

WATER PERMIT NO. 8461-3

Name of Applicant: Jerome Hult

Address: 45967 US Hwy 18, Davis SD 57021

Phone: 605 366-3134

Amount of Water Claimed: 1.78 cfs

Total Acres: 140 acres

Source of Water Supply: 1 well

Water to be used for: irrigation

County: Turner

Type of Waste Disposal System:

Location: 1/2 north of Davis

PRIORITY

Date Received: 12-2-20

Application/License Fee: \$ 1,050

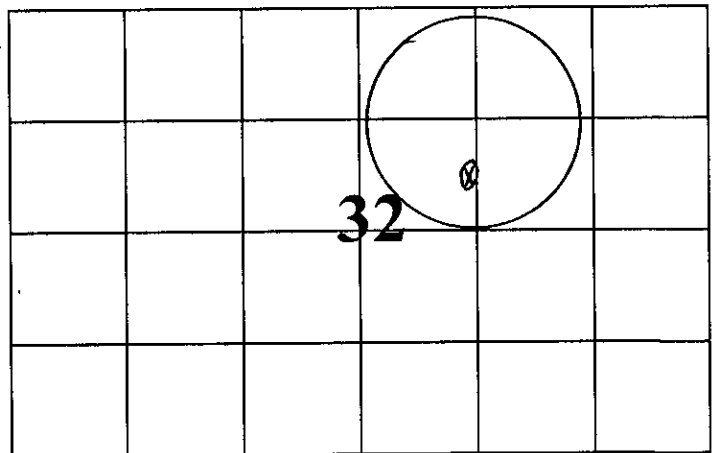
Corrected Application Received:

Period of Annual Use: April 1 – October 31

Remarks: Water Permit No. 7789-3 authorizes irrigation of the same land from a different aquifer.

Diversion Point: SW 1/4 NE 1/4 Sec 32-T98N-
R52W

Land to be Irrigated: NE 1/4 Sec 32-T98N-R52W



Depth of Well: 200 feet deep

Well Driller:

Remarks:

Type of Map: aerial

Prepared by:

Reviewed and the Number Assigned on: 12-2-20

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____

**SOUTH DAKOTA
WATER PERMIT NO. 8461-3**

Date of first receipt of application December 2, 2020.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 8461-3 to Jerome Hult, 45967 US Hwy 18, Davis SD 57021 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. 8461-3 appropriates 1.78 cubic feet of water per second from one well to be completed into the Upper Vermillion Missouri:North Aquifer (200 feet deep) located in the SW 1/4 NE 1/4 Section 32 for irrigation of 140 acres located in the NE 1/4 Section 32; all in T98N-R52W. Water Permit No. 7789-3 authorizes irrigation of a portion of the same acreage from wells completed into the Parker Centerville Aquifer. This site is located approximately 1/2 mile north of Davis 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 – October 31.
3. The date from which applicant may claim right is December 2, 2020.
4. The date of approval of Permit No. 8461-3 is February 15, 2021.
5. One-fifth of the construction is to be completed on or before August 15, 2023.
6. All construction is to be completed on or before February 15, 2026.
7. Water is to be put to beneficial use on or before February 15, 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

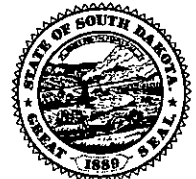
1. The well approved under Water Permit No. 8461-3 will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner, under this Permit shall control withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The well authorized by Permit No. 8461-3 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

APR 06 2021

date



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

DEC 02 2020

Mail to: DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>8461-3</u>	(office use only) Hydrologic Unit <u>10170102</u>	WATER RIGHTS PROGRAM
	Basin <u>Vermillion River</u>		
	Newspaper <u>New Era, Parker</u>		
	<u>Argus header</u>		

PAID
DEC - 2 2020
Ck# 28739

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 Jerome Hult

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

Mailing Address 45967 US Hwy 18 Davis SD 57021
(Address) (City) (State) (Zip Code)

Phone _____ Mobile 605-366-3134 Email hult@svtr.com

2. Amount of water claimed 1.78 *CFS or 800 **GPM ***AF Total Acreage 140
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)

3. Source of water supply Upper Vermillion Missouri Aquifer

4. Location of point of diversion (1 well) SW 1/4 NE 1/4 Sec 32 T98N R52W
(example - 3 wells in SW 1/4 NE 1/4 section 12-T104N-R53W)

County Turner

5. County or counties where water will be used Turner

6. Annual period during which water is to be used April 1st - October 31

7. List below each forty acre division, or lot, or fraction thereof and show number of acres to be irrigated in each.
(Attach sheet if more space is needed)

Land Description	Acres	Land Description	Acres
<u>SE 1/4 NE 1/4 Sec 32 T98N52W</u>	<u>35</u>		
<u>SW 1/4 NE 1/4 Sec 32 T98N52W</u>	<u>35</u>		
<u>NW 1/4 NE 1/4 Sec 32 T98N52W</u>	<u>35</u>		
<u>NE 1/4 NE 1/4 Sec 32 T98N52W</u>	<u>35</u>		

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

The North well on 7789-3 in the Parker Centerville Aquifer has inadequate production, therefore I am requesting a permit for a 200 ft well for upper Vermillion Missouri Aquifer

I, Jerome Hult, 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 ____ 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 ____ Depth to Water from Surface ____

d) Distance to nearest domestic well on applicant's property 1/2 mile Property owned by others 1/2 mile

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)

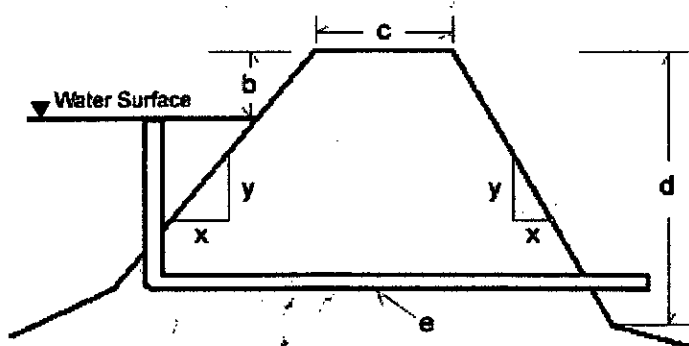
Upstream ____

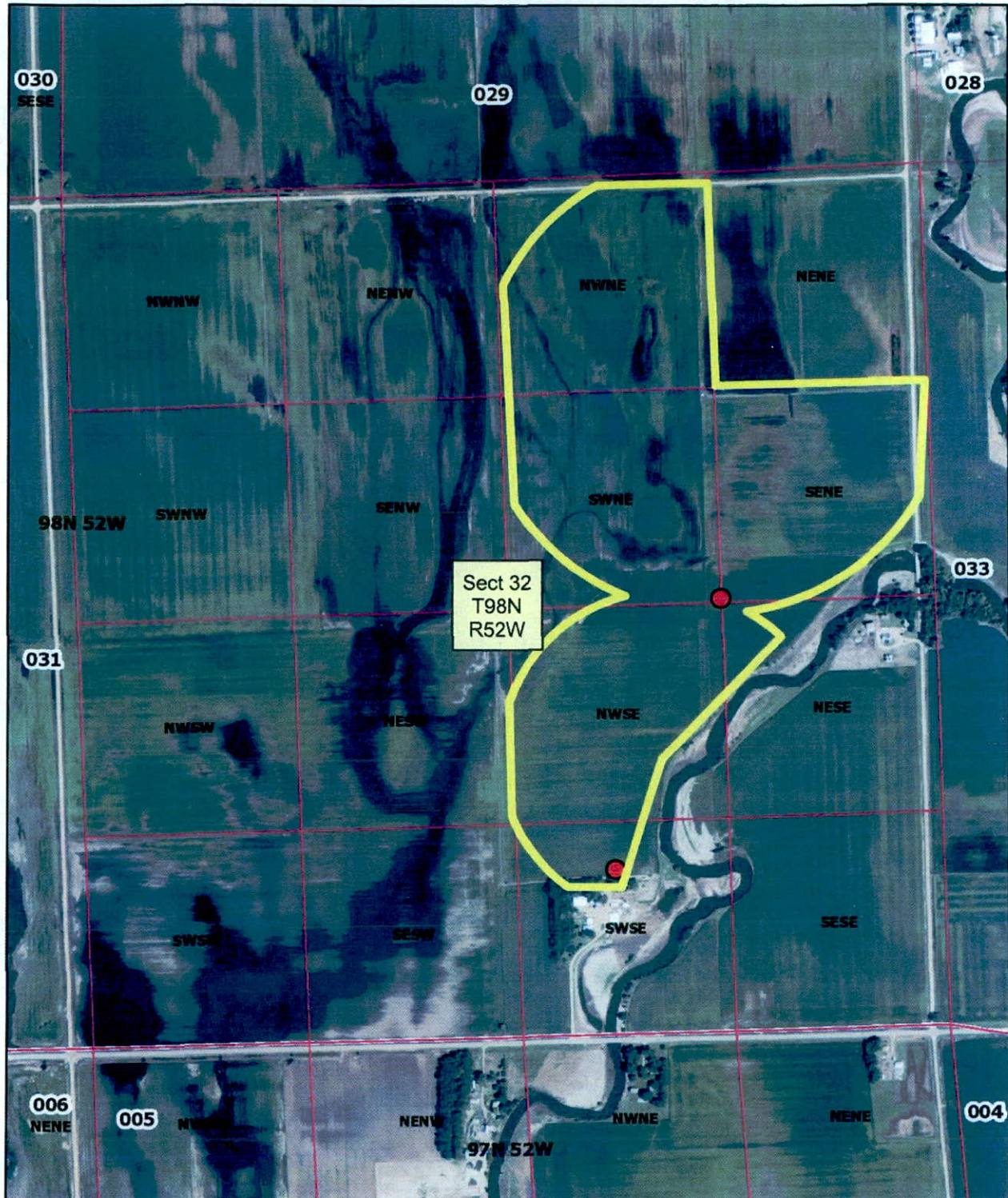
Downstream ____

h) Surface Area of Impoundment ____

i) Storage ____ Acre Feet

j) Drainage Area Above Dam ____ Acres





1,600 800 0 1,600 Feet

RECEIVED

MAR 12 2013

WATER RIGHTS
PROGRAM

Eric Gronlund

Eric Gronlund
Water Rights Program, DENR
March 12, 2013
as represented by Mr. Hult



RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date December 2, 2020

RECEIVED OF Jerome/Brenda Hult 45967 US Hwy 18 Davis SD 57021

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

Fee for Application for Permit No. <u>8461-3</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>8461-3</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

vm

Water Rights Program - DENR

Conversation File Documentation

NAME OF PERSON OR FILE: Jerome Hult

ADDRESS: 45967 US Hwy 18 Davis, SD 57021 **COUNTY:** Turner

DATE: January 20, 2021 **TELEPHONE:** 605-366-3134

Eric Gronlund and Nakaila Steen called Jerome Hult on January 20, 2021 to verify the operating system under Water Permit No. 7789-3 and the plans for Water Permit Application No. 8461-3 upon approval.

Water Permit No. 7789-3 is authorized a pump rate of 3.68 cfs from two wells (north well and south well) completed into the Parker-Centerville aquifer. The north well (Jerome indicated this well is no longer producing) supplied a pivot that was authorized to irrigate $\frac{3}{4}$ of the NE $\frac{1}{4}$ of Sec 32-T98N-R52W.

