

WATER PERMIT NO. 8641-3

Name of Applicant: Derrick Skogsberg

Address: 8248 Drip Tine Dr, Benbrook TX 76126

Phone: 214 797-2246

Amount of Water Claimed: 1.78 cfs

Total Acres: 160 acres

Source of Water Supply: groundwater (one well)

Water to be used for: irrigation

County: Union

Type of Waste Disposal System:

Location: 6 miles east of Vermillion

PRIORITY

Date Received: 6-24-22

Application/License Fee: \$ 1,050

Corrected Application Received: 6-28-22

Period of Annual Use: April 1 – September 30

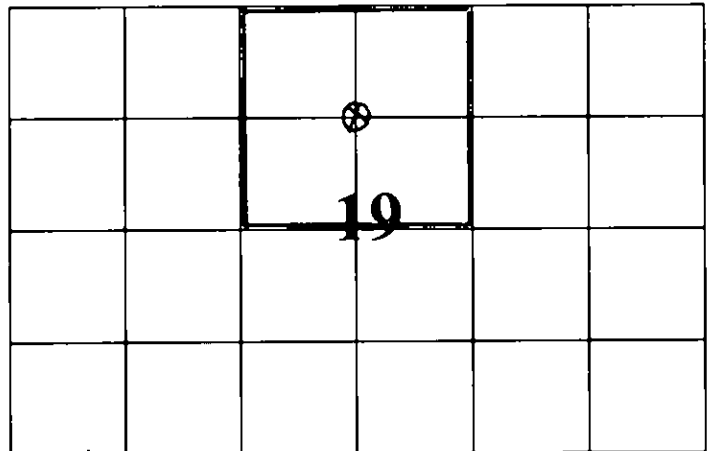
Remarks:

Diversion Point: approximate center of the N 1/2

Sec 19-T92N-R50W

Land to be Irrigated: E 1/2 NW 1/4, W 1/2 NE 1/4

Sec 19-T92N-R50W



Depth of Well: 160 feet deep

Well Driller:

Remarks:

Type of Map: aerial

Prepared by:

Reviewed and the Number Assigned on: 6-28-22

By: **Karen Schlaak**

Notice of Hearing - date to intervenc: _____

**SOUTH DAKOTA
WATER PERMIT NO. 8641-3**

Date of first receipt of application June 24, 2022.

Date of return to applicant for corrections, amendments or changes June 24, 2022.

Date of receipt of corrected application June 28, 2022.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 8641-3 to Derrick Skogsberg, 8248 Drop Line Drive, Benbrook TX 76126 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. 8641-3 appropriated 1.78 cubic feet of water per second from one well to be completed into the Lower Vermillion Missouri Aquifer (approximately 160 feet deep) located in the approximate center of the N 1/2 Section 19 for irrigation of 160 acres located in the E 1/2 NW 1/4, W 1/2 NE 1/4 Section 19; all in T92N-R50W. This site is located approximately 6 miles east of Vermillion 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 June 24, 2022.
4. The date of approval of Permit No. 8641-3 is August 22, 2022.
5. One-fifth of the construction is to be completed on or before February 22, 2025.
6. All construction is to be completed on or before August 22, 2027.
7. Water is to be put to beneficial use on or before August 22, 2031.
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. 8641-3 is located near domestic wells and other wells which may obtain water from the same aquifer. Water withdrawals shall be controlled 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. 8641-3 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.

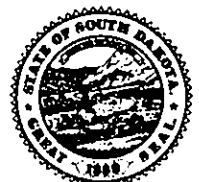
WATER MANAGEMENT BOARD

By: Eric Gronlund

Eric Gronlund, Chief Engineer
Water Rights Program

Department of Environment and Natural Resources

SEP 13 2022
date



JUN 24 2022

PAID

JUN 24 2022

Ck# 1179

Rec't#

Mail to: DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>8641-3</u> (office use only) Hydrologic Unit <u>10170101</u>	OFFICE OF WATER
	Basin <u>Vermillion River</u>	
	Newspaper <u>Leader-Courier, Elk Point</u>	
	<u>Press & Dakotan</u>	

Application For Permit To Appropriate Water For Irrigation

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

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

1. Name to Appear on Irrigation Permit Derrick Skogsberg

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

Mailing Address 8248 Drop Line Drive Benbrook TX 76126
(Address) (City) (State) (Zip Code)Phone N/A Mobile 214-797-2246 Email derrickskogsberg@gmail.com2. 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 irrigation well4. Location of point of diversion 1 well E 1/2 NW 1/4 W 1/2 NE 1/4 19-92N-50W Union
(example - 3 wells in SW 1/4 NE 1/4 section 12-T104N-R53W)approximate center N 1/2 Sec 19-T92N-R50W County Union5. County or counties where water will be used Union6. Annual period during which water is to be used Summer Growing Season April 1- Sept 307. List below each forty acre division, or lot, or fraction thereof and show number of acres to be irrigated in each.
(Attach sheet if more space is needed)

Land Description	Acres	Land Description	Acres
<u>E 1/2 NW 1/4</u>	<u>80</u>		
<u>W 1/2 NE 1/4</u>	<u>80</u>		

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

This is just a standard irrigation well project.I, Derrick Skogsberg, 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) 160' Depth to Top of Water Bearing Material _____ Depth to Water from Surface _____

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

2. Wastewater Disposal System Information

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

b) System Capacity (gallons) _____ Year Constructed _____

c) Connected to the City of _____ Sanitary System

3. Dugout Information

a) Surface Dimensions _____ Depth _____

b) Depth to water (ground surface to water level) _____

4. Water Storage Dams

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

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

b) Freeboard _____

c) Crest Width _____

Crest Length _____

d) Height _____

e) Primary Outlet Capacity _____

If pipe, diameter _____

f) Secondary Spillway Capacity _____

Spillway Width _____

g) X & Y Slope (e.g. 3 to 1 is a typical slope)

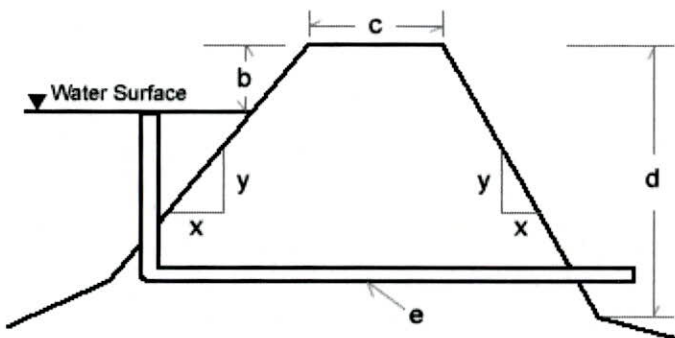
Upstream _____

Downstream _____

h) Surface Area of Impoundment _____

i) Storage _____ Acre Feet

j) Drainage Area Above Dam _____ Acres





United States
Department of
Agriculture

Union County, South Dakota

X = diversion point



Common Land Unit Tract Boundary
PLSS
 Non-Cropland
 Cropland

Wetland Determination Identifiers

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

Unless otherwise noted,
crops listed below are:
Non-irrigated
Intended for Grain
Corn = Yellow
Soybeans = Common
Wheat - HRS or HRW
Sunflowers = Oil or Non-oil

Producer initial _____
Date _____

2022 Program Year

Map Created March 30, 2022

Farm 6950

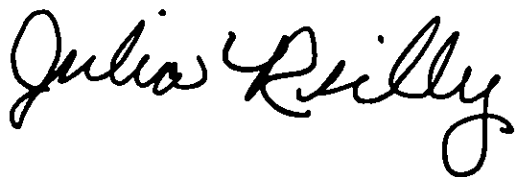
19-92N-50W-Union

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).

June 28, 2022

To Whom It May Concern,

I, Julia Reilly, give my permission for Derrick Skogsberg to irrigate my land. The legal description of this property is 19 92 50 NE W20A OF E1/2NE1/4 & E1/2W1/2NE1/4.

A handwritten signature in black ink that reads "Julia Reilly". The script is cursive and fluid, with the first name "Julia" and last name "Reilly" clearly distinguishable.

Julia Reilly

RECEIPT

WATER RIGHTS PROGRAM South Dakota Department of Agriculture and Natural Resources

Date June 24, 2022

RECEIVED OF Derrick Skogsberg 31992 Hwy 11, Elk Point SD 57075

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

Fee for Application for Permit No. <u>8641-3</u> to Appropriate Water, to construct and to put water to beneficial use	\$ <u>850.00</u>
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>8641-3</u>	\$ <u>200.00</u>
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	\$ <u>1050.00</u>

By *Eric Gronlund*
Chief Engineer
EM

06/22/2022

South Dakota DENR
Water Rights
523 E. Capitol Ave.
Pierre, SD 57501-3182

Derrick Skogsberg
8248 Drop Tine Drive
Benbrook, TX 76126
(214) 797-2246
derrickskogsberg@gmail.com

To Whom It May Concern:

I've included my application for irrigation, aerial photo with field & diversion point drawn out and payment in the amount of \$1,050.00.

I own the 120 acres that's denoted on the map as "T 622" and I rent the 60 acres on the East side which I've drawn out on the attached aerial photo. Judy Reilly is the land owner of the 60 acres that adjoins my 120 acres on the East side. The new center pivot is big enough to irrigate 160 acres and will be positioned to irrigate all of my 120 acres and 40 of Judy's 60 acres. Hopefully that makes sense.

Here's is Judy's contact information:

Julia Reilly
1615 Windsor Place
Louisville, KY 40204
(502) 592-9790

If you need to contact me, please call me directly at anytime. My cell phone number is 214-797-2246.

Thank you,

A handwritten signature in black ink, appearing to read 'Derrick Skogsberg', with a large, stylized flourish extending to the right.

Derrick Skogsberg
(214) 797-2246
derrickskogsberg@gmail.com

Schlaak, Karen

From: Schlaak, Karen
Sent: Friday, June 24, 2022 11:13 AM
To: derrickskogsberg@gmail.com
Subject: Water Permit Application

Derrick,

Received the your application this morning. Since you are proposing to irrigate on some land that you do not own, we will need a written statement signed by Julia Reilly that she is in agreement with irrigation of her property.

