

WATER PERMIT NO. 8470-3

Name of Applicant: **Nicholas Blake**

Address: **29468 466th Ave, Centerville SD 57014**

Phone: **605 957-5684**

Amount of Water Claimed: **1.78 cfs**

Total Acres: **160**

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

Water to be used for: **irrigation**

County: **Turner**

Type of Waste Disposal System:

Location: **1 mile southeast of Centerville**

PRIORITY Date Received: **12-16-20**

Application/License Fee: **\$ 1050**

Corrected Application Received: **1-8-21**

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

Remarks:

Diversion Point: **center SW 1/4 Sec 25-T96N-R52W**

Land to be Irrigated: **SW 1/4 Sec 25-T96N-R52W**

Depth of Well: **200 feet deep**

Well Driller:

Remarks:

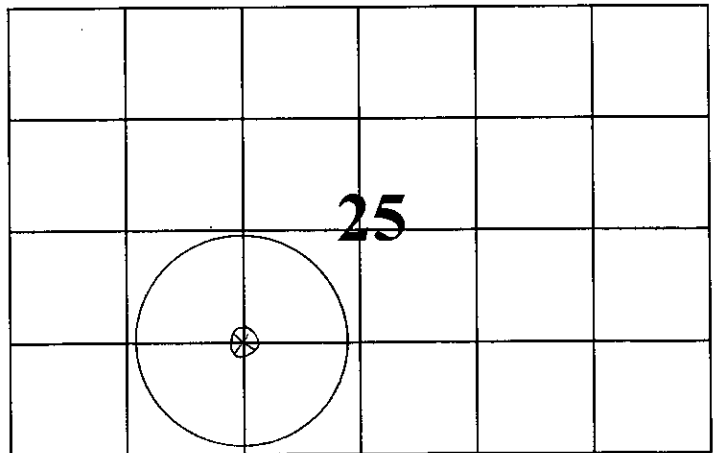
Type of Map: **aerial**

Prepared by:

Reviewed and the Number Assigned on: **1-11-21**

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____



**SOUTH DAKOTA
WATER PERMIT NO. 8470-3**

Date of first receipt of application January 13, 2021.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 8470-3 to Nicholas Blake 29468 466th Ave. Centerville SD 57014 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. 8470-3 appropriates 1.78 cubic feet of water per second from one well to be completed into the Upper Vermillion Missouri:South Aquifer (approximately 200 feet deep) located in the approximate center of the SW 1/4 Section 25 for irrigation of 160 acres located in the SW 1/4 Section 25; all in T96N-R52W. This site is located approximately 1 mile southeast of Centerville SD.
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 – September 30.
3. The date from which applicant may claim right is January 13, 2021.
4. The date of approval of Permit No. 8470-3 is March 29, 2021.
5. One-fifth of the construction is to be completed on or before September 29, 2023.
6. All construction is to be completed on or before March 29, 2026.
7. Water is to be put to beneficial use on or before March 29, 2030.
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. 8470-3 will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner, under these Permits shall control 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. 8470-3 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: Eric Gronlund
Eric Gronlund, Chief Engineer
Water Rights Program
Department of Agriculture and Natural Resources

APR 19 2021

date



FORM 2: Application for irrigation in South Dakota

(type or print)

Read Me First!

Mail to: DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>8470-3</u> (office use only)	Hydrologic Unit <u>10170102</u>
	Basin <u>Vermillion River</u>	
	Newspaper <u>Viborg Enterprise</u>	
	<u>Press & Dakotan, Yankton</u>	

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JAN 13 2021

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 Nicholas Blake

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

 Mailing Address 29468 466 Ave. Centerville ☒ SD ☒ 57014
 (Address) (City) (State) (Zip Code)

 Phone _____ Mobile 605-957-5684 Email _____

 2. Amount of water claimed 1.78 *CFS or 800 **GPM _____ ***AF Total Acreage 160
 (*Cubic Feet per Second) (**Gallons per Minute) (***) Acre Feet - storage capacity of dam/dugout or annual use if applicable
3. Source of water supply 1 well in the Upper Missouri- Vermillion aquifer4. Location of point of diversion 1 well in the center, sw 1/4, Section 25, T96nR52w

(example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W)

County Turner ☒5. County or counties where water will be used Turner6. Annual period during which water is to be used April 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 1/4 of SW 1/4 Section 25 T96nR52w	40		
NE 1/4 of SW 1/4 Section 25 T96nR52w	40		
SE 1/4 of SW 1/4 Section 25 T96nR52w	40		
SW 1/4 of SW 1/4 Section 25 T96nR52w	40		

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

Center Pivot irrigation of the above listed property. Greater than statutory limit requested due to necessity to windshield wipe pivot to creek in wet spring/early summer operations.

I, Nicholas Blake, 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.

Supplemental Information

(type or print)

1. Well Information (check one or both as applicable) ☒ Drilling new well(s) ☐ Using existing well(s)

a) If new wells, how many 1 Have test holes been drilled ☐ Yes ☒ No Drilled by _____
(if yes, please provide copies of logs)

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

For either Existing or Proposed Wells:

c) Well Depth (required) 200 Depth to Top of Water Bearing Material 120 Depth to Water from Surface 60

d) Distance to nearest domestic well on applicant's property NA Property owned by others >3000'

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 _____

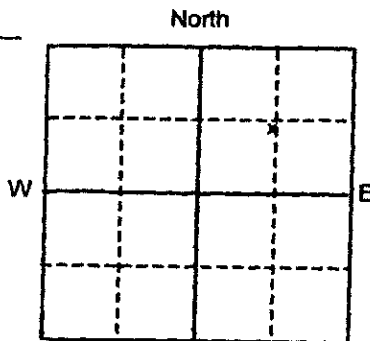
i) Storage _____ Acre Feet

j) Drainage Area Above Dam _____ Acres

SOUTH DAKOTA WATER WELL COMPLETION REPORT 6968-3 11-02

Location SW 1/4 ne 1/4 Sec 25 Twp 96n Rg 52wCounty Turner

Please mark well location with an "X"



Well Completion Date

6/12/09

1 Mile

Distance to nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)?
1,700.0 ft. from septic tank (identify source)

PROPOSED USE:

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

METHOD OF DRILLING:

rotary

CASING DATA:

☐ Steel ☒ Plastic ☐ Other

If other describe

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	16.00 IN	0.0 FT	140.0 FT	22.00 IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
bent grt	40	9.5 Lb/gal	0.0 Ft	134.0 Ft
		Lb/gal	Ft	Ft

Describe grouting procedure
tremie

SCREEN:

☐ Perforated pipe ☒ Manufactured
 Diameter 16.00 Inches Length 60.0 Feet
Material pvcSlot Size .060 Set From 140.0 Feet to 200.0 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? hth tablets
☐ No, Why Not?
 Lab to which water quality sample sent for analysis
Well Owner: Roger Blake

Business Name:

Address: 46362 295th stCity, State, Zip: Centerville SD 57014

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
Silt, brown, clayey	0	7
Clay, brown, silty, pebbly till	7	37
Clay, gray, silty, pebbly, till	37	116
Gravel, fine, sandy	116	204

STATIC WATER LEVEL 60.0 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

71.0 Ft. After 4.0 Hrs. pumped 840.0 GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: 800.0 GPM

REMARKS

This well was drilled under license # 666 report is true and accurate.Drilling firm: Hammond-Wetmore Drilling

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

Date: _____

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JAN 13 2021

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2010

Nick Blake

Write a description for your map.

