

WATER PERMIT NO. 7820-3

Name of Applicant: David R Hansen

Address: 46339 133rd St, Wilmot SD 57279

Phone: 605 949-0224

Amount of Water Claimed: 0.86 cfs

Total Acres: 60

Source of Water Supply: groundwater (one existing well)

Water to be used for: irrigation

County: Roberts

Type of Waste Disposal System:

Location: 4 miles northwest of Wilmot

PRIORITY

Date Received: 4-5-13

Application/License Fee: \$ 700

Corrected Application Received:

Period of Annual Use: April 1 – November 1

Remarks: Use the well authorized by Water Permit No. 7568-3

Diversion Point: NW 1/4 Sec 9-T123N-R50W

Land to be Irrigated: S 1/2 N 1/2 and N 1/2 S 1/2

Sec 9-T123N-R50W

21

Depth of Well: 220 feet deep

Well Driller:

Remarks:

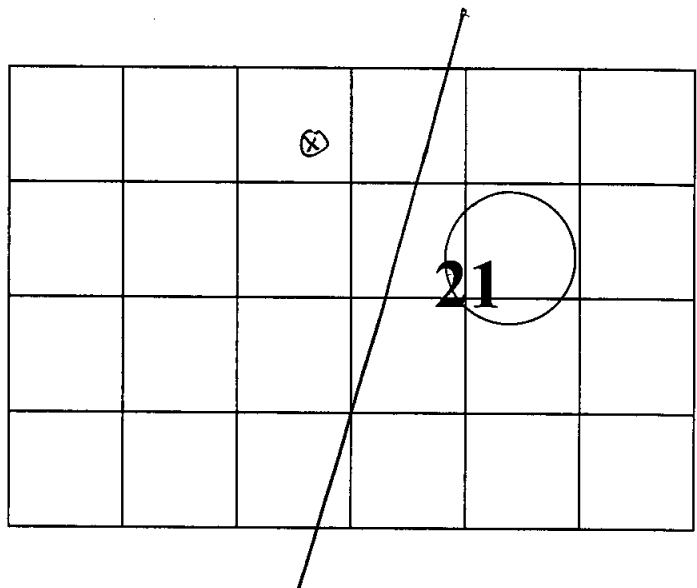
Type of Map: aerial

Prepared by:

Reviewed and the Number Assigned on: 4-8-13

By: Karen Schlaak

Notice of Hearing - date to intervene: _____



FORM 2: Application for irrigation in South Dakota
(type or print)RECEIVED
APR - 5 2013
WATER RIGHTS
PROGRAM

Mail to: PMB 2020 DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>7820-3</u>	(office use only) Hydrologic Unit <u>07020001</u>
	Basin <u>Minnesota-Whetstone</u>	<u>605-938-4651</u>
	Newspaper <u>Wilmot Ent. PO Box 6 57279</u>	<u>605-886-6901</u>
	<u>Public Opinion Box 10 Watertown 57201</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 David R. Hansen
(check one) ☒ Owner ☐ Tenant/lessee ☐ Owner's Legal Agent _____
(name and complete address if different than above name)
- Mailing Address 46339 133rd St. Wilmot S.D. 57279
(Address) (City) (State) (Zip Code)
- Home Phone 605 938 4258 Cell 605 949-0224 Email _____
2. Amount of water claimed 0.86 *CFS or _____ **GPM _____ ***AF _____ Total Acreage 60
(*Cubic Feet per Second) (**Gallons per Minute) (**Acre Feet - storage capacity of dam/dugout or annual use if applicable)
3. Source of water supply Existing Well on NW 1/4 Sec 9 Lee Twp. 123-50
4. Location of point of diversion NW 1/4 Sec 9 Lee Twp. 123-50
(example - 3 wells in SW 1/4 NE 1/4 section 12-T104N-R53W)
- County Roberts
5. County or counties where water will be used Roberts
6. Annual period during which water is to be used April 1st to Nov 1st
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
<u>S 1/2 of the NW 1/4 Sec 21</u>	<u>50</u>		
<u>North 1/2 : S 1/2 Sec 21</u>	<u>10</u>		

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

The water will be provided by the well (permit # 7568-3) by a under ground pipe line.

I, David R. Hansen, 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. 7820-3

Date of first receipt of application April 5, 2013.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 7820-3 to David R Hansen, 46339 133rd St, Wilmot SD 57279 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. 7820-3 appropriates 0.86 cubic feet of water per second from one well in the Revilla Aquifer (220 feet deep) located in the NW 1/4 Section 9 (within the former boundaries of the Sisseton Wahpeton Indian Reservation) for irrigation of 60 acres located in the S 1/2 N 1/2, N 1/2 S 1/2 Section 21; all in T123N-R50W.
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 – November 1.
3. The date from which applicant may claim right is April 5, 2013.
4. The date of approval of Permit No. 7820-3 is June 24, 2013.
5. One-fifth of the construction is to be completed on or before December 24, 2015.
6. All construction is to be completed on or before June 24, 2018.
7. Water is to be put to beneficial use on or before June 24, 2022.
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 Water Permit No. 7820-3 and this 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. 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

JUL 05 2013

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 well will be drilled by LTP Enterprises - Fargo ND May 1st
(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 230' Apx. Depth to Top of Water Bearing Material 195' Apx. Depth to Water from Surface

d) Distance to nearest existing domestic well:

