

WATER PERMIT NO. 8260-3

Name of Applicant: **Cameron Johnsen**

Address: **33183 479th Ave, Jefferson SD 57038**

Phone: **402 960 7655**

Amount of Water Claimed: **0.94 cfs**

Total Acres: **117.35**

Source of Water Supply: **one well**

Water to be used for: **irrigation**

County: **Clay**

Type of Waste Disposal System:

Location: **15 miles northwest of Vermillion**

PRIORITY

Date Received: **12-27-16**

Application/License Fee: **\$ 750**

Corrected Application Received: **1-9-17**

Period of Annual Use: **June 1 – Sept 30**

Remarks:

Diversion Point: **SE 1/4 SW 1/4 Sec 15-T94N-R53W**

Land to be Irrigated: **SW 1/4 Sec 15-T94N-R53W**

Depth of Well: **115 feet deep**

Well Driller: **Quality Well Service LLC**

Remarks:

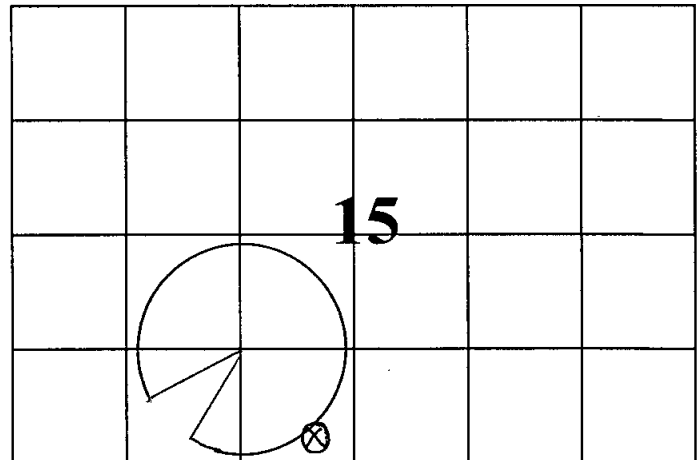
Type of Map: **aerial**

Prepared by:

Reviewed and the Number Assigned on: **1-10-17**

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____



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

RECEIVED

JAN - 9 2017

Mail to: DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>8260-3</u> (office use only) Hydrologic Unit <u>10170102</u>	WATER RIGHTS PROGRAM
	Basin <u>Vermillion River</u>	
	Newspaper <u>Plains Talk - Vermillion</u> <u>605-624-2695</u>	
	<u>Press & Dakotan, Yankton 605-665-7811</u>	

RECEIVED

DEC 27 2016

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 to Appear on Irrigation Permit Cameron Johnson

Note: The "Name to Appear on Irrigation Permit" must be the name in which the property to be irrigated is held in.

Mailing Address 33183 479th Ave Tefferson SD 57038
(Address) (City) (State) (Zip Code)

Phone 402-960-7655 Mobile same Email cjohnsen@Cassling.com 117.35 acres

2. Amount of water claimed 1.67 *CFS or 750 **GPM ***AF Total Acreage 117.35 acre
(*Cubic Feet per Second) (**Gallons per Minute) (***) Acre Feet - storage capacity of dam/dugout or annual use if applicable)

3. Source of water supply Well

4. Location of point of diversion SE Quarter of the SW part of Section
(example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W)
Sec 15 Township 94N Range 53 West County Clay

5. County or counties where water will be used Clay

6. Annual period during which water is to be used June 1 - Sept 30

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 quarter irrigating	29.22	} SW 1/4 Sec 15 - T94N-R53W	117.35
NE quarter irrigating	29.23		
SE quarter irrigating	29.33		
SW quarter irrigating	29.33		

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

Installing irrigation system for irrigating crops.

I, Cameron Johnson, the applicant, certify under
Name of Person Title (if applicable)

penalty of perjury that I have read this application, examined the attached map, and that the matters stated are true. I further certify, if acting on behalf of an entity or individual other than myself, that I am authorized to submit this application.

SOUTH DAKOTA
WATER PERMIT NO. 8260-3

Date of first receipt of application December 27, 2016.

Date of return to applicant for corrections, amendments or changes December 28, 2016.

Date of receipt of corrected application January 9, 2017.

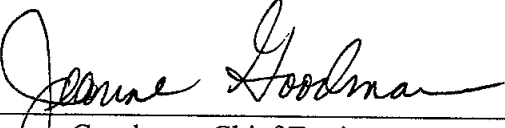
The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 8260-3 to Cameron Johnsen, 33183 479th Ave, Jefferson SD. 57038 authorizing the construction of the water use system and the placing of water to beneficial use subject to the following limitations, conditions and qualifications:

1. Water Permit No. 8260-3 appropriates 1.67 cubic feet of water per second from one well completed into the Niobrara Aquifer (115 feet deep) located in the SE 1/4 SW 1/4 Section 15 for irrigation of 117.35 acres located in the SW 1/4 Section 15; all in T94N-R53W.
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: June 1 – September 30.
3. The date from which applicant may claim right is December 27, 2016.
4. The date of approval of Permit No. 8260-3 is March 27, 2017.
5. One-fifth of the construction is to be completed on or before September 27, 2019.
6. All construction is to be completed on or before March 27, 2022.
7. Water is to be put to beneficial use on or before March 27, 2026.
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. 8260-3 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. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

WATER MANAGEMENT BOARD

By: 
Jeanne Goodman, Chief Engineer

Water Rights Program

Department of Environment and Natural Resources

APR 03 2017

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 7 Have test holes been drilled ☒ Yes ☐ No Drilled by Quality Well Service
(if yes, please provide copies of logs)

b) If existing wells, how many 0 Provide copy of log(s), if available. Drilled by _____

For either Existing or Proposed Wells:

c) Well Depth (required) 115 ft Depth to Top of Water Bearing Material 30 ft Depth to Water from Surface 3 ft

d) Distance to nearest domestic well on applicant's property ? Property owned by others _____
Don't know who has a well!

2. Wastewater Disposal System Information

a) Type of System (i.e. septic tank, drain field) Septic Tank

b) System Capacity (gallons) 500 gal Year Constructed 1975

c) Connected to the City of Not 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)

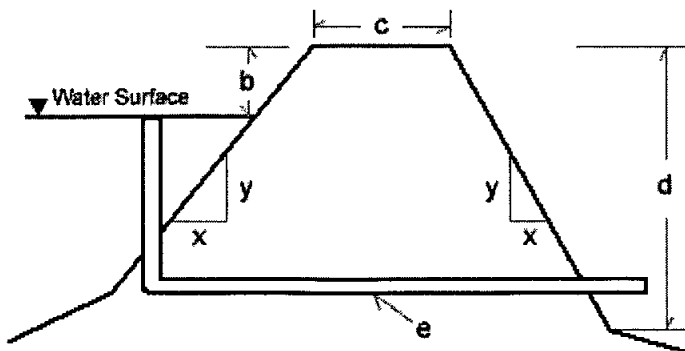
Upstream _____

Downstream _____

h) Surface Area of Impoundment _____

i) Storage _____ Acre Feet

j) Drainage Area Above Dam _____ Acres

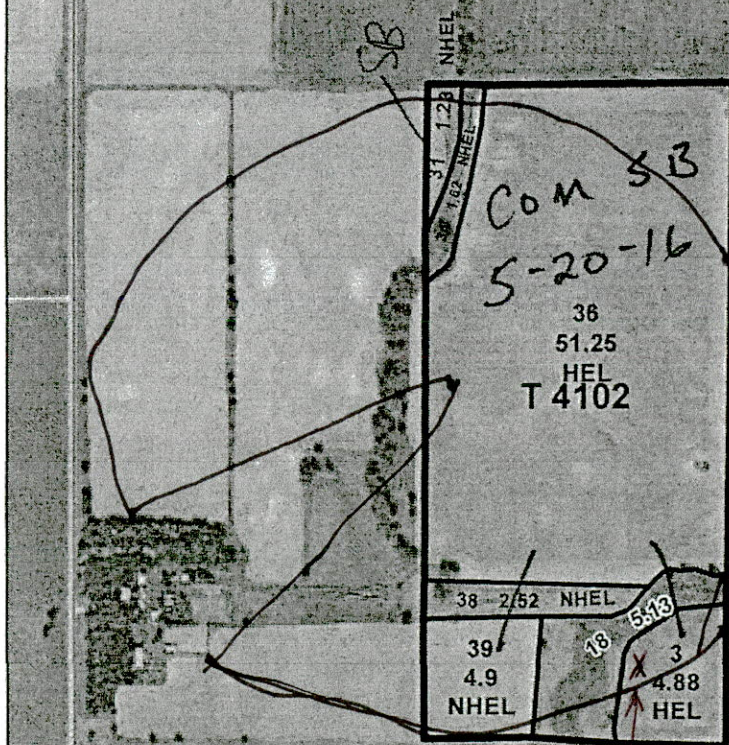




United States
Department of
Agriculture

Clay County, South Dakota

2016 CERTIFICATION MAPS



0 310 620 1,240
Feet

Common Land Unit

Other Ag

Common Land Unit

Cropland

Tract Boundary

PLSS

Wetland Determination Identifiers

- Restricted Use
- ▽ Limited Restrictions
- Exempt from Conservation Compliance Provisions



Well site!

RECEIVED

JAN - 9 2017

WATER RIGHTS
PROGRAM

2016 Program Year

Map Created April 25, 2016

Farm 5549

15 -94N -53W

United States Department of Agriculture (USDA) Farm Service Agency (FSA) maps are for FSA Program administration only. This map does not represent a legal survey or reflect actual ownership; rather it depicts the information provided directly from the producer and/or National Agricultural Imagery Program (NAIP) imagery. The producer accepts the data 'as is' and assumes all risks associated with its use. USDA-FSA assumes no responsibility for actual or consequential damage incurred as a result of any user's reliance on this data outside FSA Programs. 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 boundaries and determinations or contact USDA Natural Resources Conservation Service (NRCS).

