

WATER PERMIT NO. 7446-3

Name of Applicant: **Dale Tuchscherer**

Address: **14629 481st Ave, Milbank SD 57252** Phone: **605 432-6023**

Amount of Water Claimed: **1.78 cfs** Total Acres: **64 acres**

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

Water to be used for: **irrigation** County: **Grant**

Type of Waste Disposal System:

Location: **3 miles northeast of Milbank**

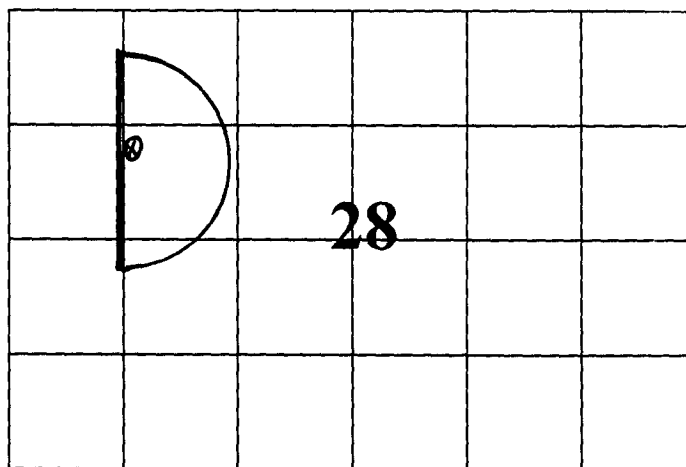
PRIORITY Date Received: **9-25-12** Application/License Fee: **\$ 950**

Corrected Application Received: **10/1/12** Period of Annual Use: **April 1 – October 31**

Remarks:

Diversion Point: **SW 1/4 NE 1/4 Sec 28-T121N-R47W**

Land to be Irrigated: **W 1/2 NW 1/4, NW 1/4 SW 1/4 Sec 28-T121N-R47W**



Depth of Well: **38 feet**

Well Driller: **Manikowski Well Drilling**

Remarks:

Type of Map: **aerial**

Prepared by: **Matthew Hubers, NRCS**

Reviewed and the Number Assigned on: **10-1-12**

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____

FORM 2: Application for irrigation in South Dakota
(type or print)

Mail to: Water Rights Program Joe Foss Building 523 E. Capitol Pierre, SD 57501-3181 (605) 773-3352	No. <u>7446-3</u> (office use only)	Hydrologic Unit <u>07020001</u>
	Basin <u>Minnesota Whetstone</u>	<u>605-432-4516</u>
	Newspaper <u>Grant Co. Review PO Box 390 Milbank 57252</u>	
	<u>Public Opinion PO Box 10 Watertown 57201-605-886-6901</u>	

RECEIVED
SEP 25 2012
WATER RIGHTS
PROGRAM

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 of Applicant Dale Tuchscherer Phone 605-432-6023
(check one) ☒ Owner ☐ Tenant/lessee
Mailing Address 14629 481 Ave. Milbank State S.D. 57252
(Street, RR, or Box and City) (Zip Code)
2. Amount of water claimed 1.78*CFS or 800 **GPM ***AF Total Acreage 64
(*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 (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W) 1 well in SW 1/4 NW 1/4
Sec 28 Twp 121 N Range 47 W
County Grant
5. County or counties where water will be used Grant
6. Annual period during which water is to be used April - October 31
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 NW 1/4 28 121 N 47 W	20		
SW 1/4 NW 1/4 28 121 W 47 W	38		
NW 1/4 SW 1/4 Sec 28 121 47	6		

8. Give a description of the project. (Attach sheet if more space is needed)
Water from this well will be used to irrigate various
crops on the described acres. Requesting greater diversion rate than
Statutory Limit

STATE OF SOUTH DAKOTA)
County of Grant) SS

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

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

Applicant's signature Dale Tuchscherer

Subscribed and sworn to before me this 24th day of September 2012

Rosann D. Liehtenow
Notary Public signature

**SOUTH DAKOTA
WATER PERMIT NO. 7446-3**

Date of first receipt of application September 25, 2012.

Date of return to applicant for corrections, amendments or changes September 25, 2012.

Date of receipt of corrected application October 1, 2012.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 7446-3 to Dale Tuchscherer, 14629 481 Ave, Milbank SD 57252 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. 7446-3 appropriate 1.78 cubic feet of water per second (cfs) from one well to be completed into the Veblen Aquifer (38 feet deep) located in SW 1/4 NW 1/4 Section 28 for irrigation of 64 acres located in the W 1/2 NW 1/4, NW 1/4 SW 1/4 Section 28; all in T121N-R47W.
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: April 1 – October 31.
3. The date from which applicant may claim right is September 25, 2012.
4. The date of approval of Permit No. 7446-3 is December 17, 2012.
5. One-fifth of the construction is to be completed on or before June 17, 2015.
6. All construction is to be completed on or before December 17, 2017.
7. Water is to be put to beneficial use on or before December 17, 2021.
8. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

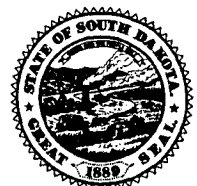
1. The well approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The well authorized by Permit No. 7446-3 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. 7446-3 authorizes a maximum diversion rate of 1.78 cfs for the irrigation of 64 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: Garland Erbele
Garland Erbele, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

JAN 25 2013

date



Supplemental Information

(type or print in ink)

1. Well Information - Proposed Construction

- a) Drill Hole Diameter 17 1/2" Depth 38'
- b) Casing Type PVC Diameter 12" Thickness .625"
- c) Screen Type stainless steel Diameter 12" Thickness
- d) Gravel Pack Red Flint Length of Gravel Pack 25'
- e) Depth to Top of Water Bearing Material 10'
- f) Depth to Water (ground surface to water level) 5'
- g) Distance to nearest existing domestic well:
On applicants property 1500' On property owned by others 2500'