On applicant's property On property owned by others

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

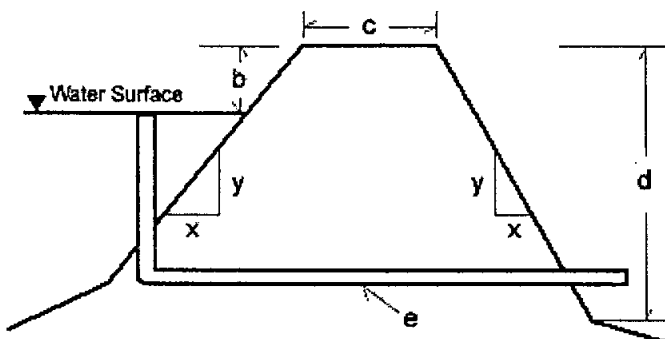
a) Surface Dimensions Depth

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

Sec 32
T124N
R50W

Sec 33
T124N
R50W

Sec 10
T123N
R50W

Sec 5
T123N
R50W

Sec 4
T123N
R50W

Sec 15
T123N
R50W

Sec 6
T123N
R50W

Sec 16
T123N
R50W

Sec 9
T123N
R50W

Sec 8
T123N
R50W

Sec 21
T123N
R50W

Sec 22
T123N
R50W

Sec 7
T123N
R50W

Sec 17
T123N
R50W

Sec 28
T123N
R50W

Sec 27
T123N
R50W

Sec 18
T123N
R50W



**EASYmapping Acreage &
Production Book
Multiple Peril Crop Insurance**

NAU COUNTRY

13

Created By: RODONNELL
Created: 1/18/2013

Changes on map. 



Policy #: SD-942-6039051-13
DAVID R HANSEN

State: 46-SD
County: 109 - ROBERTS
Legal: 123N050W-009

Agency/Agent Information: 405012
FARM CREDIT SERVICES OF

Available units for map view:

Unit	Crop	Pract/Type	APH Yld
0001-0001 BU	WHEAT	NI/S	59.0
Sub 000	1.000	6998	
0001-0001 BU	FORGE	NI/A	4.9
Sub 000	1.000	6948	
0001-0003 BU	FORGE	NI/GAM	4.0
Sub 000	1.000	8156	
0001-2001 BU	CORN	I/GSG	174.0*
Sub 000	1.000	5801	
0001-0001 BU	CORN	NI/GSG	166.0*
Sub 001	1.000	8136	
0001-0001 BU	CORN	NI/GSG	166.0*
Sub 002	1.000	8136	
0001-2006 BU	SBEAN	I/COMM	48.0*
Sub 000	1.000	6516	
0001-0006 BU	SBEAN	NI/COMM	43.0*
Sub 000	1.000	8136	

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APR - 5 2013

**WATER RIGHTS
PROGRAM**

Area Classification	Processor #/Name	# Trees or Vines	Insurability
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Field	Crop	Practice/ Type/Class	Unit	Plant Acres	Plant Date	PP Acres	Uninsured Acres	Acreage Type
f33	Int% - Share Name		FSN Tract Field ID F8136 - T2836 - 1	64.7				Approved APH ☐ WA
f34	Int% - Share Name		FSN Tract Field ID F8136 - T2840 - 1	20.8				Approved APH ☐ WA
	Int% - Share Name		FSN Tract Field ID					Approved APH ☐ WA
	Int% - Share Name		FSN Tract Field ID					Approved APH ☐ WA
	Int% - Share Name		FSN Tract Field ID					Approved APH ☐ WA

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 4/5, 2013

RECEIVED OF David R Hansen 46339 133rd st Wilmot SD 57279

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

Fee for Application for Permit No. <u>7820-3</u> to Appropriate Water, to construct and to put water to beneficial use	500	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	500 00

No. **06284**

By *Joanna Goodman*
Chief Engineer

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 4/5, 20 13

RECEIVED OF David R Hansen 46339 133rd St Wilmot Sd 57279

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>7820-3</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. **06285**

By *Christine Goodman*
Chief Engineer

Water Rights Program - DENR
Conversation File Documentation

NAME OF PERSON OR FILE: Water Permit Application 7820-3, David Hansen

ADDRESS: COUNTY: Roberts

DATE: April 10, 2013 TELEPHONE: cell – 605 9490224

RE: diversion rate requested

I contacted Mr. Hansen. This application proposes to use the same well as authorized by Water Permit No. 7568-3. The existing permit appropriates 0.86 cfs from the well. I asked whether this new application seeks additional diversion rate authority or just use the existing authority under No. 7568-3. Mr. Hansen did not know for sure. I asked how much his well produced and again he did not know for sure. Based on this we agreed that Application No. 7820-3 should request the addition of 0.86 cfs diversion rate authority and at licensing he will be licensed for the amount developed.

NAME:

Eric Hansen



**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. 7820-3, David R Hansen**

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. 7820-3, David R Hansen, 46339 133rd Street, Wilmot SD 57279.

The Chief Engineer is recommending APPROVAL of Application No. 7820-3 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 Water Permit No. ⁷⁸²⁰⁻³~~7568-3~~ and this 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. 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
June 3, 2013

REPORT TO THE CHIEF ENGINEER
ON
WATER PERMIT APPLICATION NO. 7820-3
DAVID R. HANSEN
JUNE 03, 2013

Water Permit Application No. 7820-3 proposes to appropriate water at a maximum diversion rate of 0.86 cubic feet of water per second (cfs) from one well completed into the Reville aquifer authorized by Water Permit No. 7568-3 for the irrigation of 60 acres located in the S $\frac{1}{2}$ N $\frac{1}{2}$, N $\frac{1}{2}$ S $\frac{1}{2}$ Section 21, in T123N-R50W in Roberts County. Water Permit No. 7568-3 appropriates water from one well that is expected to be approximately 220 feet deep and is to be located in the NW $\frac{1}{4}$ of Section 9 to irrigate 60 acres located in the NW $\frac{1}{4}$ of Section 9, all in T123N-R50W in Roberts County. The well and acreage authorized by Water Permit No. 7568-3 are located within the former boundaries of the Sisseton Wahpeton Indian Reservation. This application, if approved and Water Permit No. 7568-3 combined would authorize the irrigation of 120 acres at a maximum diversion rate of 1.72 cfs from one well completed into the Reville aquifer in Roberts County.