Upon approval of Water Permit Application No. 8461-3, the Upper Vermillion Missouri: North aquifer well will be authorized for 1.78 cfs to irrigate the entire NE $\frac{1}{4}$ of Sec 32-T98N-R52W and thus, allow the pivot to make a full rotation.

The south Parker-Centerville aquifer well provides water to irrigate the NW $\frac{1}{4}$ SE $\frac{1}{4}$ and some of the NE $\frac{1}{4}$ SE $\frac{1}{4}$ of Sec 32-T98N-R52W. It was noted to Jerome that upon a licensing investigation, the diversion rate authority and acreage authorized under Water Permit No. 7789-3 would be reduced to what the system is producing.

The phone conversation concluded with Mr. Hult inquiring on a time frame to expect the recommendation on Water Permit Application No. 8461-3 to update his well driller. An overview on the 60-day limit to review and provide a recommendation a water permit application, and the public notice process was covered with Mr. Hult.

Nakaila Steen



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. 8461-3, Jerome Hult**

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. 8461-3, Jerome Hult, 45967 US Hwy 18, Davis SD 57021.

The Chief Engineer is recommending APPROVAL of Application No. 8461-3 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. 8461-3 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. 8461-3 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
January 25, 2021

Report to the Chief Engineer
On Water Permit Application No. 8461-3

Jerome Hult

January 25, 2021

Water Permit Application No. 8461-3 proposes to appropriate water at a maximum instantaneous diversion rate of 1.78 cubic feet per second (cfs) from one well (200 feet deep) to be completed into the Upper Vermillion Missouri: North aquifer and located in the SW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 32-T98N-R52W. The proposed use is for the irrigation of 140 acres located in the NE $\frac{1}{4}$ of Section 32-T98N-R52W which allows the pivot in the NE $\frac{1}{4}$ to make a full rotation.

The applicant holds Water Permit No. 7789-3 which authorizes a maximum instantaneous diversion rate of 3.68 cfs from two wells (50 feet deep) completed into the Parker-Centerville aquifer that are located in the SW $\frac{1}{4}$ NE $\frac{1}{4}$ and SW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 32 for the irrigation of 150 acres in the W $\frac{1}{2}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ NE $\frac{1}{4}$, N $\frac{1}{2}$ SE $\frac{1}{4}$, and SW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 32; all in T98N-R52W. The applicant indicated the north well completed into the Parker-Centerville aquifer provides inadequate production. Upon a licensing investigation, Water Permit No. 7789-3 will be reduced in diversion rate authority and acreage to what the south well produces and irrigates.

If approved, Water Permit Application No. 8461-3 will authorize a maximum instantaneous diversion rate of 1.78 cfs from one well to be completed into the Upper Vermillion Missouri: North aquifer for the irrigation of 140 acres. The applicant requests approval to irrigate a portion of the same acreage permitted by Water Permit No. 7789-3. This site is located in Turner County, approximately one-half mile north of Davis, South Dakota.

AQUIFER: Upper Vermillion Missouri: North (UVM: N)

HYDROGEOLOGY:

The Upper Vermillion Missouri aquifer is a glacial outwash that is composed of fine sand to medium-pebble gravel (Lindgren and Hansen, 1990). The aquifer generally lays in a bedrock valley that trends north to south and underlies portions of Clay, Lincoln and Turner Counties (Holmes and Filipovic, 2015). From 2013 to 2014, the SD DENR-Geological Survey completed a study to further understand the geologic and hydrologic conditions of the Upper Vermillion Missouri aquifer (Holmes and Filipovic, 2015). As a result, the aquifer is now considered as three management units (i.e. North, South and West) that were adopted by the Water Management Board at the March 6, 2014 meeting (Buhler, 2015; Holmes and Filipovic, 2015).

Most of the Upper Vermillion Missouri aquifer is overlain by till that can be up to 160 feet thick, or nonexistent (Holmes and Filipovic, 2015). The direction of groundwater movement in the Upper Vermillion Missouri aquifer is generally to the south/southeast (Lindgren and Hansen, 1990; Holmes and Filipovic, 2015). The proposed diversion point for this application is located in the North management unit of the Upper Vermillion Missouri aquifer. The areal extent of the Upper Vermillion Missouri: North aquifer is approximately 38,100 acres (Figure 1) (Buhler,

2014). The Upper Vermillion Missouri: North aquifer is generally buried and confined but can be locally unconfined in locations where the Parker-Centerville aquifer directly overlies it and is in hydraulic connection with it (Holmes and Filipovic, 2015). The Upper Vermillion Missouri: North and Parker-Centerville aquifers are in direct hydraulic contact over approximately 2,930 acres (Figure 1) (Buhler, 2015).

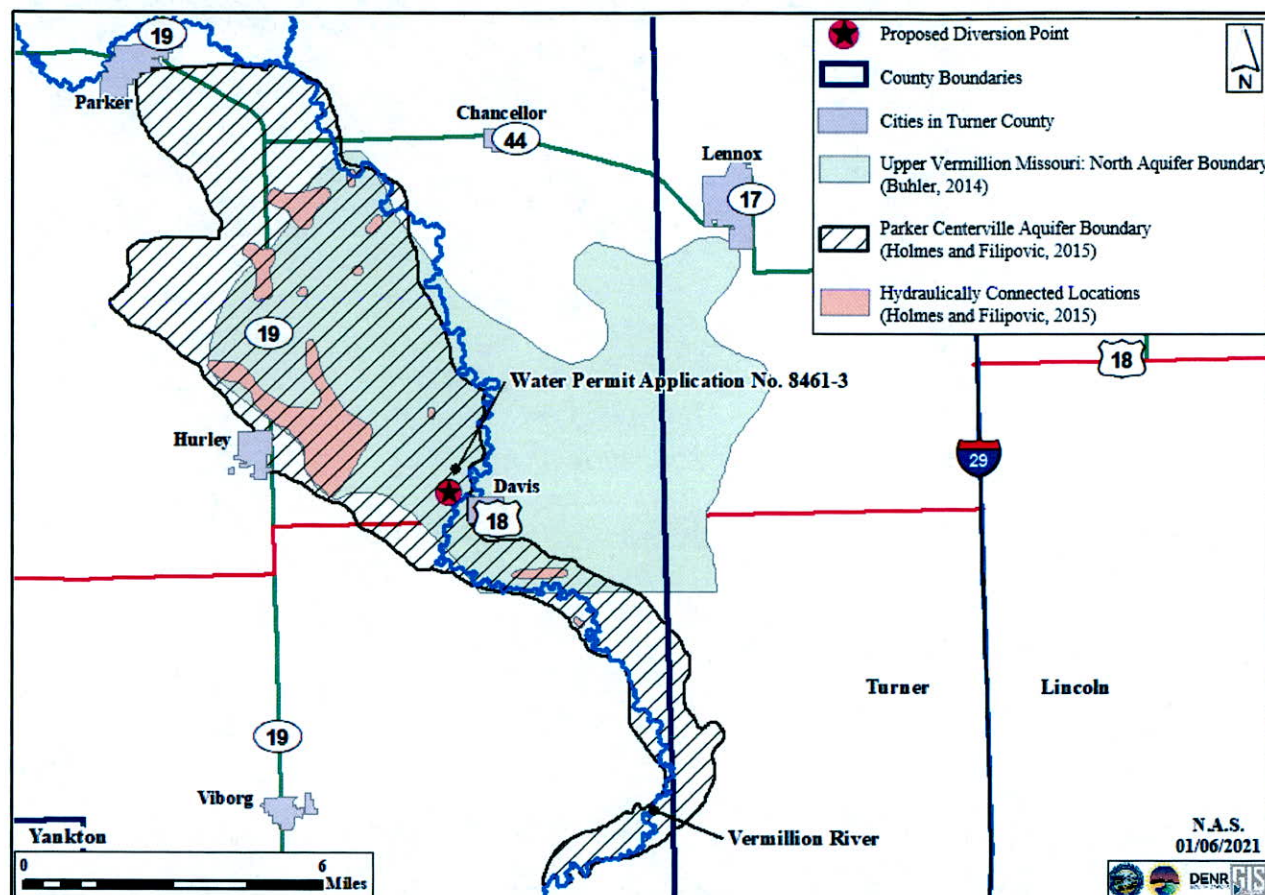


Figure 1. Map of the approximate Upper Vermillion Missouri: North aquifer boundary (modified from Buhler, 2014), the approximate Parker-Centerville aquifer boundary (modified from Holmes and Filipovic, 2015), the hydraulically connected areas between the two aquifers (modified from Holmes and Filipovic, 2015), and the location of the proposed diversion point

No water well completion report was submitted with Water Permit Application No. 8461-3. Well completion reports on file with the DENR-Water Rights Program for wells completed into the Upper Vermillion Missouri: North aquifer within approximately two miles of the proposed diversion point for this application have saturated aquifer thicknesses ranging from approximately 20 to 100 feet, with the depth to the top of aquifer materials ranging from approximately 100 to 120 feet below the ground surface, and a static water levels at well completion varying from approximately 10 to 25 feet below the ground surface (Holmes and Filipovic, 2015; SDGS, 2021; Water Rights, 2021d).

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 rights, and that the proposed use is a beneficial use and in the public interest.” This report will address the availability of unappropriated water and the potential for unlawful impairment of existing water rights within the Upper Vermillion Missouri: North aquifer.

WATER AVAILABILITY:

Water Permit Application No. 8461-3 proposes to appropriate water from the Upper Vermillion Missouri: North 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 Upper Vermillion Missouri: North aquifer is not older than or stratigraphically lower than the Greenhorn Formation, 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 Upper Vermillion Missouri: North aquifer must be considered.

Recharge

Recharge to the Upper Vermillion Missouri aquifer occurs primarily through the infiltration of precipitation. Additional recharge occurs through leakage from the overlying Parker-Centerville aquifer where the two aquifers are in direct contact (Holmes and Filipovic, 2015).

Buhler (2014) indicated there is not a reliable average annual recharge estimate for the North management unit of the Upper Vermillion Missouri aquifer. Therefore, comparison of the average annual recharge to the average annual withdrawal through a hydrologic budget specific to the North management unit of the Upper Vermillion Missouri aquifer is not feasible.

Discharge

Discharge from the Upper Vermillion Missouri aquifer occurs primarily through well withdrawals (Lindgren and Hansen, 1990; Water Rights, 2021c). Currently, there are 52 water rights/permits authorized to appropriate water from the Upper Vermillion Missouri: North aquifer (Water Rights, 2021c).

Table 1 summarizes the four non-irrigation water rights/permits authorized to appropriate water from the Upper Vermillion Missouri: North aquifer and the estimated annual use for each water right/permit as determined by their limiting diversion rate or annual volume. The amount of

water that can be withdrawn was estimated by assuming the non-irrigation water rights/permits limited by an annual volume will withdraw the entire appropriated volume every year. It is estimated that the non-irrigation water rights/permits limited only by a diversion rate will pump at a maximum permitted diversion rate for 60 percent of the time. The Town of Davis was identified as being connected to TM Rural Water District and likely maintain the well for standby purposes (Mathiowetz, 2021); as such, the average annual water use for this water right has been estimated to be zero acre-feet per year on Table 1.