Farm: Field1

Grower: Dennis Chicoine

8/17/201

Systems:

Length

Spans

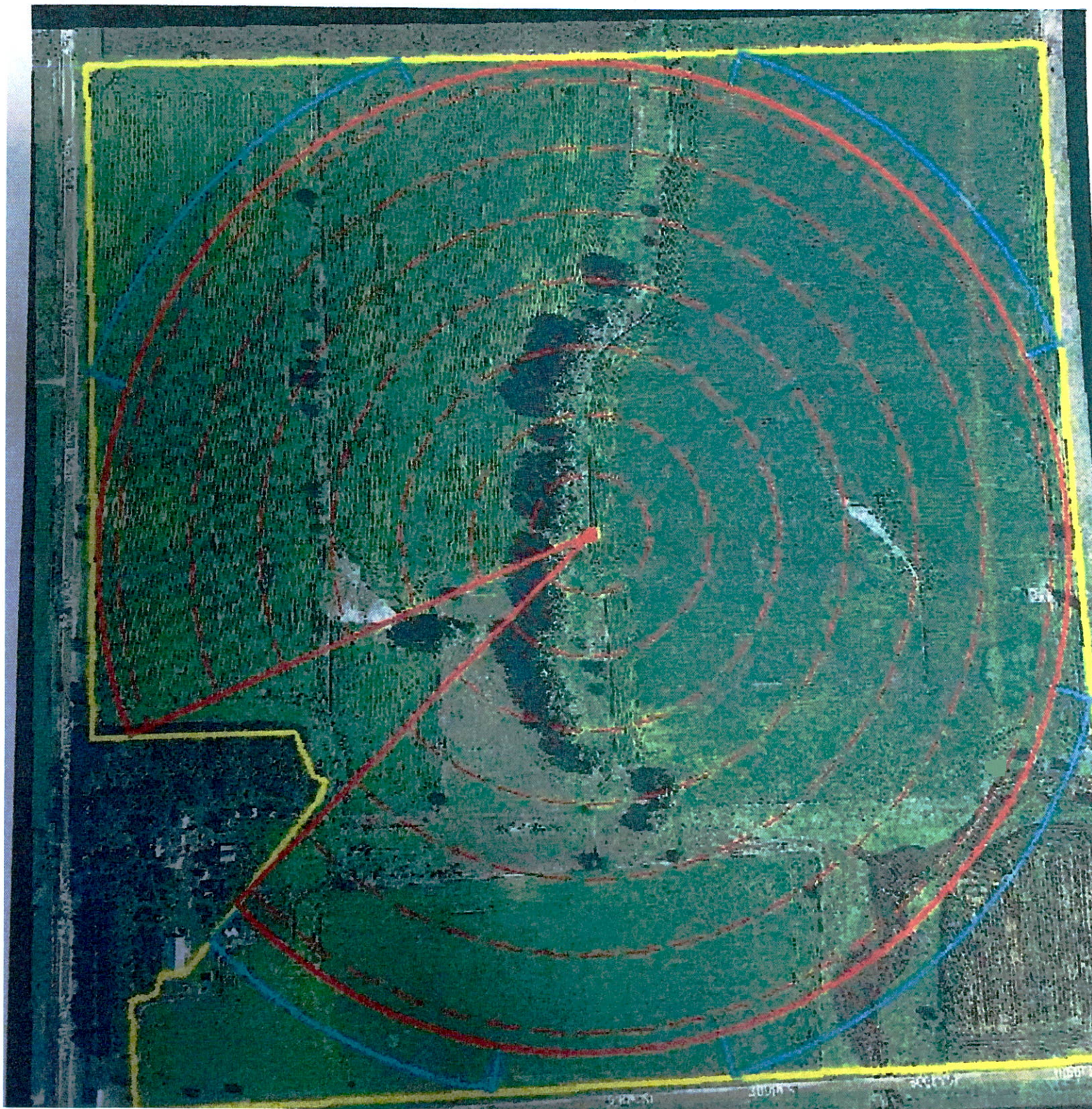
Total area including endgu

● Pivot 1

1259.75 ft

7 spans + 44 ft o.h.

117.35 acres



Automatic Irrigation Inc.



1111 Railway Street
Centerville, SD 57014
605 - 563 - 2649 office

RECEIVED

JAN - 9 2017

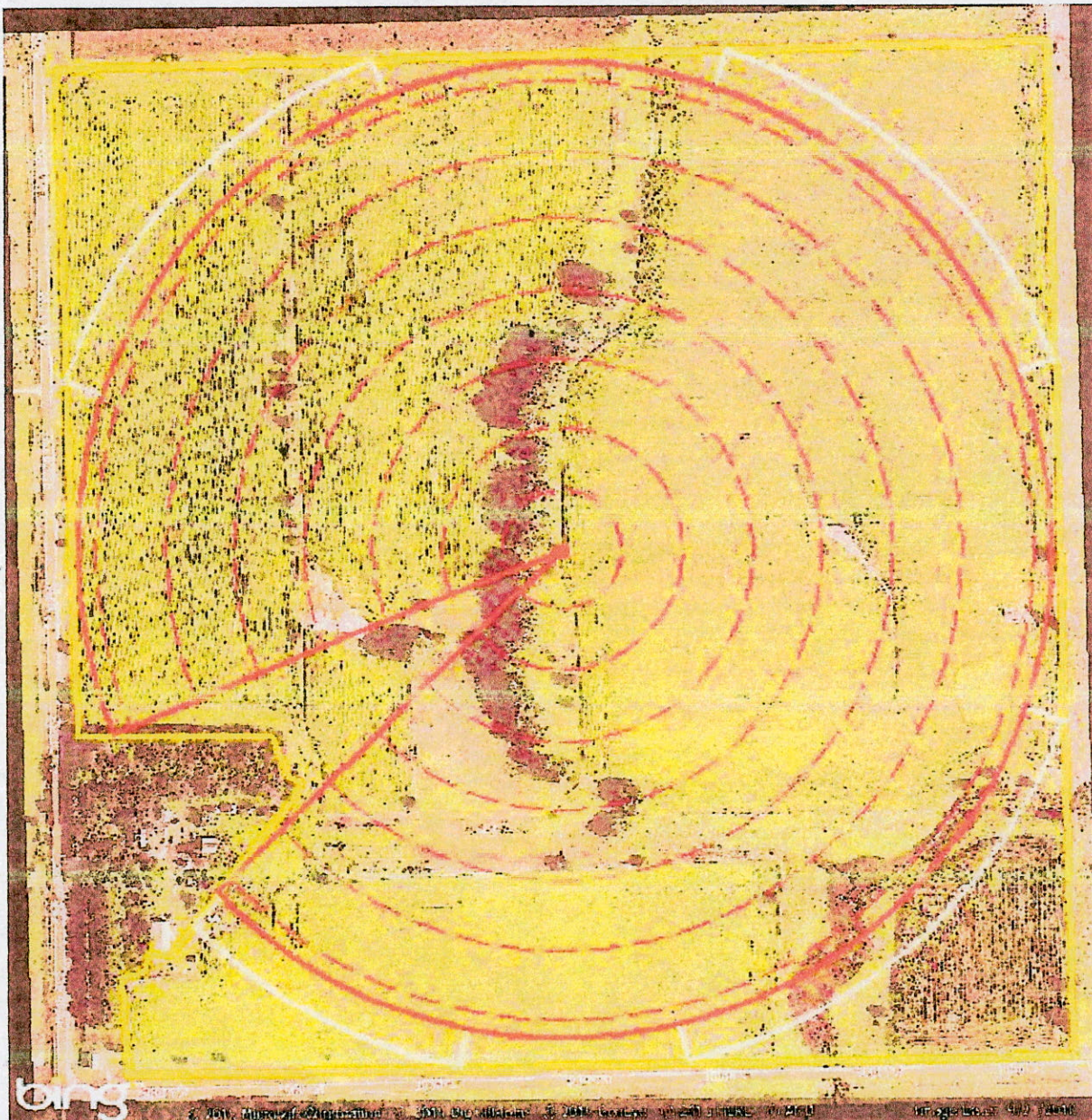
WATER RIGHTS
PROGRAM

Farm: Field1

Grower: Dennis Chicoine

8/17/2015

Systems:	Length	Spans	Total area including endgun
● Pivot 1	1259.75 ft	7 spans + 44 ft o.h.	117.35 acres

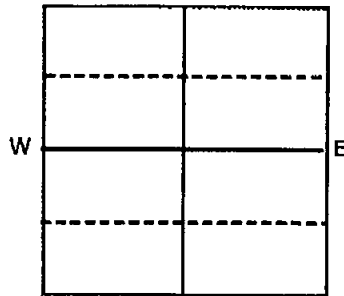


SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location SE 1/4 SW 1/4 Sec 15 Twp 94N Rg 53WCounty CLAY

North

Please mark well
location with an "X"

W

E

Well Completion Date

7/27/2016

1 Mile

Distance to nearest potential pollution source (septic tank, abandoned well, feed lot, etc.):
1500 ft. from Septic (identify source)

PROPOSED USE:

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

METHOD OF DRILLING:

Straight Rotary

CASING DATA:

☐ Steel ☒ Plastic ☐ Other
 If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	<u>16</u> IN	<u>0</u> FT	<u>30</u> FT	<u>22</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>Bentonite</u>	<u>16</u>	Lb/gal	<u>0</u> Ft	<u>30</u> Ft
		Lb/gal	Ft	Ft

Describe grouting procedure

Tremie

SCREEN:

☐ Perforated pipe ☐ Manufactured
 Diameter _____ Inches Length _____ Feet

Material _____

Slot Size _____ Set From _____ Feet to _____ Feet

Other information _____

WAS A PACKER OR SEAL USED?

☐ Yes ☒ No

If so, what material? _____

Describe packer(s) and location _____

DISINFECTION: Was well disinfected upon completion?

☒ Yes, How?

☐ No, Why Not?
Lab to which water
quality sample sent for analysis

Chlorine

Well Owner: Cameron Johnson

Business Name: _____

Address: 33183 479th AVECity, State, Zip: Jefferson SD 57038

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
Top Soil	0	6
Glacial Till Clay, Chalk, Sand	6	14
Tan Chalk Rock	14	30
Grey Chalk "Niobrara"	30	31
Grey Chalk Rock	31	54
Fractures	54	70
Flushed down "No cuttings"	70	75
Chrispy Chalk Rock	75	109
Shale	109	115

STATIC WATER LEVEL

3 FEET

If flowing: closed in pressure _____ PSI

GPM flow _____ through _____ Inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other _____

Reduced flow rate _____ GPM

Can well be completely shut in?

WELL TEST DATA:

☒ Pumped Describe: _____☐ Bailed☐ Other

Pumping Level Below Land Surface

50 Ft. After 6 Hrs. pumped 525 GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: _____ GPM

REMARKS

RECEIVED

NOV 28 2016

WATER RIGHTS
PROGRAM

Niobrara KR

This well was drilled under license # 773 and this report is true and accurate.Drilling firm: Quality Well Service LLC

Signature of License Representative: _____

Signature of Well Owner or Equitable Property Holder: _____

Date: 11/28/16

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date

12-27, 20 16

Cameron Johnsen, 33183 479th Ave, Jefferson SD 57038

RECEIVED OF

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

Fee for Application for Permit No. <u>8260-3</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. <u>8260-3</u>	200	00
Fee for Filing Transfer Form _____		
Fee for _____		
Fee for Issuing New Well Driller's License No. _____ for C.Y. _____		
Fee for Renewal of Well Driller's License No. _____ for C.Y. _____		
Fee for Issuing Well Pump Installer's License No. _____ for C.Y. _____		
Fee for Renewal of Well Pump Installer's License No. _____ for C.Y. _____		
(Any Other Work Provided by Law)	TOTAL	700.00

No. 08032

By

Jeanne Goodman
Chief Engineer

(KS)

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 1/10 20 17

RECEIVED OF Cameron Johnson 33183 479th Ave Jefferson SD 57038

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

Fee for Application for Permit No. <u>8260-3</u> to Appropriate Water, to construct and to put water to beneficial use	50	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	50 00

No. 08080

By

J. M. Holman
Chief Engineer



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

December 15, 2016

Cameron Johnson
33183 479th Ave
Jefferson SD 57038

Dear Mr. Johnson:

A well driller's report filed by Quality Well Service LLC. shows that they completed a new well for you in July, 2016. The report indicates the well water will be used for irrigation. I have reviewed our files and cannot find a water permit for a well located in SE 1/4 SW 1/4 Section 15-T94N-R53W. Based on the information in the report, it appears you need a water permit.