2. Wastewater Disposal System Information

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

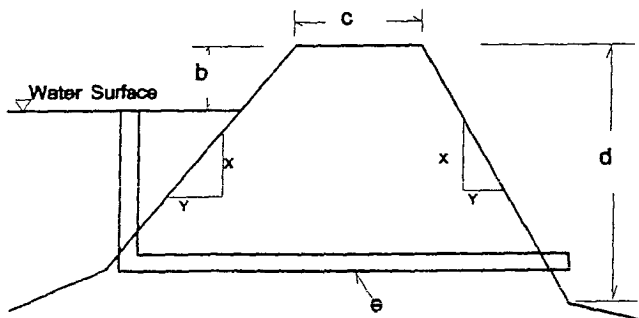
3. Dugout Information

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

4. Water Storage Dams

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

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



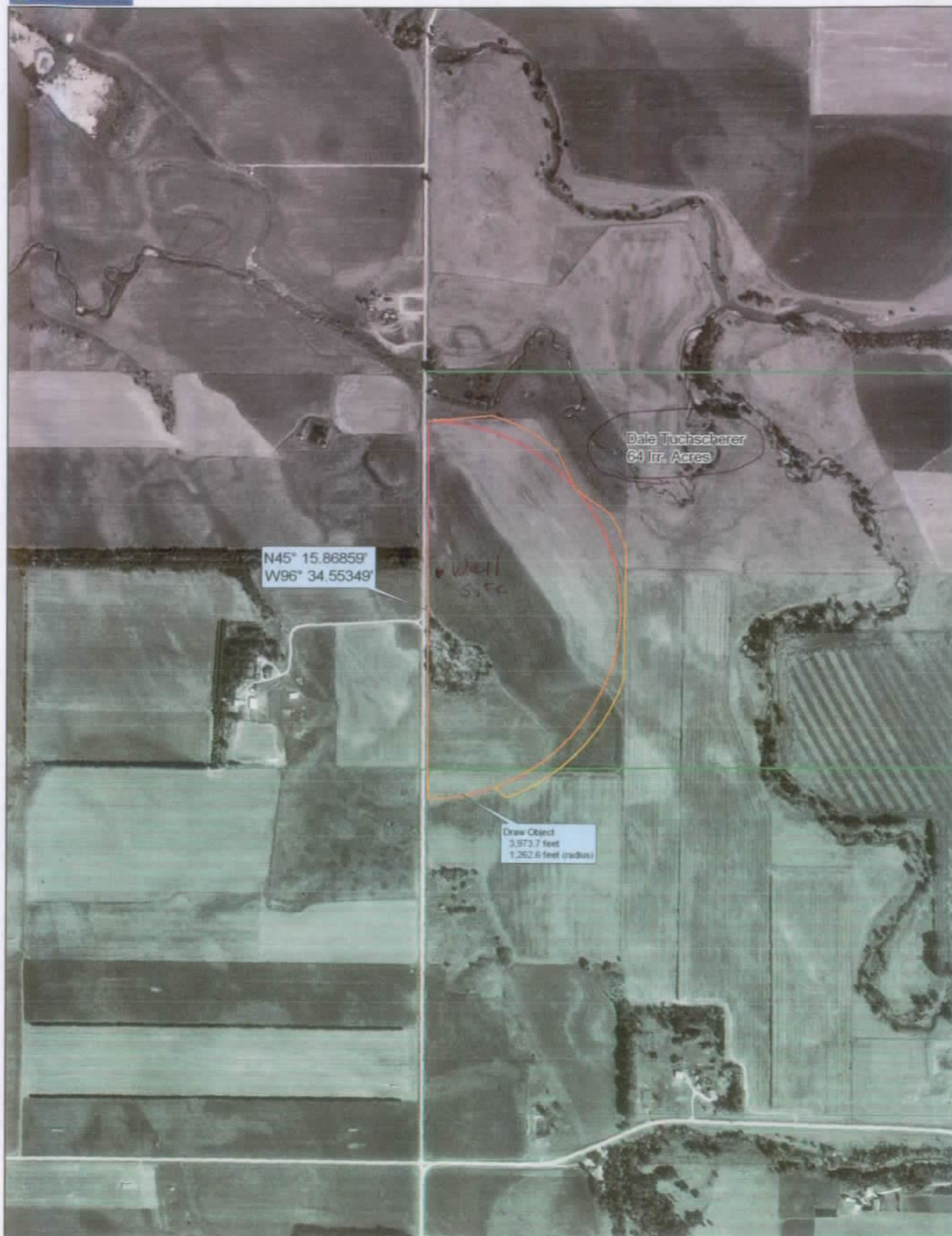
- b) Freeboard
- c) Crest Width
Crest Length
- d) Height
- e) Primary Outlet Capacity
If pipe, diameter
- f) Secondary Spillway Capacity
Spillway Width
- g) X & Y Slope
Upstream
Downstream
- h) Surface Area of Impoundment
- i) Storage Acre Feet
- j) Drainage Area Above Dam Acres

Matthew Mebers

Matthew Mebers
DC NRCS Milbark

DeLORME

XMap® 7



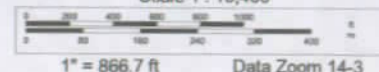
Data use subject to license.

© DeLorme. XMap® 7.

www.delorme.com



Scale 1 : 10,400





United States Department of Agriculture
Farm Service Agency

Grant County SD

PLSS: 28_121N_47W

Farm: 3389

November 02, 2011

DC NRCS Mr. Hank

2012



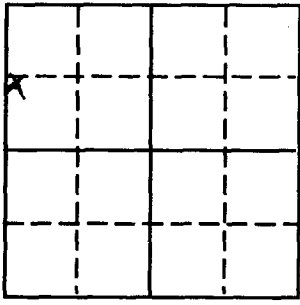
Disclaimer: Wetland identifiers do not represent the size, shape or specific determination of the area. Refer to your original determination (CPA-026 and attached maps) for exact wetland boundaries and determinations, or contact NRCS.

2010 Ortho-Photography - Not to Scale



SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location <u>SW 1/4 NW 1/4</u> Sec <u>28</u> Twp <u>121</u> Rg <u>97W</u> County <u>Grant</u> Please mark well location with an "X" Well completion Date <u>sep 6 2012</u>  Distance from nearest potential pollution source (Septic tank, abandoned well, feed lot, etc.) <u>2500</u> ft. from <u>septic system</u> (identify source)		Well Owner: <u>Dale Tuchscherer</u> Business Name: _____ Address1: <u>14629 481st Ave</u> Address2: <u>M. Bank SD 57252</u> City, State, Zip: _____ WELL LOG: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">FORMATION</th> <th colspan="2">DEPTH</th> </tr> <tr> <th>FROM</th> <th>TO</th> </tr> </thead> <tbody> <tr> <td><u>Topsoil</u></td> <td><u>0</u></td> <td><u>1</u></td> </tr> <tr> <td><u>Yellow clay</u></td> <td><u>1</u></td> <td><u>10</u></td> </tr> <tr> <td><u>clean Gravel</u></td> <td><u>10</u></td> <td><u>37</u></td> </tr> <tr> <td><u>Blue clay till</u></td> <td><u>37</u></td> <td><u>93</u></td> </tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>		FORMATION	DEPTH		FROM	TO	<u>Topsoil</u>	<u>0</u>	<u>1</u>	<u>Yellow clay</u>	<u>1</u>	<u>10</u>	<u>clean Gravel</u>	<u>10</u>	<u>37</u>	<u>Blue clay till</u>	<u>37</u>	<u>93</u>															
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PROPOSED USE: ☐ Domestic/Stock ☐ Municipal ☐ Business ☒ Test Holes ☐ Irrigation ☐ Industrial ☐ Institutional ☐ Monitoring well		STATIC WATER LEVEL <u>5</u> 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? _____																																	
METHOD OF DRILLING: <u>Forward Rotary</u>		WELL TEST DATA: ☒ Pumped Describe: <u>Pumpal 2" centrifugal</u> ☐ Bailed <u>for 1 hour</u> ☐ Other _____																																	
CASING DATA: ☐ Steel ☒ Plastic ☐ Other If other describe _____ <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>PIPEWEIGHT</th> <th>DIAMETER</th> <th>FROM</th> <th>TO</th> <th>HOLE DIAMETER</th> </tr> </thead> <tbody> <tr> <td><u>200 LB/FT</u></td> <td><u>4 IN</u></td> <td><u>1.5 FT</u></td> <td><u>19 FT</u></td> <td><u>7 IN</u></td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER	<u>200 LB/FT</u>	<u>4 IN</u>	<u>1.5 FT</u>	<u>19 FT</u>	<u>7 IN</u>											Pumping Level Below Land Surface <u>7</u> Ft. After <u>1</u> Hrs. pumped <u>130</u> GPM _____ Ft. After _____ Hrs. pumped _____ GPM If pump installed, pump rate: _____ GPM													
PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER																															
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GROUTING DATA: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Grout Type</th> <th>No. of Sacks</th> <th>Grout Weight</th> <th>From</th> <th>To</th> </tr> </thead> <tbody> <tr> <td><u>High Solids</u></td> <td><u>2</u></td> <td><u>9.5 Lb/gal</u></td> <td><u>0 Ft</u></td> <td><u>15 Ft</u></td> </tr> <tr> <td><u>Benlonite</u></td> <td> </td> <td><u>Lb/gal</u></td> <td><u>Ft</u></td> <td><u>Ft</u></td> </tr> </tbody> </table> Describe grouting procedure <u>grouted thru Tremie</u> <u>Pipe from bottom up</u>		Grout Type	No. of Sacks	Grout Weight	From	To	<u>High Solids</u>	<u>2</u>	<u>9.5 Lb/gal</u>	<u>0 Ft</u>	<u>15 Ft</u>	<u>Benlonite</u>		<u>Lb/gal</u>	<u>Ft</u>	<u>Ft</u>	REMARKS 																		
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SCREEN: ☐ Perforated pipe ☒ Manufactured Diameter <u>4</u> Inches Length <u>18</u> Feet Material <u>PVC</u> Slot Size <u>1040</u> Set From <u>19</u> Feet to <u>37</u> Feet Other information <u>Naturally Developed with Air</u>		This well was drilled under license # <u>235</u> And this report is true and accurate. Drilling firm: <u>Manikow Ski well Drilling Inc</u> Signature of License Representative: <u>Brian Markowski</u> Signature of Well Owner or Equitable Property Holder: <u>Dale Tuchscherer</u> Date: <u>9-6-12</u>																																	
WAS A PACKER OR SEAL USED? ☐ Yes ☒ No If so, what material? _____ Describe packer(s) and location _____		Please return White Copy to DENR Water Rights																																	
DISINFECTION: Was well disinfected upon completion? ☒ Yes, How? <u>Chlorine</u> ☐ No, Why Not? _____ Lab sample sent to for water quality analysis _____		523 E. Capitol Ave., Pierre SD 57501																																	