Table 1. Estimated average annual water use from the non-irrigation water rights authorized to appropriate water from the Upper Vermillion Missouri: North aquifer (Water Rights, 2021c)

Permit No.	Name	Use	Status	Diversion Rate (cfs)	Annual Limit (acre-feet)	Estimated Use (acre-feet/year)
525-3	Town of Davis	MUN	LC	0.45		0*
5833-3	Advanced Prescription	COM	LC	0.11		47.8
6435-3	South Lincoln RWS	RWS	LC		900	900
6727-3	South Lincoln RWS	RWS	LC		900	900
					TOTAL:	1,847.8

Licensed Water Right; MUN: Municipal; COM: Commercial; RWS: Rural Water System * Identified as being connected to RWS

Table 2 shows the average annual water use from the Upper Vermillion Missouri: North aquifer for South Lincoln Rural Water System as reported to the SD-DENR (Water Rights, 2021f). It is worth noting that South Lincoln Rural Water System, on average, uses less than their appropriated volume each year.

Table 2. Calculated average annual water use from the Upper Vermillion Missouri: North aquifer for South Lincoln Rural Water System as reported to the SD-DENR (Water Rights, 2021f)

Year	Water Right Nos. 6435-3 and 6727-3
2003	354
2004	583
2005	611
2006	599
2007	607
2008	779
2009	987
2010	1095
2011	1108
2012	673
2013	702
2014	763
2015	810
2016	776
2017	849
2018	808
2019	664
Avg	751

Currently, there are 48 water rights/permits authorized to appropriate water from the Upper Vermillion Missouri: North aquifer for irrigation use (Table 3) (Water Rights, 2021c). Due to a recently corrected clerical error, Water Permit Nos. 7587-3 (held by Paul Peterson) and 7558-3 (held by Cleland Family Trust) were not receiving their annual irrigation questionnaire form. Until reported irrigation water use data is available for these permits, annual water use will be estimated by using the number of acres authorized by each permit multiplied by a 12-inch application rate each year. Collectively, these two irrigation water permits are authorized to irrigate 280 acres (Water Rights, 2021c). 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 liberally estimate the annual withdrawal rate for these two irrigation water permits. By assuming an application rate of 12 inches per permitted acre, applied over the 280 acres currently authorized to be irrigated from wells completed into the Upper Vermillion Missouri: North aquifer, the estimated annual withdrawal rate for the two irrigation water rights is approximately 280 acre-feet per year (Water Rights, 2021c). The average annual withdrawal rate for the Upper Vermillion Missouri: North aquifer irrigation water rights/permits that have reported over the period of record (1979 to 2019) is approximately 4,164 acre-feet per year (Table 3) (Water Rights, 2021a). Collectively, the average annual withdrawal rate for the Upper Vermillion Missouri: North aquifer irrigation water rights/permits is approximately 4,444 acre-feet per year (Water Rights, 2021a and 2021c).

There are domestic wells completed into the Upper Vermillion Missouri: North aquifer that do not require a water right/permit, so the withdrawal amount is unknown (Water Rights, 2021d). Due to their relatively low diversion rates, withdrawals from domestic wells are not considered to be a significant portion of the average annual withdrawal rate from the Upper Vermillion Missouri: North aquifer. Additionally, there are rural water systems in the area and the Parker-Centerville aquifer overlies the Upper Vermillion Missouri: North aquifer; it is likely some domestic users may have transitioned to rural water or are using the Parker-Centerville aquifer. Therefore, the quantity of water withdrawn by domestic wells is estimated to be negligible to the average annual withdrawal rate for the Upper Vermillion Missouri: North aquifer.

Overall, there is not a reliable average annual recharge estimate for the North management unit of the Upper Vermillion Missouri aquifer. The average annual withdrawal rate for the water rights/permits authorized to appropriate water from the Upper Vermillion Missouri: North aquifer totals approximately 6,431.8 acre-feet per year (non-irrigation: 1,847.8 acre-feet/year, irrigation: 4,444 acre-feet/year, and Water Permit Application No. 8461-3 (if approved, assuming 12-inch application rate per acre): 140 acre-feet/year).

Table 3. Reported historic irrigation use from the Upper Vermillion Missouri: North aquifer (Water Rights, 2021a)

Year	No. of Permits	Annual Appropriation (acre-feet)	Reported Pumpage (acre-feet)
1979	23	11,391	2,499
1980	23	11,391	3,629
1981	25	12,031	3,292
1982	25	12,118	2,516
1983	26	12,522	2,441
1984	26	12,621	2,311
1985	25	12,237	1,982
1986	27	12,861	3,022
1987	27	12,762	2,896
1988	27	12,435	4,918.2
1989	29	13,311	4,238.6
1990	34	14,562	5,074.8
1991	34	14,556	4,867
1992	36	14,846.4	4,470
1993	35	14,232.4	458.5
1994	33	13,472.4	3,587.1
1995	33	13,472.4	3,434.7
1996	34	13,540.4	3,770.5
1997	33	13,250	4,300
1998	35	13,250	4696.6
1999	34	13,214	4163.9
2000	34	14,090	4932.9
2001	34	14,090	4817.7
2002	36	14,650	5616.2
2003	36	14,347	4871.4
2004	36	14,347	5746
2005	37	14,619	5630.3
2006	37	14,619	6506.4
2007	38	14,935	5245.4
2008	41	15,259	6103
2009	41	15,259	3625.1
2010	42	15,523	150.5
2011	42	15,523	4226.6
2012	42	15,523	9208.4
2013	43	15,523	6854.3
2014	43	15,523	4614.3
2015	43	15,523	5894.1
2016	45	16,203	5639.2
2017	46	16,507	5790.6
2018	46	16,507	2224.1
2019	46	16,507	450.5
Min	23	11,391	150.5
Max	46	16,507	9,208.4
Avg	35	14,126	4,164

OBSERVATION WELL DATA:

Administrative Rule of South Dakota (ARSD) Section 74:02:05:07 requires that the Water Management Board shall rely upon the record of observation well measurements in addition to other data to determine that the quantity of water withdrawn annually from the aquifer does not exceed the estimated average annual recharge of the aquifer.

The DENR-Water Rights Program monitors nine observation wells completed into the Upper Vermillion Missouri: North aquifer (Water Rights, 2021b). These observation wells provide data on how the aquifer reacts to regional climatic conditions and local pumping. These observation wells and their respective distances from the proposed diversion point are TU-77I (approximately 0.75 miles northwest), TU-77H (approximately 0.75 miles northwest), TU-77Y (approximately 2.5 miles northeast), TU-77G (approximately 2.5 miles northwest), TU-77F (approximately 2.5 miles northwest), TU-77W (approximately 3.5 miles northeast), TU-77L (approximately 3.7 miles southeast), TU-77D (approximately 5 miles northwest), and TU-77B (approximately 6.5 miles northwest) (as shown in Figure 20) (Water Rights, 2021b and 2021c). The hydrographs for these observation wells are displayed in Figures 2 to 10 (Water Rights, 2021b). 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. A linear trendline was added to each hydrograph to aide in showing the upward, stable or downward trend for the water levels measured in the observation wells.

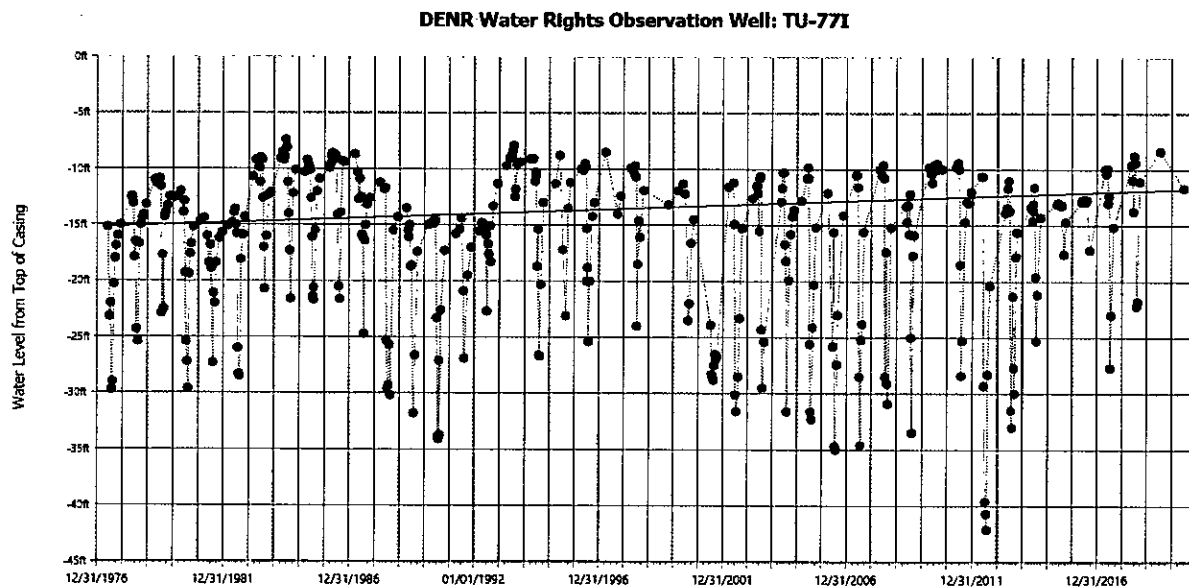


Figure 2. Hydrograph for observation well TU-77I (Water Rights, 2021b)

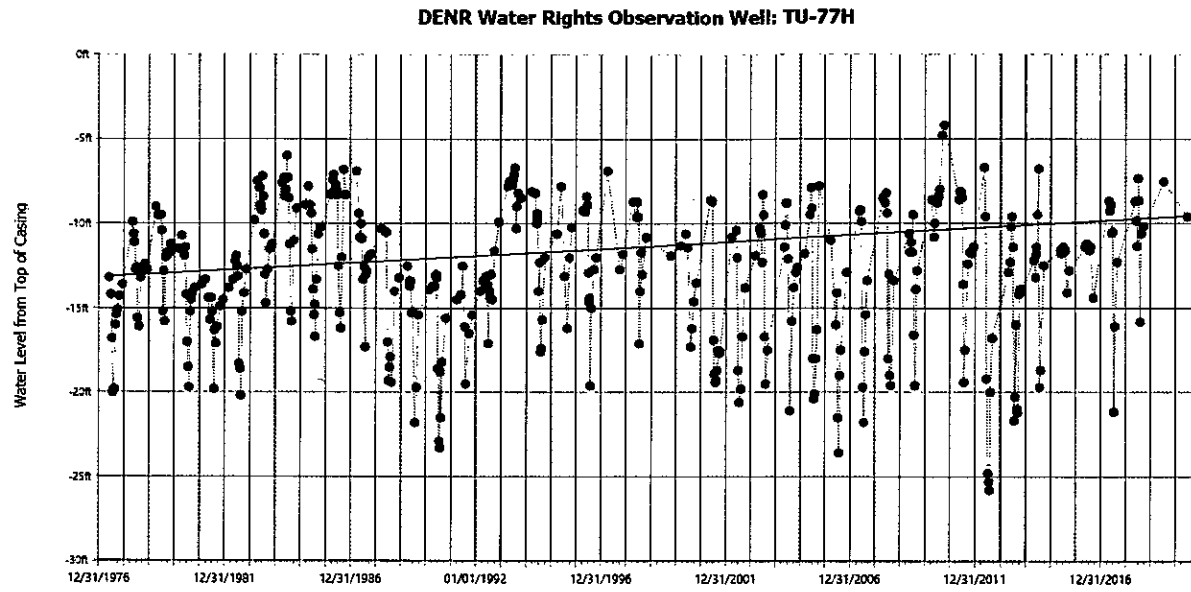


Figure 3. Hydrograph for observation well TU-77H (Water Rights, 2021b)