Enclosed are application forms and an instruction sheet to apply for a water permit for irrigation. The completed forms with the application fee and map can be returned to: Water Rights Program, 523 E Capitol, Pierre SD 57501.

If you believe your water use does not require a water permit or that you have an existing permit, or if help is needed completing the application forms, please contact Eric Gronlund or me at (605) 773-3352. We will be happy to assist you in any way possible.

Sincerely,

Karen Schlaak

Karen Schlaak
Water Rights Program
karen.schlaak@state.sd.us

enclosures



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

December 28, 2016

Cameron Johnsen
33183 479th Ave
Jefferson SD 57038

Dear Mr. Johnsen:

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

- Enclosed is the aerial photo map submitted with the application. Please outline the acres to be irrigated.
- Item No. 2 of the application lists total acreage as 153 acres. Item No. 7 of the application indicates 29.33 acres in each quarter-quarter which totals 117.32 acres. Which is correct?

When your irrigation is complete it will be inspected and licensed for the number of acres actually developed. Please be aware, if you develop more acres than permitted, another application will be required for the additional acres. It is to your advantage to overestimate rather than underestimate acreage amounts.

- A check for \$700.00 was submitted with your application. The application/license fee to irrigate 153 acres is \$850.00. The fee to irrigate 117.32 acres is \$750.00. Please submit the additional fee accordingly.

If you have any questions, please contact me.

Sincerely,

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

enclosures

Water Rights Program - DENR
Conversation File Documentation

NAME OF FILE: Application No. 8260-3, Cameron Johnsen
ADDRESS: COUNTY: Clay
DATE: January 11, 2017 TELEPHONE: 402 960-7655

RE: requested diversion rate

I contacted Mr. Johnsen regarding the requested diversion rate on the application of 425 gallons per minute to irrigate 117.35 acres. Mr. Johnsen indicated that the 425 gallons per minute was the amount the irrigation supply company thought would be needed for the land. I stated that the proposed type of system is a quarter section center pivot that would not make full rotation. Commonly, this type of irrigation system operate at 750 to 800 gpm. Mr. Johnsen did not know for certain what the diversion rate would be. I explained the statutory limit for irrigating 117.35 acres is 752 gpm. Further explained that the permit, if approved, authorizes construction and placement of water to beneficial use and that at some point a staff engineer would conduct an on-site inspection to determine the level of development. Since Mr. Johnsen did not know the exact diversion rate needed to operate the system, he requested that I amend the application to request a diversion rate of 750 gpm which equates to 1.67 cfs.

NAME: Eric Hamlund



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

denr.sd.gov

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 8260-3, Cameron Johnsen**

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. 8260-3, Cameron Johnsen, 33183 479th Avenue, Jefferson SD 57038.

The Chief Engineer is recommending APPROVAL of Application No. 8260-3 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. 8260-3 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. 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
March 9, 2017

REPORT TO THE CHIEF ENGINEER
ON
WATER PERMIT APPLICATION NO. 8260-3
CAMERON JOHNSEN
MARCH 2, 2017

Water Permit Application No. 8260-3 proposes to appropriate water for the irrigation of up to 117.35 acres in the SW ¼ Section 15 at a maximum diversion rate of 1.67 cubic feet of water per second (cfs) from one well to be completed into the Niobrara aquifer located in the SE ¼ SW ¼ Section 15; all in T94N-R53W in Clay County.

AQUIFER: Niobrara (NBRR)

Aquifer Characteristics:

Christensen and Stephens (1967a) describe the Niobrara Formation in Clay County as two layers. The upper section is a medium- to dark-gray, calcareous marl that weathers to light-yellow, and the lower section is a gray chalky limestone that weathers white to cream-colored (Christensen and Stephens, 1967a). The appearance of the lower section is why the formation is often called “chalk rock” (Christensen and Stephens, 1967a). The Niobrara underlies approximately 29,079 square miles (18,610,560 acres) of eastern South Dakota (Hedges et. al, 1982). Water moves through the Niobrara Formation in fractures and solution cavities and is generally under artesian conditions in Clay County (Christensen and Stephens, 1967b; Water Rights, 2017c). Water production from the Niobrara Formation may be controlled by secondary permeability (i.e. fractures, solution cavities, faults, etc.) and weathering (Hedges et. al, 1982).

A bedrock map for eastern South Dakota shows the proposed well location for this application is located in a large isolated portion of the Niobrara Formation that underlies portions of Clay, Hutchinson, McCook, Turner, and Yankton Counties (see Figure 1) (Tomhave and Schulz, 2004). This isolated portion of the Niobrara Formation underlies approximately 340,550 acres of Clay, Hutchinson, McCook, Turner, and Yankton Counties (Tomhave and Schulz, 2004). The well completion report submitted with this application indicates the Niobrara Formation was encountered at 14 feet below ground surface. The total depth of the well is 115 feet. The static water level of the aquifer at the location was three feet below ground surface in July 2016.

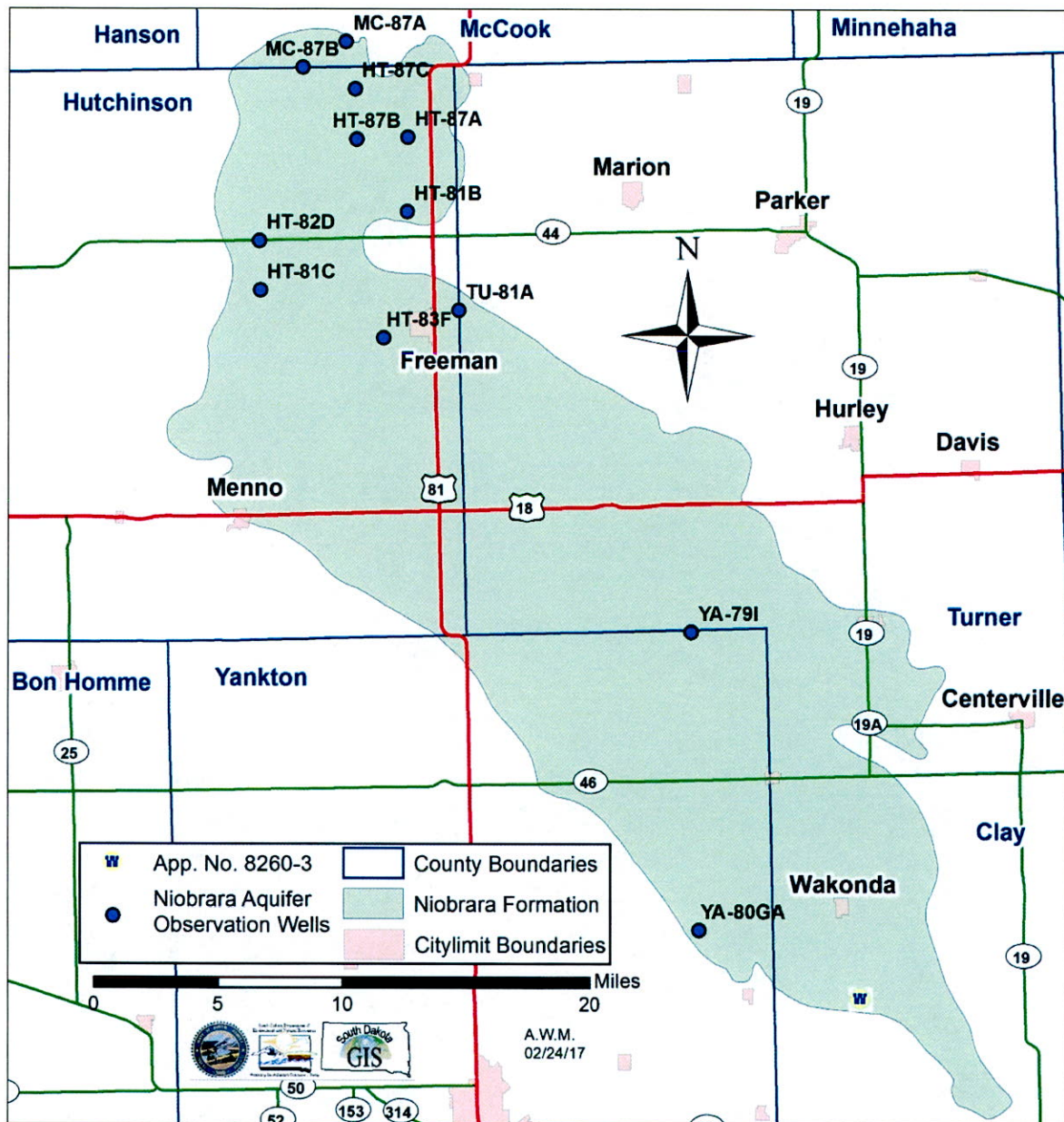


Figure 1- Map of the extent of the Niobrara Formation (modified from: Tomhave and Schulz, 2004) this application proposes to complete a well into including Niobrara aquifer observation wells (Water Rights, 2017a)

South Dakota Codified Law (SDCL) 46-2A-9

Pursuant to SDCL 46-2A-9, a permit to appropriate water may be issued only if there is a reasonable probability that there is unappropriated water available for this 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 effects on existing rights from the aquifer that are pertinent to this application.

WATER AVAILABILITY:

This application proposes to appropriate water from the Niobrara aquifer. The probability of unappropriated water available from the aquifer can be evaluated by considering SDCL 46-6-3.1, which requires “No application to appropriate groundwater may be approved if, according to the best information reasonably available, it is probable that the quantity of water withdrawn annually from a groundwater source will exceed the quantity of the average estimated annual recharge of water to the groundwater source.” If the source of the water is older or lower than the Greenhorn Formation and a water distribution system has applied for a permit, the Board need not consider the recharge/withdrawal issue. In this case, the aquifer is not stratigraphically lower than the Greenhorn Formation and the applicant is not a water distribution system.

Discharge from this portion of the Niobrara aquifer is to adjacent glacial aquifers, and through well withdrawals. There are 25 water rights/permits authorizing the withdrawal of water from the portion of the Niobrara aquifer this application proposes to use (Water Rights, 2017b). The non-irrigation water rights/permits are listed in Table 1. The City of Freeman and Town of Irene are both connected to B-Y Rural Water (Friedeman, 2017). Thus it is assumed they use their water rights for standby purposes only. Use by non-irrigation water rights/permits that are only limited by diversion rate, such as Water Right No. 6524-3 and Water Permit No. 6706-3, is estimated by assuming pumping at the maximum permitted diversion rate for 60 percent of the time. Water Permit No. 8216-3 is limited by permitted volume to pump at maximum 460 ac-ft per year and is assumed to pump that full volume.