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 10/1, 20 12

RECEIVED OF Dale Tuchscherer 14629 481st Ave Milbank SD 57252

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

Fee for Application for Permit No. _____ to Appropriate Water, to construct and to put water to beneficial use	200	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>7446-3</u>		
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	200 00

No. **05599**

By

Lou Erbe
Chief Engineer

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date Sept 25, 2012

RECEIVED OF

Dale Tuchscherer, 14629 48th Ave, Milbank SD 57252

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

Fee for Application for Permit No. <u>7446-3</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. _____		
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	750.00

No. 05586

By Garland Erbuley
Chief Engineer 1/15



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

September 25, 2012

RECEIVED

OCT - 1 2012

WATER RIGHTS
PROGRAM

Dale Tuchscherer
14629 481 Ave
Milbank SD 57252

Dear Mr. Tuchscherer:

Thank you for submitting the *Application for a Permit to Appropriate Water* for irrigation.
In order to complete the application, the following is required.

- We have received your check for \$750.00. The fee for irrigation of 64 acres is \$750 plus the \$200 license fee. Please submit an additional \$200.00.
- Also, the application states irrigation will be in the W 1/2 NW 1/4 Section 28-T121N-R47W. The map shows the outline of the pivot reaching into the NW 1/4 SW 1/4 Section 28. Is it your intent to irrigate acreage in the NW 1/4 SW 1/4 Section 28 and if so, how many acres?

If you have any questions, please contact me.

Sincerely,

Karen Schlaak

Karen Schlaak
Water Rights Program
605 773-3352
karen.schlaak@state.sd.us

enclosure

*This piece is some land I have
rented for a number of years. It would
be irrigated if the rental situation
continues.*

Dale Tuchscherer

*Land owned
by Dennis Fonder Buot*



**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. 7446-3, Dale Tuchscherer**

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. 7446-3, Dale Tuchscherer, 14629 481st Avenue, Milbank SD 57252.

The Chief Engineer is recommending APPROVAL of Application No. 7446-3 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. 7446-3 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. 7446-3 authorizes a maximum diversion rate of 1.78 cfs for the irrigation of 64 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.

Garland Erbele, Chief Engineer
November 27, 2012

REPORT TO THE CHIEF ENGINEER
ON
WATER PERMIT APPLICATION NO. 7446-3
DALE TUCHSCHERER
NOVEMBER 27, 2012

Water Permit Application No. 7446-3 proposes to appropriate up to 128 acre-feet (ac-ft.) annually at a maximum diversion rate of 1.78 cubic feet per second (cfs) from a well to be completed into the "Veblen" aquifer. The well is expected to be 38 feet deep and is located in SW $\frac{1}{4}$ NW $\frac{1}{4}$ Section 28 for irrigation of 64 acres located in the W $\frac{1}{2}$ NW $\frac{1}{4}$, NW $\frac{1}{4}$ SW $\frac{1}{4}$ Section 28; all in T121N-R47W in Grant County.

AQUIFER: "Veblen" (VEB)

GEOLOGY AND AQUIFER CHARACTERISTICS:

Hedges and others (1982) identified the Veblen aquifer as a basal outwash deposit extending from the North Dakota/South Dakota border in eastern Marshall County to the Minnesota/South Dakota border in Grant County. The Veblen aquifer was estimated to underlie 502,500 acres of Grant and Roberts Counties and contain approximately 1,507,500 ac-ft. of recoverable water (Hedges et.al, 1982). The buried outwash deposit mapped as the Veblen by Hansen (1990) is shown in figure 1. Hansen's Veblen aquifer covers portions of Roberts, Grant, and Deuel Counties and as well as extending east into Minnesota.

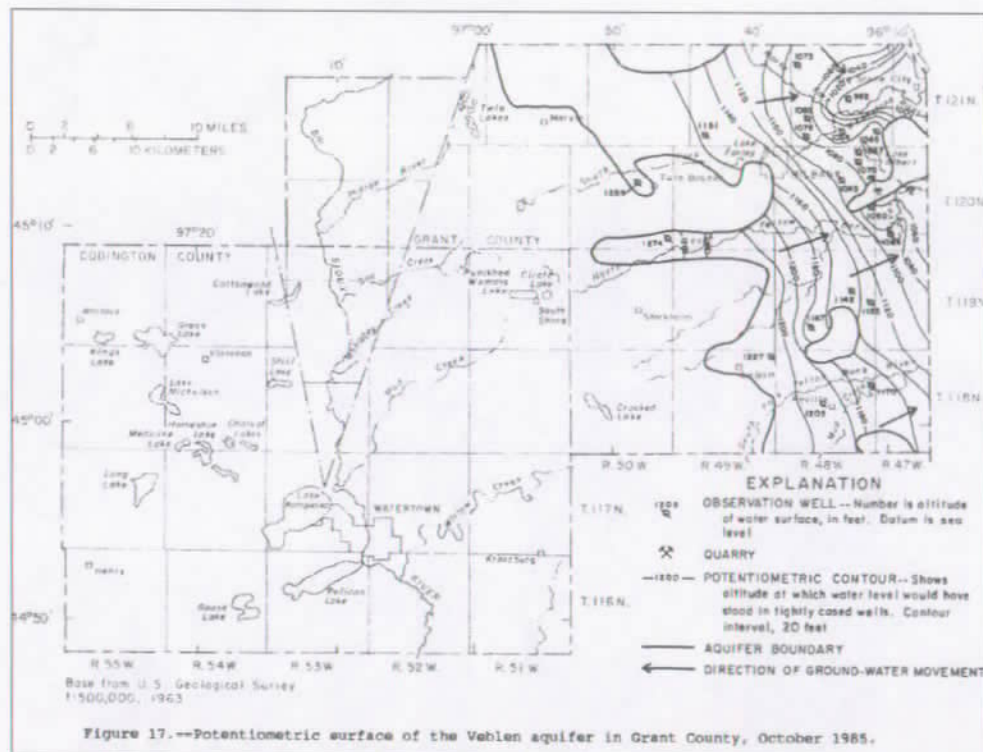


Figure 1- Potentiometric surface of the Veblen aquifer: from Hansen (1990).