Legend



Inc



Untitled Polygon

463rd Ave

Proposed well
at Center,
SW $\frac{1}{4}$ Sect 25, T96NR52W

Google Earth

© 2020 Google

296th St



1000 ft

Lindsay Manufacturing Co.



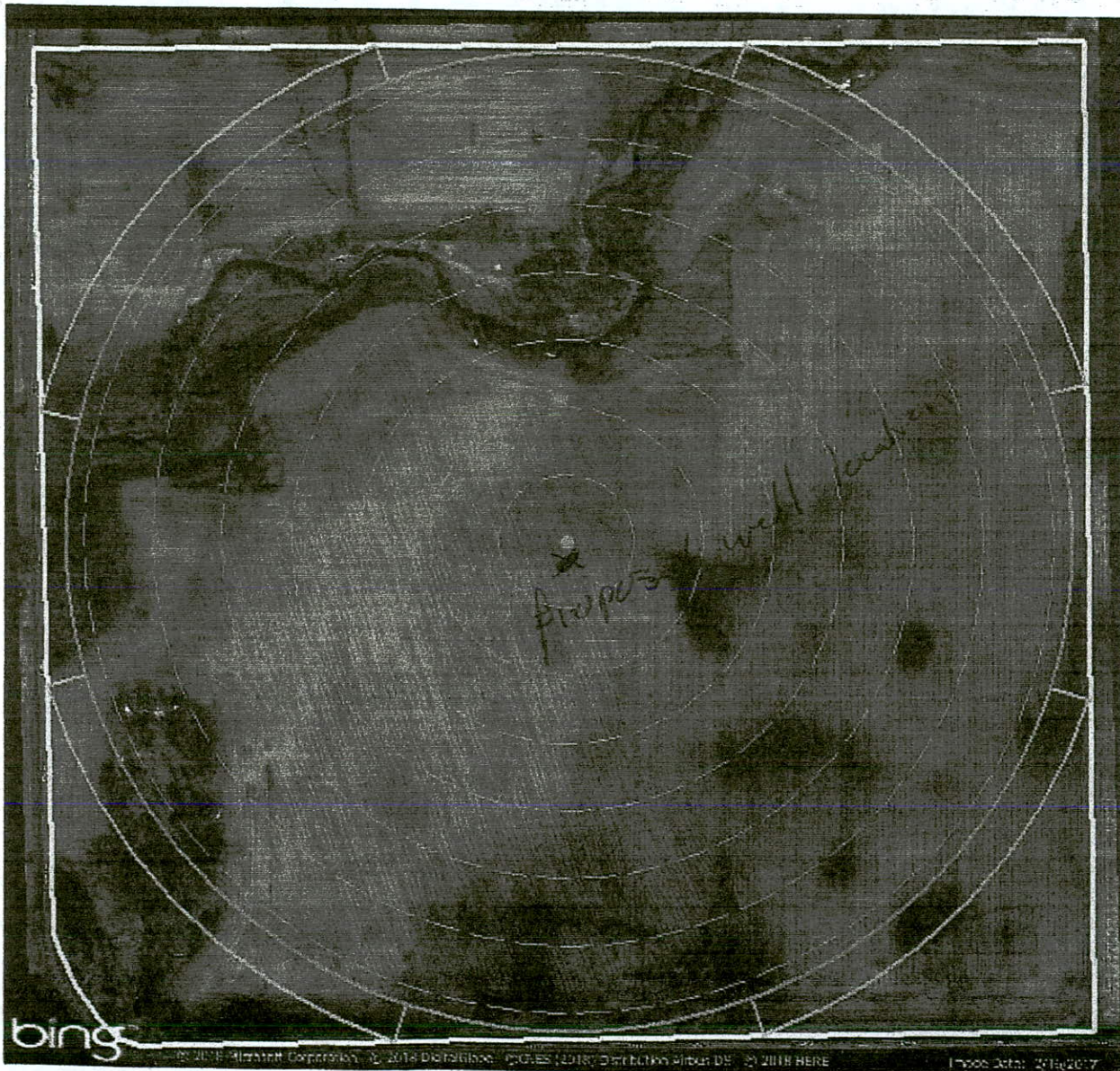
2707 North 108th Street
Omaha, NE 68164
800 - 829 - 5300 office

Farm: Field1

Grower: Nick Blake

12/14/2020

Systems:	Length	Spans	Total area including endgun
● Pivot 2	1303.67 ft	7 spans + 44 ft o.h.	134.23 acres



96N 52W
Section: 14

96N 52W
Section: 13

96N 51W
Section: 18

96N 52W
Section: 23

96N 52W
Section: 24

96N 51W
Section: 19

96N 52W
Section: 26

96N 52W
Section: 25

96N 51W
Section: 30

96N 52W
Section: 35

96N 52W
Section: 36

96N 51W
Section: 31

95N 52W
Section: 02

95N 52W
Section: 01

95N 51W
Section: 06

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date December 16, 2020

RECEIVED OF Roger/Kathleen Blake 46362 295th St. Centerville SD 57014

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

Fee for Application for Permit No. <u>8470-3</u> to Appropriate Water, to construct and to put water to beneficial use	\$850.00
Fee for Application for Permit No. _____ to Appropriate Water for Future use	\$
Fee to retain Future Use Permit No. _____ after period of seven years.	\$
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. <u>8470-3</u>	\$200.00
Fee for Filing Transfer Form _____	\$
Fee for _____	\$
Fee for Issuing New Well Driller's License No. _____	\$
Fee for Renewal of Well Driller's License No. _____	\$
Fee for Issuing Well Pump Installer's License No. _____	\$
Fee for Renewal of Well Pump Installer's License No. _____	\$
(Any Other Work Provided by Law) TOTAL	\$1050.00

By Eric Gronlund
Chief Engineer
Em



DENR
SOUTH DAKOTA

**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. 8470-3, Nicholas Blake**

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. 8470-3, Nicholas Blake, 29468 466th Ave, Centerville SD 57014.

The Chief Engineer is recommending APPROVAL of Application No. 8470-3 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. 8470-3 will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner, under these Permits shall control 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. 8470-3 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.

Eric Gronlund, Chief Engineer
March 1, 2021

**REPORT TO THE CHIEF ENGINEER
WATER PERMIT APPLICATION NO. 8470-3
NICHOLAS BLAKE
FEBRUARY 22, 2021**

Water Permit Application No. 8470-3 proposes to appropriate water at a maximum instantaneous diversion rate of 1.78 cubic feet per second (cfs) from the Upper Vermillion Missouri: South aquifer. The applicant intends to divert water from a single, approximately 200-feet-deep, well to be located near the center of the SW ¼ Section 25 for irrigation of 160 acres located in the SW ¼ Section 25; all in T96N-R52W. The site is in Turner County, approximately 1 mile southeast of Centerville, SD.

AQUIFER: Upper Vermillion Missouri: South (UVM: S)

Aquifer Characteristics

The current Upper Vermillion Missouri: South aquifer boundary contains portions of the original boundaries from both the Upper and Lower Vermillion Missouri aquifers, as defined by Hedges, et al. (1982). The location of this proposed application is within the boundary previously designated as the Upper Vermillion Missouri aquifer. In Turner County, this portion of the aquifer is composed of fine sand and medium-pebble gravel deposited in a northwest-southeast trending, pre-glacial bedrock channel (Lindgren and Hansen, 1990).