Permit No.	Name	County	Status	Use	CFS	Est. Pumpage (ac-ft/yr.)
810-3	City of Freeman	HT	LC	MUN	1.26	
1229-3	Town of Irene	TU	LC	MUN	0.56	
5239-3	City of Freeman	HT	LC	MUN	0.33	
6524-3	Freeman JR College & Freeman Academy	HT	LC	INS	0.07	30.4
6706-3	Pheasant Run Farm	HT	PE	COM	0.1	43.4
8216-3	B & K Dairy Farms LLC	TU	PE	COM/LCO	0.67	460
Estimated Annual Pumpage (ac-ft/yr.)						533.4

Table 1- Estimated Annual Non-irrigation Pumpage from the Niobrara Aquifer (Water Rights, 2017b)

Prior to 2013, there had been very little irrigation development from this portion of the Niobrara aquifer (see Table 2). The average annual irrigation pumpage is 124.17 ac-ft/yr. However, that average is biased downward by all of the years prior to the large increase of irrigation in 2013. Using the historical average would mean that irrigation would be significantly underestimated. It would be more appropriate to estimate annual pumpage by multiplying the permitted acres by an estimate of annual application rate. In general, irrigators in this area are likely to put on less than 12 inches of irrigation water per acre. Currently, there are 19 water rights/permits authorizing the irrigation of 3,338.15 acres using water from this portion of the Niobrara Aquifer (Water Rights, 2017b). For that reason, the estimated annual irrigation pumpage is expected to be less than 3,338.15 ac-ft/yr. Therefore, the estimated average annual pumpage from this portion of the Niobrara aquifer is expected to be less than 3,872 ac-ft/yr. The average annual pumpage that would occur under this application, if approved, is expected to be less than 117.35 ac-ft/yr.

Year	No. of Permits Reporting	Volume Pumped (ac-ft)
1981	1	0
1982	1	64.7
1983	2	35.57
1984	2	41.76
1985	2	49.72
1986	2	49.72
1987	2	116.67
1988	2	72.92
1989	2	136.55
1990	2	109.37
1991	2	125.95
1992	2	6.63
1993	1	0
1994	1	38.67
1995	1	29.39
1996	3	6.63
1997	3	18.56
1998	3	0
1999	3	0
2000	2	0
2001	2	0
2002	2	25.19
2003	2	7.73
2004	2	0
2005	2	0
2006	3	84.85
2007	2	23.26
2008	2	49.49
2009	2	28.28
2010	2	0
2011	2	141.41
2012	3	418.06
2013	15	972.05
2014	16	1002.41
2015	18	690.27
Avg.	3.26	124.17

Table 2- Historic Irrigation Pumpage from the Niobrara Aquifer (Water Rights, 1981-2016)

There is not sufficient data available to estimate recharge to the portion of the Niobrara aquifer this application proposes to use. Lindgren and Hansen (1990) created a potentiometric surface map of this portion of the Niobrara aquifer for 1986 (see Area C in Figure 2). Mathiowetz (2016) also created a potentiometric surface map of this portion of the Niobrara aquifer for May 2016. A modified version of Mathiowetz's (2016) map is shown in Figure 3. The Mathiowetz's (2016) map was created using May 2016 observation well data and water levels from water well completion reports that were adjusted to approximately May 2016 levels by comparison to the water level of nearby observation wells.

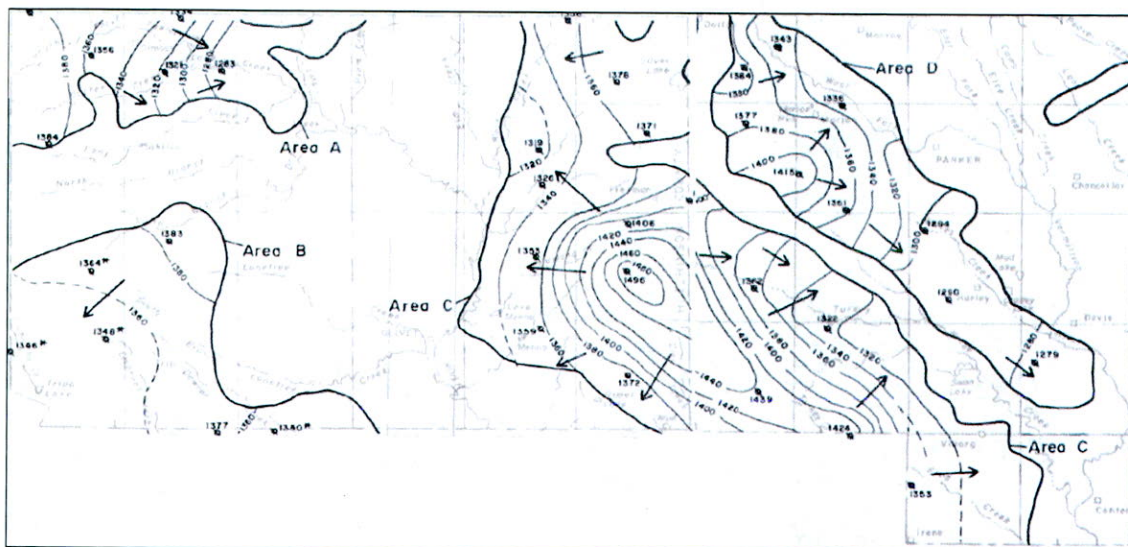


Figure 2- 1986 Potentiometric surface map of Niobrara aquifer (Lindgren and Hansen, 1990)

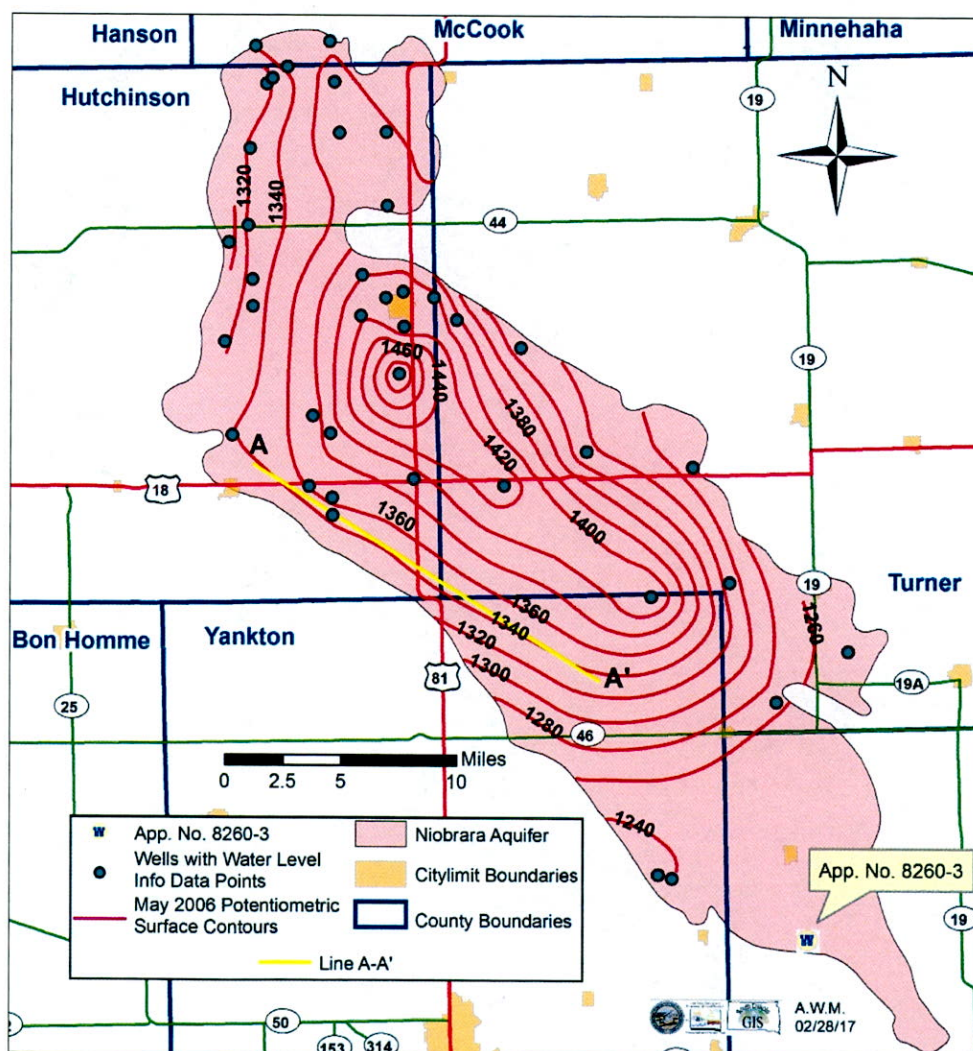


Figure 3- May 2016 approximate potentiometric surface contours for this portion of the Niobrara aquifer (modified from: Mathiowetz, 2016)

Lindgren and Hansen's (1990) and Mathiowetz's (2016) potentiometric surfaces have the same general configuration. Mathiowetz (2016) stated the differences between the two potentiometric surfaces were likely caused by different interpretations, amount, and location of data. Lindgren and Hansen's (1990) and Mathiowetz's (2016) potentiometric surface maps indicate recharge to this portion of the Niobrara aquifer occurs in the Turkey Ridge area and water moves away from the ridge radially toward the edge of the aquifer.

The Lower James Missouri aquifer is adjacent to and in some places overlies this portion of the Niobrara aquifer along the western side of this portion of the Niobrara aquifer based on a review of existing hydrologic reports for the area (Bruce, 1962; Bugliosi, 1983), lithologic logs (SDGS, 2017), and water well completion reports (Water Rights, 2017c). The potentiometric surface of the Niobrara aquifer shown in Figures 2 and 3 indicate the aquifer naturally discharges toward the Lower James Missouri aquifer. The natural discharge from an aquifer including this portion of the Niobrara aquifer can be captured for appropriation. The natural discharge from this portion of the Niobrara aquifer to the Lower James Missouri aquifer can be estimated using Equation 1.

Equation 1-

$$Q = T * I * L * c$$

Where:

Q = Flow Rate, acre-feet per year (ac-ft/yr.)

T = Transmissivity, Gallons per day per foot (gpd/ft)

I = Gradient, feet per mile (ft/mi)

L = Length, miles (mi)

c = conversion factor equal to 365 days per year divided by 325,851.429 gallons per ac-ft
 $365 / 325851.429 = 0.00112$

The yellow line labeled A-A' in Figure 3 is 17.5 miles long. It represents the approximate length through which water potentially moves out of the Niobrara aquifer into the Lower James Missouri aquifer. This length is used for "L" in Equation 1. The average gradient of the potentiometric surface, I, perpendicular to line A-A' is 20 ft/mi. The gradient is the change in the elevation of the potentiometric surface per unit length. The average transmissivity for this portion of the Niobrara aquifer was estimated from the specific capacities of wells completed for water rights/permits. Table 3 lists the water rights/permits or permit application, the specific capacities of each well, and the transmissivity estimated for each well.