Thompson (2001) mapped the Veblen aquifer and delineated the southern tip of the aquifer was approximately 15 miles north of the Roberts and Grant County line as shown in Figure 2. Thus, Hansen's "Veblen" is separate from Thompson's Veblen. Thompson (2001) also mapped an outwash group, calling it the Wilmot Outwash Group, in the southeastern portion of Roberts County. It is likely that Thompson's (2001) Wilmot Outwash Group is the same as the "Veblen" aquifer mapped by Hansen (1990).



Figure 2- Potentiometric surface of the Veblen aquifer: from Thompson (2001).

Ottertail Power Company, in 2007, filed a Water Permit Application No. 6846-3 to appropriate water from well sites located approximately five miles northeast of the site proposed by this application. Included in Application No. 6846-3 was a groundwater supply evaluation report prepared by Barr Engineering (Water Rights, 2007). The Barr engineering report further delineated the outwash deposits in northeastern Grant County and southeastern Roberts County. The areal extent of the "Veblen" aquifer as delineated by the Barr report (Water Rights, 2007) was not significantly different from Hansen's (1990) report. The Barr "Veblen" combined with the Thompson "Wilmot" has been recognized by the DENR-Water Rights Program (Buhler, 2007) and the Water Management Board as the "Veblen" aquifer. An investigation of all borings on record with the SD DENR-Geological Survey and Water Rights Programs in the area of the proposed well (SDGS, 2012 and Water Rights, 2012c) indicate that the "Veblen" aquifer defined by the Barr report (Water Rights 2007) is the most likely aquifer that this application proposes to appropriate water from. Figure 3 is an aquifer thickness map modified from the Barr Report with the proposed well location (Water Rights, 2007).



Figure 3- The “Veblen” aquifer as delineated by Barr Engineering: modified from Water Permit Application File No. 6846-3 (Water Rights, 2007).

The aquifer is generally under confined conditions and groundwater movement is from west to east. Individual deposits of sand and gravel are not continuous throughout the mapped extent of the aquifer. However, there is likely a hydraulic connection between outwash deposits in many places.

A test hole log was provided with this application and it shows one foot of topsoil, yellow clay from one foot to 10 feet below ground surface, and clean gravel from 10 to 37 feet below ground surface.

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 and existing rights from the aquifer.

WATER AVAILABILITY:

This application proposes to appropriate 128 ac-ft. annually from the “Veblen” aquifer. Actual water use, if this application is approved, will likely be less than 128 ac-ft/yr. The probability of unappropriated water available from an 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:

Discharge:

There are 32 water rights/permits appropriating water from the “Veblen” aquifer in Grant and southern Roberts Counties. Five of the water rights/permits appropriate water for commercial use, two for industrial use, and three for municipal use. One of the water permits for industrial use, Water Permit No. 6846-3 for Ottertail Power Company, appropriates 10,000 ac-ft annually from the “Veblen” aquifer at a maximum diversion rate of 13.81 cfs. Water Permit No. 6846-3 was approved in 2007 and appears to be subject to cancellation due to non-construction. The estimated average annual withdrawal by the non-irrigation appropriations is 2,887.8 ac-ft. The estimate is based on pumping at the maximum allowed diversion rate for 60 percent of the time. Water withdrawal from the “Veblen” aquifer in Grant and southern Roberts Counties, as reported to the DENR-Water Rights Program through annual irrigation questionnaires, is shown in table 1. The estimated average annual withdrawal by non-irrigation appropriations plus the average annual withdrawal by irrigation is 3,810.5 ac-ft/yr.

Year	# of Permits/Rights Reporting	Total Appropriation (ac-ft)	Total Pumpage (ac-ft)
1979	15	6978.0	700.00
1980	15	6978.0	504.00
1981	19	8366.0	1062.00
1982	14	5962.6	704.84
1983	14	6571.0	808.30
1984	16	5863.6	1189.03
1985	16	5863.6	519.10
1986	17	6673.6	726.70
1987	17	6673.6	1046.71
1988	17	6396.6	1897.35
1989	19	7200.6	1222.90
1990	18	6851.6	1329.90
1991	21	7543.0	230.99
1992	18	7133.0	589.09
1993	18	7203.0	220.06
1994	18	7130.5	675.63
1995	16	6814.0	445.60
1996	15	5994.0	712.60
1997	15	5994.0	709.06
1998	16	6414.0	812.07
1999	17	6627.0	859.36
2000	17	6627.0	975.55
2001	17	6627.0	1160.59
2002	17	6627.0	1024.95
2003	17	6627.0	1274.54
2004	17	6627.0	1283.56
2005	16	6547.0	1245.54
2006	16	6547.0	1440.48
2007	16	6547.0	1245.01
2008	20	8005.0	1350.26
2009	20	8005.0	1067.84
2010	20	8005.0	1100.69
2011	20	7774.0	314.74
Min	14	5863.6	220.06
Max	21	8366.0	1897.35
Avg.	17.1	6842.3	922.70

Table 1- Irrigation water use from the Veblen aquifer in southern Roberts County and Grant County (modified from Buhler, 2007).

Recharge:

Recharge to the “Veblen” aquifer in Grant and southern Roberts Counties primarily occurs through infiltration of precipitation where the aquifer is near the surface and possibly through leakage from the adjacent till (Hansen, 1990). Hedges and others (1985) estimated a range of recharge to the aquifer to be 0.24 in/yr across the entire aquifer using a regional flow-net analysis to 5.2 in/yr for the unconfined portions of aquifer. The “Veblen” aquifer underlies approximately 240,000 acres in southern Roberts County and Grant County as delineated in the Barr Engineering report (Water Rights, 2007). The recharge rate necessary to have average withdrawal plus this appropriation (4,280.5 ac-ft/yr) equal to annual recharge is 0.21 in/yr, using Barr’s area. An annual recharge rate of 0.21 in/yr is less than the range estimated by Hedges and others (1985). Therefore, there is a reasonable probability that unappropriated water is available from the “Veblen” 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 of the aquifer.”

There are four observation wells, GT-82B, GT-77M, GT-83A, and GT-77N, that are completed into the Veblen aquifer within approximately two miles of the well proposed by this application. These observation wells are approximately 1.05 miles west-northwest, 1.22 miles southwest, 1.24 miles south east, and 1.6 miles northeast, respectively. Water levels in all four observation wells respond to climatic conditions; rising (recharging) during wet periods, and declining during dry periods. Each of the observation wells shows the seasonal effects of pumping, but it is masked by climatic conditions. Over the period of record the water level in the observation wells have risen. Therefore, there is a reasonable probability that unappropriated water is available from the aquifer. Figures 4, 5, 6, and 7 show the hydrographs for observation wells GT-82B, GT-77M, GT-83A, and GT-77N, respectively.