AQUIFER: Reville aquifer (REV)

GEOLOGY AND AQUIFER CHARACTERISTICS:

From the map provided by Thompson (2001), the well site is located within the boundaries of the Reville aquifer. Due to the depth of the well and the expected depth of aquifer materials in the area of the well site, the well will indeed be completed into the Reville aquifer.

The Reville aquifer is a glacial meltwater deposit consisting of sand and gravel that occupies a buried preglacial bedrock valley in southern Roberts County and central Grant County, as shown in Figures 1 and 2 (Hansen, 1990; Thompson, 2001). The well site is marked on Figure 1. In Roberts County, the Reville aquifer is estimated to underlie 86.7 square miles and contain 315,200 acre-feet (ac-ft) of water in storage (Thompson, 2001). In Grant County, the Reville aquifer is estimated to underlie 190 square miles and contain 1 million ac-ft of water in storage (Hansen, 1990). The aquifer is under artesian conditions, and groundwater movement is from north to south (Hansen, 1990; Thompson, 2001). The Reville aquifer is hydraulically connected to the Wilmot outwash group (Hansen, 1990; Thompson, 2001). In northern Grant County, the Reville aquifer is separated from the Veblen aquifer defined by Hansen (1990) by a buried shale bedrock ridge (Hansen, 1990).

In Roberts County, the depth to the top of aquifer ranges from 110 feet to 660 feet and the aquifer thickness ranges from 12 to 141 feet, with an average of 56.8 feet (Thompson, 2001). A test hole just east of the well site documented aquifer material starting at a depth of 164 feet, with a thickness of 51 feet (Thompson, 2001). A well completion report just west of the well site documented aquifer material starting at a depth of 187 feet, with a thickness of 33 feet (Water Rights, 2013c).

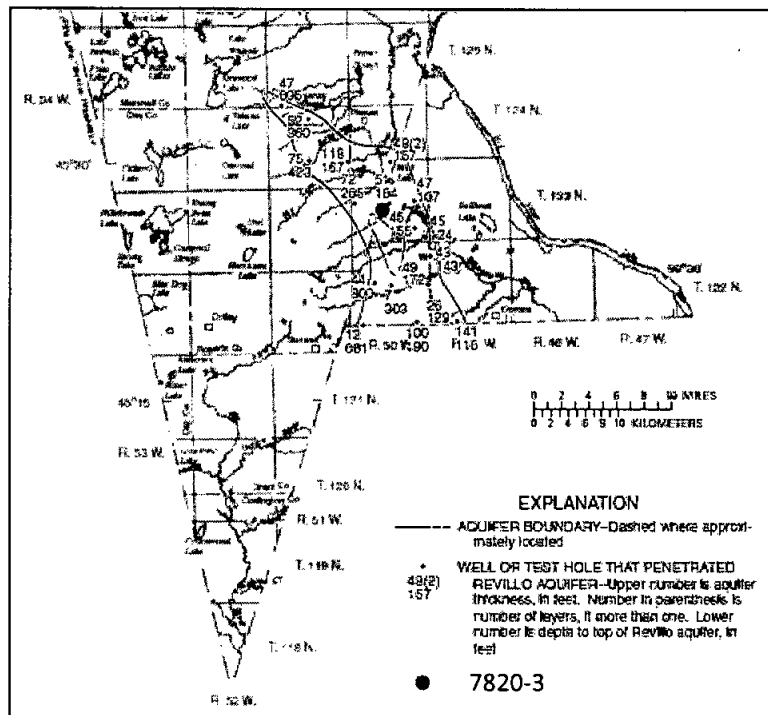


Figure 1- Thickness, depth, and extent of the Renvo aquifer in Roberts County (modified from Thompson, 2001)

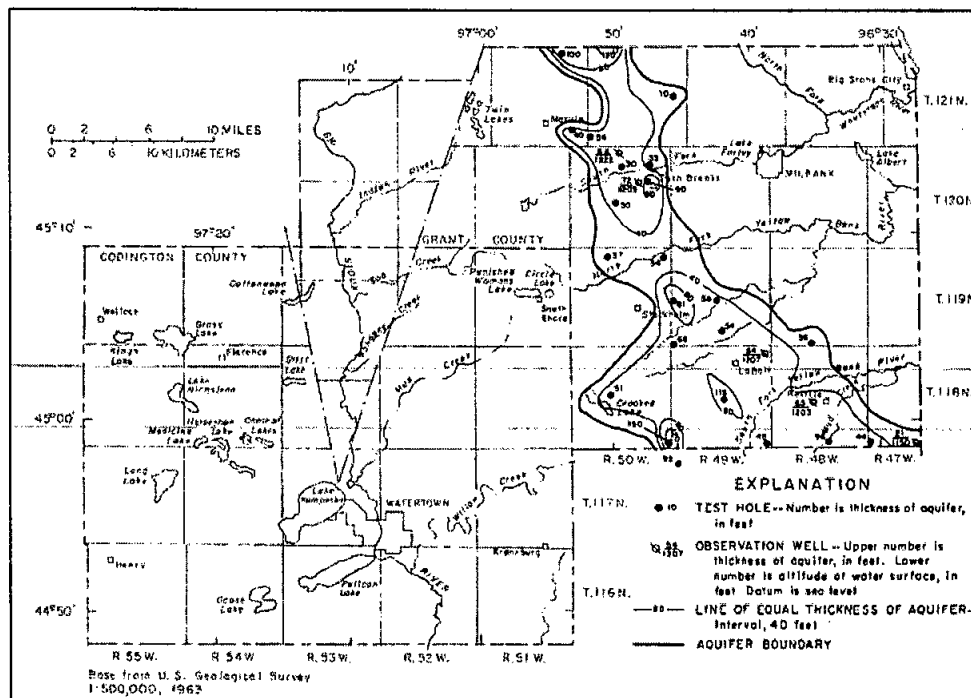


Figure 2- Thickness and extent of the Renvo aquifer in Grant County (modified from Hansen, 1990)

SDCL 46-2A-9

Pursuant to SDCL 46-2A-9, a permit to appropriate water may be issued only if there is a 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 that are pertinent to this application.