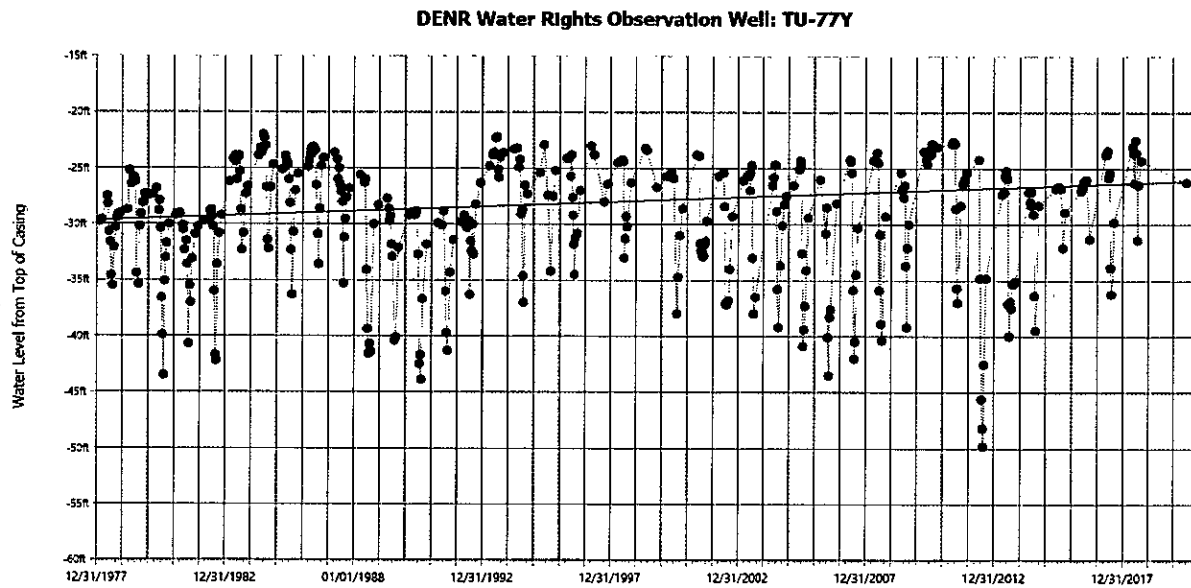


Figure 4. Hydrograph for observation well TU-77Y (Water Rights, 2021b)

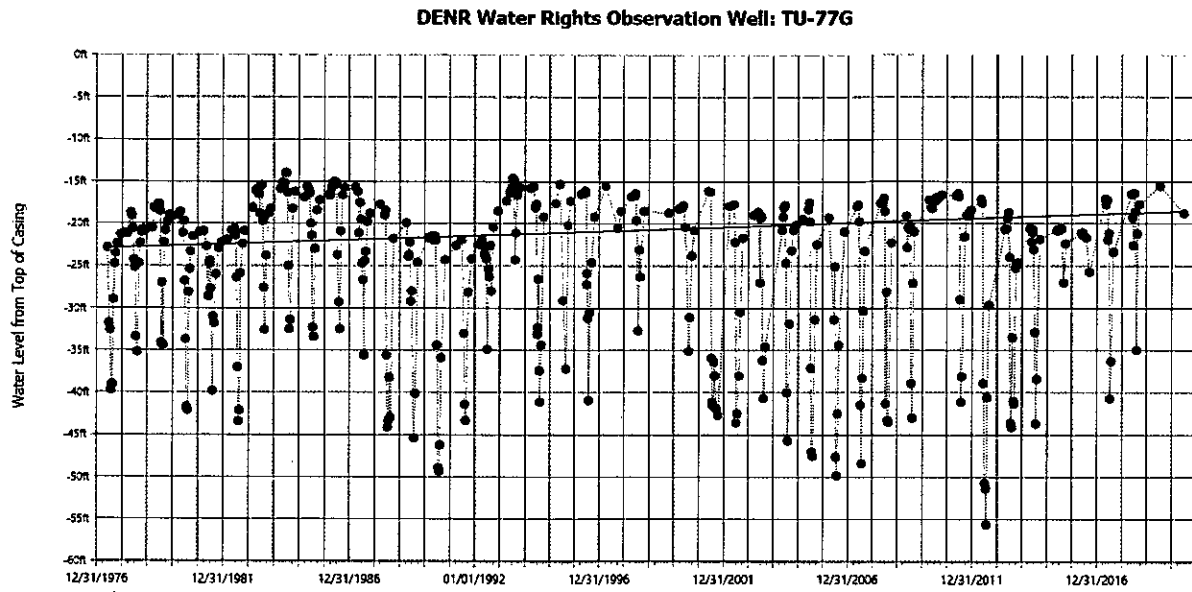


Figure 5. Hydrograph for observation well TU-77G (Water Rights, 2021b)

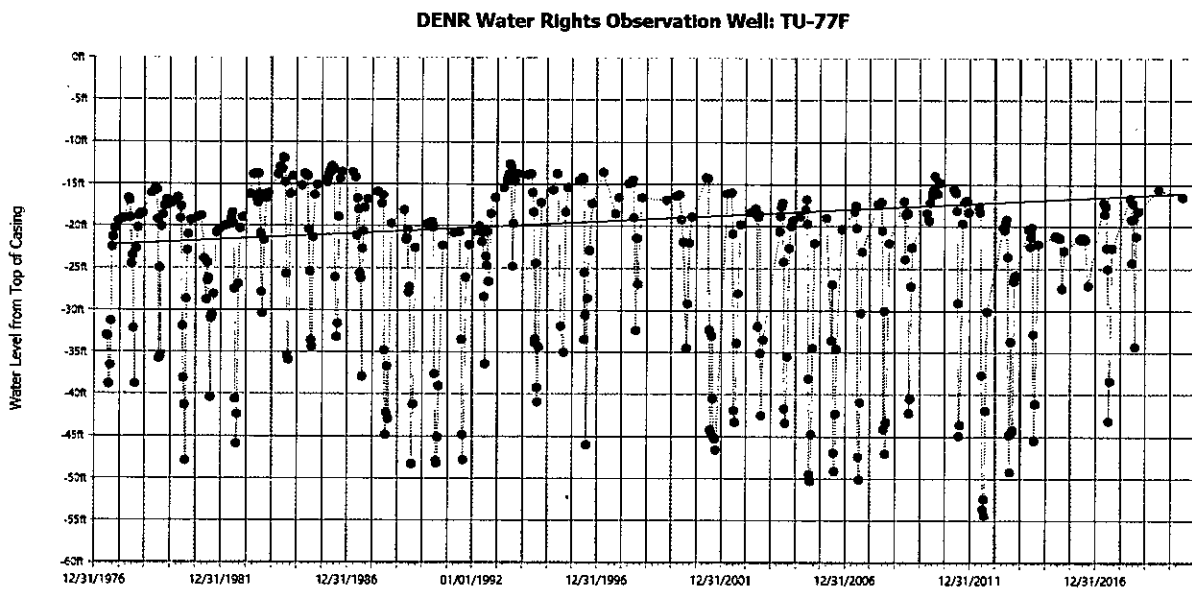


Figure 6. Hydrograph for observation well TU-77F (Water Rights, 2021b)

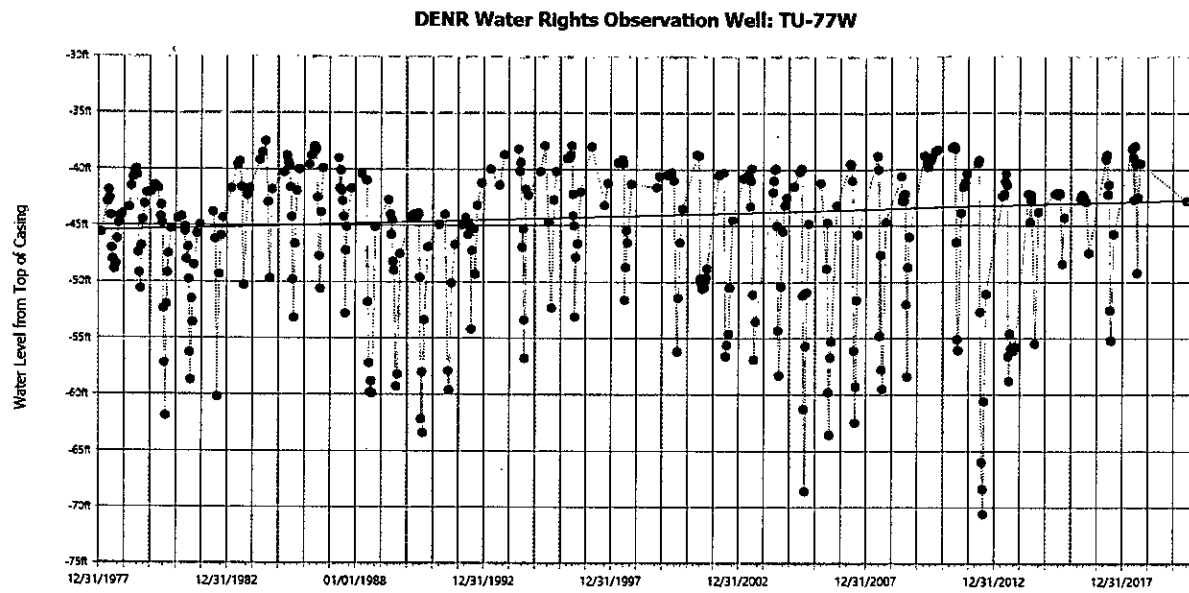


Figure 7. Hydrograph for observation well TU-77W (Water Rights, 2021b)

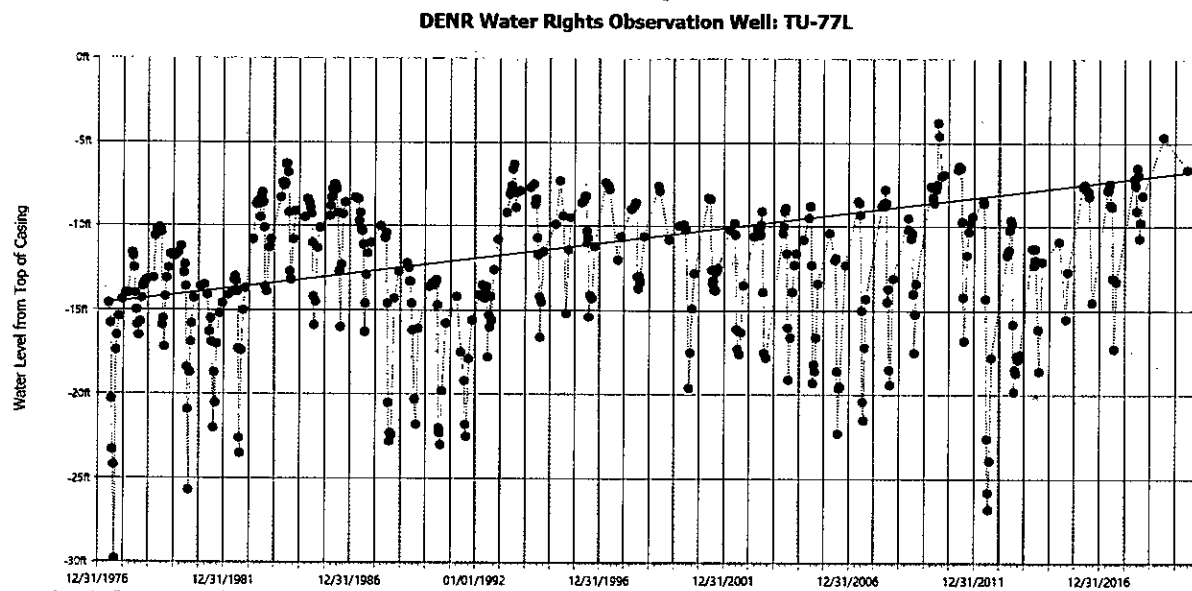


Figure 8. Hydrograph for observation well TU-77L (Water Rights, 2021b)