Let me know if you have questions.

Karen Schlaak

DANR - Water Rights Program

(605) 773-3352

Website: <https://danr.sd.gov>



Schlaak, Karen

From: Derrick Skogsberg <derrickskogsberg@gmail.com>
Sent: Tuesday, June 28, 2022 1:37 PM
To: Schlaak, Karen
Subject: Re: [EXT] Application

That's fine Karen. I didn't know what I was supposed to put there. Thank you for helping me get this right the first time.

All the best,

Derrick
(214) 797-2246

On Tue, Jun 28, 2022 at 1:29 PM Schlaak, Karen <Karen.Schlaak@state.sd.us> wrote:

For the period of annual use you listed "summer growing season". Do you agree with changing that to April 1 – September 30? This will give you flexibility when operating your system.

Karen Schlaak

DANR - Water Rights Program

(605) 773-3352

Website: <https://danr.sd.gov>



--
Derrick Skogsberg
(214) 797-2246



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 8641-3, Derrick Skogsberg**

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Program, Department of Agriculture and Natural Resources concerning Water Permit Application No. 8641-3, Derrick Skogsberg, 8248 Drop Tine Drive, Benbrook TX 76126.

The Chief Engineer is recommending APPROVAL of Application No. 8641-3 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 domestic water uses and water rights, 3) the proposed use is a beneficial use and 4) it is in the public interest as it pertains to matters of public interest within the regulatory authority of the Water Management Board with the following qualifications:

1. The well approved under Water Permit No. 8641-3 is located near domestic wells and other wells which may obtain water from the same aquifer. Water withdrawals shall be controlled 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. 8641-3 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
July 29, 2022

Report to the Chief Engineer

On Water Permit Application No. 8641-3

Derrick Skogsberg

July 29, 2022

Water Permit Application No. 8641-3 proposes to divert water at a maximum instantaneous diversion rate of 1.78 cubic feet per second (cfs) from one well to be completed into the Lower Vermillion Missouri aquifer (approximately 160 feet deep) located in the approximate center of the N ½ of Section 19 for the irrigation of 160 acres located in the E ½ NW ¼, W ½ NE ¼ of Section 19; all in T92N-R50W. The site of interest is located in Union County approximately six miles east of Vermillion, SD.

AQUIFER: Lower Vermillion Missouri (LVM)

HYDROGEOLOGY:

The Lower Vermillion Missouri aquifer is a buried glacial outwash that was deposited by meltwater streams beyond the margin of active glacial ice (Stephens, 1967). The aquifer materials range in size from a coarse sand to a coarse gravel (Nichus, 1994). The Lower Vermillion Missouri aquifer is hydrologically connected to the Upper Vermillion Missouri: South aquifer to the north, the Missouri: Elk Point aquifer to the south, the underlying Dakota aquifer and the Vermillion River (Buhler, 2014; Mathiowetz, 2018; Nichus, 1994; Stephens, 1967). The Lower Vermillion Missouri aquifer and the Missouri: Elk Point aquifer are essentially one continuous outwash deposit that was identified by Hedges and others (1982) at the aquifer boundary transition from primarily buried outwash (Lower Vermillion Missouri aquifer) to primarily unburied outwash (Missouri: Elk Point aquifer).

A boundary between the Upper Vermillion Missouri aquifer and Lower Vermillion Missouri aquifer has been delineated by Hedges and others (1982); however, more recent investigations have concluded the Upper Vermillion Missouri: South (UVM:S) aquifer extends an unspecified distance further south than what was delineated by Hedges and others (1982) (Buhler, 2014; Holmes and Filipovic, 2015). Figure 1 displays a map of the historic Lower Vermillion Missouri aquifer boundary approximated by Hedges and others (1982) with a portion of the Upper Vermillion Missouri: South aquifer estimated by Buhler (2014). The areal extent of the historic Lower Vermillion Missouri aquifer boundary delineated by Hedges and others (1982) is approximately 124,000 acres (Table 1).

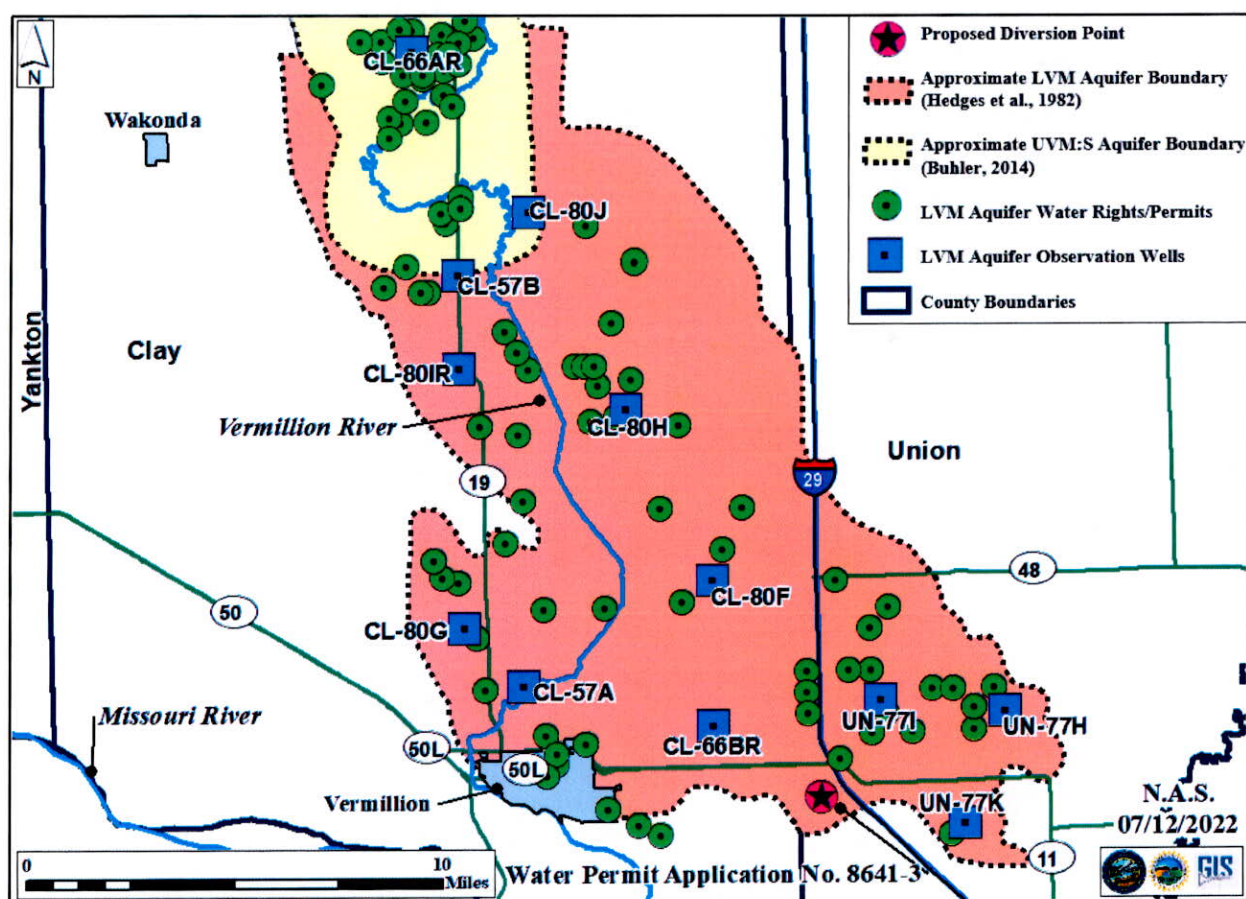


Figure 1. Map of the approximate LVM aquifer boundary delineated by Hedges and others (1982) with a portion of the UVM:S aquifer boundary estimated by Buhler (2014), the location of the proposed diversion point for Water Permit Application No. 8641-3, and the LVM aquifer water rights/permits and observation wells (Water Rights, 2022b and 2022c)

Figure 2 displays the current aquifer boundary for the Lower Vermillion Missouri aquifer (modified from Mathiowetz, 2018). Mathiowetz (2018) delineated the current Lower Vermillion Missouri aquifer boundary essentially by subtracting Buhler's (2014) delineation of the Upper Vermillion Missouri: South aquifer from the historic aquifer boundary estimated by Hedges and others' (1982). Additionally, the first occurrence of aquifer materials maps for Clay and Union County were utilized in delineating the current aquifer boundary (Jensen, 2000; McCormick, 2004; Mathiowetz, 2020). The areal extent of the Lower Vermillion Missouri aquifer is approximately 106,000 acres (Table 1) (Mathiowetz, 2018).

The Lower Vermillion Missouri aquifer is primarily under confined conditions but can be locally unconfined, particularly near the Vermillion River floodplain (shown in Figure 2) (Niehus, 1994; Stephens, 1967). The alluvium, outwash, and sand and gravel deposits (0 to 50 feet below grade) mapped by Jensen (2000) along the Vermillion River are assumed to be unconfined portion of the Lower Vermillion Missouri aquifer (shown in Figure 2). In its entirety, the areal extent of the unconfined portion of the Lower Vermillion Missouri aquifer is approximately 23,000 acres (modified from Jensen, 2000; modified from Stonesifer, 2013). The unconfined portion of the Lower Vermillion Missouri aquifer that is located outside of Buhler's (2014) delineation of

Upper Vermillion Missouri: South aquifer is approximately 12,000 acres (Table 1) (modified from Jensen, 2000; modified from Stonesifer, 2013).