WATER AVAILABILITY:

This application proposes to appropriate water from the Reville aquifer. If this application is approved, water use will likely be less than 120 acre-feet per year (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 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." 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, a public water system is not involved and the aquifer is not older or lower than the Greenhorn Formation, therefore the withdrawal/recharge issue must be considered.

Hydrologic Budget:

Recharge:

Recharge to the Reville aquifer in Roberts County occurs possibly due to inflow from overlying outwash lenses (Thompson, 2001). An average annual recharge rate has not been quantified for the aquifer. However, Hedges and others (1985) concluded that for management and development programs, the recharge rate to confined aquifers can be estimated to be between 0.15 and 0.60 inches per year (in/yr). That recharge rate equates to a range of 2,213.6 to 8,854.4 ac-ft/yr.

Discharge:

Discharge from the Reville aquifer in Roberts County occurs due to well withdrawals and possible outflow to overlying outwash lenses (Thompson, 2001). Currently there are a total of 14 water rights/permits appropriating water and one future use permit reserving water from the Reville aquifer, as shown in Table 1 (Water Rights, 2013b). There are also two pending water permit applications.

Permit No.	Name	County	Status	Type	CFS	Acres	AC-FT/YR
549-3	City of Milbank	GT	FU	MUN			808
1764-3	Town of Wilmot	RB	LC	MUN	0.39		
1769-3	City of Milbank	GT	LC	MUN	2.16		
3250-3	Delton L. Strasser	RB	LC	IRR	1.89	132	
4785-3	City of Milbank	GT	LC	MUN	0.89		
5044-3	Ray A. & David R. Hansen	RB	LC	IRR	2.28	459	
5482-3	Alan or Linda Schneck	GT	LC	IRR	4.28	410	
7148-3	Jason E. Frerichs	RB	PE	IRR	1.44	60	
7306-3	Tyler Ammann	RB	PE	IRR	2.22	91	
7341-3	Tyler Ammann	RB	PE	IRR	2.71	290	
7471-3	David Pierce	RB	PE	IRR	3.56	320	
7496-3	Jeff Donnay	RB	PE	IRR	1.86	130	
7530-3	Tyler Ammann	RB	PE	IRR	3.11	320	
7568-3	David R. Hansen	RB	PE	IRR	0.86	60	

GT= Grant, RB= Roberts, MUN= Municipal, IRR= Irrigation, LC= Water Right, PE= Water Permit, FU= Future Use Permit

Table 1- Water rights, water permits, and future use permit from the Reville aquifer (Water Rights, 2013b)

Table 2 shows the Reville aquifer's historic irrigation data. The development of the aquifer is relatively small. The average pumpage reported is 360 ac-ft/yr from 1994 to 2011.

Year	No. of Permits Reporting	Appropriation (ac-ft)	Pumpage (ac-ft)
2011	4	2254	51.85
2010	4	2254	210.3
2009	3	2134	144.07
2008	3	2134	131.69
2007	3	2134	446.28
2006	3	2134	481.47
2005	3	2134	263.9
2004	4	2494	943.8
2003	4	2494	1204.01
2002	4	2494	375.63
2001	4	2494	557.87
2000	4	2494	607.42
1999	4	2494	194.89
1998	4	2494	303.64
1997	5	2809	284
1996	5	2809	208.14
1995	5	2809	0
1994	5	2809	66.17
Min	3	2134	0
Max	5	2809	1204.01
Avg	3.94	2437.33	359.73

Table 2- Historic irrigation water use from the Reville aquifer (Water Rights, 1979-2012)

The amount of water that can be expected to be withdrawn by the non-irrigation use water rights/permits can be estimated by assuming water rights/permits limited only by diversion rate will pump at the maximum permitted diversion rate 60 percent of the time and future use permits can be fully developed. At the current appropriation amount, the total annual withdrawal from

the Reville aquifer by non-irrigation use is expected to total less than 1,495 ac-ft/yr plus the 808 ac-ft/yr reserved by the future use permit (Water Rights, 2013b).

In addition, there are many well completion reports on file with the SD DENR-Water Rights Program for domestic wells that appear to be completed into the Reville aquifer (Water Rights, 2013c). The annual withdrawal due to domestic use is not significant to the hydrologic budget of the aquifer.

Hydrologic Budget:

The estimated average annual withdrawal from the Reville aquifer due to well withdrawal is 2,663 ac-ft/yr. Since 2011, Water Permits Nos. 7306-3, 7341-3, 7471-3, 7496-3, 7530-3, and 7568-3 have been approved (Water Rights, 2013b). The maximum use of these approved or proposed appropriations, authorizing a maximum withdrawal of 2,422 ac-ft/yr, is assumed for the annual maximum hydrologic budget. The estimated annual maximum water use from the Reville aquifer is 5,929 ac-ft/yr. To balance the hydrologic budget of the aquifer, recharge must equal withdrawal. Assuming the estimated average annual withdrawal, recharge must equal 0.16 in/yr to balance the hydrologic budget. Assuming the estimated maximum annual withdrawal, recharge must equal 0.40 in/yr to balance the hydrologic budget. Both required recharge rates are within the general range of recharge rates for confined aquifers provided by Hedges and others (1985). Therefore, there is a reasonable probability that unappropriated water is available from the Reville aquifer for this proposed appropriation.