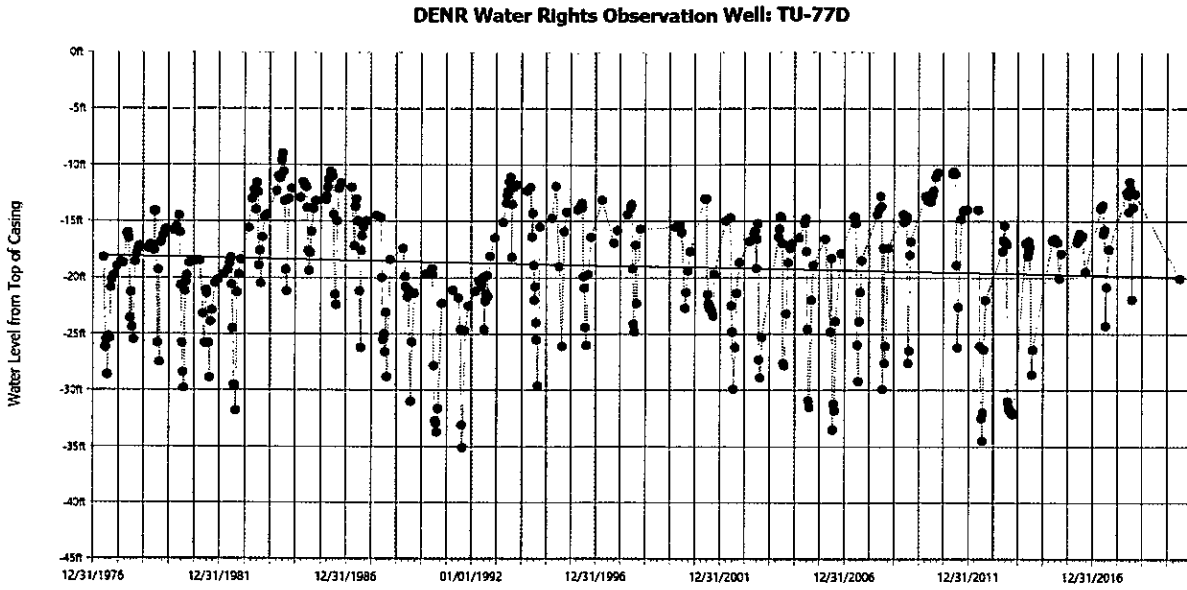


Figure 9. Hydrograph for observation well TU-77D (Water Rights, 2021b)

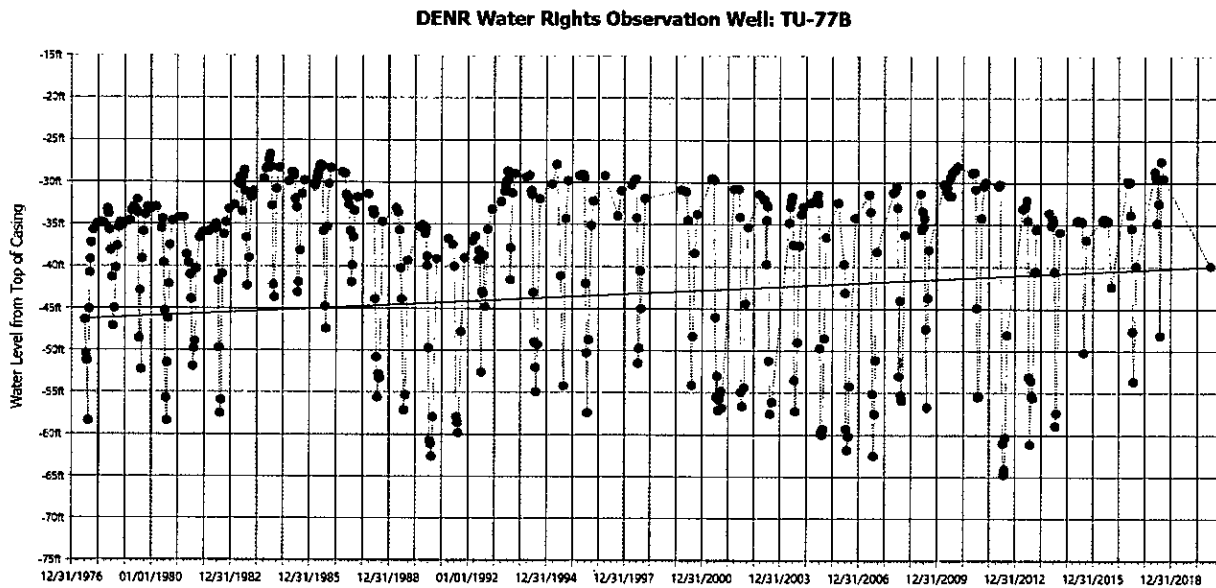


Figure 10. Hydrograph for observation well TU-77B (Water Rights, 2021b)

The water levels measured in the observation wells show that the potentiometric surface of the Upper Vermillion Missouri: North aquifer is typically less than 70 feet below the ground surface (Water Rights, 2021b). The hydrographs for observation wells completed into the Upper Vermillion Missouri: North aquifer display upward, stable and downward trends over their respective period of record. The Upper Vermillion Missouri: North aquifer is generally under confined conditions, and the potentiometric surface in a confined aquifer is very responsive to pumping as a small change of water stored in the aquifer results in a fairly large change in the artesian head pressure in a well (Buhler, 2015; Holmes and Filipovic, 2015). Additionally, the

water levels in the observation wells are typically measured during the same time of the year irrigation pumping is occurring (Water Rights, 2021b). This leads to the linear trendline on the water level data in the observation wells being biased towards a downward trend by the lowering of the artesian head pressure in the wells later in an irrigation season (Buhler, 2015). However, the hydrographs for the observation wells completed into the Upper Vermillion Missouri: North aquifer document the aquifer returning to pre-pumping conditions preceding each irrigation season over the respective period of record. This means the linear trendline is not fully representative of the “static” conditions of the aquifer, but rather the trendline shows the seasonal effects of pumping. This is worth noting in an extensively developed aquifer such as the Upper Vermillion Missouri: North aquifer and is clearly shown in Figure 9.

Buhler (2015) created hydrographs using the earliest water level measured by the DENR-Water Rights Program in May of each year to account for any bias in the hydrograph trendlines being introduced by the majority of readings being measured when water levels were at the lowest during the irrigation season. Buhler (2015) noted that there is generally no irrigation pumping occurring from November through April and limited recharge to the aquifer occurs during that same time frame which allows the early May water level measurements to be considered representative of nearly “static” conditions of the aquifer. When generating the hydrographs based off “static” readings, the earliest May reading was used when possible; if no May reading was available for the respective year, the reading closest to May 1 was used if it was within 45 days. Figures 11 to 19 show the water level measurements that are most representative of the “static” conditions of the aquifer along with a linear trendline of the data.

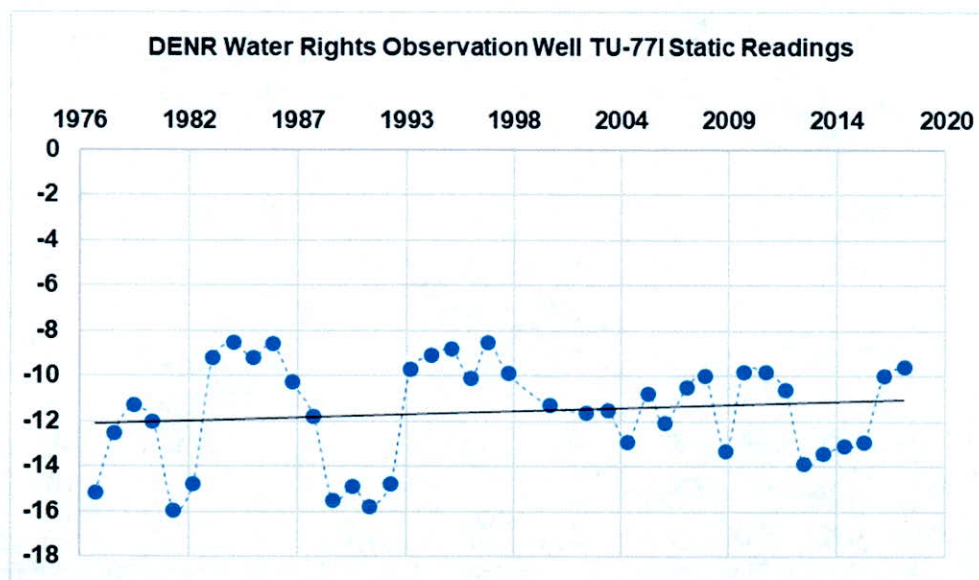


Figure 11. Hydrograph for static water level in observation well TU-77I (Water Rights, 2021b)

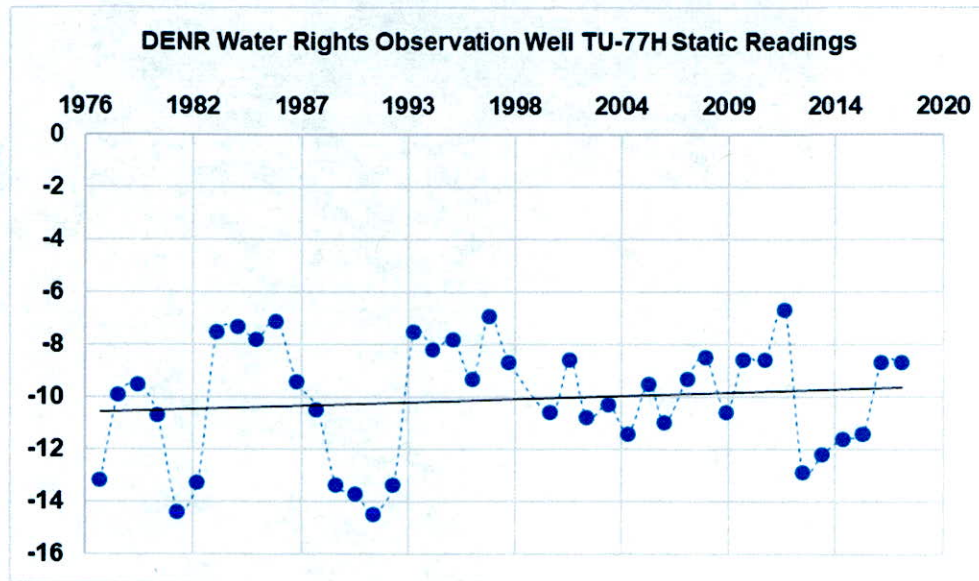


Figure 12. Hydrograph for static water level in observation well TU-77H (Water Rights, 2021b)

