3632-3	BAR K CATTLE CO INC	LC	IRR	1.88	136
3633-3	BAR K CATTLE CO INC	LC	IRR	3.72	261
3634-3	DARREL WESTERMAN	LC	IRR	1.78	132
3648-3	PAUL PETERSEN	LC	IRR	2	142
3675-3	HOOGESTRAAT FARM	LC	IRR	1.77	136
3735-3	NORMA M REINERS	LC	IRR	1.88	132
3784-3	LAROHN HAGENA	LC	IRR	1.88	132
3829-3	GARY R KNOCK	LC	IRR	1.29	90
3832-3	DAVID SMIT	LC	IRR	2.78	191
3833-3	LAROHN & DIANNE HAGENA	LC	IRR	1.83	128
3899-3	JON BENSON	LC	IRR	2.22	168
3900-3	ROGER R IHNEN	LC	IRR	2	140
3901-3	ROGER R IHNEN	LC	IRR	4.23	311
3902-3	ROGER R IHNEN	LC	IRR	2	156
3903-3	BURNETTE C SAWYER	LC	IRR	1.88	136
3906A-3	PAUL PETERSEN	LC	IRR	2.83	198
3926-3	BRIAN D SMIT	LC	IRR	1.88	132
3966-3	TONY BROWN	LC	IRR	1.88	132
4560-3	DUANE HAASE	LC	IRR	1.78	152
4647-3	JAMES D BONDESEN	LC	IRR	2	257
4692-3	JON REINERS	LC	IRR	1.22	135
5058-3	DOYLE CHRISTENSEN	LC	IRR	1.22	101
525-3	TOWN OF DAVIS	LC	MUN	0.45	
5259-3	GARY R KNOCK	LC	IRR	1.88	132
5261-3	PAUL PETERSEN	LC	IRR	1.77	136
5383-3	WALTER OKEEFE ESTATE	LC	IRR	1.67	132
5413-3	LEE SCHRIEVER	LC	IRR	1.4	134
5448-3	LINDA GRABER	LC	IRR	1.89	132
5555-3	PAUL PETERSEN	LC	IRR	0.97	68
5632-3	KENT WESTERMAN	LC	IRR	1	70
5833-3	ADVANCED PRESCRIPTION	LC	COM	0.11	
5920-3	PLUCKER FAMILY LTD PTRSHP	LC	IRR	1.94	136
6301-3	DAVID SMIT	LC	IRR	1.89	132
6335-3	JOE HUMMEL	LC	IRR	1.78	231
6383-3	JAMES D BONDESEN	LC	IRR	1.33	40
6435-3	SOUTH LINCOLN RWS	LC	RWS	2.45	
6561-3	DAVID SMIT	LC	IRR	1.89	136
6727-3	SOUTH LINCOLN RWS	LC	RWS	1.95	
6746-3	JARROD HAGENA	LC	IRR	2.23	158
6853-3	PINE KNOLL INC	PE	IRR	0.26	0
6853A-3	PINE KNOLL INC	PE	IRR	0	0
6868-3	JOE HUMMEL	PE	IRR	1.78	0
6984-3	DOROTHY M SCHNOSE	PE	IRR	2.22	162
7149-3	DARREL WESTERMAN	PE	IRR	1.78	132

As noted above, the Upper Vermillion Missouri: North aquifer is primarily under artesian conditions, and drawdown due to pumping may be fairly large near an individual production well. For example, the amplitude of seasonal fluctuation in 2012, when well withdrawals from the UVM:N aquifer were at the highest level in history, can be seen in Table 2.

Table 2. Amplitude of 2012 water level fluctuations measured in DENR-Water Rights' Observation Wells completed into the UVM:N (Water Rights, 2015a)

OBSERVATION WELL	2012 WATER LEVEL FLUCTUATION (YEARLY HIGH MINUS YEARLY LOW READING (ft))
TU-77B	34.3
TU-77D	20.5
TU-77F	36.8
TU-77G	38.5
TU-77H	19.1
TU-77I	31.5
TU-77L	18.3
TU-77W	31.4
TU-77Y	25.6

Even with the magnitude of seasonal fluctuations documented by the observation wells, well interference has historically not been a problem from the aquifer. Considering the distance of the diversion points proposed by these applications from existing users (see Figure 32) well interference should not be an issue.