Also note that the potential withdrawal accounts for less than 0.5 percent of the estimated volume of recoverable water available from the aquifer in Roberts and Grant Counties. This is not to suggest that all the water within the Reville aquifer is available for this proposed appropriation, but to demonstrate that in general the Reville aquifer is a resource that is relatively unexploited.

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.”

The DENR-Water Rights Program monitors five observation wells completed into the Reville aquifer, shown in Table 3. The locations of these observation wells are shown in Figures 3 through 7 (Water Rights, 2013a). The observation well data documents cyclic conditions of water levels, recharging during wet years and declining during dry years. Water levels in all five observation wells have increased over the period of record, indicating that recharge has exceeded discharge. This data also documents that, at the current level of development, temporal well withdrawal is masked by climatic conditions, indicating that recharge to and natural discharge from the aquifer significantly exceeds pumping. These hydrographs indicate that unappropriated water is available from this area of the Reville aquifer to support the proposed appropriation.

Well	Distance from well site	Figure
RB-77L	2.4 miles east	3
RB-77M	3.1 miles southeast	4
RB-77N	5.2 miles southeast	5
GT-79D	15.8 miles south-southeast	6
GT-77K	18.4 miles south-southeast	7

Table 3- Observation wells completed into the Reville aquifer (modified from Stonesifer, 2013)

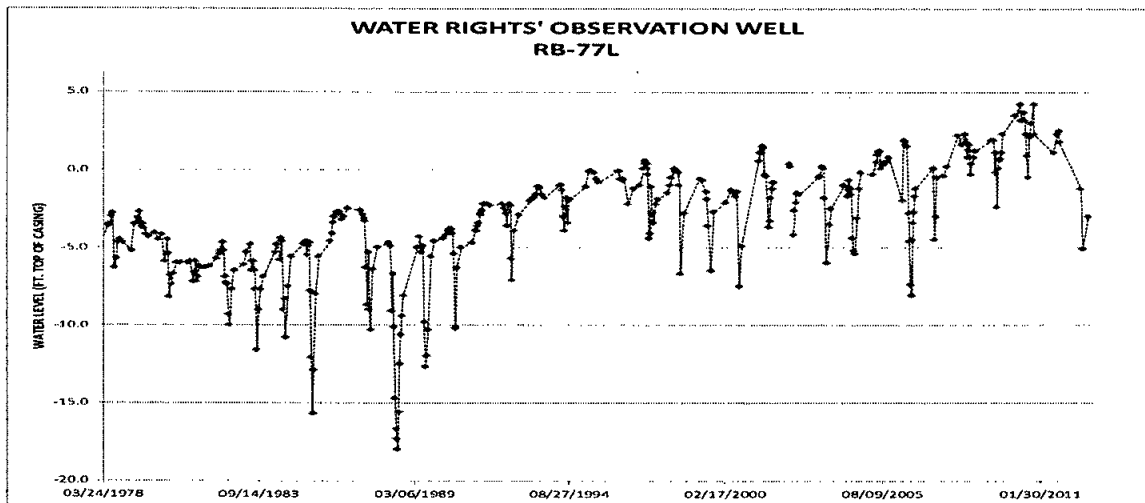


Figure 3- Hydrograph for observation well RB-77L (Water Rights, 2013a)

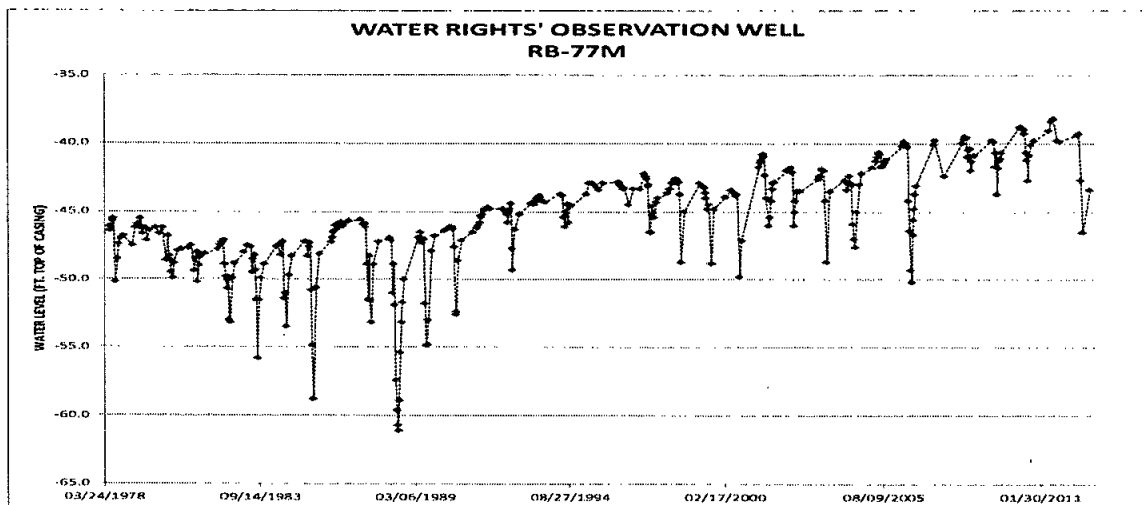


Figure 4- Hydrograph for observation well RB-77M (Water Rights, 2013a)