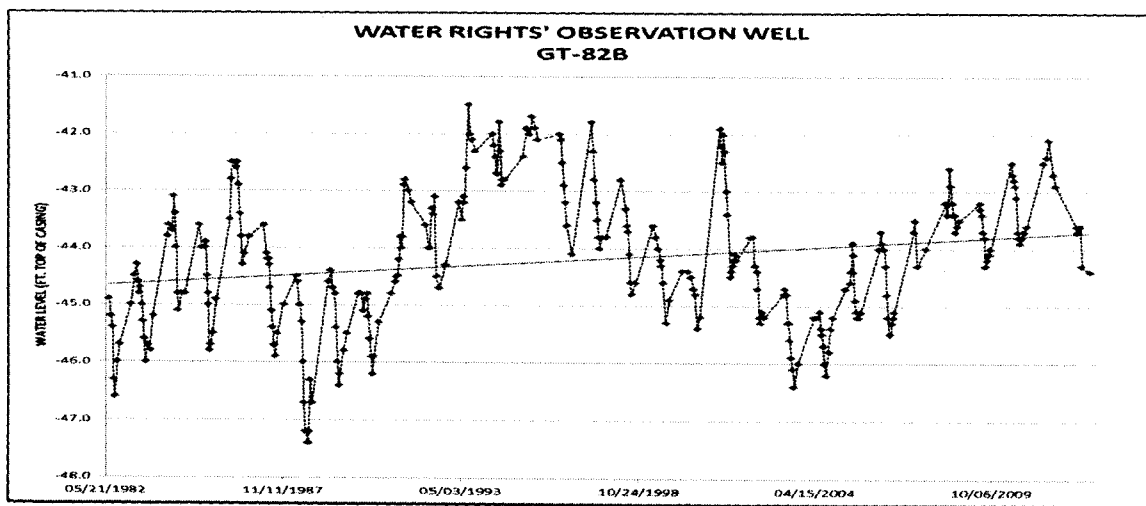


Figure 4- Hydrograph of GT-82B with linear trendline (Water Rights, 2012a).

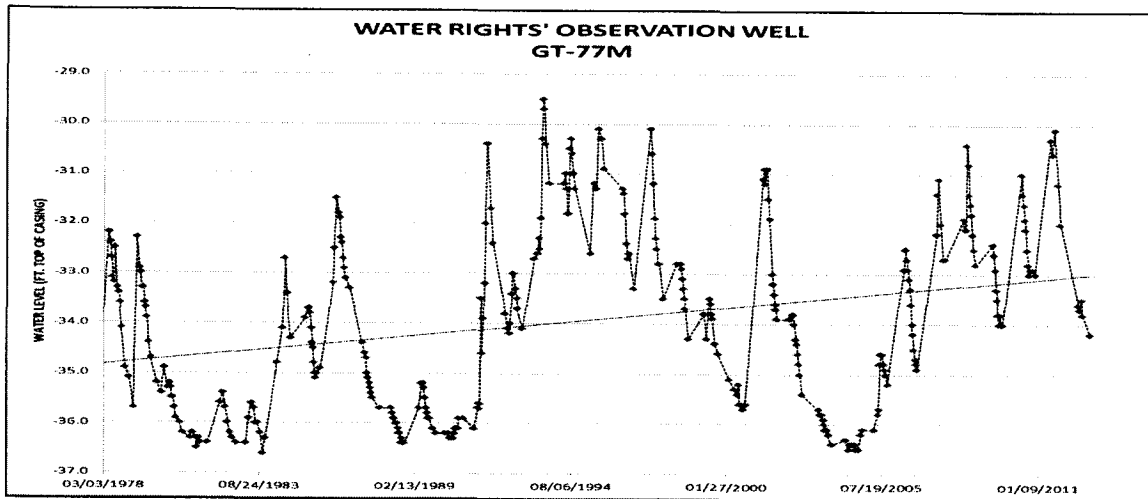


Figure 5- Hydrograph of GT-77M with linear trendline (Water Rights, 2012a).

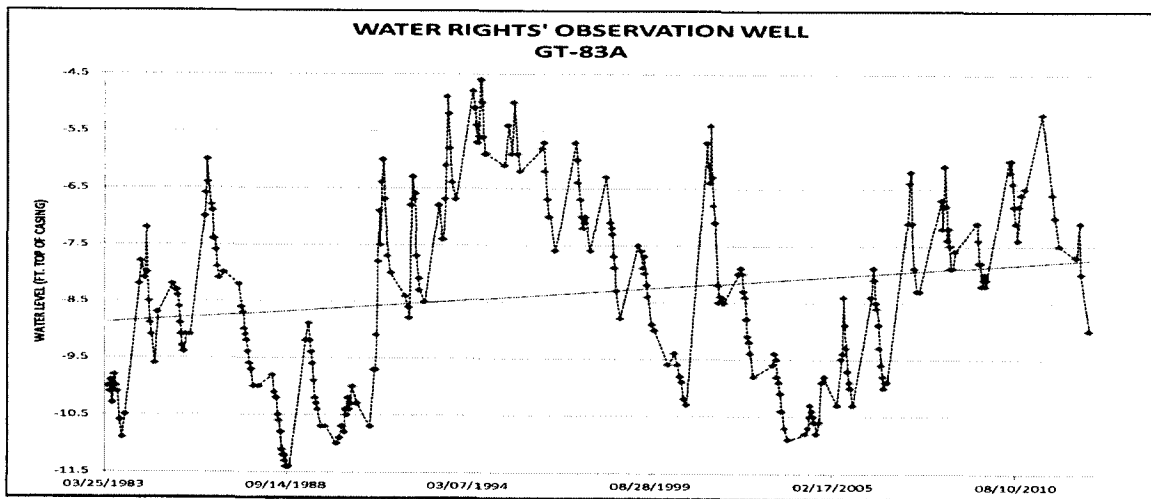


Figure 6- Hydrograph of GT-83A with linear trendline (Water Rights, 2012a).

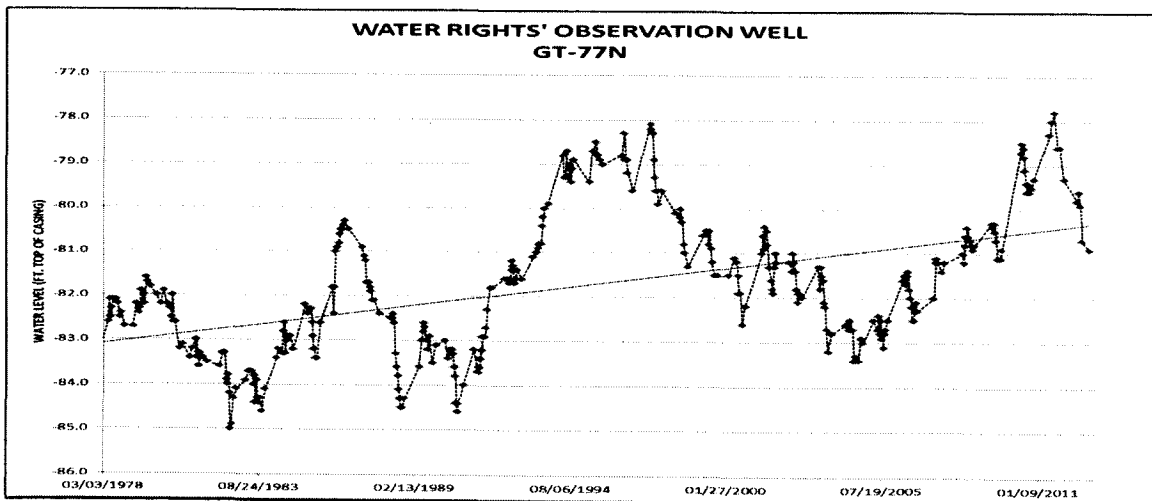


Figure 7- Hydrograph of GT-77N with linear trendline (Water Rights, 2012a).

EXISTING WATER RIGHTS:

There are three domestic wells on file with the DENR-Water Rights Program (Water Rights, 2012c) and three wells authorized by appropriative water rights, Water Right/Permit Nos. 2994-3, 3954-3, and 6846-3 (Water Rights, 2012b), within approximately one mile of the well proposed by this application. Water Right Nos. 2994-3 and 3954-3 authorizes pumping for irrigation purposes and Water Permit No. 6864-3 authorizes pumping for industrial use, but may be subject to cancellation due to non-construction. Observation well GT-82B is within one mile of five wells authorized by appropriative rights. The hydrograph for the observation well, figure 4, shows that drawdown is not significant. Therefore, there is a reasonable probability that this appropriation can be made without adversely impacting existing water rights or domestic 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 per second for every 70 acres, or "the equivalent thereof." The statute does provide that the Water Management Board may allow a greater diversion if the method of irrigation so requires. Water Permit Application 7446-3 proposes to divert at a rate of 1.78 cfs to irrigate 64 acres, or the equivalent of 1.94 cfs per 70 acres. The applicant does not provide a justification for the request for a diversion rate in excess of the statutory limit.