Between 2013 - 2014, the SD DENR Water Rights and Geological Survey Programs conducted a study to define more accurate aquifer boundaries and to provide more accurate information regarding the allocation of water from these aquifer management units. This extensive test hole drilling, and well completion program resulted in a change of boundaries for several aquifers in this area. Buhler (2014) utilized geologic and hydrologic conditions (i.e. bedrock topography, outwash lithology, and aquifer potentiometric surface data) to change the boundary between the Upper and Lower Vermillion Missouri aquifers and to divide the Upper Vermillion Missouri into the North, South, and West management units. These divisions were adopted by the Water Management Board at the March 6, 2014 meeting (Water Rights, 2014). The Upper Vermillion Missouri: South aquifer encompasses approximately 78,820 acres underlying portions of Clay, Lincoln, and Turner Counties (Buhler, 2014). The Holmes and Filipovic (2015) publication was also produced from the study. These authors assert that there was no scientific justification to support separate management units, remove the distinction between the Upper and Lower, and named the entire deposit the Vermillion Missouri aquifer. While this description is not utilized by the Water Rights Program or the Water Management Board as noted above, the Holmes and Filipovic (2015) report did change the boundaries of the overlying Parker-Centerville aquifer. Figure 1 shows the current delineation of the Upper Vermillion Missouri aquifer management units and the hydraulic connection with the overlying Parker-Centerville aquifer.

The Upper Vermillion Missouri: South is generally under confined conditions (Buhler, 2014) except around the Clay-Turner County line where it is in hydraulic connection with the overlying Parker-Centerville aquifer (Lindgren and Hansen, 1990; Holmes and Filipovic, 2015). Holmes and Filipovic (2015) is the most recent source to describe the direction of ground water

movement as moving from the north to the south and into Clay County, where the Upper and Lower Vermillion Missouri aquifers blend.

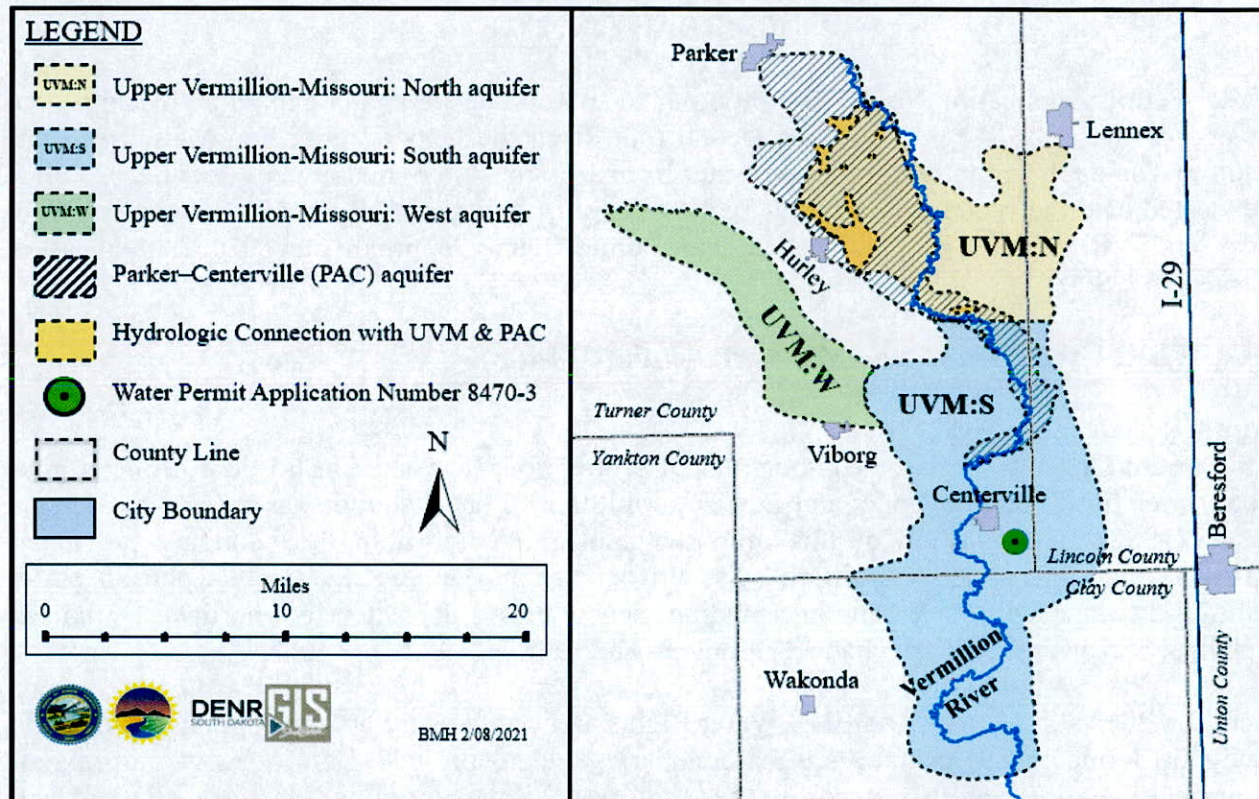


Figure 1. Water Permit Application No. 8470-3 shown within the Upper Vermillion Missouri: South aquifer boundary (modified from: Buhler (2014) and Holmes and Filipovic (2015)).

There are several water rights within the vicinity of the proposed application site. Water well completion reports show an average of 116 feet of silty, sandy clay (till) overlying sand with gravel to an average depth of 185 feet (Water Rights, 2021a). With the static water level, during the time of drilling at an average of 71 feet below ground surface, this indicates that the proposed site is under confined conditions with an average of 45 feet of artesian head pressure near the proposed application (Water Rights, 2021a).

SOUTH DAKOTA CODIFIED LAW (SDCL) 46-2A-9

Pursuant to SDCL 46-2A-9, a permit to appropriate water may be issued only if there is reasonable probability that there is unappropriated water available for the applicant's proposed use, that the proposed diversion can be developed without unlawful impairment of existing rights, and that the proposed use is a beneficial use and in the public interest. This report will address water availability and potential for unlawful impairment of existing water rights within the Upper Vermillion Missouri: South aquifer.

WATER AVAILABILITY

Water Permit Application No. 8470-3 proposes to appropriate water from the Upper Vermillion Missouri: South aquifer. The probability of unappropriated water being available from an aquifer can be evaluated by considering SDCL 46-6-3.1 which requires "No application to appropriate

groundwater may be approved if, according to the best information reasonably available, it is probable that the quantity of water withdrawn annually from a groundwater source will exceed the quantity of the average estimated annual recharge of water to the groundwater source..." If the source of the water is older or lower than the Greenhorn Formation and a water distribution system as defined in SDCL 46-1-6(17) has applied for a permit, the Board need not consider the balance of recharge to and withdrawal from the aquifer. For this application, a water distribution system is not involved, and the aquifer is not older or lower than the Greenhorn Formation, therefore the balance of recharge and withdrawal must be considered.