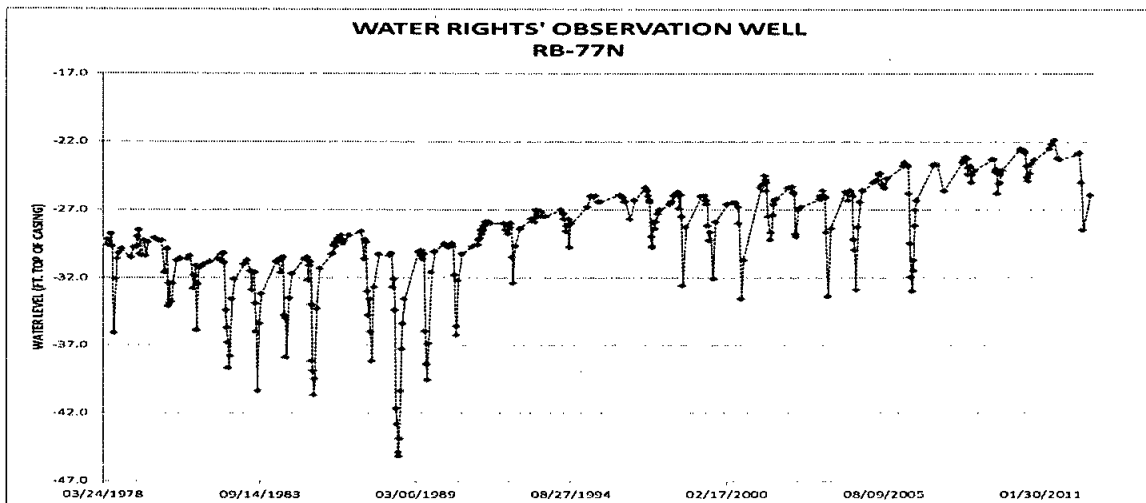


Figure 5- Hydrograph for observation well RB-77N (Water Rights, 2013a)

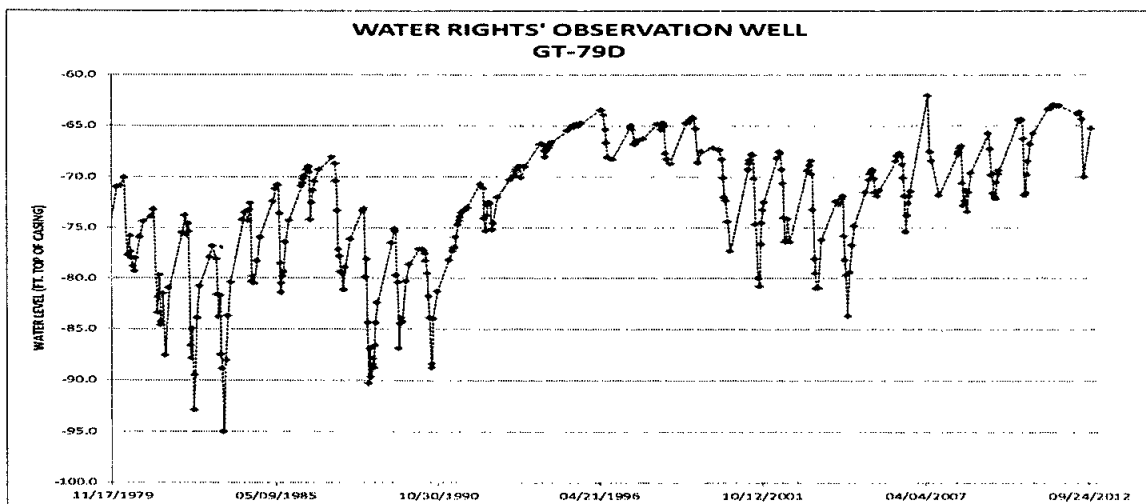


Figure 6- Hydrograph for observation well GT-79D (Water Rights, 2013a)

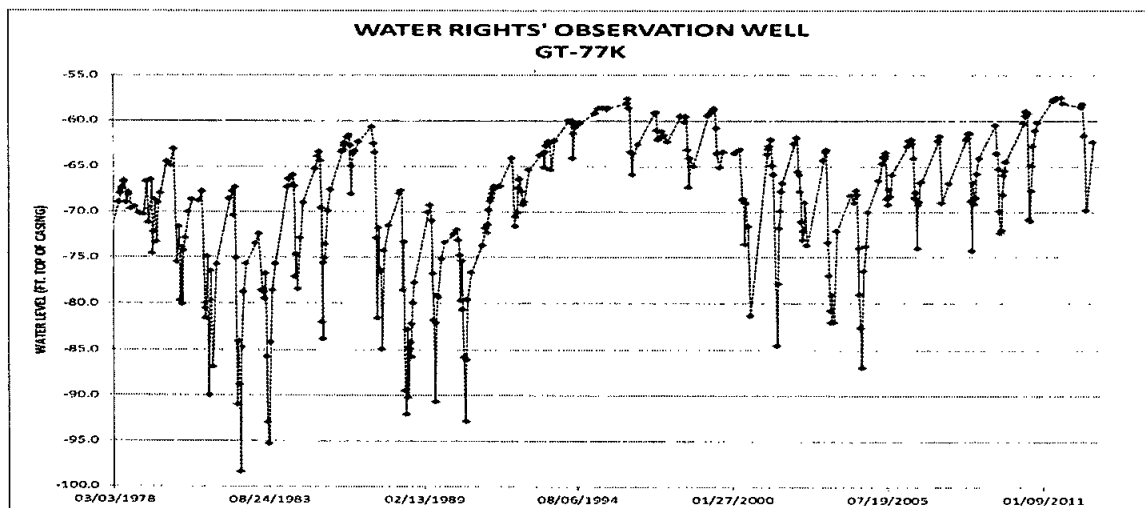


Figure 7- Hydrograph for observation well GT-77K (Water Rights, 2013a)

EXISTING WATER RIGHTS:

If approved, the proposed well will be located near other wells that obtain water from the same aquifer. Water Right No. 5044-3 held in part by the applicant is the nearest appropriation, located approximately one half mile southeast of the well site (Water Rights, 2013b). The nearest water right/permit that is not held by the applicant, Water Permit 7148-3, is approximately three miles east-southeast (Water Rights, 2013b). There are several well completion report on file with the SD DENR-Water Rights Program that appear to be completed into the Revillo aquifer that are within two miles of the well site (Water Rights, 2013c).