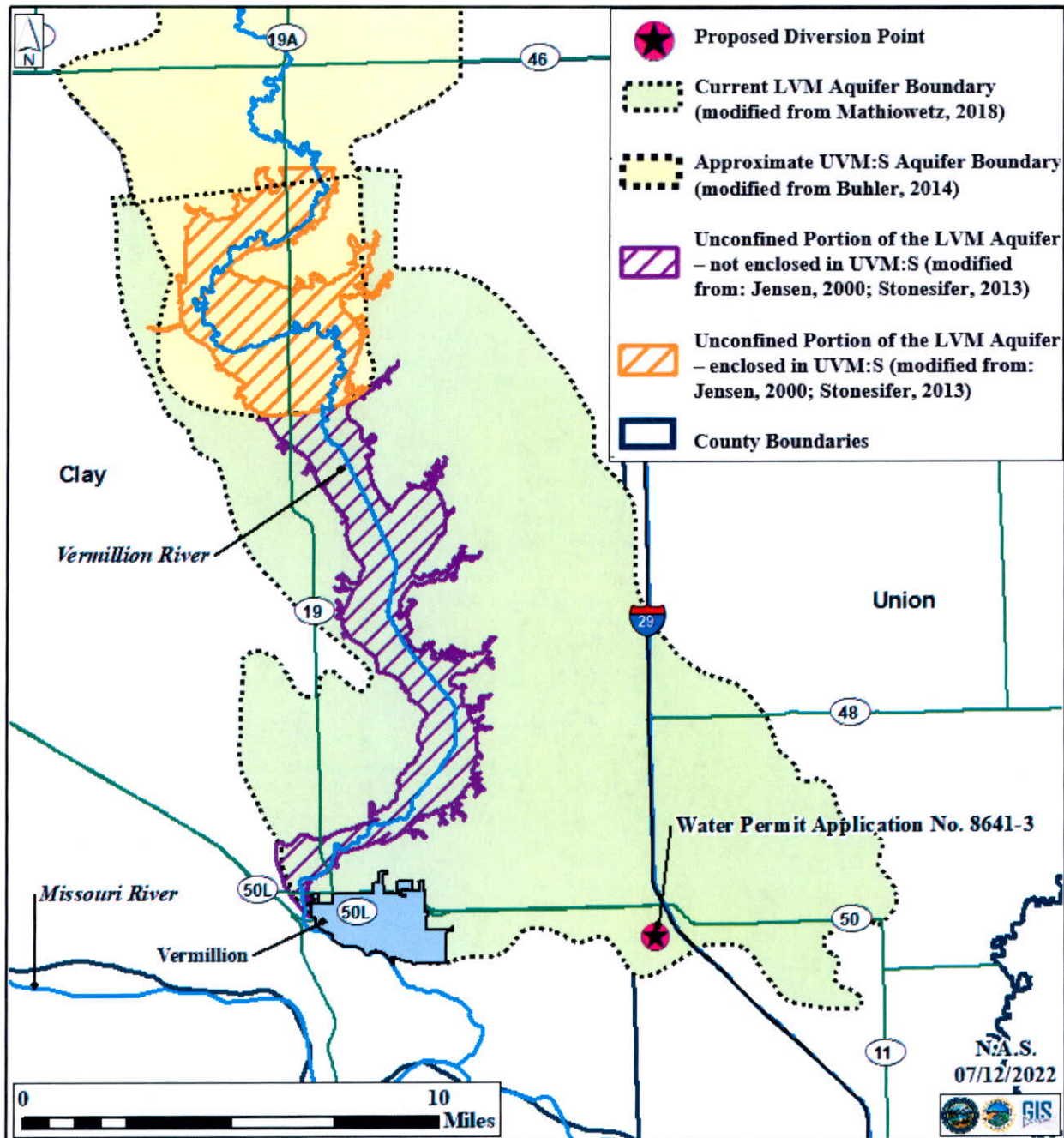


Figure 2. Map of the current LVM aquifer boundary (modified from Mathiowetz, 2018) with the portion of the UVM:S aquifer estimated by Buhler (2014), the estimated unconfined portion of the LVM aquifer (modified from Jensen, 2000; modified from Stonesifer, 2013), and the location of the proposed diversion point for Water Permit Application No. 8641-3

Table 1. Estimated areal extent for the historic LVM aquifer boundary (Hedges et al., 1982), the portion of the UVM: S aquifer that overlies the historic LVM aquifer boundary (Buhler, 2014), the current LVM aquifer boundary (Mathiowetz, 2018), and the unconfined portion of the LVM aquifer along the Vermillion River (modified from Jensen, 2000; modified from Stonesifer, 2013)

Delineation	Estimated Areal Extent (acres)
Historic Lower Vermillion Missouri Aquifer (modified from Hedges et al., 1982)	124,000
Upper Vermillion Missouri: South Aquifer (UVM:S) (modified from Buhler, 2014) - portion that overlies LVM aquifer boundary estimated by Hedges and others (1982)	18,000
Current Lower Vermillion Missouri Aquifer * (Mathiowetz, 2018)	106,000
Unconfined Portion of Lower Vermillion Missouri Aquifer - not enclosed in UVM:S (Buhler, 2014) (modified from Jensen, 2000; modified from Stonesifer, 2013)	12,000
*Estimated by subtracting UVM: S aquifer boundary (Buhler, 2014) from historic boundary (Hedges et al., 1982)	

In Union County, the Lower Vermillion Missouri aquifer underlies approximately 40 square miles, or 25,600 acres, contain approximately 380,000 acre-feet of recoverable water in storage (Hedges et al., 1982; Niehus, 1994). The average saturated aquifer thickness of the Lower Vermillion Missouri aquifer in Union County is approximately 99 feet, with a documented maximum thickness of approximately 144 feet (Nichus, 1994). The general direction of groundwater movement in the aquifer is to the south (Nichus, 1994).

No water well or test hole completion report was submitted with Water Permit Application No. 8641-3. Within approximately two miles of the proposed diversion point, water well and test hole completion reports on file for wells completed into the Lower Vermillion Missouri aquifer have saturated aquifer thicknesses ranging from approximately 20 to 60 feet, with the depth to the top of aquifer materials ranging from approximately 80 to 120 feet below the ground surface, and static water levels varying between 10 to 100 feet below the ground surface at the time of well completion (SDGS, 2022; Water Rights, 2022b and 2022d). Based on the water well and test hole completion reports near the proposed diversion point, the Lower Vermillion Missouri aquifer is expected to be confined near the proposed diversion point (SDGS, 2022; Water Rights, 2022b and 2022d).

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 the applicant's proposed use, that the diversion point can be developed without unlawful impairment of existing domestic water uses and water rights, and that the proposed use is a beneficial use and in the public interest as it pertains to matters of public interest within the regulatory authority of the Water Management Board as defined by SDCL 46-2-9 and 46-2-11." This report will address the availability of unappropriated water and the potential for unlawful impairment of existing domestic water uses and water rights within the Lower Vermillion Missouri aquifer.

WATER AVAILABILITY:

Water Permit Application No. 8641-3 proposes to appropriate water from the Lower Vermillion Missouri aquifer. The probability of unappropriated water being 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. An application may be approved, however, for withdrawals of groundwater from any groundwater formation older than or stratigraphically lower than the greenhorn formation in excess of the average estimated annual recharge for use by water distribution systems.” The Lower Vermillion Missouri aquifer is not older than or stratigraphically lower than the Greenhorn Formation (Fahrenbach et al., 2010), and the applicant’s proposed use is not for use in a water distribution system as defined by SDCL 46-1-6(17). Therefore, the average annual recharge and average annual withdrawal rates to and from the Lower Vermillion Missouri aquifer must be considered.

HYDROLOGIC BUDGET:

Recharge

Recharge to the Lower Vermillion Missouri aquifer occurs through seepage from the Vermillion River, groundwater inflow from the Upper Vermillion Missouri aquifer, and leakage from the underlying Dakota aquifer (Nichus, 1994; Stephens, 1967). The Lower Vermillion Missouri aquifer may also receive some recharge from the infiltration of precipitation, particularly near the unconfined portion of the aquifer in the Vermillion River floodplain (Nichus, 1994).

Using observation well analysis, Hedges and others (1985) estimated a recharge rate to the unconfined portion of the Lower Vermillion Missouri aquifer to be approximately 3.8 inches per year. Stonesifer (2013) recalculated Hedges and others (1985) estimated recharge rate to be approximately 4.58 inches per year using observation well analysis with additional years of data. Stonesifer (2013) noted recharge and discharge/withdrawals occur concurrently. This results in the calculated recharge rate estimated by using Hedges and other’s (1985) method, being less than the actual recharge rate, because Hedges and others (1985) are only accounting for the recharge rate in excess of discharge plus withdrawals. The unconfined portion of the Lower Vermillion Missouri aquifer underlies approximately 12,000 acres (modified from Jensen, 2000; modified from Stonesifer, 2013). Using Stonesifer’s (2013) recharge rate multiplied by the areal extent estimation, the average annual recharge rate to the unconfined portion of the Lower Vermillion Missouri aquifer is approximately 4,580 acre-feet per year.

For this analysis, it is assumed that the confined portion of the Lower Vermillion Missouri aquifer recharges at a similar rate and is hydrologically similar to the confined portion of the Upper Vermillion Missouri aquifer. Using regional flow-net analysis, Hedges and others (1985) estimated a recharge rate to the Upper Vermillion Missouri aquifer, which is primarily confined, to be approximately 0.25 inches per year. This recharge rate is lower than the average recharge rate estimated for other buried and confined aquifers in eastern South Dakota (Hedges et al., 1985). It is worth noting that recharge rates calculated using regional flow-net analysis are

suspect and conclusions based on this method are questionable (Hedges et al., 1985). The confined portion of the Lower Vermillion Missouri aquifer underlies approximately 94,000 acres. Using Hedges and others' (1985) recharge rate multiplied by the areal extent estimation, the average annual recharge rate to the confined portion of the Lower Vermillion Missouri aquifer is approximately 1,958 acre-feet per year. In its entirety, the average annual recharge rate to the Lower Vermillion Missouri aquifer (within the historic Lower Vermillion Missouri aquifer boundary delineated by Hedges and others' (1982) minus Buhler's (2014) delineation of the Upper Vermillion Missouri: South aquifer boundary) (confined and unconfined portions) is approximately 6,538 acre-feet per year.

Discharge

Discharge from the Lower Vermillion Missouri aquifer occurs through well withdrawals, groundwater outflow to the Missouri: Elk Point aquifer, and seepage to the Vermillion River when the stage of the river is lower than the potentiometric surface of the aquifer (Niehus, 1994; Water Rights, 2022c and 2022d).