Hydrologic Budget

Recharge:

The current delineation of the Upper Vermillion Missouri: South aquifer consists of an area that was previously defined as containing portions of both the Upper and Lower Vermillion Missouri aquifers. Recharge to the Upper Vermillion Missouri aquifer occurs primarily through the infiltration of precipitation where the aquifer is at or near the ground surface and drainage to the Upper Vermillion Missouri aquifer where it is in direct contact with the overlying Parker-Centerville aquifer (Holmes and Filipovic, 2015). Lindgren and Hansen (1990) also noted that recharge is possible by leakage from the Niobrara and Sioux Quartzite bedrock formations. However, Holmes and Filipovic (2015) note that water-level data and water quality analyses do not indicate that ground water from the Niobrara Formation has a significant influence on the Vermillion Missouri or Parker-Centerville aquifers

There has been no recharge rate established specifically for the Upper Vermillion Missouri: South aquifer. Hedges, et al. (1985) did estimated a recharge rate of 0.25 inches per year (rounded up to 0.021 feet per year) using a regional flow-net analysis for the entire Upper Vermillion Missouri as delineated at that time. Applying this recharge rate to the current the Upper Vermillion Missouri: South aquifer areal extent (78,890 acres) yields an estimated recharge rate of 1,657 ac-ft/yr. for this aquifer. Additional study and observation well data have shown that this value is not representative of the existing conditions in the aquifer.

Buhler (2014) utilized estimated groundwater outflow information to complete a flow net analysis of the Upper Vermillion Missouri aquifer. Analysis included all previously defined Upper and Lower Vermillion Missouri aquifer water rights/permits that were active at the time of the study and were identified as withdrawing water from the Upper Vermillion Missouri: South aquifer. While a specific recharge rate was not determined, results indicate that recharge exceeded withdrawals from the Upper Vermillion Missouri: South aquifer by an estimated 5,637 to 8,223 ac-ft/yr.

Discharge:

Discharge from the UVM aquifer occurs through evapotranspiration in areas where the aquifer is near land surface, well withdrawals, and subsurface flow into Clay County where it blends with the Lower Vermillion Missouri aquifer (Lindgren and Hansen, 1990). Currently, there are a total of 86 water rights/permits, 82 irrigation and 4 non-irrigation, appropriating water from the Upper Vermillion Missouri: South aquifer (Water Rights, 2021a).

Buhler (2014) utilized irrigation summaries, from 1979-2103, to determine that an average annual application rate of six inches (0.5 feet) per permitted acre is appropriate for this aquifer. Since the conclusion of this analysis, there are 29 additional active permits and 2 pending applications (Table 1) to irrigate approximately 3,089 acres from the Upper Vermillion Missouri: South. Utilizing the 0.5 feet application rate, this indicates that approximately 1,624 ac-ft/yr needs to be accounted for as withdrawal against the minimum exceedance recharge of 5,637 ac-ft/yr established by Buhler (2014). The rising or stable water levels in observation well data supports Buhler's (2014) conclusion.

Table 1. Approved and Pending Irrigation Permits not included in the Buhler (2014) report (Water Rights, 2021a).

Permit No.	Priority Date	Name	Permitted Acres	Estimated Use (ac-ft/yr)
7383-3	07/20/2012	Metabank	25	12.50
7441-3	09/26/2012	Jason or Alicia Knutson	140	70.00
7442-3	09/26/2012	Leah Johnson	40	20.00
7466-3	10/18/2012	Bethel Hagen Trust	152	76.00
7467-3	10/18/2012	Cleland Hagen Trust	152	76.00
7600-3	12/28/2012	Michael D Stevens	180	90.00
7601-3	12/28/2012	Michael D Stevens	132	66.00
7603-3	12/28/2012	Michael D Stevens	120	60.00
7693-3	02/06/2013	Metabank	27.7	13.85
7993-3	04/10/2013	Jesse & Tanya Vandestroet	53	26.50
7900-3	09/11/2013	Leon Thompson	136	68.00
7919-3	10/23/2013	Larry & Marlene Erickson	83.83	41.92
7690-3	12/20/2013	Timor Dave Ostrem	160	80.00
7945-3	01/17/2014	Brad or Linda Trudeau	60	30.00
6820A-3	01/23/2014	Jesse & Tanya Vandestroet	43	21.50
7947-3	01/23/2014	Leon, Holly & Jordan Rozeboom	133.44	66.72
7948-3	01/23/2014	Liberty Land & Livestock, LLC	55.02	27.51
7949-3	01/23/2014	Jesse & Tanya Vandestroet	100.9	50.45
7964-3	02/12/2014	Paul, Mike & John Shubeck	128	64.00
7976-3	02/27/2014	Vasgaard Properties	160	80.00
7990-3	04/02/2014	Robert P. Walsh	240	120.00
6811A-3	04/10/2014	Jesse & Tanya Vandestroet	115	57.50
7994-3	04/10/2014	Metabank	72	36.00
7995-3	04/10/2014	Jesse & Tanya Vandestroet	25	12.50
8007-3	04/18/2014	Louis Latendresse	150	75.00
8037-3	06/10/2014	Tyler Andersen	103	51.50
8070-3	01/07/2015	Hansen Irrigated Farms. LLC	96	48.00
8071-3	01/07/2015	Hansen Irrigated Farms. LLC	51	25.50
8072-3	01/07/2015	Jesse & Tanya Vandestroet	40	20.00
8469-3	Pending	Double A Farms, LLC	114	57.00
8470-3	Pending	Nicholas Blake	160	80.00
Total:			3087.89	1623.95

There are four non-irrigation permits that appropriate water from the Upper Vermillion Missouri: South aquifer. The City of Centerville holds two municipal use permits, No. 4204-3 (0.22 cfs) and No. 5898-3 (0.89 cfs) that are licensed to withdraw a combined total of approximately 483 ac-ft-yr, assuming a 60 percent pumping rate. However, Centerville purchases water from the

Lewis and Clark Regional Water System and maintain their water permits for emergency purposes (Drinking Water, 2021; Water Rights, 2021a). Therefore, these permits are assumed to pump a negligible amount of water. The Clay Rural Water System has two permits, No. 3905-3 (2.00 cfs) and No. 5979-3 (2.00 cfs), which are each authorized to withdraw an estimated 870 ac-ft-yr or an estimated combined total of 1,740 ac-ft/yr, assuming a 60 percent pumping rate. The appropriation from these permits was accounted for in the Buhler (2014) analysis and are mentioned in this report for administrative purposes.

There is one pending application, besides this application, for the Upper Vermillion Missouri: South aquifer, Water Permit Application No. 8469-3, seeking to irrigate 114 acres. This value, when combined with this applications requests to irrigate 160 acres, yields 274 pending acres to be considered under the irrigation withdrawals. The average annual withdrawal rate for the pending application and this application is approximately 137 ac-ft/yr as shown and accounted for in Table 1.

There are numerous domestic wells on file with the Water Rights Program within the Upper Vermillion Missouri: South aquifer (Water Rights 2021b). Domestic users are not required to report their annual water usage and, with their low diversion rates, are not considered a significant portion of the hydrologic budget. Additionally, some domestic wells may no longer be in use after transitioning to getting water from one of the rural water systems in the area.

Water Balance:

Buhler (2014) established that there is a minimum exceedance of 5,637 ac-ft/yr of recharge over withdrawal occurring for the Upper Vermillion Missouri: South aquifer. Since the completion of Buhler's (2014) report, there is approximately 1,624 ac-ft/yr of additional water being appropriated (active, post 2014, irrigation permits and pending applications) that draws from the exceedance recharge amount. This indicates that there is a reasonable probability recharge potential exists in this aquifer to meet the total current estimated appropriation and the withdrawal proposed by this application and the pending application.