In addition, the Water Management Board has consistently recognized that to place water to maximum beneficial use a certain amount of drawdown may occur. SDCL 46-6-6.1 does not require protection of artesian head pressure as a means of groundwater delivery. However, reasonable domestic use must be assured before irrigation use is allowed. Therefore, when considering irrigation projects, the Water Management Board must give consideration to maintaining artesian head pressure as a method of delivery for domestic wells. To balance interests between irrigation use and delivery of groundwater by artesian pressure, ARSD 74:02:04:20(7) defines an adversely impacted domestic well as:

“a well in which the pump intake was set at least 20 feet below the top of the aquifer at the time of construction or, if the aquifer is less than 20 feet thick, is as near to the bottom of the aquifer as is practical and the water level of the aquifer has declined to a level that the pump will no longer deliver sufficient water for the well owner’s needs.”

Depending on the specific characteristics of the Upper Vermillion Missouri aquifer at the proposed well sites, some existing well owners may need to lower their pumps to accommodate possible reduction of head pressure. Therefore, there is a reasonable probability that any well interference from the proposed appropriation will not adversely or unlawfully impair existing nearby wells.

SDCL 46-5-6

Pursuant to SDCL 46-5-6, the diversion rate for an irrigation appropriation cannot be in excess of one cfs for every 70 acres, or “the equivalent thereof.” The statute does provide that the Water Management Board may allow a greater diversion rate if the method of irrigation, any time constraints on diversion of water, or the type of soil so requires. Water Permit Application No. 7558-3 proposes to divert up to 1.78 cfs for the irrigation of 120 acres or the equivalent of 1.038 cfs per 70 acres. Water Permit Application No. 8126-3 proposes to divert up to 3.78 cfs for the irrigation of 220 acres or the equivalent of 1.20 cfs per 70 acres. Both applicants indicate they intend to use center pivot irrigation systems that will not be making full rotations. Center pivot systems making partial rotations require a diversion rate to acreage ratio greater than 1 cfs per 70 acres, therefore it can be considered a “method of irrigation” requirement.

CONCLUSIONS:

1. The Water Management Board deferred a number of water permit applications from the Upper Vermillion Missouri aquifer in 2013, because portions of the aquifer have experienced long-term downward trending water levels.
2. The Water Management Board adopted three management units for the Upper Vermillion Missouri aquifer in 2014.
3. In 2014, the Water Management Board continued to defer water permit applications proposing appropriations from the North management unit of the Upper Vermillion Missouri aquifer pending completion of an aquifer study.
4. The DENR-Geological Survey Program completed their study of the Upper Vermillion Missouri aquifer in the spring of 2015.
5. Although average annual recharge to the Upper Vermillion Missouri aquifer has not been quantified, the source of the recharge has been identified as leakage from the Parker Centerville aquifer.
6. The linear trend line for water levels of the Upper Vermillion Missouri: North aquifer generally has a downward trend. However, the trend lines appear to be biased by the preponderance of measurements taken when pumping from the aquifer is at a maximum.
7. Drawdown in the Upper Vermillion Missouri: North aquifer has increased with increased pumping from the aquifer. However, water levels readily recover to approximately pre-pumping levels at the conclusion of the irrigation season.
8. Linear trend lines for static conditions (water levels prior to irrigation season) for the Upper Vermillion Missouri: North aquifer identify that unappropriated water is available for appropriation from the aquifer.
9. The hydraulic gradient of the potentiometric surface for the Upper Vermillion Missouri: North aquifer has remained steady although annual pumping from the aquifer has increased.
10. A constant hydraulic gradient indicates that groundwater outflow from the Upper Vermillion: North aquifer has remained constant; hence recharge to the aquifer has increased with increased pumping.
11. Considering all available data, recharge is exceeding average withdrawals, and there is a reasonable probability that the proposed appropriations from the North management unit can be made without adversely impacting existing water rights.



Ken Buhler
DENR-Water Rights Program

REFERENCES

Buhler, K.A., 2014, Report to the Chief Engineer on 21 Water Permit Applications from the Upper Vermillion Missouri Aquifer, February 1, 2014: SD DENR- Water Rights Program

Circuit Court of South Dakota, Sixth Judicial Circuit, 2005, April 29, 2005 Memorandum Decision re: HU04-37 Hines v. SD Department of Environment and Natural Resources

Circuit Court of South Dakota, First Judicial Circuit, 2012, April 12, 2012 Memorandum Decision re: Hanson County Dairy v. Robert Bender and Stace Nelson

Circuit Court of South Dakota, First Judicial Circuit. 2012, May 17, 2012 Memorandum Decision re: Longview Farms, LLP v. South Dakota Dept. of Environ. and Nat'l. Resources.