Because the aquifer at the well site is under artesian conditions, some drawdown due to pumping is likely. 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 Revillo aquifer at the well site, some existing well owners may need to lower their pumps to accommodate possible reduction of head pressure.

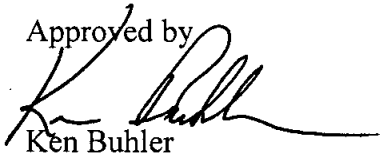
As previously discussed, the hydrographs for observation wells completed into the Revillo aquifer document the effects of pumping, however, these are minimal relative to climatic conditions. Observation well GT-77K is located near several water rights/permits for municipal use and the associated hydrograph, shown in Figure 7, documents temporal effects due to pumping; however, these are minimal compared to climatic conditions (Water Rights, 2013a). This amount of fluctuation is a worst case scenario for this aquifer. Therefore, there is a reasonable probability that any well interference from the proposed appropriation will not cause a significant impact and will also not adversely or unlawfully impair existing appropriative or domestic users.

CONCLUSIONS:

1. The application proposes to appropriate water at a maximum diversion rate of 0.86 cfs for the irrigation of 60 acres using the well authorized under Water Permit No. 7568-3.
2. Water Permit No. 7568-3 authorizes the diversion of water from one well completed into the Revillo aquifer at a maximum diversion rate of 0.86 cfs for the irrigation of 60 acres.
3. This application, if approved and Water Permit No. 7568-3 combined would authorize the irrigation of 120 acres at a maximum diversion rate of 1.72 cfs from one well completed into the Revillo aquifer in Roberts County.

4. From observation well data and a hydrologic budget, there is a reasonable probability that unappropriated water is available from the Revillo aquifer to supply this proposed appropriation.
5. There is a reasonable probability that this proposed well will not adversely or unlawfully impair existing appropriative or domestic users.


Adam Mathiowetz
SD DENR-Water Rights Program

Approved by

Ken Buhler
SD DENR-Water Rights Program

REFERENCES:

- Hansen, D.S. 1990. Water Resources of Codington and Grant Counties, South Dakota: U.S. Geological Survey Water-supply Paper 2254, 263 p.
- 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.
- Stonesifer, J.S. 2013. Report on Water Permit Application No. 7568-3. SD DENR-Water Rights Program. Joe Foss Bldg., Pierre, SD.
- Thompson, R.F. 2001. Water Resources of the Lake Traverse Reservation, South and North Dakota, and Roberts County, South Dakota: U.S. Geological Survey Water-Resource Investigation Report 01-4219
- Water Rights. 1979-2012. "Annual Irrigation Summary by Aquifer": SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.
- Water Rights. 2013a. Observation Well Files, SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.
- Water Rights. 2013b. Water Right/Permit Files, SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.
- Water Rights. 2013c. Water Well Completion Reports, SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.

RECEIVED

Form 8

JUN 14 2013

WATER RIGHTS
PROGRAM

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)

County of Roberts) SS

I, Taney Grunwald

certify that the attached printed Notice was taken

from the Wilmot Enterprise

printed and published in Wilmot, SD

County of Roberts and

state of South Dakota. The notice was published

in the newspaper on the following date:

June 13, 2013

Cost of Printing 23.83

Taney Grunwald

Taney Grunwald
(Signature)

Owner
(Title)

6/13/13
(Date Signed)

NOTICE OF APPLICATION
NO. 7820-3 to Appropriate
Water

Notice is given that David R Hansen, 46339 133rd St, Wilmot SD 57279 has filed an application for a water permit to appropriate 0.86 cubic feet of water per second from one well in the Revillo Aquifer (220 feet deep) located in the NW 1/4 Section 9 (within the former boundaries of the Sisseton Wahpeton Indian Reservation) for irrigation of 60 acres located in the S 1/2 N 1/2, N 1/2 S 1/2 Section 21; all in T123N-R50W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 7820-3 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 June 24, 2013.

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 total
approximate cost of \$23.83.
(June 13, 2013)

*Willa Reif Notary
Commission Expires
July 27, 2016*

RECEIVED

JUN 24 2013

Form 8

WATER RIGHTS
PROGRAM

DEPARTMENT
OF ENVIRON-
MENT AND
NATURAL
RESOURCES

NOTICE OF APPLICATION
NO. 7820-3 to Appropriate
Water

Notice is given that David R. Hansen, 46339 133rd St. Wilmot SD 57279 has filed an application for a water permit to appropriate 0.86 cubic feet of water per second from one well in the Revillo Aquifer (220 feet deep) located in the NW 1/4 Section 9 (within the former boundaries of the Sisseton Wahpeton Indian Reservation) for irrigation of 60 acres located in the S 1/2 N 1/2, N 1/2 S 1/2 Section 21; all in T123N-R50W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 7820-3 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 approximate cost of \$52.25. (June 13, 2013)

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

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County of Codington) SS

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:

JULY 13th, 2013

Cost of Printing 57.29

Monica K. Saathoff
(Signature)

Bookkeeper

(Title)

July 13th, 2013

(Date Signed)



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

June 4, 2013

Wilmot Enterprise
PO Box 6
Wilmot SD 57279

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 7820-3 to Appropriate Water. Please publish the notice once on June 13, 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 David R Hansen, 46339 133rd St, Wilmot SD 57279 (Ph # 605-938-4258).