There are 90 water rights/permits authorized to appropriate water from the Lower Vermillion Missouri aquifer within the historic aquifer boundary delineated by Hedges and others (1982), with 61 of those water rights/permits within the historic aquifer boundary minus Buhler's (2014) delineation of the Upper Vermillion Missouri: South aquifer (Water Rights, 2022c). This results in 29 water rights/permits within the Lower Vermillion Missouri aquifer boundary delineated by Hedges and others (1982) that are also within the Upper Vermillion Missouri: South aquifer boundary identified by Buhler (2014) that are still labeled as withdrawing water from the Lower Vermillion Missouri aquifer.

Table 2 summarizes the estimated average annual withdrawal rate for the non-irrigation water rights/permits authorized to appropriate water from the Lower Vermillion Missouri aquifer within the historic aquifer boundary (Hedges et al., 1982), and within the historic aquifer boundary minus Buhler's (2014) delineation of the Upper Vermillion Missouri: South aquifer. The estimated annual use for each water right/permit was determined by their limiting diversion rate or annual volume. Historically, average water use by non-irrigation appropriations limited by an instantaneous diversion rate have been assumed to be pumping 60% of full time at the respective permitted diversion rate. Water rights/permits limited by an annual volume are assumed to withdraw their entire respective annual volume limitation. This is a standard method used by the DANR-Water Rights Program for estimating annual withdrawals by non-irrigation appropriations from an aquifer (Water Rights, 2022c). There are seven non-irrigation water rights/permits authorized to appropriate water from the Lower Vermillion Missouri aquifer within the historic aquifer boundary delineated by Hedges and others (1982). There are five non-irrigation water rights/permits authorized to appropriate water within the historic Lower Vermillion Missouri aquifer boundary minus the Upper Vermillion Missouri: South aquifer delineated by Buhler (2014). The estimated average annual withdrawals from the Lower Vermillion Missouri aquifer by non-irrigation water rights/permits within the historic aquifer boundary is approximately 1,224.4 acre-feet per year, and approximately 48.6 acre-feet per year

within the historic aquifer boundary minus Buhler's (2014) delineation of the Upper Vermillion Missouri: South aquifer (Table 2) (Water Rights, 2022c).

Table 2. Estimated average annual water use from the non-irrigation water rights authorized to appropriate water from the LVM aquifer within the historic aquifer boundary (Hedges et al., 1982), and within the historic aquifer boundary minus Buhler's (2014) delineation of the UVM:S aquifer (Water Rights, 2022c)

Permit No.	Name	Use	Status	Authorized Diversion Rate (cfs)	Authorized Annual Volume (acre-feet)	Estimated Use (acre-feet/year)
1870-3	USD Facilities MGMT	INS	LC	0.03		13.0
6397-3	SD Dept of Transportation	INS	LC	0.033		14.3
8222-3	Southeast Farmers COOP	COM	PE	0.167	18.4	18.4
8257-3	Thein Well Co Inc	COM	PE	0.089	1	1
8479-3	Concrete Materials	IND	PE	0.133	1.84	1.84
					Total:	48.6
3905-3*	Clay Rural Water System Inc	RWS	LC	2		868.8
5979-3*	Clay Rural Water System Inc	RWS	LC	2	307	307
					Total:	1,175.8
* Within aquifer boundary delineated by Hedges and others' (1982) and Buhler's (2014) UVM:S boundary						
LC: Licensed Water Right, PE: Water Permit, COM: Commercial, INS: Institutional, RWS: Rural Water System						

There are 83 irrigation water rights/permits authorized to appropriate water from the Lower Vermillion Missouri aquifer within Hedges and others' (1982) historic aquifer boundary (Table 3) (Water Rights, 2022c). Irrigation water rights/permits have been typically required to report their annual usage on an irrigation questionnaire since 1979. The estimated average annual withdrawal rate for the Lower Vermillion Missouri aquifer irrigation water rights/permits that have reported over the period of record (1979 to 2021) within Hedges and others' (1982) historic aquifer boundary is approximately 1,813 acre-feet per year (Table 3) (Water Rights, 2022a).

Table 3 lists only 81 water rights/permits as reporting in 2021, as two water permits (Nos. 8589-3 and 8632-3) did not submit an irrigation questionnaire form in 2021 because their water permit is still within its respective construction period (Water Rights, 2022a and 2022c). These two water permits are authorized to irrigate approximately 172.04 acres (Water Rights, 2022c). Generally, irrigators in eastern South Dakota apply less than one foot of water per acre per year. However, to account for the fluctuation in wet and dry cycles from year to year, the one foot of water per acre per year application rate will be used to somewhat overestimate the annual withdrawal rate for these irrigation water permits. Therefore, the estimated average annual withdrawal rate for these two water permits is approximately 172.04 acre-feet per year.

The estimated average annual withdrawal rate for the Lower Vermillion Missouri aquifer irrigation water rights/permits within the historic aquifer boundary that have reported over the period of record (1979 to 2021) calculated on Table 3 (1,813 acre-feet/year), plus the estimated use for the two water permits are still within their respective construction periods (172.04 acre-feet/year), is approximately 1,985 acre-feet per year (Water Rights, 2022a).

There are 56 irrigation water rights/permits authorized to appropriate water from the Lower Vermillion Missouri aquifer within the current aquifer boundary, which was compiled by removing the water rights/permits that are within the Upper Vermillion Missouri: South aquifer identified by Buhler (2014) from the historic aquifer boundary estimated by Hedges and others (1982) (Table 3) (Water Rights, 2022c). Table 3 lists only 54 water rights/permits as reporting in 2021, as two water permits (Nos. 8589-3 and 8632-3) did not submit an irrigation questionnaire form in 2021 because their water permit application was approved in 2022 (Water Rights, 2022a and 2022c). These two water permits are authorized to irrigate approximately 172.04 acres (Water Rights, 2022c) and the estimated average annual withdrawal rate for these two water permits is approximately 172.04 acre-feet per year. The estimated average annual withdrawal rate for the Lower Vermillion Missouri aquifer irrigation water rights/permits within the historic aquifer boundary minus the Upper Vermillion Missouri: South aquifer delineated by Buhler (2014), that have reported over the period of record (1979 to 2021) (1,251 acre-feet/year), plus the estimated use for the two water permits that were approved in 2022 (172.04 acre-feet/year), is approximately 1,423 acre-feet per year (Table 3) (Water Rights, 2022a).

There are domestic wells completed into the Lower Vermillion Missouri aquifer that do not require a water right/permit, so the withdrawal amount for domestic use is unknown (Water Rights, 2022d). Since the introduction of rural water systems, many domestic wells are likely no longer in use or are not being used as primary water sources. Due to their relatively low diversion rates and the availability of rural water, withdrawals from domestic wells are not considered to be a significant portion of the hydrologic budget for the Lower Vermillion Missouri aquifer.

Hydrologic Budget Summary

The average annual recharge rate to the unconfined portion of the Lower Vermillion Missouri aquifer is approximately 4,580 acre-feet per year. The average annual recharge rate to the confined portion of the Lower Vermillion Missouri aquifer is approximately 1,958 acre-feet per year. In its entirety, the average annual recharge rate to the Lower Vermillion Missouri aquifer (within the historic Lower Vermillion Missouri aquifer boundary delineated by Hedges and others' (1982) minus Buhler's (2014) delineation of the Upper Vermillion Missouri: South aquifer boundary) is approximately 6,538 acre-feet per year.

Based on the historic aquifer boundary delineation (Hedges et al., 1982), the average annual withdrawal rate from the Lower Vermillion Missouri aquifer totals approximately 3,370 acre-feet per year: non-irrigation: 1,224.4 acre-feet/year; irrigation: 1,985 acre-feet/year; Water Permit Application No. 8641-3 (if approved, assuming one-foot application rate per acre), 160 acre-feet/year.

Based on the historic Lower Vermillion Missouri aquifer boundary minus the Upper Vermillion Missouri: South aquifer delineated by Buhler (2014), the average annual withdrawal rate from the Lower Vermillion Missouri aquifer totals approximately 1,632 acre-feet per year: non-irrigation: 48.6 acre-feet/year; irrigation: 1,423 acre-feet/year; Water Permit Application No. 8641-3 (if approved, assuming one-foot application rate per acre), 160 acre-feet/year.

The average annual recharge rate to the Lower Vermillion Missouri aquifer (within the historic Lower Vermillion Missouri aquifer boundary delineated by Hedges and others' (1982) minus Buhler's (2014) delineation of the Upper Vermillion Missouri: South aquifer boundary) is higher than the withdrawal rates estimated for the historic Lower Vermillion Missouri aquifer boundary, and the historic Lower Vermillion Missouri aquifer boundary minus the Upper Vermillion Missouri: South aquifer delineated by Buhler (2014). Based on the hydrologic budget, there is a reasonable probability unappropriated water is available from the Lower Vermillion Missouri aquifer for the proposed appropriation.