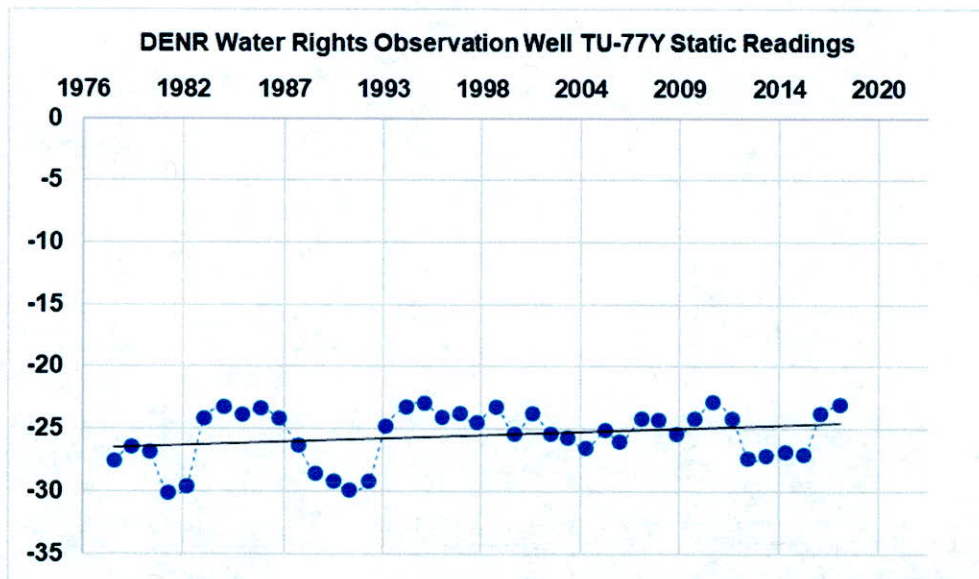


Figure 13. Hydrograph for static water level in observation well TU-77Y (Water Rights, 2021b)

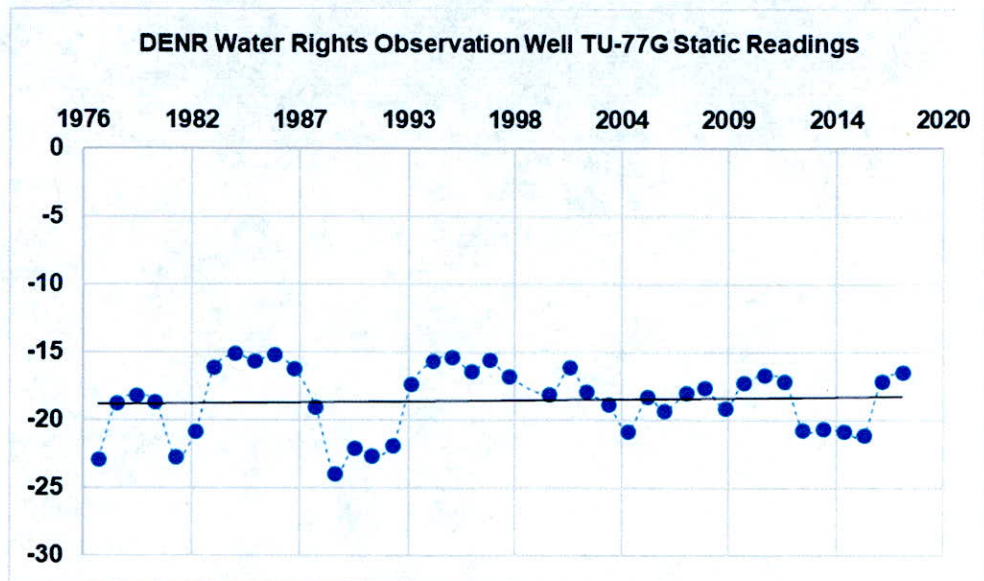


Figure 14. Hydrograph for static water level in observation well TU-77G (Water Rights, 2021b)

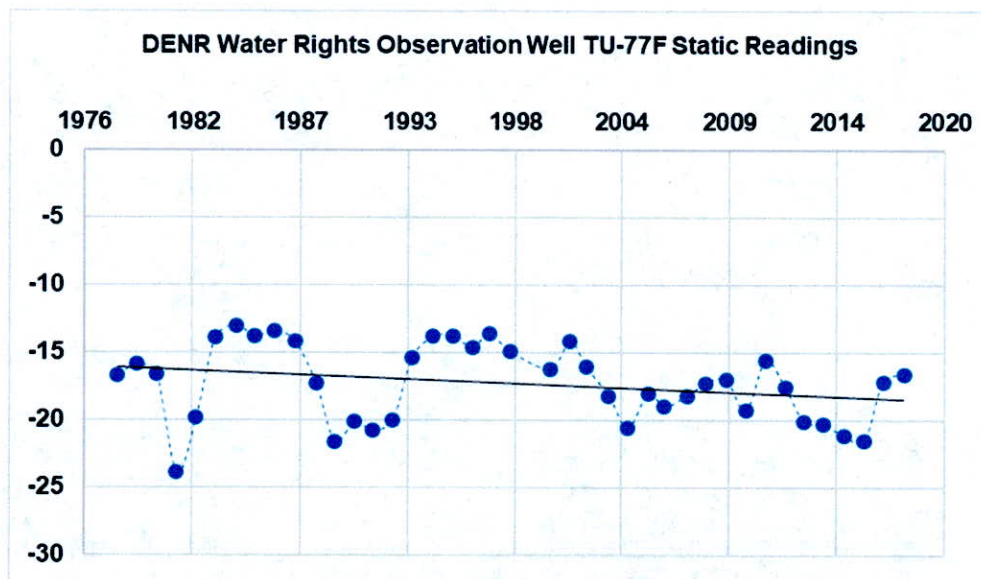


Figure 15. Hydrograph for static water level in observation well TU-77F (Water Rights, 2021b)

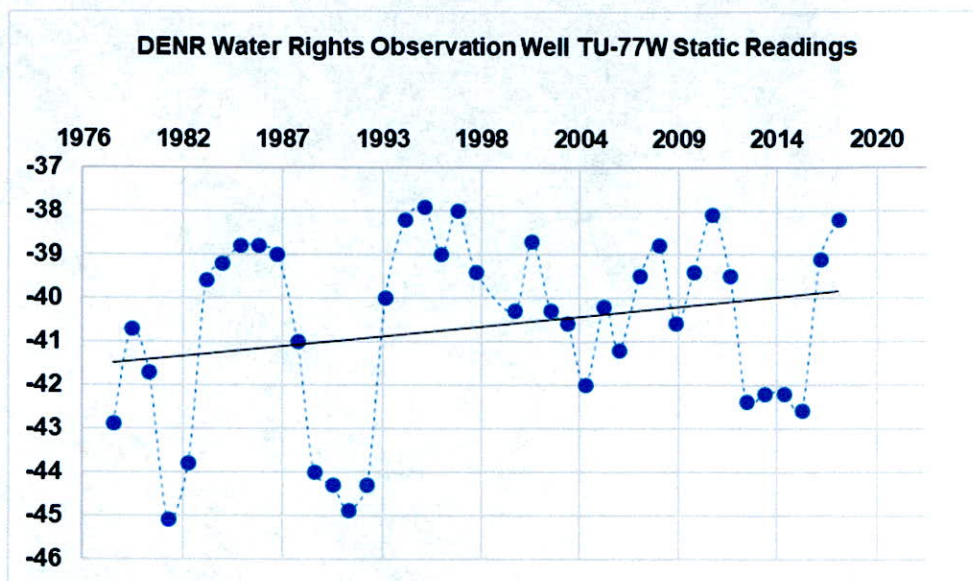


Figure 16. Hydrograph for static water level in observation well TU-77W (Water Rights, 2021b)

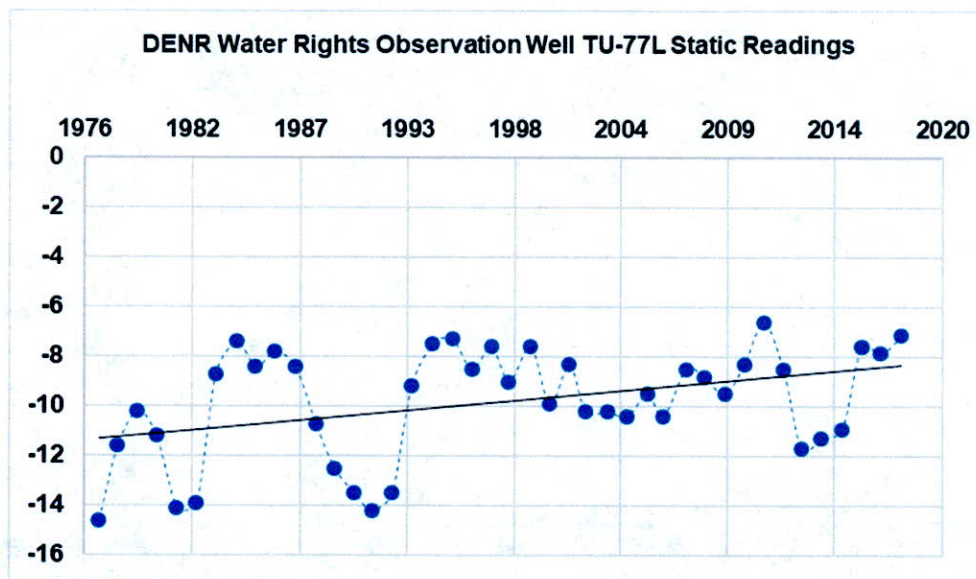


Figure 17. Hydrograph for static water level in observation well TU-77L (Water Rights, 2021b)

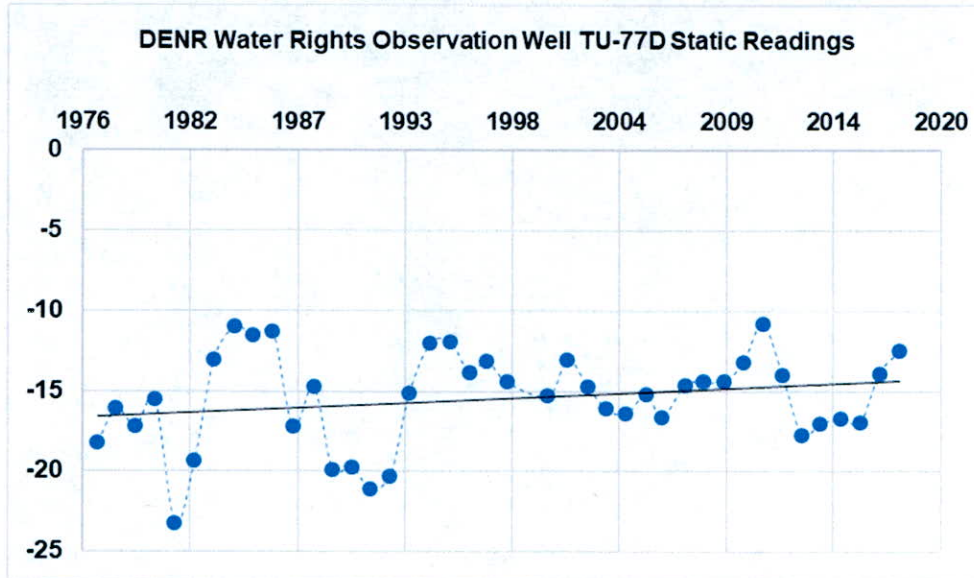


Figure 18. Hydrograph for static water level in observation well TU-77D (Water Rights, 2021b)