The potentiometric surfaces shown in Figures 2 and 3 suggest natural discharge from this portion of the Niobrara aquifer in all directions. There is a potential for the natural discharge from this portion of the Niobrara aquifer to flow into the Lower James Missouri aquifer, Upper Vermillion Missouri: South aquifer to the southeast, and the Missouri: Elk Point aquifer to the south. It would be conservative to assume natural discharge from this portion of the Niobrara aquifer to only the Lower James Missouri aquifer. Using Equation 1, there is approximately 9,776 ac-ft/yr. moving from this portion of the Niobrara aquifer to the Lower James Missouri aquifer across line A-A' shown in Figure 3. This means recharge to the aquifer exceeds natural discharge plus pumping by at least that amount.

The estimated average annual pumpage from this portion of the Niobrara aquifer is 3,872 ac-ft/yr. plus the estimated pumping under this application, if approved, 117.35 ac-ft/yr. The natural

discharge toward the Lower James Missouri aquifer is estimated to be 9,776 ac-ft/yr. The 9,776 ac-ft/yr. of natural discharge from this portion of the Niobrara aquifer is likely only a portion of the total natural discharge from the aquifer. Therefore, there is a reasonable probability unappropriated water is available for this proposed appropriation.

Permit No.	Comment	Specific Capacity (gpm/ft drawdown) (Water Rights, 2017b)	Transmissivity (gpd/ft) (Aqtesolv, 2017)
5239-3		2.3	4,600
5764-3		2.27	4,540
6524-3		0.9	1,800
6706-3		0.3	609
7344-3	Well 1	7.69	15,380
	Well 2	3.16	6,320
7526-3	Middle well	11.84	23,680
	North well	41.67	83,340
7617-3	650 gpm test	13.27	26,540
	725 gpm test	12.95	25,900
7654-3		0.71	1,429
7683-3		81.25	162,500
7814-3	850 gpm test	12.5	25,000
	950 gpm test	8.48	16,960
8067-3	Well 1	5.45	10,920
	Well 2	6.98	13,960
8162-3		1.54	3,080
App. No. 8260-3		11.17	22,340
Average		12.47	24,939

Table 3- Transmissivity estimates using specific capacity of wells authorized by water rights/permits (modified from: Mathiowetz, 2016)

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 in addition to other data 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 60 observation wells completed into the Niobrara aquifer with 12 completed into the portion of the Niobrara aquifer this application proposes to use (Water Rights, 2017a). The nearest observation wells to the proposed well site (see Figure 1) are YA-80GA and YA-79I which are approximately seven miles northwest and 16.1 miles north-northwest, respectively. The hydrographs for YA-80GA and YA-79I are shown in Figures 4 and 5, respectively.

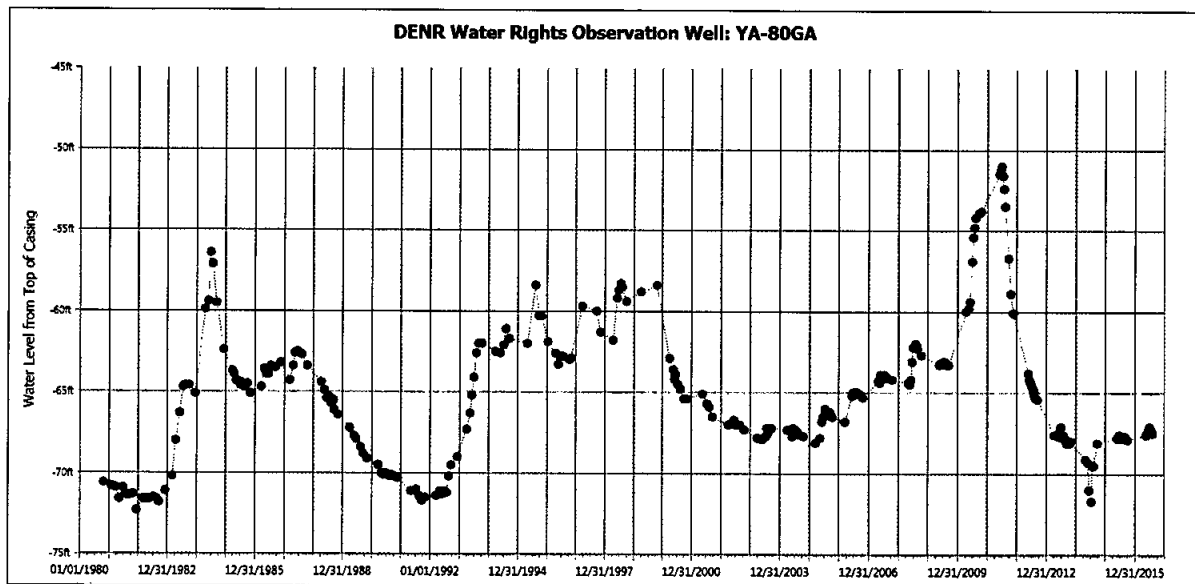


Figure 4- Hydrograph for YA-80GA, approximately seven miles northwest of proposed well site (Water Rights, 2017a)

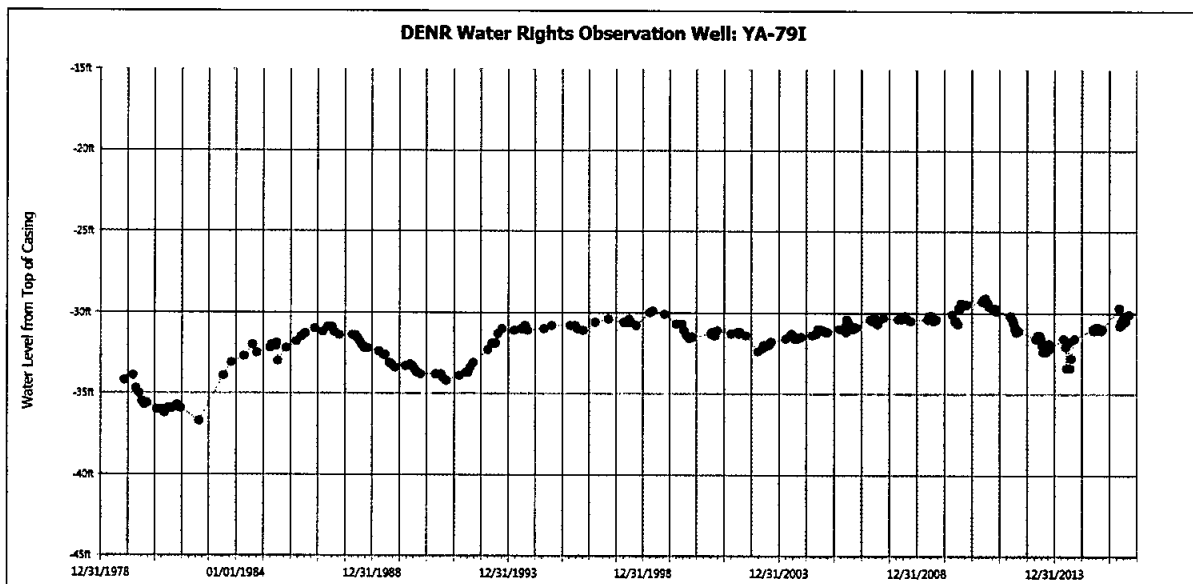


Figure 5- Hydrograph for YA-79I, approximately 16.1 miles north-northwest of proposed well site (Water Rights, 2017a)

The hydrographs for YA-80GA and YA-79I shown in Figures 4 and 5, respectively, are representative of the hydrographs for the other observation wells completed into this portion of the Niobrara aquifer. The water levels in the observation wells rise during wet periods and gradually decline during dry periods. The observation well hydrographs show over the period of record stable or rising water levels in the observation wells. Some of the hydrographs such as TU-81A (see Figure 6), show the effect of pumping on artesian head pressure. However, the water level in the observation well readily recovers after the end of irrigation season.

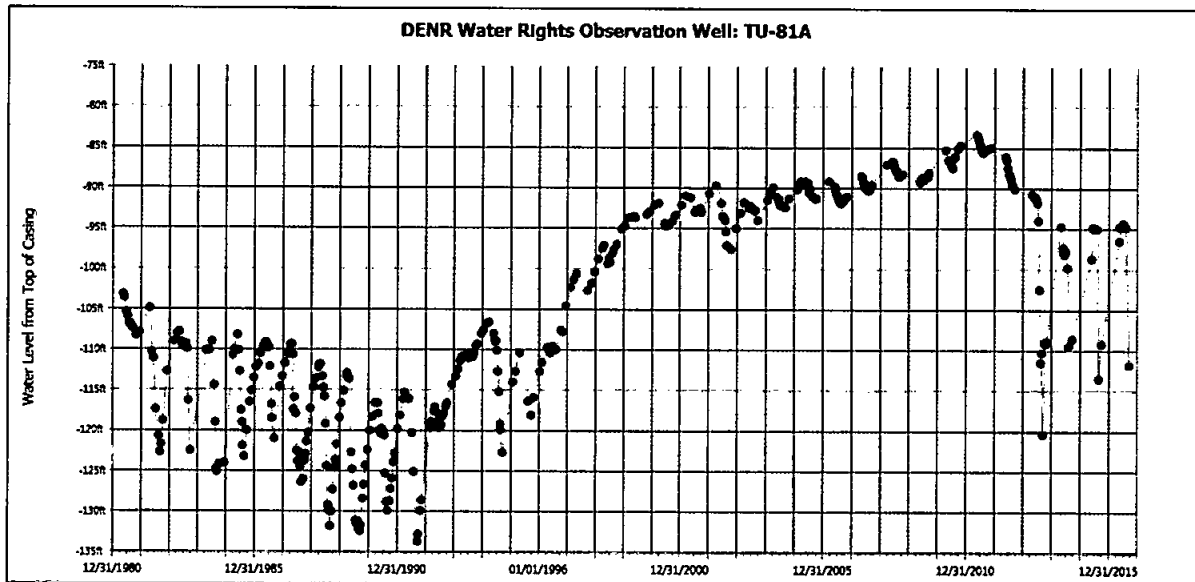


Figure 6- Hydrograph for TU-81A, approximately 31.9 miles northwest of proposed well site (Water Rights, 2017a)

While some of the hydrographs show the temporary impacts of well withdrawal on water level, the long term effects of climate still dominate. This means recharge to and natural discharge from this portion of the Niobrara aquifer significantly exceeds pumping. As previously stated, natural discharge from an aquifer can be captured for pumping. Recognizing that, the hydrographs document unappropriated water is available for this proposed appropriation.

EXISTING WATER RIGHTS:

Figure 7 is a map of the project area around the proposed well site for Application No. 8260-3 including locations of well sites for water permits and observation wells completed into the same portion of the Niobrara aquifer this application proposes to use. The well sites for Water Permit Nos. 8067-3 and 8162-3 are approximately 1.7 to 1.8 miles northwest, and the well site for Water Permit No. 7893-3 is approximately 4.1 miles northwest of the well site proposed by Application No. 8260-3 (Water Rights, 2017b). There are a number of domestic wells completed into this portion of the Niobrara aquifer within approximately two miles of the proposed well site (Water Rights, 2017c).