CONCLUSIONS:

1. This application proposes to appropriate 128 acre-feet annually for the irrigation of 64 acres at a maximum diversion rate of 1.78 cfs. The amount of water that will actually be used is expected to be less than 128 acre-feet annually.
2. The aquifer that this application proposes to withdraw water from is the "Veblen" as identified by Hansen (1990) and the Barr Engineering report for Water Permit Application No. 6846-3 (Water Rights, 2007).
3. There is a reasonable probability that unappropriated water is available from the "Veblen" aquifer to supply this proposed diversion based on observation well data, water use data, and estimated recharge rates.
4. There is a reasonable probability that the diversion rate requested by this application can be made without adversely impacting existing water rights or domestic wells.
5. The applicant requested a diversion rate greater than the statutory limit and provided no justification for the request.



Adam Mathiowetz
SD DENR-Water Rights Program

REFERENCES:

- Buhler, K. 2007. "Water Permit Application No. 6846-3 Report". SD DENR-Water Rights Program. Joe Foss Building, Pierre, SD.
- Hansen, D.S. 1990. Water Resources of Codington and Grant Counties, South Dakota. U.S. Geological Survey Water-Resources Investigations Report 89-4147. Huron, South Dakota.
- Hedges, L.S., S.L. Burch, D.L. Iles, R.A. Barari, and R.A. Schoon. 1982. Evaluation of Ground-Water Resources Eastern South Dakota and Upper Big Sioux River, South Dakota and Iowa, Task 1: Bedrock Topography and Distribution, Task 2: Extent of Aquifers, Task 3: Ground-Water Storage, Task 4: Computerized Data Base, Final Report. U.S. Army Corps of Engineers Contract DACW 45-80-C-0185.
- Hedges, L.S., Allen, J., and Holly, D.E. 1985. Evaluation of Ground-Water Resources Eastern South Dakota and Upper Big Sioux River, South Dakota and Iowa. Task 7: Ground Water Recharge. South Dakota DENR-Geological Survey, Vermillion, SD.
- SDGS. 2012. Lithologic Logs Database. < <http://sddenr.net/lithdb/>>. SD DENR-Geological Survey. Vermillion, SD.
- Thompson, R.F. 2001. Water Resources of the Lake Traverse Reservation, South and North Dakota, and Roberts County, South Dakota. Water-Resources Investigation Report 01-4219. U.S. Geological Survey. Rapid City, South Dakota.
- Water Rights. 2007. Water Permit No. 6846-3 File. SD DENR-Water Rights Program. Joe Foss Bldg., Pierre, SD.
- Water Rights. 2012a. Observation Well Files. SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, SD.
- Water Rights. 2012b. Water Right/Permit Files. SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, SD.
- Water Rights. 2012c. Water Well Completion Report. SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, SD.

Printer's Affidavit of Publication

STATE OF SOUTH DAKOTA
COUNTY OF GRANT

} ss.

DEC - 7 2012

WATER RIGHTS
PROGRAM

Holli Seehafer

of said County and State, being first duly sworn, on oath says that the Grant County Review is a legal weekly newspaper of general circulation, printed and published in Milbank, in said County of Grant and State of South Dakota, by Phyllis Justice, and has been such newspaper during the times hereinafter mentioned; that said newspaper is a legal newspaper; and that it has a bona fide circulation of more than two hundred copies weekly, and has been published within said County of Grant in the English language and has been admitted to the United States mail under second class mailing privilege, for at least one year next prior to the publication of the Notice herein mentioned, and has been printed wholly in an office maintained at the said place of publication, that I, the undersigned, Advertising Manager of said newspaper, in charge of the advertising department thereof, have personal knowledge of all the facts stated in this affidavit; that the advertisement headed Notice of Application No. 7446-3 to Appropriate Water

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

<u>December 5</u>	<u>2012</u>	<u>20</u>
<u>20</u>		<u>20</u>
<u>20</u>		<u>20</u>

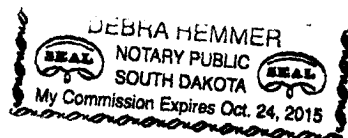
That \$ 24.23, being the full amount of the fee charged for the publication of said Notice, inures to the benefit of the publisher of the Grant County Review; that no agreement or understanding for the division thereof has been made with any person, and that no part has been agreed to be paid to any person whomsoever.

Holli Seehafer

Subscribed and sworn to before me this 5th day of Dec 2012

Debra Hemmer

Notary Public, Grant County, South Dakota



Publication Fee \$ 24.23
Notarial Fee \$

Total \$ 24.23

NOTICE OF APPLICATION

NO. 7446-3 to Appropriate Water

Notice is given that Dale Tuchscherer, 14629 481 Ave, Milbank, SD, 57252, has filed an application for a water permit to appropriate 1.78 cubic feet of water per second (cfs) from one well to be completed into the Veblen Aquifer (38 feet deep) located in SW 1/4 NW 1/4 Section 28 for irrigation of 64 acres located in the W 1/2 NW 1/4, NW 1/4 SW 1/4 Section 28; all in T121N-R47W. 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 No. 7446-3 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. In accordance with SDCL 46-2A-23, the Chief Engineer will act on this application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider this application. Notice of the hearing will be given to the applicant and any person filing a petition.

Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre, SD, 57501, (605-773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by December 17, 2012.

The petition may be informal, but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application. Steven M. Pirner, Secretary Department of Environment and Natural Resources

Published once at an approximate cost of \$24.23.

RECEIVED

DEC 12 2012

Form 8

WATER RIGHTS
PROGRAM

DEPARTMENT
OF ENVIRON-
MENT AND
NATURAL
RESOURCES

NOTICE OF APPLICATION
NO. 7446-3 to
Appropriate Water

Notice is given that Dale Tuchscherer, 14629 481 Ave, Milbank SD 57252 has filed an application for a water permit to appropriate 1.78 cubic feet of water per second (cfs) from one well to be completed into the Veblen Aquifer (38 feet deep) located in SW 1/4 NW 1/4 Section 28 for irrigation of 64 acres located in the W 1/2 NW 1/4, NW 1/4 SW 1/4 Section 28; all in T121N-R47W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

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The petition may be informal, but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application. Steven M. Pirner, Secretary, Department of Environment and Natural Resources. Published once at the approximate cost of \$53.75. (December 5, 2012)

All legal notices in the Public Opinion and other South Dakota newspapers can be found at
www.sdpublicnotices.com

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
) SS
County of Codington)

I, Monica K. Saathoff

certify that the attached printed Notice was
taken

from the Watertown Public Opinion

printed and published in Watertown

County of Codington and

state of South Dakota. The notice was
published

in the newspaper on the following date:

December 5th, 2012

Cost of Printing \$53.37

Monica K. Saathoff
(Signature)

Bookkeeper

(Title)

December 5th, 2012

(Date Signed)



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

denr.sd.gov

November 28, 2012

Grant County Review
PO Box 390
Milbank SD 57252

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 7446-3 to Appropriate Water. Please publish the notice once on December 5, 2012. 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 Dale Tuchscherer, 14629 481st Ave., Milbank SD 57252 (Ph # 605-432-6023).