Table 3. Reported irrigation use from LVM aquifer for water rights/permits within the historic aquifer boundary, and the historic aquifer boundary minus Buhler's (2014) delineation of the UVM:S aquifer (Water Rights, 2022a)

Historical Boundary of LVM aquifer (Hedges et al., 1982)			Historical Boundary of LVM aquifer (Hedges et al., 1982) Excluding UVM: S Aquifer Boundary (Buhler, 2014)		
Year	No. of Permits	Reported Pumpage (acre-feet)	Year	No. of Permits	Reported Pumpage (acre-feet)
1979	49	1,163	1979	41	1,008.40
1980	47	2,417	1980	39	2,198.25
1981	49	1,543	1981	40	1,500
1982	37	870.04	1982	28	788.17
1983	38	716.3	1983	29	716.3
1984	47	691	1984	38	669
1985	46	1,328.20	1985	37	1,147.20
1986	45	1,047.50	1986	36	937.5
1987	37	1,115	1987	28	934
1988	38	2,083.80	1988	29	1,617.10
1989	38	2,301.20	1989	29	1,705.20
1990	38	2,113.20	1990	29	1,496.20
1991	39	1,670.10	1991	30	1,254.10
1992	39	168.8	1992	30	133.7
1993	39	0	1993	30	0
1994	39	517.28	1994	30	348.85
1995	37	506.61	1995	29	485.77
1996	36	997.6	1996	28	698.87
1997	36	1,085	1997	28	826
1998	36	1,032.91	1998	27	862.55
1999	38	900.63	1999	28	698.89
2000	38	2,041.72	2000	28	1,726.04
2001	38	2,036.96	2001	28	1,932.97
2002	40	1,762.32	2002	30	1,341.48
2003	40	1,800.56	2003	30	1,630.17
2004	39	1,747.48	2004	29	1,346.60
2005	45	1,410.24	2005	29	1,209.63
2006	43	2,674.51	2006	28	1,881.28
2007	50	2,909.12	2007	26	1,327.02
2008	55	4,301.25	2008	28	911.87
2009	58	482.64	2009	30	460.77
2010	59	144.56	2010	30	133.95
2011	62	2,195.06	2011	33	1,219.42
2012	61	7,759.51	2012	33	3,355.27
2013	71	4,109.10	2013	45	2,856.49
2014	75	1,576.28	2014	48	1,006.38
2015	78	1,925.76	2015	50	1,473.52
2016	79	2,187.54	2016	51	1,779.00
2017	79	3,156.60	2017	51	2,439.28
2018	79	427.68	2018	52	419.39
2019	79	339.6	2019	52	332.97
2020	78	3,353.21	2020	51	1,972.48
2021	81	5,352.3	2021	54	3,026.74
Min	36	0	Min	26	0
Max	81	7,759.5	Max	52	3,355.3
Avg	50.6	1,813	Avg	35	1,251

OBSERVATION WELL DATA:

Administrative Rule of South Dakota (ARSD) 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.

Observation wells provide data on how the aquifer reacts to regional climatic conditions and local pumping. The DANR-Water Rights Program monitors ten observation wells completed into the Lower Vermillion Missouri aquifer plus two other observation wells (CL-80J and CL-66AR) that are within the historic aquifer boundary delineated by Hedges and others (1982) but are now within the Upper Vermillion Missouri: South aquifer boundary as defined by Buhler (2014) (Water Rights, 2022b). The Lower Vermillion Missouri aquifer observation wells that are completed within the historic Lower Vermillion Missouri aquifer boundary delineated by Hedges and others' (1982) minus Buhler's (2014) delineation of the Upper Vermillion Missouri: South aquifer boundary are UN-77I, UN-77H, UN-77K, CL-80G, CL-57A, CL-66BR, CL-80F, CL-80H, CL-80IR, and CL-57B (Water Rights, 2022b). The four closest observation wells to the proposed diversion point are UN-77I (approximately 2.7 miles northeast), CL-66BR (approximately 3.2 miles northwest), UN-77K (approximately 3.5 miles southeast), and UN-77H (approximately 4.9 miles northeast) (as shown in Figure 7) (Water Rights, 2022b). The hydrographs for these observation wells are displayed in Figures 3 to 6 (Water Rights, 2022b). 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. It is worth noting the hydrograph titles display DENR Water Rights Observation Well on the hydrographs when the titles should display DANR Water Rights Observation Well on the hydrographs.

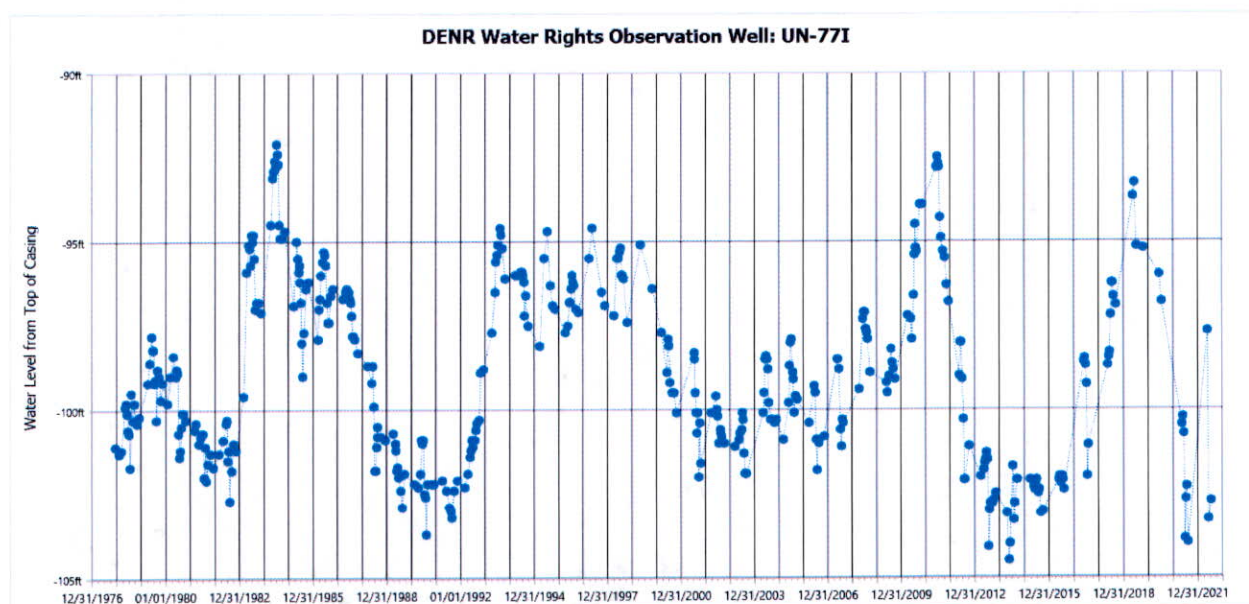


Figure 3. Hydrograph for observation well UN-77I (Water Rights, 2022b)

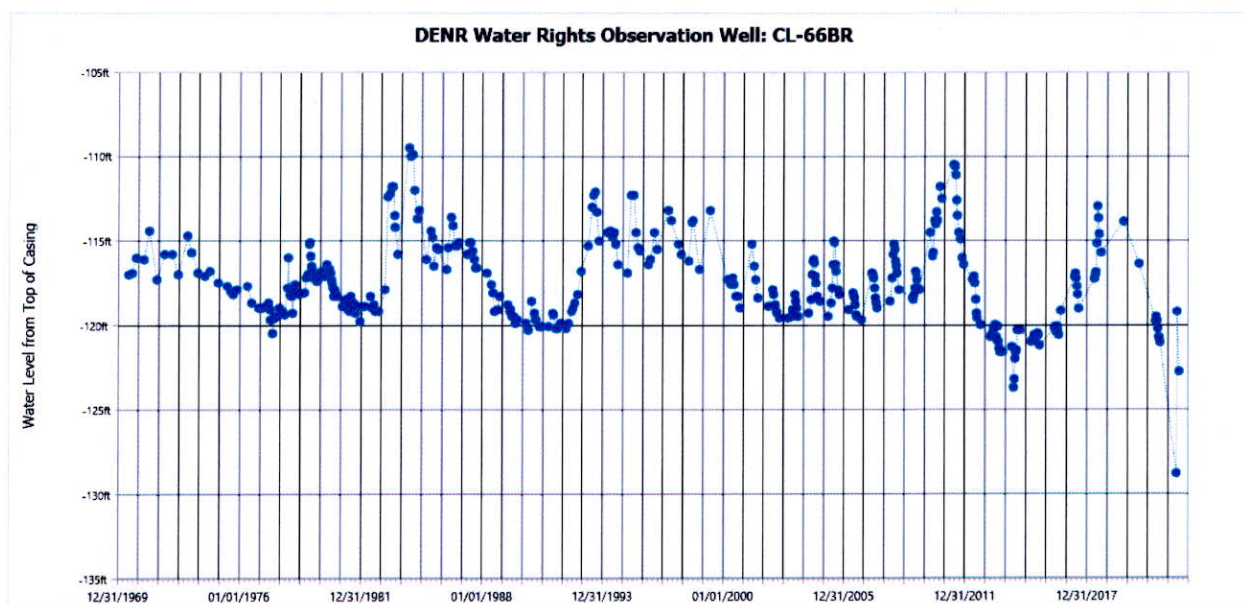


Figure 4. Hydrograph for observation well CL-66BR (Water Rights, 2022b)

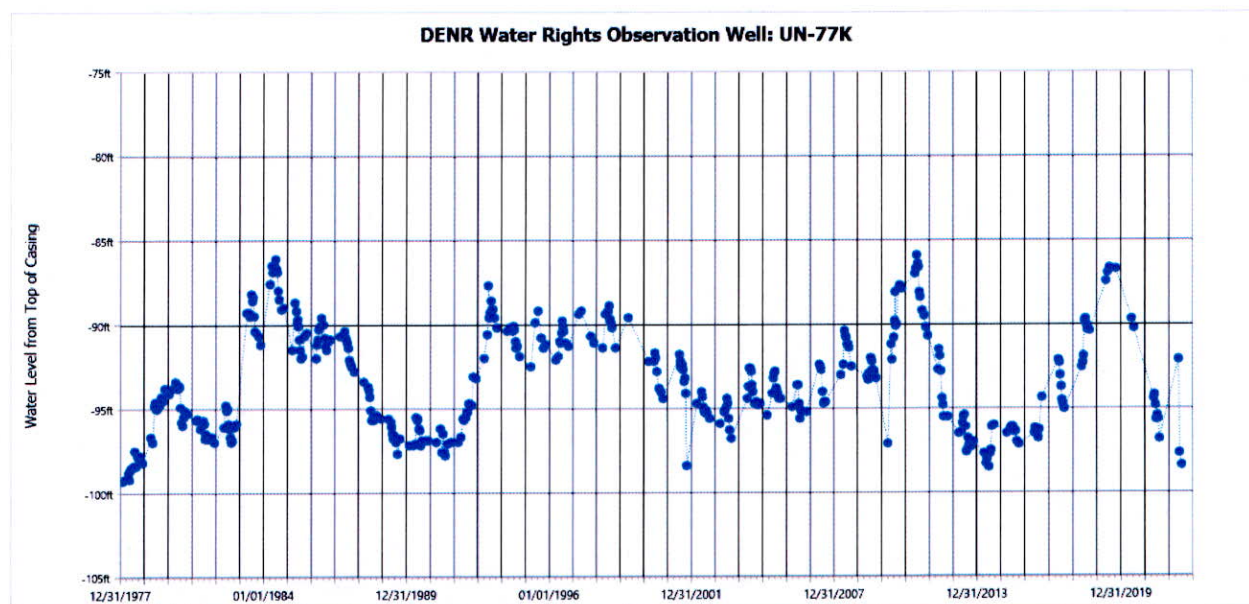


Figure 5. Hydrograph for observation well UN-77K (Water Rights, 2022b)