Well interference has not historically been a problem from this portion of the Niobrara aquifer. This aquifer is generally under confined conditions which means drawdown created by pumping a well may be measurable some distance from the pumping well. The amount of artesian head pressure at the proposed well site is approximately 11 ft., approximately 10 ft. at the wells for Permit No. 8067-3, and 20 to 27 ft at the well for Permit No. 8162-3. Considering the distance between appropriative wells and artesian head pressure of the aquifer, there is a reasonable probability pumping this proposed diversion will not adversely impact existing appropriative users.

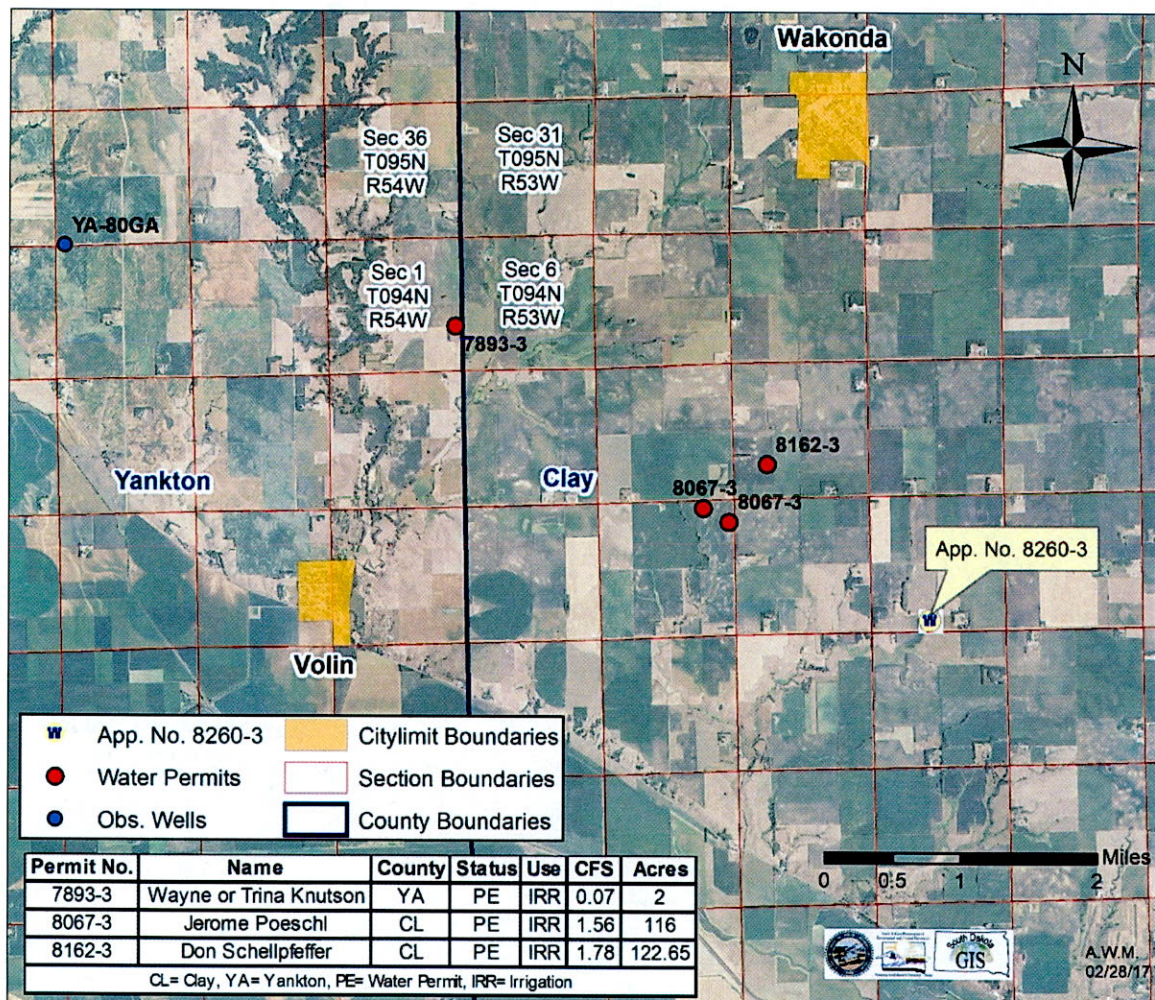


Figure 7- Map of project area for App. No. 8260-3 including nearby water permits and observation wells completed into the same portion of the Niobrara aquifer (Water Rights, 2017a and 2017b)

The Water Management Board defined an “adversely impacted domestic well” in ARSD 74:02:04:20(7) 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”.

In the past, the Water Management Board has recognized to place water to maximum beneficial use, a certain amount of drawdown may occur. Since the aquifer is under confined conditions at the well site, drawdown due to pumping may extend some distance from the well sites even though it is not expected to do so. The Water Management Board considered the delivery of water by artesian head pressure versus maximum beneficial use of water issued for Water Right No. 2313-2 for Coca-Cola Bottling Company of the Black Hills. The Water Management Board

adopted Findings of Facts and Conclusions of Law that noted reservation of artesian head pressure for delivery of water would be inconsistent with SDCL 46-1-4 which states, “general welfare requires that the water resources of the state be put to beneficial use to the fullest extent of which they are capable...” (Water Rights, 1995). Furthermore, the Water Management Board found if increased cost or decreased production as a result of impacts on artesian head pressure by legitimate users is to be considered an adverse impact it would also be in conflict with SDCL 46-1-4 (Water Rights, 1995). With that in mind, some existing well owners may need to lower their pumps to accommodate for deeper water levels depending on the specific characteristics of this particular portion of the Niobrara aquifer. However, when considering the statute (SDCL 46-6-6.1), rule (ARSD 74:02:04:20(7)), and the artesian head pressure, well interference from this proposed diversion is not expected to cause an adverse impact. Therefore, there is a reasonable probability that any interference created by pumping for this proposed appropriation will not be adverse.

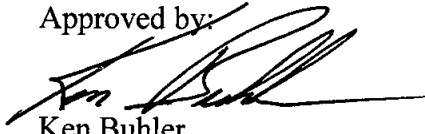
CONCLUSIONS:

1. Application No. 8260-3 proposes to irrigate up to 117.35 acres in Clay County at a maximum diversion rate of 1.67 cfs withdrawing water from a portion of the Niobrara aquifer.
2. Lindgren and Hansen’s (1990) and Mathiowetz’s (2016) potentiometric surface maps of this portion of the Niobrara aquifer show the water in the aquifer is moving away from Turkey Ridge in a radial pattern toward the edges of the aquifer. This and the gradient of the potentiometric surface indicate there is natural discharge from the aquifer.
3. Recharge to an aquifer must exceed withdrawals by at least the amount of natural discharge for there to be natural discharge from an aquifer.
4. There is at least approximately 9,776 ac-ft/yr. of subsurface outflow from this portion of the Niobrara aquifer toward the Lower James Missouri aquifer. This is only a portion of the total potential natural discharge from this portion of the Niobrara aquifer.
5. Comparing the natural discharge to the estimated average annual withdrawal plus the estimated annual withdrawal by this application if approved, there is a reasonable probability unappropriated water is available for this proposed appropriation.
6. The observation well hydrographs show stable to rising water levels over the period of record. Therefore, there is a reasonable probability unappropriated water is available for this proposed appropriation.
7. There is a reasonable probability pumping this proposed diversion will not adversely impact existing appropriative or domestic users.



Adam Mathiowetz, PE
SD DENR-Water Rights Program

Approved by:



Ken Buhler
SD DENR-Water Rights Program

REFERENCES:

- Aqtesolv. 2017. <<http://www.aqtesolv.com/forum/transcap.asp>>. Transmissivity from Specific Capacity. Accessed: February 28, 2017.
- Bruce, R.L. 1962. Water Supply for the City of Menno, South Dakota. SD DENR-Geological Survey Special Report 16. Vermillion, South Dakota.
- Bugliosi, E.F. 1983. Major Aquifers in Yankton County, South Dakota. SD DENR-Geological Survey Information Pamphlet No. 28. Vermillion, South Dakota.
- Christensen, C.M. and J.C. Stephens. 1967a. Geology and Hydrology of Clay County South Dakota: Part I, Geology. Bulletin 19. SD DENR-Geological Survey. Vermillion, SD.
- Christensen, C.M. and J.C. Stephens. 1967b. Geology and Hydrology of Clay County South Dakota: Part II, Water Resources. Bulletin 19. SD DENR-Geological Survey. Vermillion, SD.
- Friedeman, B. 2017. Personal Communication on February 27, 2017. SD DENR-Drinking Water Program Environmental Scientist. Pierre, South Dakota. Pierre, South Dakota.
- Hedges, L.S., S.L. Burch, D.L. Iles, R.A. Barari, and R.A. Schoon. 1982. Evaluation of Ground-water Resources in 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.
- Lindgren, R.J. and Hansen, D.S. 1990. Water Resources of Hutchinson and Turner Counties, South Dakota. Water-Resources Investigations Report 90-4093. U.S. Geological Survey. Huron, South Dakota.
- Mathiowetz, A.W. 2016. Report to the Chief Engineer on Water Permit Application No. 8216-3 B&K Dairy Farms LLC c/o Tom Koolhaas. SD DENR-Water Rights Program. Pierre, South Dakota.

- SDGS, 2017. Lithologic Logs Database. <<http://cf.sddenr.net/lithdb/>>. SD DENR-Geological Survey, Vermillion, South Dakota.
- Tomhave, D.W. and L.D. Schulz. 2004. Bedrock Geologic Map Showing Configuration of the Bedrock Surface in South Dakota East of the Missouri River. General Map 9. SD DENR-Geological Survey, Vermillion, South Dakota.
- Water Rights. 1981-2017. "1981-2016 Irrigation Questionnaires": SD DENR-Water Rights Program, Joe Foss Building, Pierre, South Dakota.
- Water Rights. 2017a. Observation Well Files. SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.
- Water Rights. 2017b. Water Right/Permit Files. SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.
- Water Rights. 2017c. Well Completion Reports. SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.
- Water Rights. 1995. Findings of Fact, Conclusions of Law, and Final Decision in the Matter of Water Permit Application No. 2313-2, Coca-Cola Bottling Company of the Black Hills. DENR-Water Rights Program file for Water Right No. 2313-2. Pierre, South Dakota.

AFFIDAVIT OF PUBLICATION

PLAIN TALK

RECEIVED
MAR 20 2017
WATER RIGHTS
PROGRAM

CAMERON JOHNSEN
33183 479TH AVE
JEFFERSON SD 57038

STATE OF SOUTH DAKOTA
COUNTY OF CLAY

TERA SCHMIDT, BEING FIRST DULY SWORN ON OATH DEPOSES
AND SAYS THAT (S)HE IS THE CLASSIFIED MANAGER OF YANKTON
MEDIA INC, A CORPORATION, THE PRINTER AND THE PUBLISHER OF THE
PLAIN TALK, A LEGAL WEEKLY NEWSPAPER PUBLISHED AND CIRCULATED
IN THE CITY OF VERMILLION, SAID COUNTY AND STATE, AND ONE OF
THE OFFICIAL NEWSPAPERS OF THE SAID COUNTY OF FACTS STATED IN
THIS AFFIDAVIT; THAT THE ANNEXED
NOTICE OF APPLICATION NO
8260-3 APPROPRIATE WATER
TAKEN FROM THE PAPER, IN WHICH IT WAS LAST PUBLISHED IN THE
NEWSPAPER ON THE 17th DAY OF March, 2017
THAT THE FULL AMOUNT OF THE FEE CHARGED FOR THE PUBLICATION
OF SAID NOTICE TO WIT \$24.73 ENSURES TO THE
BENEFITS OF THE PUBLISHER OF SAID NEWSPAPER AND THAT NO
AGREEMENT AND UNDERSTANDING FOR THE DIVISION THEREOF HAS
BEEN MADE WITH ANY OTHER PERSON, AND THAT NO PART THEREOF
HAS BEEN AGREED TO BE PAID TO ANY PERSON WHOMSOEVER.