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

November 28, 2012

Public Opinion
PO Box 10
Watertown SD 57201

ATTENTION: Legal Public Notice

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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.

November 28, 2012

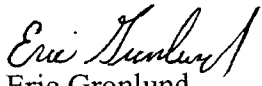
Dale Tuchscherer
14629 481st Ave
Milbank SD 57252

Dear Mr. Tuchscherer:

Water Permit Application No. 7446-3 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 Grant County Review printed at Milbank SD (Ph # 605-432-4516) and the Public Opinion printed at Watertown SD (Ph # 605-886-6901). 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.

Instruction to Newspaper - Publish the Notice on December 5, 2012. 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 APPLICATION NO. 7446-3 to Appropriate Water

Notice is given that Dale Tuchscherer, 14629 481 Ave, Milbank SD 57252 has filed an application for a water permit to appropriate 1.78 cubic feet of water per second (cfs) from one well to be completed into the Veblen Aquifer (38 feet deep) located in SW 1/4 NW 1/4 Section 28 for irrigation of 64 acres located in the W 1/2 NW 1/4, NW 1/4 SW 1/4 Section 28; all in T121N-R47W. 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 No. 7446-3 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. In accordance with SDCL 46-2A-23, the Chief Engineer will act on this application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider this application. Notice of the hearing will be given to the applicant and any person filing a petition.

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Published once at the total 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

JAN 2 5 2013

Dale Tuchscherer
14629 481st Ave
Milbank SD 57252

Dear Mr. Tuchscherer:

Enclosed is Water Permit No. 7446-3 authorizing construction of your water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

Form 10, *Notice of Completion of Works and Application of Water to Beneficial Use*, is enclosed. Please return this completed form after you have finished the system and have put the water to beneficial use. An investigation can then be scheduled so the water license may be issued, thus completing the acquisition of a water right.

An informational sheet *Common Water Right Questions?* is also enclosed. This sheet is intended to answer some of the questions associated with obtaining and keeping a water right.

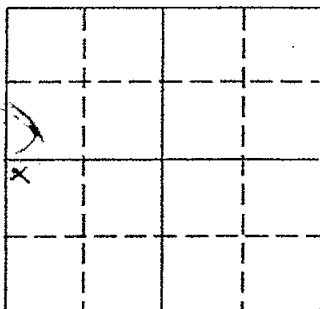
Sincerely,

Garland Erbele, Chief Engineer
Water Rights Program
(605) 773-3352

enclosures

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location SW $\frac{1}{4}$ NW $\frac{1}{4}$ Sec 28 Twp 121 Rg 7WCounty GrantBig Stone
North

Redrill of
May 29, 2013 well
Please mark well
location with an "X"

Well completion Date

12-18-13

1 Mile

Distance from nearest potential pollution source (Septic tank, abandoned well, feed lot, etc.)

1000 ft. from sewer system (identify source)

PROPOSED USE:

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

METHOD OF DRILLING:

CASING DATA:

- ☐ Steel ☐ Plastic ☐ Other

If other describe

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
<u>Sch 40</u> LB/FT	<u>12</u> IN	<u>0</u> FT	<u>78</u> FT	<u>17</u> IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
<u>Coarse sand</u>		Lb/gal	<u>60</u> FT	<u>98</u> FT
<u>Bentonite</u>	<u>27</u>	Lb/gal	<u>20</u> FT	<u>60</u> FT
Describe grouting procedure <u>Cement</u> <u>0</u> <u>20</u>				

SCREEN:

- ☐ Perforated pipe ☒ Manufactured

Diameter 12 inches Length 20 FeetMaterial Stainless SteelSlot Size .040 Set From 78 Feet to 98 Feet

Other information

WAS A PACKER OR SEAL USED?

- ☒ Yes ☐ No

If so, what material? SS plateDescribe packer(s) and location Bottom

DISINFECTION: Was well disinfected upon completion?

- ☒ Yes, How? Bleach

Lab sample sent to for

water quality analysis

Well Owner:

Dale Tuchscherer

Business Name:

Address1:

14629 481st Ave

Address2:

City, State, Zip:

Milbank SD 57252

WELL LOG:

DEPTH

FORMATION

FROM

TO

<u>Top Soil</u>	<u>0</u>	<u>2</u>
<u>Yellow clay</u>	<u>2</u>	<u>17</u>
<u>Med/Coarse Sand</u>	<u>17</u>	<u>38</u>
<u>Blue Clay</u>	<u>38</u>	<u>74</u>
<u>Coarse Sand</u>	<u>74</u>	<u>98</u>

STATIC WATER LEVEL

12

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?

yes

WELL TEST DATA:

☐ Pumped

Describe:

Air lifted☐ Bailed☒ Other

Pumping Level Below Land Surface

Ft. After

Hrs. pumped

500

GPM

Ft. After

Hrs. pumped

GPM

If pump installed, pump rate:

GPM

REMARKS

RECEIVED

JAN 15 2014

WATER RIGHTS
PROGRAM

This well was drilled under license #

598

And this report is true and accurate.

Drilling firm:

Kranz Well + Excav

Signature of License Representative

Signature of Well Owner or Equitable Property Holder:

Date:

Report of Examination of Works and/or Application of Water to Beneficial Use For Permit No. 7446-3

I have this day, September 5, 2018, made a thorough examination of the water use system constructed by Dale Tuchscherer of 14629 481st Ave, Milbank SD 57252 holder of Permit No. 7446-3, bearing the priority of September 25, 2012 authorizing the diversion of 1.78 cu. ft. per second of the waters of ground water (Veblen Aquifer) for irrigation use purposes, in Grant County.

Inspection contact & relationship Dale Tuchscherer, owner

A. Works used to divert the water:

Well Information: West Well

- 1) Well Drilling Firm: Kranz Drilling and Excavation
- 2) No. of Wells 1
- 3) Depth(s) 98 feet
- 4) Well log is available Y If no, explain in comments

Comments: none

Casing:

- 1) Diameter 12 inches
- 2) Length 78 feet
- 3) Type plastic

Screen:

- 1) Type stainless steel
- 2) Length 20 feet
- 3) Static water level 5 feet

Pump:

- 1) Make Grundfos
- 2) Model submersible
- 3) Size NA
- 4) Capacity 350 GPM

Motor:

- 1) Make Grundfos
- 2) Model No. submersible
- 3) Horsepower rating 25 hp

B. Works used to transport water to place of use:

- 1) Type PVC
 - 2) Size 8 inches
 - 3) Length 100 feet
- Comments: none

C. Works used to apply water to beneficial use:

Center pivot:

- 1) Make TL
- 2) Overall length 1305 feet

- 3) Number of towers 7
- 4) End gun Y/N
- 5) Capacity 350 GPM

Chemigation Equipment:

- 1) Does chemigate N

D. Compliance with Permit Requirements:

- 1) Permit qualifications being abided by Y
- 2) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period Y
- 3) Exceptions to compliance are: none

E. Condition and Location:

1. The system is in good condition with the point(s) of diversion located as follows: from the NW corner of Sec 28 T121N-R47W 1325 ft S and 50 ft W, latitude of 45.27652 and longitude of -96.57581, SW 1/4 NW 1/4.
2. The works are capable of diverting and conveying to the place of use 0.78 cu. ft. per second of water which is to be used for irrigation use. Water has been put to beneficial use to the maximum extent as follows:
All land is located in Sec 28 T121N-R47W
NW 1/4 NW 1/4 - 23 ac SW 1/4 NW 1/4 - 38 ac NW 1/4 SW 1/4 - 3 ac
comprising a total of 64 acres of land and the license should be issued for 0.78 cfs.
3. All structures, wells and lands on map Y
If no, describe: none