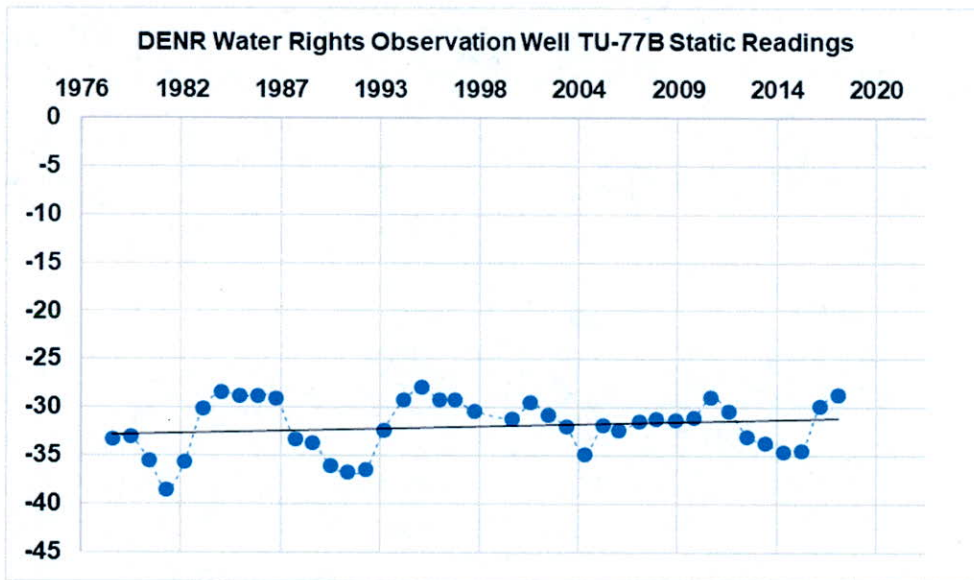


Figure 19. Hydrograph for static water level in observation well TU-77B (Water Rights, 2021b)

The hydrographs for the “static” conditions of the Upper Vermillion Missouri: North aquifer (as shown in Figures 11 to 19) all display stable to increasing water levels throughout the respective period of record, except for the hydrograph with the “static” condition readings for observation well TU-77F (Figure 15). The downward trend on the hydrograph with the “static” condition readings for observation well TU-77F is likely caused by the observation well having not reached equilibrium due to the increased development of South Lincoln Rural Water System (see Table 2) (Buhler, 2015). The “static” condition water levels have maintained an upward or stable trend despite increased well withdrawals for irrigation (see Table 3). The effects of

recharge to and natural discharges from the aquifer governs the long-term fluctuations in water level of the aquifer rather than the impacts of pumping from the Upper Vermillion Missouri: North 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.

The Parker-Centerville aquifer overlies and is hydraulically connected to portions of the Upper Vermillion Missouri: North aquifer (Holmes and Filipovic, 2015). Recharge to the Upper Vermillion Missouri: North aquifer occurs through leakage from the overlying Parker-Centerville aquifer where the two aquifers are in direct contact (Buhler, 2015; Holmes and Filipovic, 2015). The “static” condition water levels of the Upper Vermillion Missouri: North aquifer have remained stable to increasing throughout the respective period of record (see Figures 11 to 19) despite the increase in average annual pumping (see Tables 1, 2 and 3). Therefore, induced recharge from the Parker-Centerville aquifer has likely increased. The DENR-Water Rights Program monitors ten observation wells completed into the Parker-Centerville aquifer (Water Rights, 2021b). Linear trendlines on the water level data from those ten Parker-Centerville aquifer observation wells all display an upward trend, although recharge induced by the Upper Vermillion Missouri: North aquifer has likely increased (Water Rights, 2021b). Therefore, additional recharge to the Upper Vermillion Missouri: North aquifer can be induced, and additional water is available for this proposed appropriation.

POTENTIAL FOR UNLAWFUL IMPAIRMENT OF EXISTING WATER RIGHTS:

Currently, there are 52 water rights/permits authorized to appropriate water from the Upper Vermillion Missouri: North aquifer (Water Rights, 2021c). The closest water right/permit to the proposed diversion point is Water Permit No. 6561-3 which is held by David Smit for irrigation use. The diversion point for Water Permit No. 6561-3 is located approximately 0.4 miles northwest of the proposed diversion point (Figure 20) (Water Rights, 2021c).

There are domestic wells on file with the DENR-Water Rights Program that are completed into the Upper Vermillion Missouri: North aquifer, with the closest domestic well on file (not held by the applicant) approximately 0.75 miles northeast of the proposed diversion point (Water Rights, 2021d). There is only one domestic well within one mile of the proposed diversion point. There are likely other domestic wells completed into the Upper Vermillion Missouri: North aquifer near the proposed diversion point that are not on file with the DENR-Water Rights Program.

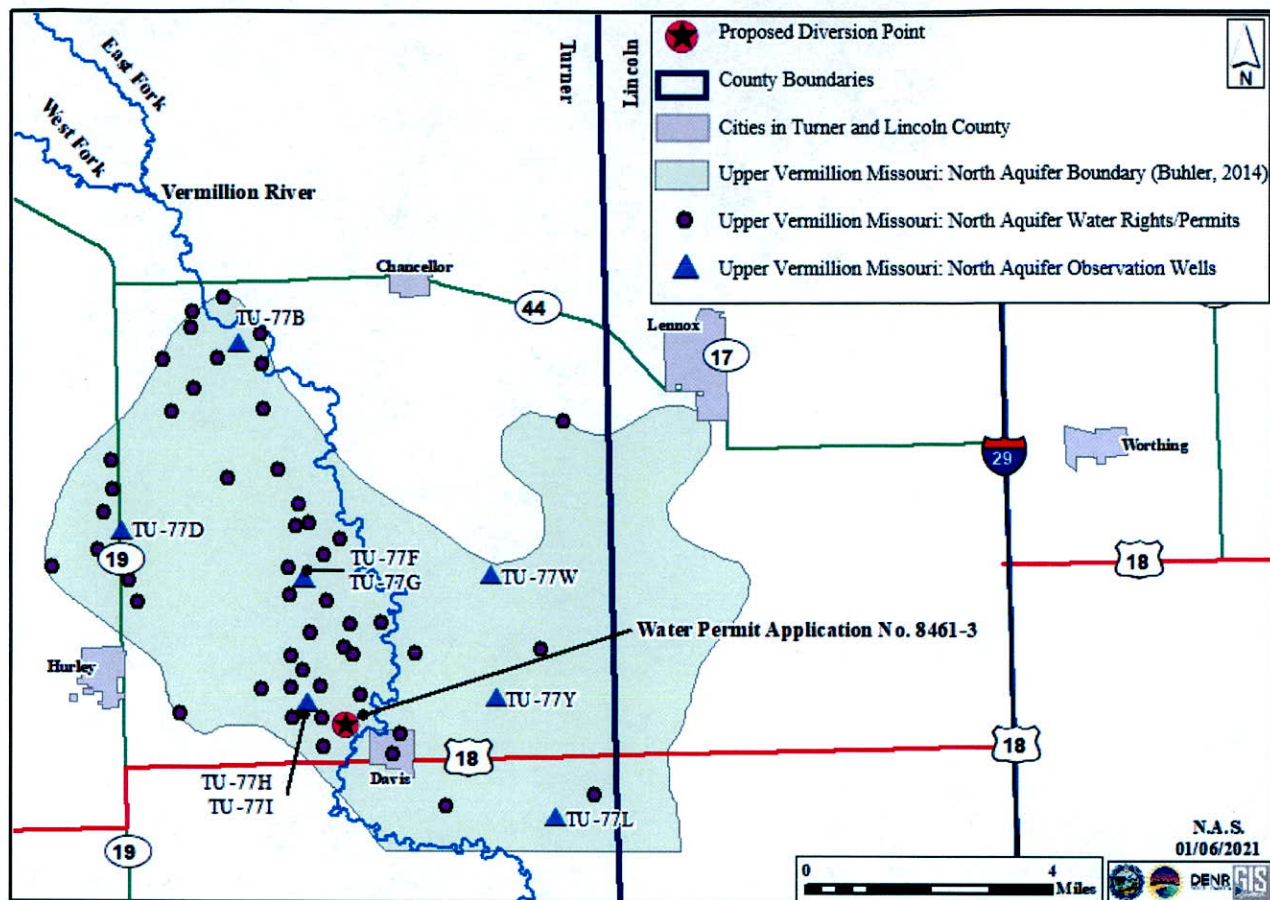


Figure 20. Location of the proposed diversion point, the Upper Vermillion Missouri: North aquifer water rights/permits and observation wells (Water Rights, 2021b and 2021c)

The Upper Vermillion Missouri: North aquifer is generally buried and confined but can be locally unconfined in locations where the Parker-Centerville aquifer directly overlies it (Holmes and Filipovic, 2015). The Upper Vermillion Missouri: North aquifer is expected to be confined at the proposed diversion point based on the well completion reports for nearby wells and lithologic logs on file for nearby observation wells (SDGS, 2021; Water Rights, 2021b and 2021d). 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. Observation well TU-77H (approximately 0.75 miles northwest of proposed diversion point) has ten high-yield irrigation wells within approximately one mile of it (Water Rights, 2021b and 2021c). The drawdown from pumping can be seen on the hydrograph for TU-77H, along with the aquifer returning to pre-pumping conditions between irrigation seasons (Figure 3) (Water Rights, 2021b). The lithologic log on file for TU-77H noted the well was drilled 110 feet deep with the top of aquifer is expected to be approximately 63 feet below the ground surface (SDGS, 2021). The lowest recorded static water level on the hydrograph is approximately 26 feet, which indicates there was still about 37 feet of artesian head pressure in TU-77H even during drier periods when high-yield irrigation wells are expected to be pumping more water (Water Rights, 2021b).

Well completion reports on file with the DENR-Water Rights Program for wells completed into the Upper Vermillion Missouri: North aquifer within approximately two miles of the proposed diversion point for this application have a saturated aquifer thickness ranging from approximately 20 to 100 feet and have the depth to the top of aquifer materials ranging from approximately 50 to 150 feet below the ground surface (Holmes and Filipovic, 2015; SDGS, 2021; Water Rights, 2021d). This would 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 Turner County, there are no complaints on file with the DENR-Water Rights Program regarding well interference for adequate wells completed into the Upper Vermillion Missouri: North aquifer (Water Rights, 2021e).

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 Upper Vermillion Missouri: North 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 thickness of the Upper Vermillion Missouri: North aquifer at the applicant’s location, and the lack of well interference complaints, any drawdown created from the proposed diversion is not expected to cause an unlawful impairment on existing water rights/permits 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. 8461-3 proposes to irrigate 140 acres from one well (200 feet deep) to be completed into the Upper Vermillion Missouri: North aquifer at a maximum instantaneous diversion rate of 1.78 cfs. This site is located in Turner County, approximately one-half mile north of Davis, South Dakota.
2. The applicant holds Water Permit No. 7789-3 which authorizes a maximum instantaneous diversion rate of 3.68 cfs from two wells (50 feet deep) completed into the Parker-Centerville aquifer for the irrigation of 150 acres. The applicant indicated the north well completed into the Parker-Centerville aquifer provides inadequate production. Upon a licensing investigation, Water Permit No. 7789-3 will be reduced in diversion rate authority and acreage to what the south well produces and irrigates.
3. If approved, Water Permit Application No. 8461-3 will authorize a maximum instantaneous diversion rate of 1.78 cfs from one well to be completed into the Upper Vermillion Missouri: North aquifer for the irrigation of 140 acres. The applicant requests approval to irrigate a portion of the same acreage permitted by Water Permit No. 7789-3.
4. Based on the observation well data, there is a reasonable probability that unappropriated water is available from the Upper Vermillion Missouri: North aquifer to supply the proposed appropriation.
5. There is a reasonable probability that the proposed diversion by Water Permit Application No. 8461-3 will not unlawfully impair adequate wells for existing water rights/permits and domestic users.