Holmes, S.L., and Filipovic, D., 2015, Hydrogeologic Investigation of the Upper-Vermillion-Missouri Aquifer: SD DENR-Geological Survey UR-93, 26 p., 7 fig., 1 table, 12 plates, 2 app.

Kansas Geological Survey, 1998, Geohydrology of Sedwick County:
<http://www.kgs.ku.edu/General/Geology/Sedgwick/gw01.html>

"Theis Equation Calculator." [i-calcul⁸](http://www.icalcul8.com/theis.php) 21 April 2015<<http://www.icalcul8.com/theis.php>"

Water Rights, 1980-2015, "Annual Irrigation Summary by Aquifer": SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.

Water Rights, 2004-2015, "Non-Irrigation Reported Water Use": SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.

Water Rights, 2015a, Observation Well Data, SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.

Water Rights, 2015b, Water Well Completion Reports, SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

May 20, 2015

NOTICE

TO: Dr. Bruce Hagen
1300 W Murphy Drive
Sioux Falls SD 57108

FROM: Jeanne Goodman, Chief Engineer
Water Rights Program

SUBJECT: Scheduling of Hearing Water Permit Application Nos. 7468-3 and 7558-3

Water Permit Application No. 7468-3 filed by Cleland Hagen Trust proposes to appropriate 1.78 cfs from one well approximately 134 feet deep located in the approximate center of the NE 1/4 Section 26 for irrigation of 152 acres located in the NE 1/4 Section 26; all in T98N-R52W.

Water Permit Application No. 7558-3 filed by Cleland Trust proposes to appropriate 1.78 cfs from one well to be approximately 275 feet deep located in the approximate center between the NW 1/4 and the SW 1/4 Section 1 for irrigation of 120 acres located in the N 1/2 SW 1/4, S 1/2 NW 1/4 Section 1; all in T98N-R52W.

The applications were deferred in March 2013 to allow study of the Upper Vermillion Missouri aquifer.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application Nos. 7468-3 and 7558-3 because 1) there is a reasonable probability that 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 conduct a hearing to consider Application Nos. 7468-3 and 7558-3 at 9:30 AM (Central Standard Time) on Wednesday, July 8, 2015, at the Floyd Matthew Training Center, Joe Foss Building, 523 E. Capitol Avenue, Pierre SD. Future notice will be provided to all parties if there are changes to the hearing time. Pursuant to SDCL 46-2-9, 46-2-11, and 46-2A-23, the Board has legal authority and jurisdiction to conduct this hearing.

Applicable provisions of the notice of hearing on Application No. 7468-3 published in the Viborg Enterprise and Argus Leader on January 3, 2013 and notice of hearing on Application No. 7558-3 published in The New Era and Argus Leader on February 14, 2013, still apply at the hearing.

Enclosed is the April 21, 2015 report on the Upper Vermillion Missouri:North aquifer and recommendations for Water Permit Application Nos. 7468-3 and 7558-3. 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 will be sent to the Board members in advance of the hearing.

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

Enclosures

c: Ann Mines-Bailey, Assistant Attorney General
Dr Bruce Hagen, 38736 Nasturtium Way, Palm Desert, CA 92211

CERTIFICATION

I hereby certify that on May 20, 2015, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated May 20, 2015, regarding scheduling of hearing in the matter of Water Right Permit Application Nos. 7468-3 and 7558-3, as set forth below:

Dr. Bruce Hagen
1300 W Murphy Drive
Sioux Falls SD 57108

Dr Bruce Hagen
38736 Nasturtium Way
Palm Desert, CA 92211

Sent Notice Inter-Office mail to:

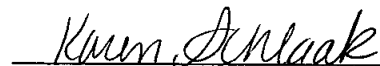
Ann Mines-Bailey, Assistant Attorney General,
8501 George S Mickelson Criminal Justice
1302 E. Hwy 14, Suite 1, Pierre SD 57501-8501


Gail Jacobson

Water Rights Program, DENR

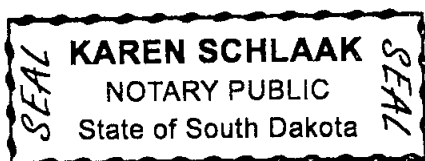
STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 20th day of May, 2015


Karen Schlaak

Notary Public

My Commission expires April 1, 2019





DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

AUG 04 2015

Cleland Hagen Trust
Dr Bruce Hagen
1300 W Murphy Dr
Sioux Falls SD 57108

Dear Dr. Hagen:

Enclosed are Water Permit Nos. 7468-3 and 7558-3 authorizing construction of your water diversion systems and beneficial use of the water, not exceeding the limits as specified in the Water Permits.