PUBLISHED ON: 03/17/2017

FILED ON: 03/17/2017

Tera A Schmidt

SUBSCRIBED AND SWORN TO BEFORE ME THIS 17th DAY OF March, 2017

Conrad Schild

NOTARY PUBLIC, SOUTH DAKOTA

MY COMMISSION EXPIRES 08/19/2021

Ad text : NOTICE OF APPLICATION NO. 8260-3 to

Appropriate Water

Notice is given that Cameron Johnsen, 33183 479th Ave, Jefferson SD 57038 has filed an application for a water permit to appropriate 1.67 cubic feet of water per second from one well completed into the Niobrara Aquifer (115 feet deep) located in the SE 1/4 SW 1/4 Section 15 for irrigation of 117.35 acres located in the SW 1/4 Section 15; all in T94N-R53W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8260-3 with qualifications because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. The Chief Engineer's recommendation with qualifications, the application, and staff report are available at <http://denr.sd.gov/public> or contact Eric Gronlund for this information, or other information, at the Water Rights Program address provided below.

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 March 27, 2017.

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.

If the applicant does not contest the recommendation of the Chief Engineer and no petition to oppose the application is received, the Chief Engineer shall act on the application pursuant to the recommendation with no hearing held before the Water Management Board. 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.

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

Published once at the total approximate cost of \$24.73.

Publish: March 17, 2017.

AFFIDAVIT OF PUBLICATION

YANKTON DAILY PRESS AND DAKOTAN

RECEIVED
MAR 22 2017
WATER RIGHTS
PROGRAM

CAMERON JOHNSEN
33183 479TH AVE
JEFFERSON SD 57038

STATE OF SOUTH DAKOTA
COUNTY OF YANKTON

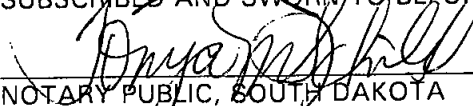
KELLY HERTZ, BEING FIRST DULY SWORN ON OATH DEPOSES
AND SAYS THAT (S)HE IS THE MANAGING EDITOR OF YANKTON
MEDIA INC, A CORPORATION, THE PRINTER AND THE PUBLISHER OF THE
YANKTON DAILY PRESS AND DAKOTAN, A LEGAL DAILY NEWSPAPER
PUBLISHED AND CIRCULATED IN THE CITY OF YANKTON, SAID COUNTY
AND STATE, AND ONE OF THE OFFICIAL NEWSPAPERS OF THE SAID
COUNTY OF FACTS STATED IN THIS AFFIDAVIT; THAT THE ANNEXED
3+17 NOTICE OF APPLICATI

TAKEN FROM THE PAPER, IN WHICH IT WAS LAST PUBLISHED IN THE
NEWSPAPER ON THE 17th DAY OF March, 2017
THAT THE FULL AMOUNT OF THE FEE CHARGED FOR THE PUBLICATION
OF SAID NOTICE TO WIT \$25.47 ENSURES TO THE
BENEFITS OF THE PUBLISHER OF SAID NEWSPAPER AND THAT NO
AGREEMENT AND UNDERSTANDING FOR THE DIVISION THEREOF HAS
BEEN MADE WITH ANY OTHER PERSON, AND THAT NO PART THEREOF
HAS BEEN AGREED TO BE PAID TO ANY PERSON WHOMSOEVER.

PUBLISHED ON: 03/17/2017

FILED ON: 03/17/2017


SUBSCRIBED AND SWORN TO BEFORE ME THIS 17th DAY OF March, 2017


NOTARY PUBLIC, SOUTH DAKOTA
MY COMMISSION EXPIRES 08/19/2021

Ad text : 3+17

NOTICE OF APPLICATION NO. 8260-3 to Appropriate Water

Notice is given that Cameron Johnsen, 33183 479th Ave, Jefferson SD 57038 has filed an application for a water permit to appropriate 1.67 cubic feet of water per second from one well completed into the Niobrara Aquifer (115 feet deep) located in the SE 1/4 SW 1/4 Section 15 for irrigation of 117.35 acres located in the SW 1/4 Section 15; all in T94N-R53W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8260-3 with qualifications because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. The Chief Engineers recommendation with qualifications, the application, and staff report are available at <http://denr.sd.gov/public> or contact Eric Gronlund for this information, or other information, at the Water Rights Program address provided below.

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 March 27, 2017.

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.

If the applicant does not contest the recommendation of the Chief Engineer and no petition to oppose the application is received, the Chief Engineer shall act on the application pursuant to the recommendation with no hearing held before the Water Management Board. 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.

Steven M. Pirner, Secretary, Department of Environment and Natural Resources.
Published once at the total approximate cost of \$25.47..

Schlaak, Karen

From: Schlaak, Karen
Sent: Thursday, March 09, 2017 2:02 PM
To: classifieds@plaintalk.net
Subject: 8260-3, Cameron Johnsen
Attachments: 8260-3public.short.docx; FORM8.FRM.doc

Attached is a notice to be published on March 17, 2017.

Cameron Johnsen, 33183 479th Ave, Jefferson SD 57038 (402 960-7655) has been notified to contact you to authorize publication and arrange for payment.

Please send the affidavit or return the attached Proof of Publication form ASAP.

Let me know if you have questions. Please acknowledge receipt of this email.

Karen Schlaak
SD DENR, Water Rights Program
(605) 773-3352



Schlaak, Karen

From: Schlaak, Karen
Sent: Thursday, March 09, 2017 2:03 PM
To: 'Tera Schmidt'
Subject: 8260-3, Cameron Johnsen
Attachments: 8260-3public.short.docx; FORM8.FRM.doc

Attached is a notice to be published on March 17, 2017.

Cameron Johnsen, 33183 479th Ave, Jefferson SD 57038 (402 960-7655) has been notified to contact you to authorize publication and arrange for payment.

Please send the affidavit or return the attached Proof of Publication form ASAP.

Let me know if you have questions. Please acknowledge receipt of this email.

Karen Schlaak
SD DENR, Water Rights Program
(605) 773-3352





DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

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

March 9, 2017

Cameron Johnsen
33183 479th Ave
Jefferson SD 57038

Dear Mr. Johnsen:

Water Permit Application No. 8260-3 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 Plain Talk printed at Vermillion SD (Ph # 605-624-2695) and the Press & Dakotan printed at Yankton SD (Ph # 605-665-7811). 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.

NOTICE OF APPLICATION NO. 8260-3 to Appropriate Water

Notice is given that Cameron Johnsen, 33183 479th Ave, Jefferson SD 57038 has filed an application for a water permit to appropriate 1.67 cubic feet of water per second from one well completed into the Niobrara Aquifer (115 feet deep) located in the SE 1/4 SW 1/4 Section 15 for irrigation of 117.35 acres located in the SW 1/4 Section 15; all in T94N-R53W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8260-3 with qualifications because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. The Chief Engineer's recommendation with qualifications, the application, and staff report are available at <http://denr.sd.gov/public> or contact Eric Gronlund for this information, or other information, at the Water Rights Program address provided below.

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 March 27, 2017.

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.

If the applicant does not contest the recommendation of the Chief Engineer and no petition to oppose the application is received, the Chief Engineer shall act on the application pursuant to the recommendation with no hearing held before the Water Management Board. 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.

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



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

APR 03 2017

Cameron Johnsen
33183 479th Ave
Jefferson SD 57038

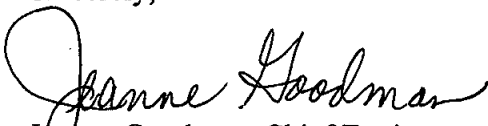
Dear Mr. Johnsen:

Enclosed is Water Permit No. 8260-3 authorizing construction of the 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



8260-3
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: CAMERON JOHNSEN, 33183 479TH AVE, JEFFERSON, SD 57038
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) 8260-3. 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) 8260-3 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) 8260-3 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: FWZCPD**

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.

8260-3



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

January 28, 2020

8260-3

Cameron Johnsen
33183 479th Ave
Jefferson SD 57038

Dear Mr. Johnsen:

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

You may disregard the January 23, 2020, "Notice" concerning reporting requirements for Water Permit No. 8260-3. 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

Report of Examination of Works and/or Application of Water to Beneficial Use
For Permit No. 8260-3

I have this day, November 30, 2023, made a thorough examination of the water use systems owned by Cameron Johnsen, 33183 479th Ave., Jefferson, SD 57038, holder of Permit No. 8260-3, bearing the priority date of December 27, 2016. This permit authorizes the diversion of 1.67 cu. ft. per second of the waters of groundwater (Niobrara Aquifer) authorizing the irrigation of 117.35 acres located in Clay County.

Inspection contacts: Cameron Johnsen

A. Works used to divert the water:

Well Information

- 1) Well Drilling Firm: Quality Well Service LLC
- 2) No. of Wells: 1
- 3) Depth(s): 115 feet
- 4) Well log is available: Yes

Casing:

- 1) Diameter: 16 inches
- 2) Length: 30 feet
- 3) Type: Plastic

Screen:

- 1) Diameter: NA inches
- 2) Length: NA feet
- 3) Type: NA
- 4) Static water level: 3 feet

Pump:

- 1) Make: Custom Pipe & Fabrication Inc.
- 2) Model: 10MC AM
- 3) Capacity: 510 GPM

Generator:

- 1) Make: Dixie
- 2) Model No.: HP 50
- 3) Horsepower rating: 60 hp

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

- 1) Type: PVC Size: 8 inches Length: 1,340 feet

C. Works used to apply water to beneficial use:

Center Pivot:

- 1) Make: Zimmatic
- 2) Overall length: 1,264 feet
- 3) Number of towers: 7
- 4) End gun: Yes, 90 feet
- 5) Capacity: 300 GPM

Chemigation Equipment:

- 1) Does chemigate: No

D. Compliance with Permit Requirements:

- 1) Permit qualifications being abided by: Yes
2) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period: Yes
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:
The well is 2,160 feet east and 340 feet north of the southwest corner of Section 15-T94N-R53W (Latitude 42.95426, Longitude -97.09344– SE1/4 of the SW1/4).
2) The works are capable of diverting and conveying to the places of use 1.14 cu. ft. per second of water from the well which is to be used for irrigation purposes. Water has been put to beneficial use to the maximum extent as follows:

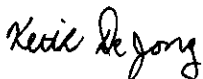
Section 15-T94N-R53W

<u>NW1/4SW1/4</u>	<u>33 acres</u>
<u>NE1/4SW1/4</u>	<u>35 acres</u>
<u>SW1/4SW1/4</u>	<u>5 acres</u>
<u>SE1/4SW1/4</u>	<u>10 acres</u>

comprising a total of 83 acres of land and the license should be issued for 1.14 cfs.