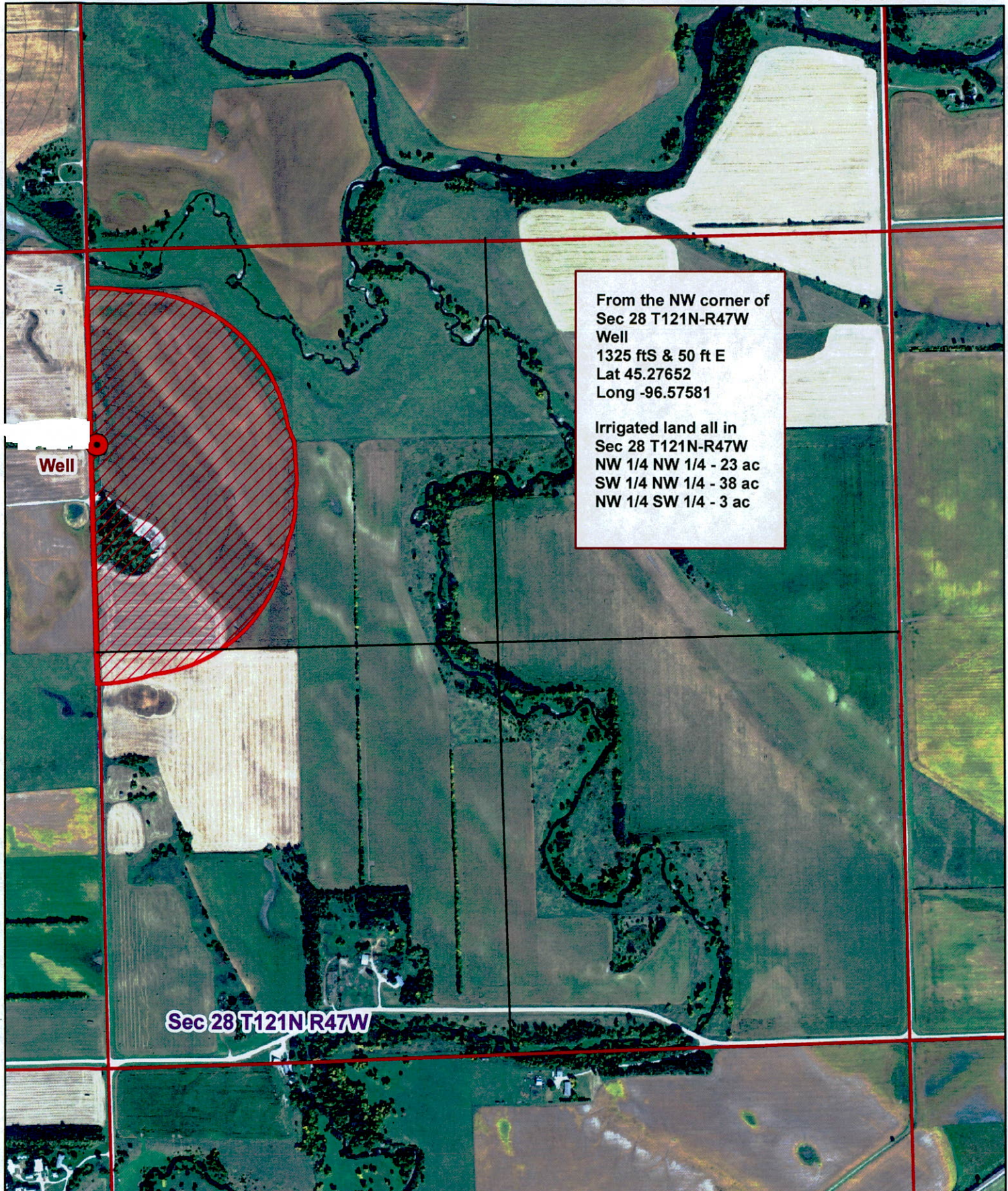
F. Comments or other permit(s) associated with the project:

Original well was redrilled after first year to a depth 60 foot deeper, but was still in the same aquifer.



Mark D Rath
Natural Resources Engineer
DENR, Water Rights Program

Date report completed: January 10, 2019



0 0.125 0.25 0.5 Miles

Mark D Rath
Natural Resources Engineer
January 9, 2019



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3182
<http://denr.sd.gov>

MAR 19 2019

7446-3

Dale Tuchscherer
14629 481st Ave
Milbank SD 57252

Dear Sir:

Enclosed is Water License No. 7446-3. This is the final water right document completing your process of obtaining a Water Right. Included with your license is a map prepared by the staff engineer who conducted the field investigation.

For your information SDCL 46-6-27 requires that if in the future, the owner of an existing well, constructs a replacement well and does not plan to use the old well, the old well is considered abandoned and must be plugged. Also, any well that is being used or is not considered abandoned must be valved and controlled, if flowing, or sealed and capped so that no leaking occurs either underground or at the surface.

As long as you use the water beneficially, as stated in the Water License, the State Water Laws provide that you have a continuing right to use the water. If you have any questions, please contact our office.

Sincerely,

Jeanne Goodman, Chief Engineer
Water Rights Program
(605) 773-3352

enclosures

**STATE OF SOUTH DAKOTA
WATER LICENSE NO. 7446-3**

(1) Dale Tuchscherer, 14629 481st Ave, Milbank SD 57252 made Application No. 7446-3, September 25, 2012 for a water permit to divert 1.78 cubic feet of water per second from ground water, one well (Veblen Aquifer), Grant County, South Dakota for irrigation purposes. Permit No. 7446-3, with a priority date of September 25, 2012 was approved December 17, 2012 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before December 17, 2017 and for the application to beneficial use of said water on or before December 17, 2021.

(2) It is certified that the permit holder has complied with the provisions of South Dakota State Law relating to completion of the construction of the water supply system and is entitled to divert 0.78 cubic feet of water per second for beneficial use. The location of the diversion point is 1,325'S and 50'W of the NW corner of Section 28, T121N, R47W (SW ¼ NW ¼), Latitude 45.27652, Longitude -96.57581.

(3) The permit holder has complied with the provisions of South Dakota State Law relating to the application of water to beneficial use to irrigate the following land:

T121N, R47W Section 28	NW ¼ NW ¼	23 acres
	SW ¼ NW ¼	38 acres
	NW ¼ SW ¼	3 acres
	Total	64 acres

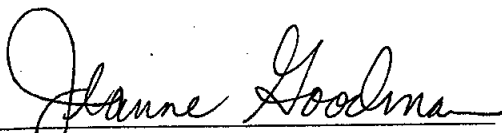
(4) Pursuant to South Dakota Water Law 46-5-30.1 Dale Tuchscherer, 14629 481st Ave, Milbank SD 57252 the holder and/or owner of Water Right No. 7446-3 is issued a license to appropriate water, the right to use 0.78 cubic feet of water per second from ground water, one well (Veblen Aquifer) with a priority date of September 25, 2012 from the location specified in (2) of this license for irrigation purposes.

This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Right No. 7446-3 and subject to the following qualifications:

- 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.
- The well authorized by Permit No. 7446-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with the 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. *The original well drilled in May, 2013 was deepened in December, 2013 by Kranz Well & Excavation. A copy of the well completion report is on file with the Water Rights Program.*
- This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

continued

- 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. 7446-3 authorizes a maximum diversion rate of 1.78 cfs for the irrigation of 64 acres with an annual volume not to exceed 2 acre feet of water per acre per year. *This qualification is no longer applicable. A diversion rate of 0.78 cfs or 350 gallons per minute was developed for irrigation of 64 acres.*



Jeanne Goodman, Chief Engineer

Water Rights Program

Department of Environment and Natural Resources

MAR 19 2019

date