Observation Well Data

Administrative Rule of South Dakota Section 74:02:05:07 requires that the Water Management Board 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 nine observation wells completed into the Upper Vermillion Missouri: South aquifer (Water Rights, 2021c). Figures 2 through 4 are hydrographs for the observation wells within five miles to the proposed application. The data points utilized to construct the hydrographs are measurements of the static water level in the observation wells from the top of the well casing. They are representative of the hydrographs for the other observation wells completed into this aquifer management unit. The hydrographs show the water level of the aquifer is stable or rising over the period of record. They indicate that the aquifer responds well to climatic conditions with rising water levels during wet periods and declining

water levels during drier periods. They also demonstrate that any drawdowns from pumping are temporary because the water levels typically recover to pre-pumping levels after the irrigation season. This recovery indicates that climatic conditions (the natural effects of recharge to and discharge from the aquifer) govern the long-term fluctuations in water level of aquifer rather than the impacts of pumping from the Upper Vermillion Missouri: South aquifer. This indicates that there is a reasonable probability that unappropriated water available in this aquifer unit.

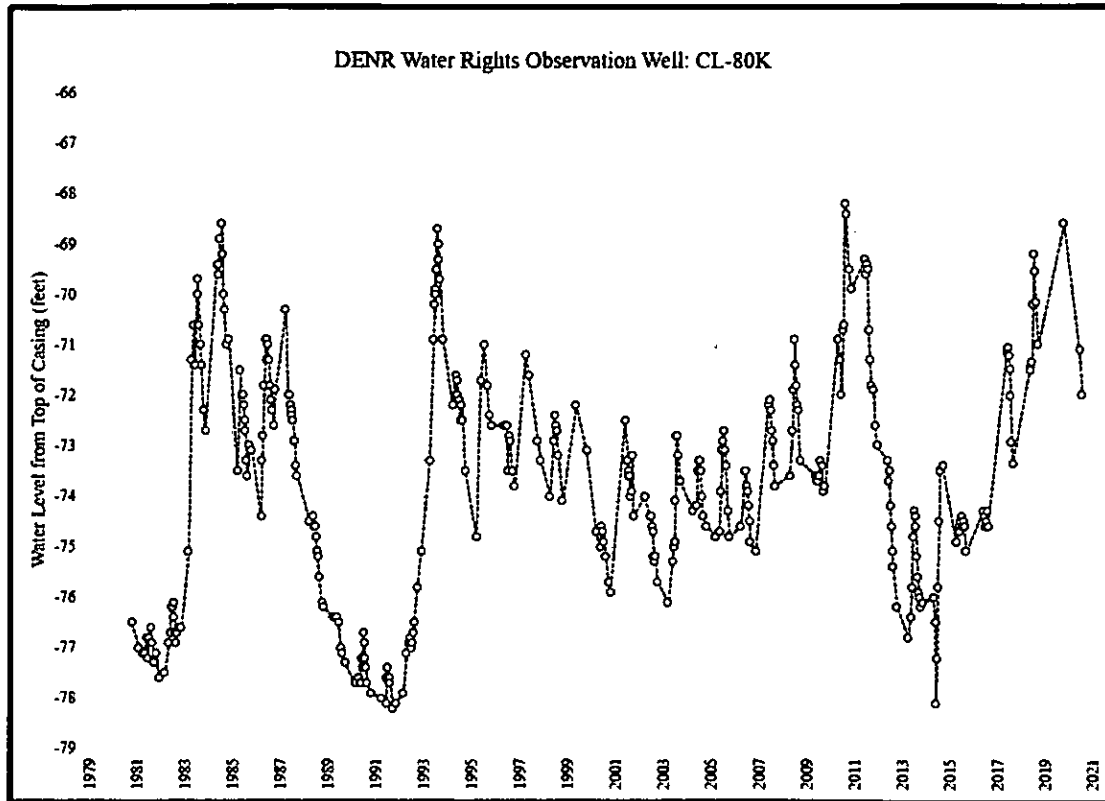


Figure 2. Hydrograph for observation well CL-80K. It is approximately 2.4 miles southeast of the proposed well location for Water Permit Application No. 8470-3 (Water Rights, 2021c).

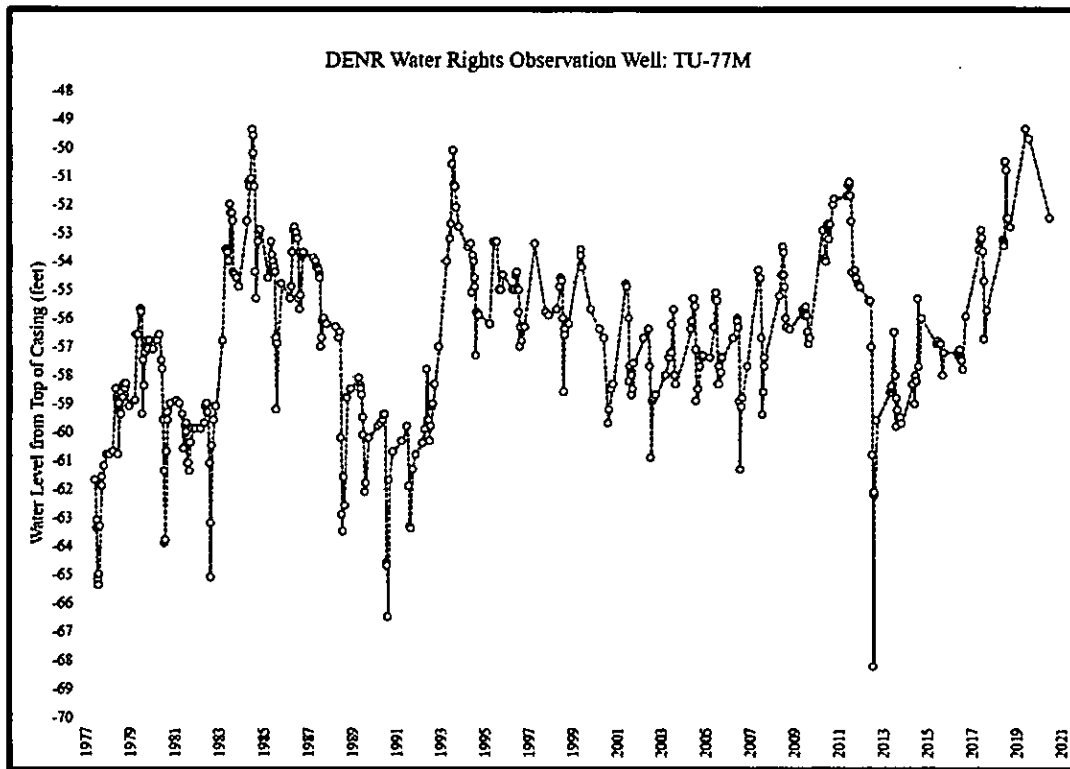


Figure 3. Hydrograph for observation well TU-77M. It is approximately 4.3 miles northwest of the proposed well location for Water Permit Application No. 8470-3 (Water Rights, 2021c).