Form 10's, *Notice of Completion of Works and Application of Water to Beneficial Use*, are enclosed. Please return the completed forms after you have finished the systems and have put the water to beneficial use. An investigation can then be scheduled so the water licenses may be issued, thus completing the acquisition of a water right.

An informational sheet ? *Common Water Right Questions?* is also enclosed. This sheet is intended to answer some of the questions associated with obtaining and keeping a water right.

Sincerely,

Jeanne Goodman, Chief Engineer
Water Rights Program
(605) 773-3352

enclosures



DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES
JOE FOSS BUILDING
523 E. CAPITOL AVE
PIERRE SD 57501-3182
danr.sd.gov

January 14, 2025

NOTICE

TO: JOHN BAUMILLER, MANAGER, PO BOX 107, CHANCELLOR, SD 57015

FROM: Ron Duvall, Engineer III
for Eric Gronlund, Chief Engineer
Water Rights Program

SUBJECT: Reporting Requirement for 2024 Irrigation Questionnaire(s)

Our records indicate your 2024 Irrigation Questionnaire(s) has not been submitted for Permit No(s) 7466-3, 7467-3, 7468-3, 7558-3 & 7845-3. The request for the Questionnaire was dated October 23, 2024. The Water Management Board has directed owners of water permits who have not submitted the 2024 Irrigation Questionnaire(s) be given notice of permit violation and a hearing to be held by the Board. The hearing is to determine what action is to be taken for violation of Water Permit No(s) 7466-3, 7467-3, 7468-3, 7558-3 & 7845-3 qualification:

"This permit is approved subject to the Irrigation Water Use Questionnaire being submitted each year."

The hearing will be held on **Wednesday, March 5, 2025, at 9:30 am (Central Time)** in the Floyd Matthew Training Center, Joe Foss Building, 523 E Capitol Avenue, Pierre, SD and will be conducted pursuant to SDCL 46-1-12, 46-1-14, 46-2-9, 46-2-11 and 46-2-17. These are contested case hearings pursuant to Chapter 1-26. According to SDCL 46-1-12, the Board may suspend a permit for a period of up to one year for the first violation of a permit qualification or up to three years for a second violation or cancel a permit for a third violation. Following the hearing, the Water Management Board can:

1. Suspend or cancel Permit No(s) 7466-3, 7467-3, 7468-3, 7558-3 & 7845-3 in accordance with applicable provisions of SDCL 46-1-12;
2. Postpone any action; or
3. Take no action.

The hearing is an adversary proceeding. The permit owner has the right to be present or to be represented by a lawyer. These and other due process rights will be forfeited if they are not exercised. Decisions of the Board may be appealed to the Circuit Court and the State Supreme Court as provided by law.

If the questionnaire(s) is (are) received in this office before the **March 5, 2025**, hearing you will no longer be in violation of your permit and your name will be removed from the Board agenda. Enclosed are additional questionnaire(s) for your use. If you have questions or need assistance, please contact Amanda Dewell at (605) 773-3352 or email at amanda.dewell@state.sd.us. **If you prefer, you can complete the questionnaire online at the following link: <https://danr.sd.gov/iq> using this password: OBISLS**

cc: BETHEL & CLELAND HAGEN TRUSTS, 1300 W MURPHY DR, SIOUX FALLS SD 57108

NOTE: Please contact the Water Rights Program, Joe Foss Building, 523 E Capitol, Pierre, SD (605-773-3352) to assure access to the meeting room for the handicapped or to obtain an interpreter for the hearing impaired.



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 E. CAPITOL AVE
PIERRE SD 57501-3182
danr.sd.gov

February 6, 2025

7466-3, 7467-3, 7468-3
7558-3 & 7845-3

John Baumiller
PO Box 107
Chancellor SD 57015

Dear Mr. Baumiller:

I am writing to acknowledge the receipt of your 2024 irrigation questionnaire(s).