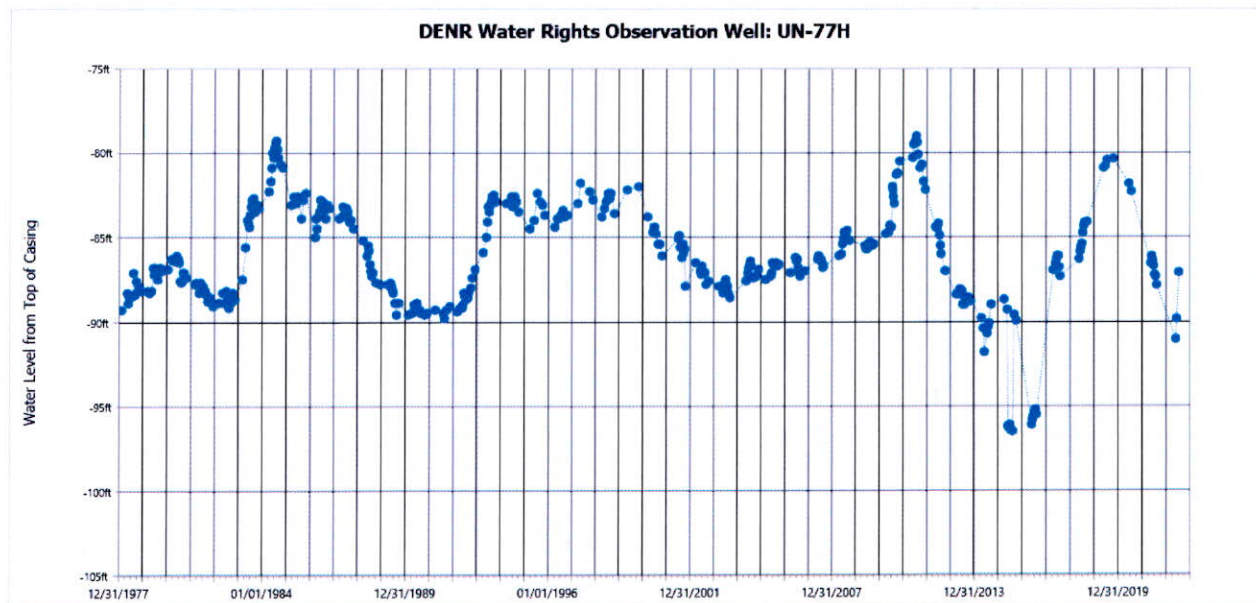


Figure 6. Hydrograph for observation well UN-77H (Water Rights, 2022b)

The hydrographs for the observation wells display generally stable water levels over their respective periods of record. The hydrographs for these four observation wells were compared to the hydrographs for the other observation wells completed into the Lower Vermillion Missouri aquifer and each displayed a relatively similar trend as shown on the hydrographs displayed in Figures 3 to 6 (Water Rights, 2022b). The hydrographs for the Lower Vermillion Missouri aquifer indicate that the aquifer responds well to climatic conditions because water levels are rising during wetter periods and declining to a stable water level during drier periods. Additionally, the water levels in the observation wells display that the amount of recharge to and natural discharge from the aquifer greatly exceeds pumping with the aquifer returning to pre-pumping conditions between irrigation seasons. Aquifer recovery indicates that climatic conditions and therefore, the effects of recharge to and natural discharges from the aquifer govern the long-term fluctuations of water levels in the aquifer rather than the impacts of pumping from the Lower Vermillion Missouri aquifer. By recognizing that both recharge to and natural discharge from an aquifer can be captured for pumping, the observation well hydrographs demonstrate unappropriated water is available for the proposed appropriation.

POTENTIAL FOR UNLAWFUL IMPAIRMENT OF EXISTING WATER RIGHTS:

Currently, there are 60 water rights/permits authorized to appropriate water from the Lower Vermillion Missouri aquifer within the historic aquifer boundary minus Buhler's (2014) delineation of the Upper Vermillion Missouri: South aquifer (Water Rights, 2022c). The closest water right/permit to the proposed diversion point is Water Right No. 6397-3, which is held by SD Department of Transportation. The diversion point for Water Right No. 6397-3 is located approximately one mile northeast of the proposed diversion point for this application (Figure 7) (Table 4) (Water Rights, 2022c).

There are domestic wells on file with the DANR-Water Rights Program that are completed into the Lower Vermillion Missouri aquifer, with the closest domestic well on file (not held by the applicant) approximately 0.5 miles southwest of the proposed diversion point (Water Rights, 2022d). There could potentially be other domestic wells completed into the Lower Vermillion Missouri aquifer near the proposed diversion point that are not on file with the DANR-Water Rights Program.

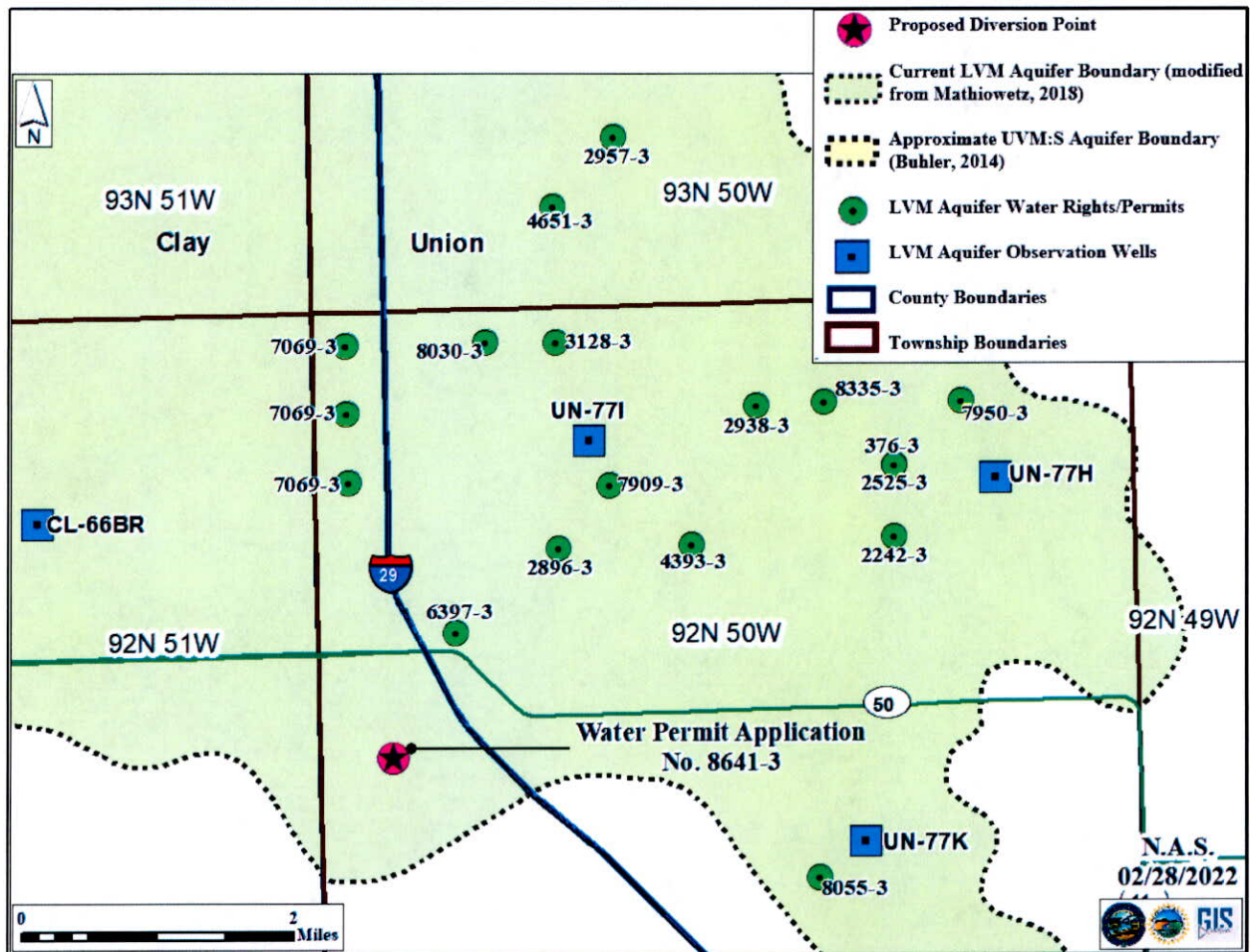


Figure 7. Location of the proposed diversion point for Water Permit Application No. 8641-3 with the LVM aquifer water rights/permits and observation wells within approximately five miles of the proposed diversion point (Water Rights, 2022b and 2022c)

Table 4. Water rights/permits authorized to withdraw water from the LVM aquifer within approximately five miles of the proposed diversion point, as shown in Figure 7 (Water Rights, 2022c)

Permit No.	Name	Status	Use	Authorized Diversion Rate (cfs)	Acres if IRR
376-3	Virginia Quam	LC	IRR	2.28	160
2242-3	Gerald B Hanson	LC	IRR	1.95	136
2525-3	Virginia Quam	LC	IRR	1.94	136
2896-3	Lyle Wagner	LC	IRR	2.23	265
2938-3	Maxine Bird	LC	IRR	1.94	136
2957-3	Norman & Ione Ronell	LC	IRR	1.94	136
3128-3	Eric R Abraham	LC	IRR	1.85	130
4393-3	Lyle A Wagner	LC	IRR	1.71	120
4651-3	Donald R Abraham	LC	IRR	1.72	121
6397-3	SD Dept of Transportation	LC	INS	0.033	
7069-3	Kelly O'Connor	LC	IRR	5.33	405
7909-3	Scott Wagner	LC	IRR	1.89	157
7950-3	Luverne Hanson	PE	IRR	1.78	150
8030-3	Reid Bird	PE	IRR	1.78	140
8055-3	Tam Vieira	PE	IRR	0.27	40
8335-3	Dakota Eastern Inc	PE	IRR	1.84	158
LC: Licensed Water Right; PE: Water Permit; INS: Institutional; IRR: Irrigation					

The Lower Vermillion Missouri aquifer is primarily under confined conditions but can be locally unconfined particularly near the Vermillion River floodplain (Nichus, 1994; Stephens, 1967). Based on the water well and test hole completion reports near the proposed diversion point, the Lower Vermillion Missouri aquifer is expected to be confined near the proposed diversion point (SDGS, 2022; Water Rights, 2022b and 2022d). The drawdown created by pumping a well generally does not extend far from the pumped well in an unconfined aquifer; however, in a confined aquifer, drawdown from pumping could extend a distance from the diversion point. The exact drawdown behavior of a well cannot be known without an aquifer performance test. However, observation wells completed into the Lower Vermillion Missouri aquifer near permitted/licensed diversion points can provide some insight on how the aquifer responds to pumping.