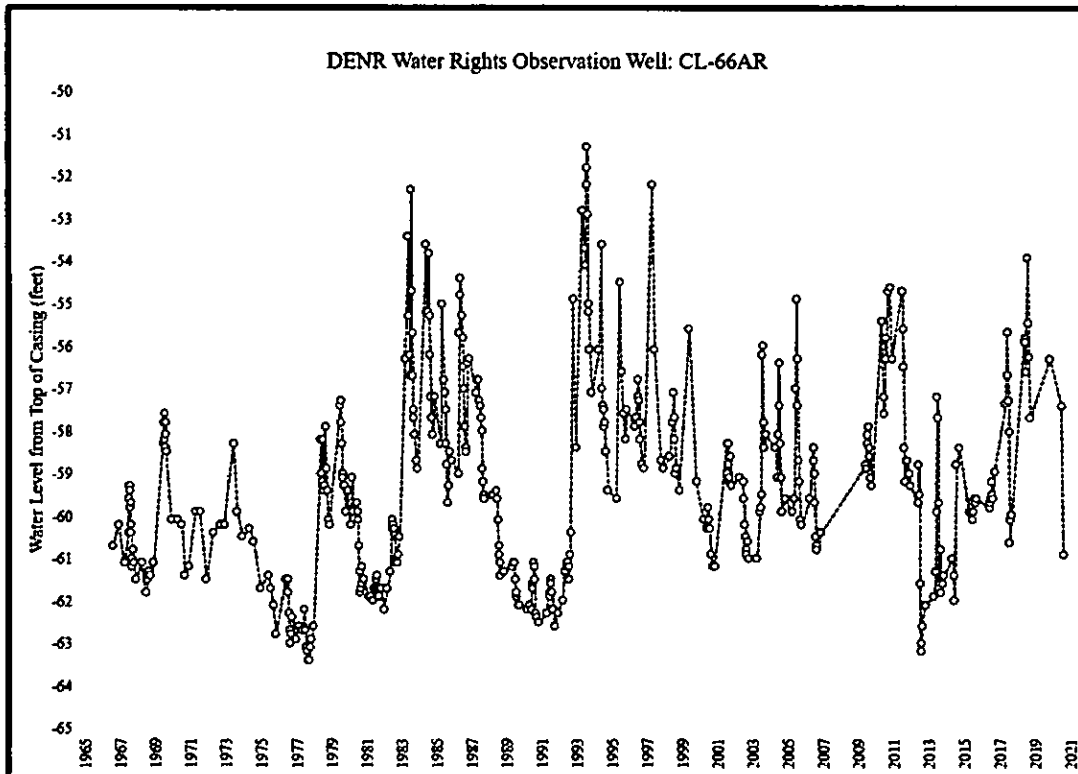


Figure 4. Hydrograph for observation well CL-66AR. It is approximately 4.9 miles southwest of the proposed well location for Water Permit Application No. 8470-3 (Water Rights, 2021c).

POTENTIAL FOR UNLAWFUL IMPAIRMENT OF EXISTING WATER RIGHTS

Currently, there are a total of 86 water rights/permits, 82 irrigation and 4 non-irrigation, appropriating water from the Upper Vermillion Missouri: South aquifer (Water Rights, 2021a). Table 2 lists the water rights/permits shown in Figure 5 located within 5 miles of the proposed well location. Because this aquifer is under confined conditions, drawdown due to pumping may be very large at the production well. Buhler (2014) noted that measured drawdown in the pumping well from pumping tests of 24 irrigation wells ranged from 6 – 92 feet (with an average of 23 feet) and, as distance from a pumping well increases, the amount of drawdown decreases. Buhler (2015) did discuss distance and drawdown in a hypothetical situation applying to the similarly geologically deposited Upper Vermillion Missouri: North aquifer unit. His results showed that drawdown from a production well (pumping for 90 days at a rate of 1.78 cfs) was estimated to be 7.51 feet at a distance of 500 feet, 4.55 feet at a distance of 1 mile, and 1.69 feet at a distance of 10 miles. As noted above, wells near the proposed production well for this application have an average of 45 feet of artesian head pressure. Therefore, it is reasonable to conclude that drawdown from this proposed well will not unlawfully impair existing users with adequate wells.

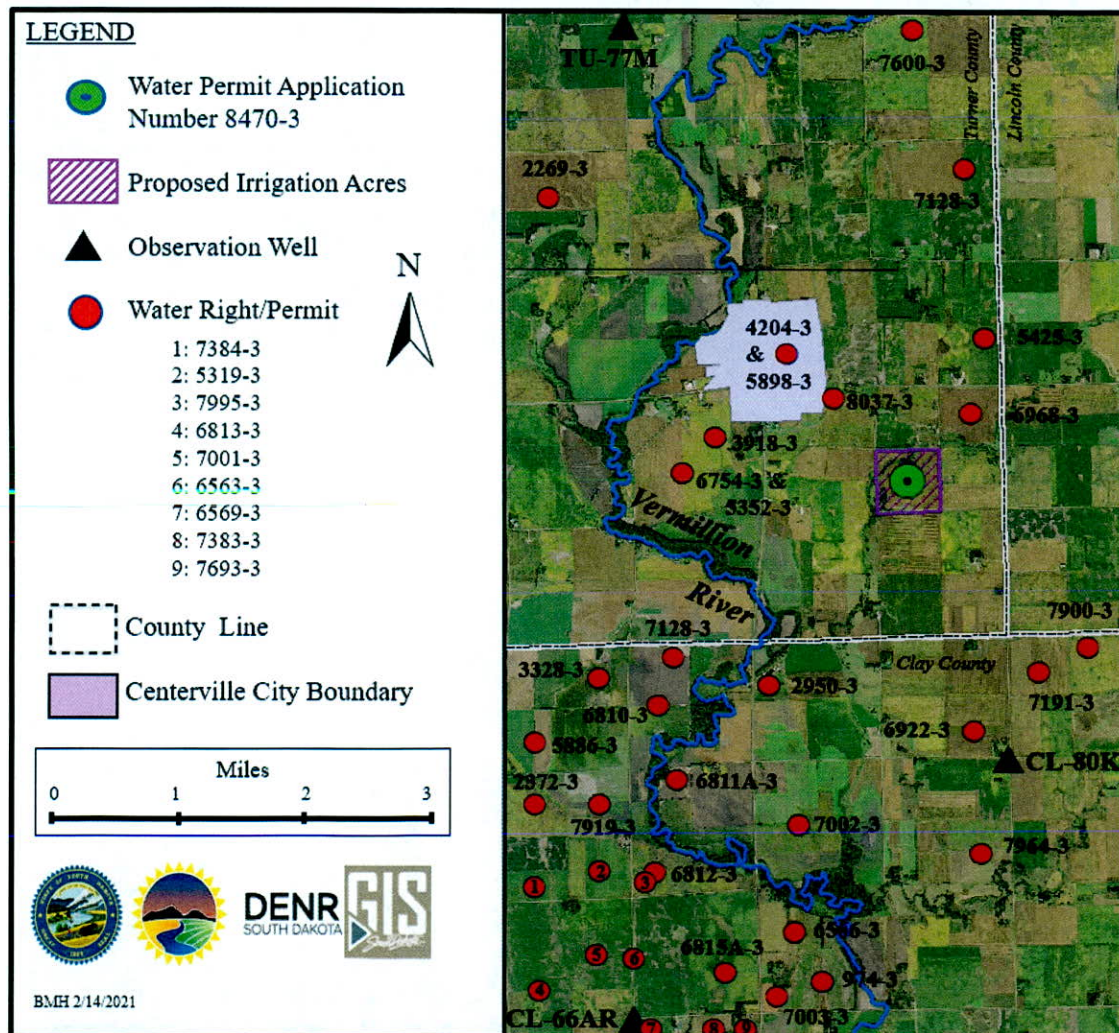


Figure 5. Existing Upper Vermillion Missouri: South aquifer water rights/permits in the vicinity of Water Permit Application No. 8470-3 (Water Rights 2021a).

Table 2. Water rights/permits shown in Figure 5 (Water Rights, 2021a).