- 3) All structures, wells and lands on map: Yes

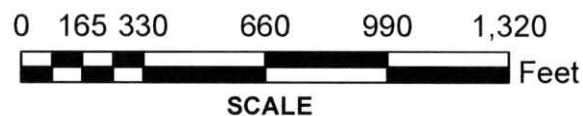
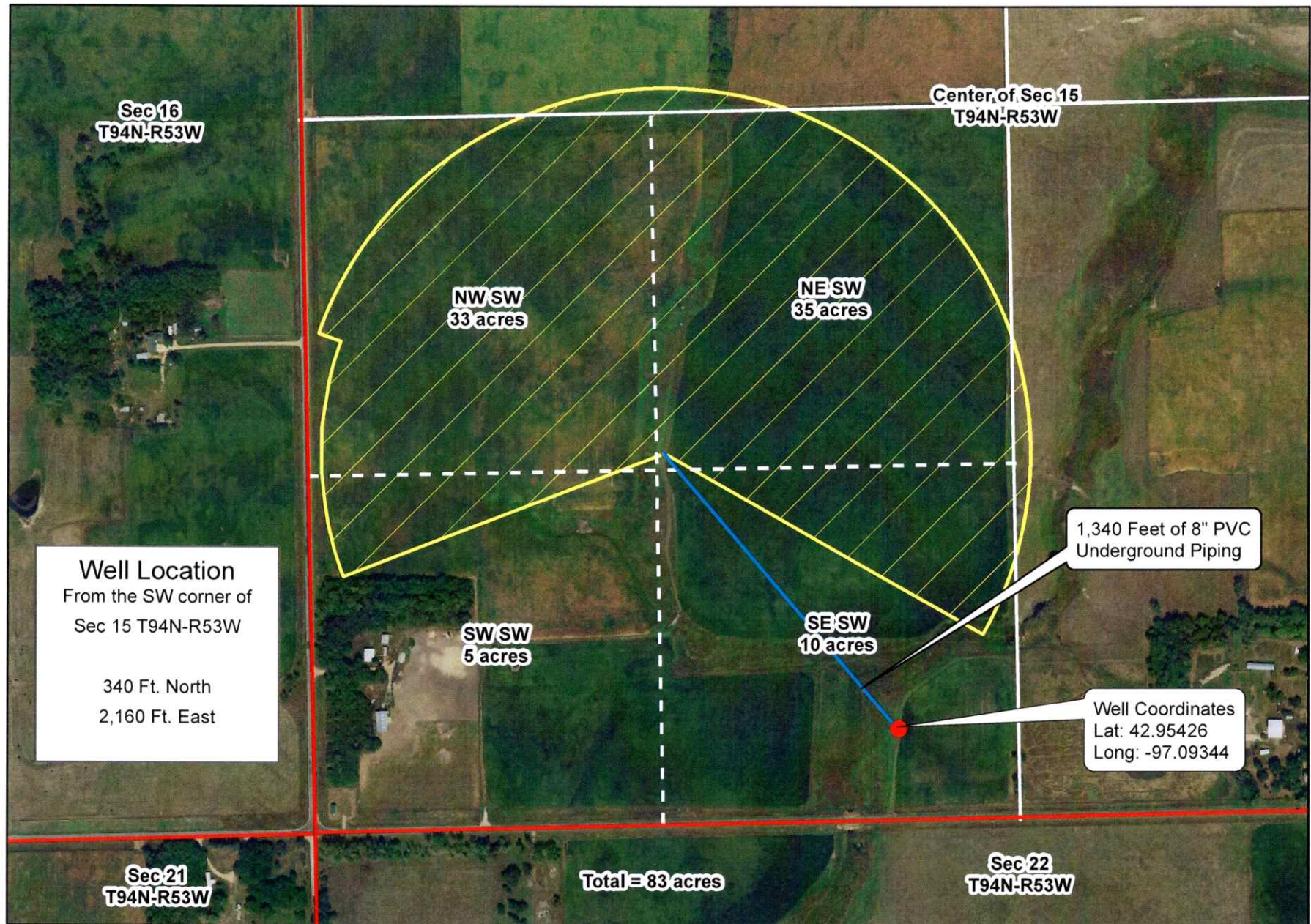
F. Comments or other permit(s) associated with the project: The pump is rated for 510 gpm, but the data sheet for the pivot indicates that the pivot is set up for a flow rate of 300 gpm. I am recommending the 510 gpm flow rate for licensing. Mr Johnsen stated that he stopped the pivot rotation on the north side of the southeast waterway. Someday in the future he may want to do some dirt work that would allow the pivot to rotate farther south and west. I mentioned to him that the construction deadline on his permit was in 2022, and that when he desires to rotate the pivot farther, he just needs to get a new permit for the additional acres. He stated that he may do that in the future, but it will several years from now.



Keith DeJong, PE Ret.
Water Rights Inspector
DANR, Water Rights Program

Date report completed: November 30, 2023

Water Permit No. 8260-3



Keith DeJong
Keith DeJong, PE Ret.
Staff Engineer
November 30, 2023



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

APR 29 2024

8260-3

Cameron Johnsen
33183 479th Ave
Jefferson SD 57038

Dear Mr. Johnsen:

Enclosed is Water License No. 8260-3. 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.

So long as you use the water beneficially, as stated in the Water License, 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: At the time of inspection, you had indicated to Water Rights Program staff that you had intentions to expand the acres irrigated by this system further south. All construction was to be completed on or before March 27, 2022. The development of any additional acres would require a new permit application.

enclosures

**STATE OF SOUTH DAKOTA
WATER LICENSE NO. 8260-3**

(1) Cameron Johnsen, 33183 479th Ave, Jefferson SD 57038, made Application No. 8260-3, December 27, 2016, for a water permit to divert 1.67 cubic feet of water per second from groundwater, one well (Niobrara Aquifer), Clay County, South Dakota for irrigation purposes. Permit No. 8260-3, with a priority date of December 27, 2016, was approved March 27, 2017, and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before March 27, 2022, and for the application to beneficial use of water on or before March 27, 2026.

(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 1.14 cubic feet of water per second for beneficial use. The location of the diversion point is:

- 2,160 ft E & 340 ft N of the SW corner of Section 15, T94N, R53W (SE $\frac{1}{4}$ SW $\frac{1}{4}$)
(Latitude 42.95426 & Longitude -97.09344)

(3) The amount of 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: June 1 – September 30.

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

Section 15, T94N, R53W			
NE $\frac{1}{4}$ SW $\frac{1}{4}$	35 acres	SW $\frac{1}{4}$ SW $\frac{1}{4}$	5 acres
NW $\frac{1}{4}$ SW $\frac{1}{4}$	33 acres	SE $\frac{1}{4}$ SW $\frac{1}{4}$	10 acres
TOTAL: 83 acres			

(5) Pursuant to South Dakota Water Law 46-5-30.1 Cameron Johnsen, the holder and/or owner of Water Right No. 8260-3 is issued a license to appropriate water, the right to use 1.14 cubic feet of water per second from groundwater, one well (Niobrara Aquifer), with a priority date of December 27, 2016, 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. 8260-3 and subject to the following qualifications:

1. The well approved under this Water Right will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Water Right 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 Water Right No. 8260-3 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 grouter (bottom to top) pursuant to Section 74:02:04:28. *(The well was drilled in 2016 by Quality Well Service LLC. A copy of the Well Completion Report is on file with the Water Rights Program.)*
3. This Water Right is approved subject to the irrigation water use questionnaire being submitted each year.

Eric Gronlund
Eric Gronlund, Chief Engineer
Water Rights Program
Department of Agriculture and Natural Resources

APR 29 2024
date





DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES
JOE FOSS BUILDING
523 E. CAPITOL AVE
PIERRE SD 57501-3182
danr.sd.gov

January 14, 2025

NOTICE

TO: CAMERON JOHNSEN, 33183 479TH AVE, JEFFERSON, SD 57038

FROM: Ron Duvall, Engineer III
for Eric Gronlund, Chief Engineer
Water Rights Program

SUBJECT: Reporting Requirement for 2024 Irrigation Questionnaire(s)

Our records indicate your 2024 Irrigation Questionnaire(s) has not been submitted for Permit No(s) 8260-3. The request for the Questionnaire was dated October 23, 2024. The Water Management Board has directed owners of water permits who have not submitted the 2024 Irrigation Questionnaire(s) be given notice of permit violation and a hearing to be held by the Board. The hearing is to determine what action is to be taken for violation of Water Permit No(s) 8260-3 qualification:

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

The hearing will be held on **Wednesday, March 5, 2025, at 9:30 am (Central Time)** in the Floyd Matthew Training Center, Joe Foss Building, 523 E Capitol Avenue, Pierre, SD and will be conducted pursuant to SDCL 46-1-12, 46-1-14, 46-2-9, 46-2-11 and 46-2-17. These are contested case hearings pursuant to Chapter 1-26. According to SDCL 46-1-12, the Board may suspend a permit for a period of up to one year for the first violation of a permit qualification or up to three years for a second violation or cancel a permit for a third violation. Following the hearing, the Water Management Board can:

1. Suspend or cancel Permit No(s) 8260-3 in accordance with applicable provisions of SDCL 46-1-12;
2. Postpone any action; or
3. Take no action.

The hearing is an adversary proceeding. The permit owner has the right to be present or to be represented by a lawyer. These and other due process rights will be forfeited if they are not exercised. Decisions of the Board may be appealed to the Circuit Court and the State Supreme Court as provided by law.

If the questionnaire(s) is (are) received in this office before the **March 5, 2025**, hearing you will no longer be in violation of your permit and your name will be removed from the Board agenda. Enclosed are additional questionnaire(s) for your use. If you have questions or need assistance, please contact Amanda Dewell at (605) 773-3352 or email at amanda.dewell@state.sd.us. **If you prefer, you can complete the questionnaire online at the following link: <https://danr.sd.gov/iq> using this password: WIJHLK**

NOTE: Please contact the Water Rights Program, Joe Foss Building, 523 E Capitol, Pierre, SD (605-773-3352) to assure access to the meeting room for the handicapped or to obtain an interpreter for the hearing impaired.



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

January 21, 2025

8260-3

Cameron Johnsen
33183 479th Ave
Jefferson SD 57038

Dear Mr. Johnsen:

I am writing to acknowledge the receipt of your 2024 irrigation questionnaire(s).

You may disregard the January 14, 2025, "Notice" concerning the reporting requirements for Water Permit No(s). 8260-3. The information was received prior to the March 5, 2025, Water Management Board meeting and the above listed permit number(s) have been removed from the agenda.

If you have any questions or concerns, please contact me.

Sincerely,

Amanda Dewell
Permitting Administrator
Water Rights Program
605 773-3352
Amanda.Dewell@state.sd.us