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

June 4, 2013

Public Opinion
PO Box 10
Watertown SD 57201

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 7820-3 to Appropriate Water. Please publish the notice once on June 13, 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 David R Hansen, 46339 133rd St, Wilmot SD 57279 (Ph # 605-938-4258).

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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 DATES, CONTACT
THE NEWSPAPER RIGHT AWAY.

June 4, 2013

David R Hansen
46339 133rd St
Wilmot SD 57279

Dear Mr. Hansen:

Water Permit Application No. 7820-3 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 Wilmot Enterprise printed at Wilmot SD (Ph # 605-938-4651) 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 June 13, 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 APPLICATION NO. 7820-3 to Appropriate Water

Notice is given that David R Hansen, 46339 133rd St, Wilmot SD 57279 has filed an application for a water permit to appropriate 0.86 cubic feet of water per second from one well in the Revillo Aquifer (220 feet deep) located in the NW 1/4 Section 9 (within the former boundaries of the Sisseton Wahpeton Indian Reservation) for irrigation of 60 acres located in the S 1/2 N 1/2, N 1/2 S 1/2 Section 21; all in T123N-R50W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 7820-3 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 June 24, 2013.

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 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

JUL 05 2013

David R Hansen
46339 133rd St
Wilmot SD 57279

Dear Mr. Hansen:

Enclosed is Water Permit No. 7820-3 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,

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

enclosures



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

December 4, 2012

David Hansen
46339 133rd St
Wilmot SD 57279

Dear Mr. Hansen:

Thank you for calling with regard to your existing water right and the possibility of obtaining new permits. I have printed off two sets of application forms and the instruction sheet for your use in applying for additional water rights.

Enclosed as we discussed are the following copies:

- Water Right No. 5044-3, the inspection report and accompanying maps; this will show you what is currently authorized for irrigation.
- Cancelled Water Permit Nos. 4985-3 and 5043-3 with accompanying maps

If you have any questions concerning any of the enclosed information, please contact us.

Sincerely,

A handwritten signature in black ink that reads "Genny McMath". The signature is written in a cursive, flowing style.

Genny McMath
Water Rights Program
(605) 773-3352
email: genny.mcmath@state.sd.us



7820-3
DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

January 23, 2020

NOTICE

TO: RAY/DAVID HANSEN, 46339 133RD ST, WILMOT, SD 57279

FROM: Ron Duvall, Natural Resources Engineer
for Jeanne Goodman, Chief Engineer
Water Rights Program

SUBJECT: Reporting Requirement for 2019 Irrigation Questionnaire(s)

Our records indicate your 2019 Irrigation Questionnaire(s) has not been submitted for Permit No(s) 5044-3, 7568-3 & 7820-3. The request for the Questionnaire was dated October 18, 2019. The Water Management Board has directed that owners of water permits who have not submitted the 2019 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) 5044-3, 7568-3 & 7820-3 qualification:

"This permit is approved subject to the Irrigation Water Use Questionnaire being submitted each year."

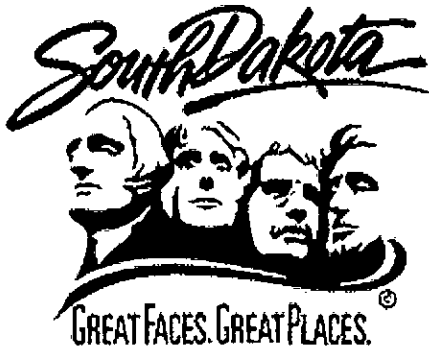
The hearing will be held at **Wednesday, February 26, 2020 at 8:30 am (Central Time)** in the Floyd Matthew Training Center, Joe Foss Building, 523 E Capitol Avenue, Pierre, SD and will be conducted pursuant to SDCL 46-1-12, 46-1-14, 46-2-9, 46-2-11 and 46-2-17. These are contested case hearings pursuant 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) 5044-3, 7568-3 & 7820-3 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 **February 26, 2020** 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 Genny McMath at (605) 773-3352 or email at genny.mcmath@state.sd.us. **If you prefer, you can complete the questionnaire online at the following link: <https://denr.sd.gov/iq> using this password: XLDFLX**

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 ENVIRONMENT
and NATURAL RESOURCES

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

January 27, 2020

5044-3
7568-3
7820-3

Ray & David Hansen
46339 133rd St
Wilmot SD 67279

Dear Sirs:

I am writing to acknowledge receipt of your 2019 irrigation questionnaires.

You may disregard the January 23, 2020, "Notice" concerning reporting requirements for Water Right/Permit Nos. 5044-3, 7568-3 & 7820-3. 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,

Genny McMath
Water Rights Program
(605) 773-3352
email: genny.mcmath@state.sd.us

7820-3



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 E. CAPITOL AVE
PIERRE SD 57501-3182
danr.sd.gov

JUN 01 2022

David R Hansen
46339 133rd St
Wilmot SD 57279

Dear Mr. Hansen:

Enclosed are Water Permit and Water License No. 8564-3. These are the final water right documents completing your process of obtaining a Water Right.

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,

Eric Gronlund, Chief Engineer
Water Rights Program
(605) 773-3352

Note: The applicable portions of Nos. 7568-3 and 7820-3 are incorporated into Water License No. 8564-3.

enclosures