Permit Number	Name	County	Status ^a	Use ^a	Rate (cfs)	Acres	
117-3A	Glyndon Knutson	Clay	LC	IRR	0.95	66	
2372-3	Larry Erickson				1.76	123	
2950-3	Terry & Alberta Surprenant				1.57	110	
3328-3	Tom Austin				1.33	121	
5319-3	Larry Erickson				1.89	132	
974-3	Metabank				1.67	140	
5886-3	Tim Ostrem				1.78	134	
6563-3	Rus Farms Real Estate				1.78	242.5	
6566-3	Metabank				0.97	68	
6810-3	Jesse & Tanya Vanderstroet				1.56	65	
6812-3	Jesse & Tanya Vanderstroet				1.78	66	
6813-3	Rus Farms Real Estate				1.78	187	
6922-3	Paul Shubeck				1.78	122	
6815A-3	Rus Farms Real Estate				1.78	264.5	
7001-3	Rus Farms Real Estate				1.78	170	
7002-3	Jesse & Tanya Vanderstroet				1.39	123	
7003-3	Metabank				0.67	31	
7191-3	Roger Blake		PE		0.00	80	
6569-3	Smit Revocable Trust				1.11	42	
7383-3	Metabank				0.56	25	
7384-3	Leon Thompson				1.67	80	
7693-3	Larry & Marlene Erickson				0.67	27.7	
7900-3	Paul, Mike & John Shubeck				1.89	136	
7919-3	Jesse & Tanya Vanderstroet				1.83	83.83	
7964-3	Jesse & Tanya Vanderstroet				1.78	128	
7995-3	Travis Wiese				0.00	25	
6811A-3	JBS Hansen Farms				1.78	115	
6754-3	JBS Hansen Farms				0.00	35	
7128-3	Paul Shubeck				1.78	207	
7600-3	Michael D. Stevens	Turner	LC		3.56	180	
8037-3	Tyler Anderson				1.61	103	
2269-3	Travis Wiese				2.44	188	
3918-3	JBS Hansen Farms				2.66	295.3	
5352-3	Linda Hendrickson				2.15	151	
5425-3	Johnke Land Trust				1.88	132	
6968-3	Roger Blake		1.47		103		
4204-3	City of Centerville		MUN	0.22	n/a		
5898-3	City of Centerville			0.89	n/a		
a - LC: Licensed Water Right; PE: Permitted Water Right; IRR: Irrigation; MUN: Municipal							

a - LC: Licensed Water Right; PE: Permitted Water Right; IRR: Irrigation; MUN: Municipal

A possible hydraulic connection between the Vermillion River and the Vermillion Missouri aquifer was first noted in Stephens (1967) and further addressed by Holmes and Filipovic (2015). Mathiowetz (2015) gave special consideration to this connection in regard to the possible adverse effect to existing water rights from drawdown by pumping. In summary, some (but not all) irrigation permits contained a qualification that the well for the permit must be setback, commonly 1320 feet per 1 cfs of diversion rate, from the Vermillion River. As this proposed

application is approximately 1.5 miles away from the river, it will not be necessary to place a setback distance as a qualification.

There are numerous domestic wells on file with the Water Rights Program with the closest being approximately 0.5 miles northeast of the proposed well site (Water Rights 2021b). Users in the vicinity of the proposed application may be using water provided by a rural water system. Nevertheless, when considering the large amount of artesian head pressure (45 feet) and saturated thickness of the aquifer in this area, domestic users with adequate wells are not anticipated to be adversely impacted by the pumping proposed for this application. In Turner County, there has not been a history of well interference complaints in the Upper Vermillion Missouri: South aquifer due to pumping (Water Rights, 2021d).

To protect domestic well users, 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”.

The Water Management Board considered the delivery of water by artesian head pressure versus maximum beneficial use during the issuance of Water Right No. 2313-2 for Coca-Cola Bottling Company of the Black Hills. The Board adopted Findings of Facts and Conclusions of Law that noted the reservation of artesian head pressure for delivery of water is 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 considered as an unlawful impairment, it conflicts with SDCL 46-1-4 (Water Rights, 1995). Consequently, some existing well owners may need to lower their pumps due to deeper water levels depending on the specific characteristics of the Upper Vermillion Missouri: South aquifer at their location; particularly since the aquifer is under confined conditions near the proposed diversion point for this application. Nearby adequate wells are not expected to be adversely impacted as defined in ARSD 74:02:04:20(7).

When considering the large amount of artesian head pressure, saturated thickness of the aquifer in this area, the hydrographs of nearby observation wells not showing detrimental impact of pumping and, the lack of well interference complaints due to pumping from this aquifer, there is reasonable probability that the proposed diversion can be developed without unlawfully impairing existing appropriative or domestic water users with adequate wells.

CONCLUSIONS:

1. Water Permit Application No. 8470-3 proposes to appropriate water at a maximum instantaneous diversion rate of 1.78 cubic feet per second, to irrigate 160 acres, from a single, 200-feet deep well, out of the Upper Vermillion Missouri: South aquifer.
2. Based on the hydrologic budget with the minimum recharge exceedance value taken from the Buhler (2014) report, there is reasonable probability unappropriated water is available for this proposed water use.
3. There is a reasonable probability the diversion proposed by this application can be made without unlawfully impairing existing appropriative or domestic users with adequate wells.



Blaise Hansen
SD DENR – Water Rights Program

Reviewed By:



Adam Mathiowetz
SD DENR-Water Rights Program

REFERENCES:

- Buhler, K.A., 2014. *Report to the Chief Engineer on 21 Water Permit Applications from the Upper Vermillion Missouri Aquifer*. SD DENR – Water Rights Program, Joe Foss Building, Pierre, SD
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- 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.
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- Stephens, J.C. 1967. *Geology and Water Resources of Clay County, South Dakota, Part II: Water Resources*. South Dakota DENR-Geological Survey Bulletin 19, Vermillion, SD.
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Water Rights, 2014. *Final Order*. DENR-Water Rights Program File for Water Right No. 7466-3, Pages 152 to 156. SD DENR-Water Rights Program, Joe Foss Building, Pierre, SD

Water Rights. 2021a. *Water Right/Permit Files*. SD DENR-Water Rights Program, Joe Foss Building, Pierre, SD.

Water Rights. 2021b. *Well Completion Reports*. SD DENR-Water Rights Program, Joe Foss Building, Pierre, SD.

Water Rights. 2021c. *Observation Well Files*. SD DENR-Water Rights Program, Joe Foss Building, Pierre, SD.

Water Rights. 2021d. *Turner County Files*. SD DENR-Water Rights Program, Joe Foss Building, Pierre, SD.

Schlaak, Karen

From: Schlaak, Karen
Sent: Thursday, March 4, 2021 9:29 AM
To: blakefarms41@yahoo.com
Subject: Water Permit Application No. 8470-3
Attachments: 0830.pdf

Attached is a copy of the report, chief engineer recommendation and information regarding the public notice for your water permit application. As stated in the letter, please contact the papers as soon as possible to authorize publication and arrange for payment. The scheduled day of publication is March 11, 2021. This information is being mailed to you today.

Karen Schlaak

Water Rights Program
(605) 773-3352



**WATER RIGHTS
PROGRAM**

YANKTON DAILY PRESS AND DAKOTAN

Ad text : 3+11

NOTICE OF APPLICATION

NO. 8470-3 to Appropriate Water

Notice is given that Nicholas Blake, 29468 466th Ave, Centerville SD 57014 has filed an application for a water permit to appropriate 1.78 cubic feet of water per second from one well to be completed into the Upper Vermillion Missouri:South Aquifer (approximately 200 feet deep) located in the approximate center of the SW 1/4 Section 25 for irrigation of 160 acres located in the SW 1/4 Section 25; all in T96N-R52W. This site is located approximately 1 mile southeast of Centerville SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8470-3 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 Ron Duvall 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 22, 2021.