Observation well CL-80F (approximately six miles northwest of the proposed diversion point) has four high-yield (assumed to be a well with an authorized diversion rate greater than 0.2 cfs) irrigation wells within approximately two miles of it (Water Rights, 2022b and 2022c). The drawdown from pumping is shown on the hydrograph for CL-80F, along with the aquifer returning to pre-pumping conditions between irrigation seasons (Figure 8) (Water Rights, 2022b). The lithologic log on file for CL-80F noted the well was drilled 215 feet deep with the top of aquifer at 108 feet below the ground surface (SDGS, 2022). The lowest recorded static water level on the hydrograph is approximately 99 feet below the ground surface, which

indicates there was still approximately nine feet of artesian head pressure in CL-80F even during drier periods when high-yield irrigation wells are expected to be pumping more water (Water Rights, 2022b). It is worth noting the most recent water level reading measured in CL-80F is approximately the lowest reading on the hydrograph displayed in Figure 8. This water level reading is not of concern at this time as it was measured during the middle of the irrigation season in 2021 (Water Rights, 2022b).

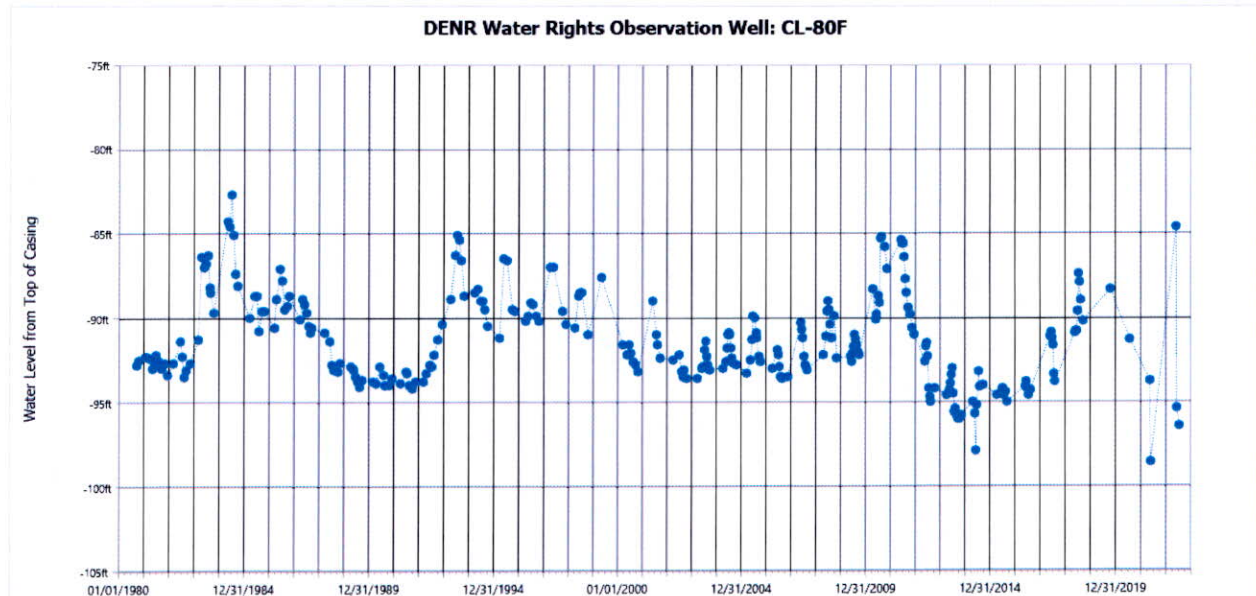


Figure 8. Hydrograph for observation well CL-80F (Water Rights, 2022b)

In Union County, the Lower Vermillion Missouri aquifer has an average saturated thickness of approximately 100 feet (Niehus, 1994). Within approximately two miles of the proposed diversion point, the saturated aquifer thickness ranges between 20 to 60 feet (Water Rights, 2022d). This would generally allow for enough thickness for a pump to be placed 20 feet below the top of the aquifer, which is required for the well to be considered adequate under ARSD 74:02:04:20(6). Any drawdown as a result of the proposed diversion is not expected to unlawfully impair nearby adequate wells. In Clay and Union Counties, there are no complaints on file with the DANR-Water Rights Program regarding well interference for adequate wells completed into the Lower Vermillion Missouri aquifer (Water Rights, 2022e).

The Water Management Board recognizes that putting water to beneficial use requires a certain amount of drawdown to occur. The Board has developed rules to allow water to be placed to maximum beneficial use without the necessity of maintaining artesian head pressure for domestic use. 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 the Findings of Facts and Conclusions of Law that noted the 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 as an unlawful impairment, it would also conflict with SDCL 46-1-4 (Water Rights, 1995). With that in mind, some existing well owners may need to install or lower pumps depending on the specific characteristics of the Lower Vermillion Missouri aquifer at their location. However, when considering the statutes (SDCL 46-1-4 and 46-6-6.1), rules (ARSD 74:02:04:20(6) and (7)), the saturated aquifer thickness of the Lower Vermillion Missouri aquifer in Union County, and the lack of well interference complaints for adequate wells completed into the aquifer in Clay and Union Counties, any drawdown created from the proposed diversion is not expected to cause an unlawful impairment on existing water right/permit holders or domestic users with adequate wells. Therefore, there is a reasonable probability that any interference from the proposed appropriation will not impose unlawful impairments on existing users with adequate wells.

CONCLUSIONS:

1. Water Permit Application No. 8641-3 proposes to divert water at a maximum instantaneous diversion rate of 1.78 cfs from one well to be completed into the Lower Vermillion Missouri aquifer (approximately 160 feet deep) for the irrigation of 160 acres. The site of interest is located in Union County approximately six miles east of Vermillion, SD.
2. Based on the hydrologic budget and observation well data, there is a reasonable probability that unappropriated water is available from the Lower Vermillion Missouri aquifer to supply the proposed appropriation.
3. There is a reasonable probability that the proposed diversion by Water Permit Application No. 8641-3 will not unlawfully impair adequate wells for existing water right/permit holders and domestic users.

Nakaila Steen

Nakaila Steen
Natural Resources Engineer II
SD DANR - Water Rights Program

Reviewed by:

Adam Mathiowetz

Adam Mathiowetz, PE
Natural Resources Engineer IV
SD DANR - Water Rights Program

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- Water Rights, 2022d. Well Completion Reports, SD DANR-Water Rights Program, Joe Foss Bldg, Pierre, SD.
- Water Rights, 2022e. County Files, SD DANR-Water Rights Program, Joe Foss Bldg, Pierre, SD.

Schlaak, Karen

From: Schlaak, Karen
Sent: Monday, August 1, 2022 8:57 AM
To: 'Derrick Skogsberg'
Subject: Water Permit Application No. 8641-3
Attachments: 3792.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 paper(s) as soon as possible to authorize publication and arrange for payment. This information is being mailed to you today.

Karen Schlaak
DANR - Water Rights Program
(605) 773-3352
Website: <https://danr.sd.gov>



AFFIDAVIT OF PUBLICATION

State of South Dakota)
:ss
County of Union)

RECEIVED

AUG 22 2022

OFFICE OF
WATER

Shannon L. Jost,
the publisher of the Leader-Courier, deposes and says that

The Leader-Courier

is a legal weekly newspaper of a general circulation, printed and published in Elk Point, County of Union, State of South Dakota, and has been such legal newspaper during the time hereinafter mentioned, and that affiant is and was during all the time hereinafter mentioned in charge of the advertising department thereof, and has personal knowledge of all the facts stated in this affidavit: and that the notice and advertisement headed:

NO. 8641-3 Notice to Appropriate Water

Derrick Skogsberg

a printed copy of which is hereunto attached and made a part hereof, was printed and published in the said newspaper at least once in

each week for 1 successive weeks; that said newspaper at the time of the first publication of said notice hereinafter stated, had, and still has, a bona fide circulation of over two hundred paid copies weekly, and had been published in the said County of Union for more than one year immediately prior to the date of the said publication of said notice, and that said newspaper during said times, was, and is, printed in part in an office maintained at said city of Elk Point, the said place of publication; that the first publication of said notice in said newspaper was

on Thursday, the 11 day of August, 2022

and that the succeeding publications were

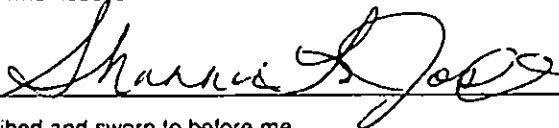
on Thursday, the _____ day of _____, _____

on Thursday, the _____ day of _____, _____

on Thursday, the _____ day of _____, _____

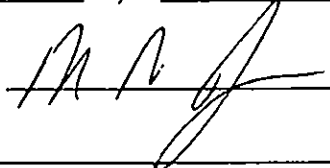
that the fees for the printing and publishing of said notice and advertisement in said newspaper as aforesaid were

\$ 42.59, that the full amount of the fee charged insures to the benefit of the publisher of the said newspaper, that no agreement or 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 other person whomsoever.