You may disregard the January 14, 2025, "Notice" concerning the reporting requirements for Water Permit No(s). 7466-3, 7467-3, 7468-3, 7558-3 & 7845-3. The information was received prior to the March 5, 2025, Water Management Board meeting and the above listed permit number(s) have been removed from the agenda.

If you have any questions or concerns, please contact me.

Sincerely,

Amanda Dewell
Permitting Administrator
Water Rights Program
605 773-3352
Amanda.Dewell@state.sd.us

7466-3 7467-3
7468-3 7558-3
~~7845-3~~ 7845-3



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 E. CAPITOL AVE
PIERRE SD 57501-3182
danr.sd.gov

January 20, 2026

NOTICE

TO: JOHN BAUMILLER, MANAGER, PO BOX 107, CHANCELLOR, SD 57015
FROM: Ron Duvall, Engineer III
for Adam Mathiowetz, PE, Acting Chief Engineer
Water Rights Program

SUBJECT: Reporting Requirement for 2025 Irrigation Questionnaire(s)

Our records indicate your 2025 Irrigation Questionnaire(s) has not been submitted for Permit No(s) 7466-3, 7467-3, 7468-3, 7558-3 & 7845-3. The request for the Questionnaire was dated October 8, 2025. The Water Management Board has directed owners of water permits who have not submitted the 2025 Irrigation Questionnaire(s) be given notice of permit violation and a hearing to be held by the Board. The hearing is to determine what action is to be taken for violation of Water Permit No(s) 7466-3, 7467-3, 7468-3, 7558-3 & 7845-3 qualification:

"This permit is approved subject to the Irrigation Water Use Questionnaire being submitted each year."

The hearing will be held on **Wednesday, March 4, 2026 at 9:30 am (Central Time)** in the Floyd Matthew Training Center, Joe Foss Building, 523 E Capitol Avenue, Pierre, SD and will be conducted pursuant to SDCL 46-1-12, 46-1-14, 46-2-9, 46-2-11 and 46-2-17. These are contested case hearings pursuant to Chapter 1-26. According to SDCL 46-1-12, the Board may suspend a permit for a period of up to one year for the first violation of a permit qualification or up to three years for a second violation or cancel a permit for a third violation. Following the hearing, the Water Management Board can:

1. Suspend or cancel Permit No(s) 7466-3, 7467-3, 7468-3, 7558-3 & 7845-3 in accordance with applicable provisions of SDCL 46-1-12;
2. Postpone any action; or
3. Take no action.

The hearing is an adversary proceeding. The permit owner has the right to be present or to be represented by a lawyer. These and other due process rights will be forfeited if they are not exercised. Decisions of the Board may be appealed to the Circuit Court and the State Supreme Court as provided by law.

If the questionnaire(s) is (are) received in this office before the **March 4, 2026** hearing you will no longer be in violation of your permit and your name will be removed from the Board agenda. Enclosed are additional questionnaire(s) for your use. If you have questions or need assistance, please contact Shannon Konst at (605) 773-3352 or email at shannon.konst@state.sd.us. **If you prefer, you can complete the questionnaire online at the following link: <https://danr.sd.gov/iq> using this password: QJMKFK**

BETHEL HAGEN TRUST, 1300 W MURPHY DR, SIOUX FALLS SD 57108

NOTE: Please contact the Water Rights Program, Joe Foss Building, 523 E Capitol, Pierre, SD (605-773-3352) to assure access to the meeting room for the handicapped or to obtain an interpreter for the hearing impaired.



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 E CAPITOL AVE
PIERRE SD 57501-3182
danr.sd.gov

January 29th, 2026

Manager
John Baumiller
PO Box 107
Chancellor, SD 57015

7467-3
7845-3
7468-3
7466-3
7558-3

Dear Mr. Baumiller,

I am writing to acknowledge receipt of your 2025 irrigation questionnaire(s).

You may disregard the January 20, 2026, "Notice" concerning irrigation reporting requirements for your water permit/right(s). The information was received in our office prior to the Water Management Board meeting, and your name has been deleted from the agenda.

If you have any questions, please contact me.

Sincerely,

Shannon Konst
Water Rights Program
605 773-8204
Shannon.konst@state.sd.us