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.

Published once at the total approximate cost of \$24.30

RECEIVED

APR 06 2021

WATER RIGHTS
PROGRAM

AFFIDAVIT OF PUBLICATION

STATE OF SOUTH DAKOTA)

:SS

COUNTY OF TURNER)

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

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

notice in said newspaper aforesaid was on Thursday

the 18 day of March, 2021,

and that the succeeding publications were severally

on Thursday, the ____ day of _____, 2021;

on Thursday, the ____ day of _____, 2021;

on Thursday, the ____ day of _____, 2021;

on Thursday, the ____ day of _____, 2021;

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

DOLLARS (\$ 22.43)

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

Subscribed and sworn to before me this 30th day of

March, 2021

Cheri O'Dell

Notary Public

My commission expires 03/12/2025

Cheri O'Dell



NOTARY PUBLIC
SOUTH DAKOTA

**NOTICE OF
APPLICATION NO.
8470-3 to Appropriate
Water**

Notice is given that Nicholas Blake, 29468 466th Ave, Centerville SD 57014 has filed an application for a water permit to appropriate 1.78 cubic feet of water per second from one well to be completed into the Upper Vermillion Missouri:South Aquifer (approximately 200 feet deep) located in the approximate center of the SW 1/4 Section 25 for irrigation of 160 acres located in the SW 1/4 Section 25; all in T96N-R52W. This site is located approximately 1 mile southeast of Centerville SD.

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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 R-R" mailing address is given above. A petition filed by either an interested person or the applicant must be filed by March 29, 2021.

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. Published once at the total

Schlaak, Karen

From: Schlaak, Karen
Sent: Thursday, March 4, 2021 9:25 AM
To: 'enterprise@wi.net'
Subject: 8470-3, Nicholas Blake
Attachments: 8470-3public.short.docx; FORM8.FRM.doc

Attached is a notice to be published on March 11, 2021 in the Viborg Enterprise.

Nicholas Blake, 29468 466th Ave, Centerville SD 57104 (605 957-5684) 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 to the Water Rights Program, 523 E Capitol, Pierre SD 57501.

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

Karen Schlaak
Water Rights Program
(605) 773-3352



3/10/21
This didn't get published
Viborg Enterprise didn't
receive my notice.
Resent 3/10/21

Schlaak, Karen

From: Schlaak, Karen
Sent: Thursday, March 4, 2021 9:26 AM
To: Jackie Lammers (jackie.lammers@yankton.net)
Subject: 8470-3, Nicholas Blake
Attachments: 8470-3public.short.docx; FORM8.FRM.doc

Attached is a notice to be published on March 11, 2021.

Nicholas Blake, 29468 466th Ave, Centerville SD 57104 (605 957-5684) 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 to the Water Rights Program, 523 E Capitol, Pierre SD 57501.

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

Karen Schlaak

Water Rights Program
(605) 773-3352





DENR
SOUTH DAKOTA

**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 NEWSPAPERS RIGHT AWAY.**

March 4, 2021

Nicholas Blake
29468 466th Ave
Centerville SD 57014

Dear Mr. Blake:

Water Permit Application No. 8470-3 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 Viborg Enterprise printed at Viborg SD (Ph # 605 776-7827) and the Daily Press & Dakotan printed at Yankton SD (Ph # 605 665-7811). You will need to contact the newspapers 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 newspapers to authorize publication of your Notice and to arrange for payment. Early contact with the papers can eliminate delays. Upon receiving authorization from you, the publishers have been instructed to publish your notice. The newspapers have 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,

Karen Schlaak

Karen Schlaak
Water Rights Program
(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 March 11, 2021. The applicant is responsible for payment.

NOTICE OF APPLICATION NO. 8470-3 to Appropriate Water

Notice is given that Nicholas Blake, 29468 466th Ave, Centerville SD 57014 has filed an application for a water permit to appropriate 1.78 cubic feet of water per second from one well to be completed into the Upper Vermillion Missouri:South Aquifer (approximately 200 feet deep) located in the approximate center of the SW 1/4 Section 25 for irrigation of 160 acres located in the SW 1/4 Section 25; all in T96N-R52W. This site is located approximately 1 mile southeast of Centerville SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8470-3 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 Ron Duvall 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 22, 2021.

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.

Published once at the total approximate cost of _

Schlaak, Karen

From: Schlaak, Karen
Sent: Wednesday, March 10, 2021 2:56 PM
To: 'enterprise@wi.net'
Subject: 8470-3, Nicholas Blake
Attachments: 8470-3public.short.docx; FORM8.FRM.doc

Attached is a notice to be published on March 18, 2021.

Nicholas Blake, 29468 466th Ave, Centerville SD 57104 (605 957-5684 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 to the Water Rights Program, 523 E Capitol, Pierre SD 57501.

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

Karen Schlaak
Water Rights Program
(605) 773-3352



Instruction to Newspaper - Publish the Notice on March 18, 2021. The applicant is responsible for payment.

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Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8470-3 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 Ron Duvall 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 29, 2021.

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.

Published once at the total approximate cost of _



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

APR 19 2021

Nicholas Blake
29468 466th Ave
Centerville SD 57014

Dear Mr. Blake:

Enclosed is Water Permit No. 8470-3 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,

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

enclosures

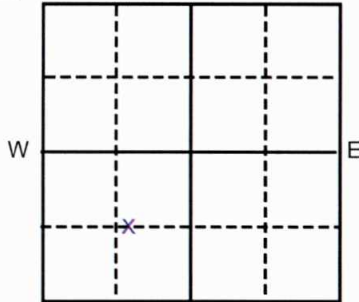
8470-3

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location NE $\frac{1}{4}$ SW $\frac{1}{4}$ Sec 25 Twp 96N Rg 52WCounty TURNER ☐

North

Please mark well
location with an "X"

Well Completion Date

6/18/2021

1 Mile

Distance to nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)?
>2500 ft. from SEPTIC SYSTEM (identify source)

PROPOSED USE:

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

METHOD OF DRILLING:

REVERSE 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>120</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>GROUT DF</u>	<u>30</u>	Lb/gal	<u>0</u> Ft	<u>90</u> Ft
		Lb/gal	Ft	Ft

Describe grouting procedure

TREMMIE

SCREEN:

☐ Perforated pipe ☒ Manufactured
Diameter 16 Inches Length 60 FeetMaterial PVCSlot Size .060 Set From 120 Feet to 180 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? HTH TABLETS☐ No, Why Not?Lab to which water
quality sample sent for analysisWell Owner: NICK BLAKE

Business Name:

Address: 29468 466TH AVECity, State, Zip: CENTERVILLE ☐ SD ☐ 57014

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
TOP SOIL	0	4
SANDY BROWN CLAY	4	33
SNADY GREY CLAY	33	86
GREY CLAY	86	91
FINE SAND	91	93
MED-COARSE SAND	93	180

STATIC WATER LEVEL 61 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: N/A☐ Bailed☐ Other

Pumping Level Below Land Surface

_____ Ft. After _____ Hrs. pumped _____ GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: _____ GPM

REMARKS

43°06'07.05"N96°56'19.46"WThis well was drilled under license # 810 and this report is true and accurate.Drilling firm: HEINE ELECTRIC AND IRRIGATION

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder

RECEIVED

SEP 27 2021

Date: 9-24-21WATER RIGHTS
PROGRAM