Subscribed and sworn to before me

this 11 day of August, 2022



Notary Public

NOTICE OF APPLICATION NO. 8641-3 TO APPROPRIATE WATER

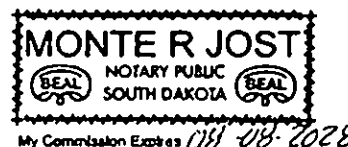
Notice is given that Derrick Skogsberg, 8248 Drop Time Drive, Benbrook TX 76126 has filed an application for a water permit to appropriate 1.78 cubic feet of water per second from one well to be completed into the Lower Vermillion Missouri Aquifer (approximately 160 feet deep) located in the approximate center of the N 1/2 Section 19 for irrigation of 160 acres located in the E 1/2 NW 1/4, W 1/2 NE 1/4 Section 19; all in T92N-R50W. This site is located approximately 6 miles east of Vermillion SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8641-3 with qualifications because 1) unappropriated water is available, 2) existing domestic water uses and water rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest as it pertains to matters within the regulatory authority of the Water Management Board. The Chief Engineer's recommendation with qualifications, the application, and staff report are available at <https://danr.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 this application or recom-

mendation shall allege that the application, upon approval, will cause injury to the person that is unique from any injury suffered by the public in general. The injury must concern a matter either within the regulatory authority found in SDCL 46-2A-9 for approval or denial of the application, or other matter concerning the application within the regulatory authority of the board to act upon as defined by SDCL 46-2-9 and 46-2-11, or both. Any person meeting the petitioner requirements and wishing to be a party of record in a contested case hearing shall file a written petition to oppose the application with BOTH the applicant and Chief Engineer. A petition opposing the application shall be filed on a form provided by the Chief Engineer. The petition form is available online at <https://danr.sd.gov/public> or by contacting the Chief Engineer. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501" or call (605) 773-3352. The applicant's mailing address is given above. If contesting the Chief Engineer's recommendation, the applicant shall also file a petition. A petition filed by either an interested person or the applicant must be filed by August 22, 2022.

The petition shall include a statement describing the unique injury upon approval of the application on the petitioner, the petitioner's reasons for opposing the application, and the



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Publish August 11, 2022. Published once at the total approximate cost of \$42.59 and may be viewed free of charge at www.sdpublicnotices.com

32-3-132

AFFIDAVIT OF PUBLICATION

YANKTON DAILY PRESS AND DAKOTAN

RECEIVED

AUG 15 2022

OFFICE OF
WATER

DERRICK SKOGSBERG
8248 DROP TINE DRIVE
BENBROOK TX 76126

STATE OF SOUTH DAKOTA
COUNTY OF YANKTON

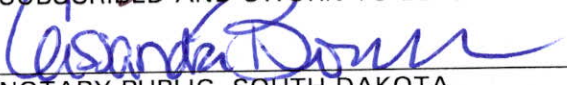
KELLY HERTZ, BEING FIRST DULY SWORN ON OATH DEPOSES
AND SAYS THAT (S)HE IS THE MANAGING EDITOR OF YANKTON
MEDIA INC, A CORPORATION, THE PRINTER AND THE PUBLISHER OF THE
YANKTON DAILY PRESS AND DAKOTAN, A LEGAL DAILY NEWSPAPER
PUBLISHED AND CIRCULATED IN THE CITY OF YANKTON, SAID COUNTY
AND STATE, AND ONE OF THE OFFICIAL NEWSPAPERS OF THE SAID
COUNTY OF FACTS STATED IN THIS AFFIDAVIT; THAT THE ANNEXED
8+11 NOTICE OF APPLICATIO

TAKEN FROM THE PAPER, IN WHICH IT WAS LAST PUBLISHED IN THE
NEWSPAPER ON THE 11th DAY OF August, 2022
THAT THE FULL AMOUNT OF THE FEE CHARGED FOR THE PUBLICATION
OF SAID NOTICE TO WIT \$39.84 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: 08/11/2022

FILED ON: 08/11/2022


SUBSCRIBED AND SWORN TO BEFORE ME THIS 11th DAY OF August, 2022


NOTARY PUBLIC, SOUTH DAKOTA
MY COMMISSION EXPIRES 07/04/2026

NOTICE OF APPLICATION NO. 8641-3 to Appropriate Water

Notice is given that Derrick Skogsberg, 8248 Drop Tine Drive, Benbrook TX 76126 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 Lower Vermillion Missouri Aquifer (approximately 160 feet deep) located in the approximate center of the N 1/2 Section 19 for irrigation of 160 acres located in the E 1/2 NW 1/4, W 1/2 NE 1/4 Section 19; all in T92N-R50W. This site is located approximately 6 miles east of Vermillion SD.

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Published once at the total approximate cost of \$39.84 and can be viewed free of charge at www.sdpublicnotices.com.

Schlaak, Karen

From: Schlaak, Karen
Sent: Monday, August 1, 2022 8:53 AM
To: Cassandra Brockmoller (cassandra@yankton.net)
Subject: 8641-3, Derrick Skogsberg
Attachments: 8641-3public.short_final.docx; FORM8.FRM.doc

Attached is a notice to be published on August 11, 2022.

Derrick Skogsberg, 8248 Drop Tine Drive, Benbrook TX 76126 (214 797-2246) 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

DANR - Water Rights Program
(605) 773-3352
Website: <https://danr.sd.gov>



Schlaak, Karen

From: Schlaak, Karen
Sent: Monday, August 1, 2022 8:52 AM
To: G5 (leader1@iw.net)
Subject: 8641-3, Derrick Skogsberg
Attachments: 8641-3public.short_final.docx; FORM8.FRM.doc

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Karen Schlaak

DANR - Water Rights Program
(605) 773-3352
Website: <https://danr.sd.gov>





**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

**NOTE: TO BE SURE OF PUBLICATION ON
THE CORRECT DATES, CONTACT
THE NEWSPAPERS RIGHT AWAY.**

August 1, 2022

Derrick Skogsberg
8248 Drop Tine Drive
Benbrook TX 76126

Dear Skogsberg:

Water Permit Application No. 8641-3 for irrigation use have been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Leader-Courier printed at Elk Point (Ph # 605 356-2632) and the Press & Dakotan printed at Elk Point (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.



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

SEP 13 2022

Derrick Skogsberg
8248 Drop Tine Drive
Benbrook TX 76126

Dear Mr. Skogsberg:

Enclosed is Water Permit No. 8641-3 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



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

**Affidavit of Public Notice
on DANR Website**

Pursuant to SDCL § 46-2A-4, public notice of the following application was posted on the DANR web site at <https://danr.sd.gov/public>. The posted public notice is the same notice as published in the pertinent newspaper(s) and a copy of the public notice is maintained in the application file. If the application is contested, the posting is moved to the DANR contested case website at <https://danr.sd.gov/public/ContestedCase.aspx> until final action is taken on the application pursuant to SDCL § 46-2A-4.

Application No.: 8641-3

Name of Applicant: Derrick Skogsberg

Date of Posting: 8/8/2022

Date of Removal: 9/13/2022



Ron Duvall, Water Rights Permitting Administrator

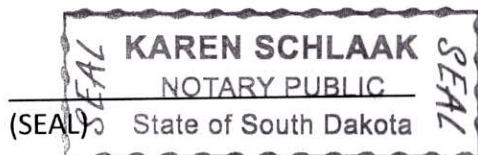


Date

Subscribed and sworn to before me, a notary public, this 13th day of Sept, 20 22.



Notary Public - South Dakota
My commission expires: 4-1-2025



NOTICE OF APPLICATION NO. 8641-3 to Appropriate Water

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Published once at the total approximate cost of _

Derrick Skogsburg 12" 260'- Irr Well Vermillion SD Dec 2022

<i>Formation</i>	<i>From</i>	<i>To</i>
Top soil	0	2
Brown clay	2	36
Blue clay	36	89
Gravel	89	96
Clay sand mix	96	104
Sand	104	131
Coal	131	136
Gravel w/ coal seams	136	173
Gravel	173	181
Clay	181	183
Sand and gravel	183	263
Clay and sandstone	263	270

Derrick Skogsburg 12" Irr Well

Legend

 Feature 1

n 42 46.5200 w 96 47.7590  Derrick Skogsburg 260' 12" Irr Well

318th St

29





8641-3

**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

Derrick Skogsberg
8248 Drop Tine Dr
Benbrook TX 76126

8641-3

Dear Mr. Skogsberg:

I am writing to acknowledge receipt of the "Notice of Completion of Works" form that you sent in to let us know that you are completed with your water use system.

The system is now ready for inspection. Inspections are done on a county-by-county basis as staff time permits. You have done everything you need to do and the intervening time between the completion of your project and the staff inspection has no bearing on your water permit.

Someone from our office will contact you prior to the inspection to set up a time that is convenient for you. If you have any questions, please contact me.

Sincerely,

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

emailed: derrickskogsberg@gmail.com

6/8/23

**NOTICE OF COMPLETION OF WORKS AND
APPLICATION OF WATER TO BENEFICIAL USE**

Date 6-8-23

TO: Water Rights Program, DANR
523 E. Capitol
Pierre, SD 57501-3181

FROM:

Derrick Skogsberg
(name)
8248 Drop Line Drive
(address)
Benbrook, TX 76126 214-797-2246
(city, state, zip) (phone)

I have completed the construction of the water use system and I have put the water to beneficial use to the maximum extent it is going to be used.

Water Permit No. 8641-3 states that the water use system is to be constructed by

Aug. 22, 2027, and water is to be put to beneficial use by August 22, 2031.
(date) (date)

The water use system was completed on 6-7-23.
(date)

Applying the water to beneficial use was completed on 6-7-23.
(date)

You may schedule an investigation so that the water license may be issued.

[Signature]
(signature)