Nakaila Steen

Nakaila Steen
Natural Resources Engineer I
SD DENR - Water Rights Program

Reviewed by:

Adam Mathiowetz

Adam Mathiowetz, PE
Natural Resources Engineer III
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 Bldg., Pierre, SD.
- Buhler, K.A., 2015. Report to the Chief Engineer on the North Management Unit of the Upper Vermillion Missouri Aquifer. SD DENR – Water Rights Program, Joe Foss Bldg., Pierre, SD.
- Hedges, L.S., Burch, S.L., Iles, D.L., Barari, R.A., Schoon, R.A., 1982. Evaluation of Ground- Water Resources Eastern South Dakota and Upper Big Sioux River, South Dakota and Iowa, Task 1: Bedrock Topography and Distribution, Task 2: Extent of Aquifers, Task 3: Ground-Water Storage, Task 4: Computerized Data Base, Final Report; U.S. Army Corps of Engineers Contract DACW 45-80-C-0185.
- Holmes, S.L. and Filipovic, D., 2015. Hydrogeologic Investigation of the Upper Vermillion Missouri Aquifer. Open-File Report 93-UR. SD DENR-Geological Survey. Vermillion, SD.
- Lindgren, R.J., Hansen, D.S., 1990. Water Resources of Hutchinson and Turner Counties, South Dakota. U.S. Geological Survey Water-Resources Investigations Report 90-4093, 100p.
- Mathiowetz, A., 2021, January 19. Personal Communication. Natural Resources Engineer III DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.
- SDGS, 2021. South Dakota Geological Survey Lithologic Logs Database. Accessed January 13, 2021. <http://cf.sddenr.net/lithdb/>.
- Water Rights, 1995. Findings of Fact, Conclusions of Law, and Final Decision in the Matter of Water Permit Application No. 2313-2, Coca-Cola Bottling Company of the Black Hills. SD-DENR-Water Rights Program file for Water Right No. 2313-2. Pierre, SD.
- Water Rights, 2021a. "1979-2019 Irrigation Summaries by Aquifer", SD DENR-Water Rights Program, Joe Foss Building, Pierre, SD.
- Water Rights, 2021b. Observation Well Data, SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.
- Water Rights, 2021c. Water Right/Permit Files, SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.
- Water Rights, 2021d. Well Completion Reports, SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.
- Water Rights, 2021e. County Files, SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.
- Water Rights, 2021f. "2003-2019 Non-Irrigation Yearly Reports", SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.

Schlaak, Karen

From: Schlaak, Karen
Sent: Tuesday, January 26, 2021 8:43 AM
To: hult@svtr.com
Subject: Water Permit Application No. 8461-3
Attachments: 0399.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 notice is scheduled to run February 4, 2021. This information is being mailed to you today.

Karen Schlaak
Water Rights Program
(605) 773-3352



RECEIVED

FEB 26 2021

WATER RIGHTS
PROGRAM

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)

County of Turner) SSI, Julie Norvell

certify that the attached printed Notice was taken

from the The New Eraprinted and published in ParkerCounty of Turner and

state of South Dakota. The notice was published

in the newspaper on the following date:

Feb. 4, 2021

Cost of Printing

\$ 34.75Julie Norvell
(Signature)Office Manager
(Title)Feb. 22, 2021
(Date Signed)

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 February 15, 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

Notice of Application No. 8461-3 to Appropriate Water

Notice is given that Jerome Hult, 45967 US Hwy 18, Davis SD 57021 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: North Aquifer (200 feet deep) located in the SW 1/4 NE 1/4 Section 32 for irrigation of 140 acres located in the NE 1/4 Section 32; all in T98N-R52W. Water Permit No. 7789-3 authorizes irrigation of a portion of the same acreage from wells completed into the Parker Centerville Aquifer. This site is located approximately 1/2 mile north of Davis SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8461-3 with qualifications because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) It is a beneficial

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 \$34.75 (N0204-1)

Argus Leader

P.O. Box 677349, Dallas, TX 75267-7349

RECEIVED

FEB 17 2021

WATER RIGHTS
PROGRAM

Account No.: 6053663134

Ad No.: 0004573628

PO #: 8461-3

Lines : 101

Ad Total: \$67.21

This is not an invoice

of Affidavits 1

JEROME HULT
45967 US HWY 18
DAVIS, SD 57021

Account No.: 6053663134
Ad No.: 0004573628

Argus Leader AFFIDAVIT OF PUBLICATION

STATE OF SOUTH DAKOTA

COUNTY OF MINNEHAHA

I being duly sworn, says: That The Argus Leader is, and during all the times hereinafter mentioned was, a daily legal newspaper as defined by SDCL 17-2-21, as amended published at Sioux Falls, Minnehaha County, South Dakota; that affiant is and during all of said times, was an employee of the publisher of such newspaper and has personal knowledge of the facts stated in this affidavit; that the notice, order or advertisement, a printed copy of which is hereto attached, was published in said newspaper upon

Thursday, February 4, 2021

Sworn to and subscribed before me this 4 day of February, 2021.

Legal Clerk

Notary Public, State of Wisconsin, County of Brown

My Commission expires

VICKY FELTY
Notary Public
State of Wisconsin

NOTICE OF
APPLICATION NO. 8461-3
to Appropriate Water

Notice is given that Jerome Hult, 45967 US Hwy 18, Davis SD 57021 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:North Aquifer (200 feet deep) located in the SW 1/4 NE 1/4 Section 32 for Irrigation of 140 acres located in the NE 1/4 Section 32; all in T98N-R32W. Water Permit No. 7789-3 authorizes irrigation of a portion of the same acreage from wells completed into the Parker Centerville Aquifer. This site is located approximately 1/2 mile north of Davis SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8461-3 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 Duval 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 February 15, 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 \$67.21
4573628 Feb 4, 2021

Schlaak, Karen

From: Schlaak, Karen
Sent: Tuesday, January 26, 2021 8:32 AM
To: 'legals@argusleader.com'
Subject: 8461-3, Jerome Hult
Attachments: 8461-3public.short.docx; FORM8.FRM.doc

Attached is a notice to be published on February 4, 2021.

Jerome Hult, 45967 US Hwy 18, Davis SD 57021 (605 366-3134) 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



Schlaak, Karen

From: Schlaak, Karen
Sent: Tuesday, January 26, 2021 8:31 AM
To: newera@ncppub.com
Subject: 8461-3, Jerome Hult
Attachments: 8461-3public.short.docx; FORM8.FRM.doc

Attached is a notice to be published on February 4, 2021.

Jerome Hult, 45967 US Hwy 18, Davis SD 57021 (605 366-3134) 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.**

January 26, 2021

Jerome Hult
45967 US Hwy 18
Davis SD 57021

Dear Mr. Hult:

Water Permit Application No. 8461-3 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 New Era printed at Parker SD (Ph # 605 297-4419) and the Argus Leader printed at Sioux Falls SD (Ph # 605 331-2200). 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.

NOTICE OF APPLICATION NO. 8461-3 to Appropriate Water

Notice is given that Jerome Hult, 45967 US Hwy 18, Davis SD 57021 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:North Aquifer (200 feet deep) located in the SW 1/4 NE 1/4 Section 32 for irrigation of 140 acres located in the NE 1/4 Section 32; all in T98N-R52W. Water Permit No. 7789-3 authorizes irrigation of a portion of the same acreage from wells completed into the Parker Centerville Aquifer. This site is located approximately 1/2 mile north of Davis SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8461-3 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 February 15, 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_



DENR
SOUTH DAKOTA

**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

APR 08 2021

Jerome Hult
45967 US Hwy 18
Davis SD 57021

Dear Mr. Davis:

Enclosed is Water Permit No. 8461-3 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

Enclosure

8461-3
RECEIVED

JUL 07 2022

OFFICE OF
WATERNOTICE OF COMPLETION OF WORKS AND
APPLICATION OF WATER TO BENEFICIAL USEDate 6-20-22TO: Water Rights Program, DENR
523 E. Capitol
Pierre, SD 57501-3181

FROM:

Jerome Hult
(name)45967 Hwy 18
(address)Davis SD 57021
(city, state, zip)605 366 3134
(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. 8461-3 states that the water use system is to be constructed by 2-15-2026, and water is to be put to beneficial use by 2-15-2030.
(date) (date)

The water use system was completed on 6-15-22.
(date)

Applying the water to beneficial use was completed on 6-17-22.
(date)

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

Jerome Hult
(Signature)





**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

July 11, 2022

8461-3

Jerome Hult
45967 US Hwy 18
Davis SD 57021

Dear Mr. Hult:

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 irrigation 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,

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

968-3 +
8461-3

Water Right No. 968-3

Water Rights Program – DENR
Conversation File Documentation

NAME OF PERSON OR FILE: Water Right No. 968-3
Gary/Rodney Knock

ADDRESS: 46020 283rd St., Davis, SD 57021 COUNTY: Turner

DATE: October 31, 2024 TELEPHONE: 605 238-5623

RE: Status of Water Right No. 968-3

COMMENTS:

I conducted an inspection for Water Permit No. 8461-3 in the NE1/4 of Section 32, T98N-R52W. During the inspection I noticed that there was an existing well very near the middle of the NW1/4 at Latitude 43.26860, Longitude -97.00881. The pump and gear drive are still at the site along with an old fuel tank and a pile of pipe. However, there was not an engine on site to power the pump nor was there a pivot at the site.

Back in the office I checked the DANR web site for information about this well. I found that this well and the no longer existing pivot are licensed under Water Right No. 968-3 using water from the Parker Centerville Aquifer. The area previously irrigated by this pivot is now irrigated under Water Permit No. 8461-3 out of the Upper Vermillion Missouri: North Aquifer.

Since the NE1/4 of the NE1/4 is no longer irrigated by Water License No. 968-3, DANR should consider contacting Mr. Knock about cancelling this water license.

Keith DeJong, PE Ret.
Staff Engineer

File No. 968-3 &
8461-3

WATER RIGHTS PROGRAM -- FILE DOCUMENTATION

NAME & ADDRESS: Gary/Rodney Knock & Jerome Hult

DATE: 03/17/2025

TELEPHONE: Jerome - 605-366-3134

RE: back up source

COMMENTS:

In review of the file doc drawn up by Keith Dejong in October 2024, I contacted Jerome Hult to try to get a better understanding of what was happening with the irrigation Water Right held by Knock's, since his permit (8461-3) authorized coverage of duplicate acres.

Mr. Hult explained that he had an agreement with Knock's, allowing his irrigation system to run over their land, which has made the need for their well obsolete, however, the well is still functional and, in an emergency, could be reconnected for irrigation in the matter of a week or so.

It is the wish of the permit holder to maintain the well authorized under 968-3 as a backup source in the event that irrigation is no longer possible under 8461-3.



Amanda Dewell
Water Rights Program

File No. 968-3 &
8461-3

WATER RIGHTS PROGRAM -- FILE DOCUMENTATION

NAME & ADDRESS: Gary/Rodney Knock & Jerome Hult

DATE: 03/17/2025

TELEPHONE: Jerome - 605-366-3134

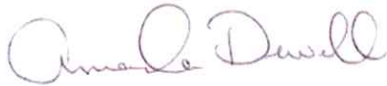
RE: back up source

COMMENTS:

In review of the file doc drawn up by Keith Dejong in October 2024, I contacted Jerome Hult to try to get a better understanding of what was happening with the irrigation Water Right held by Knock's, since his permit (8461-3) authorized coverage of duplicate acres.

Mr. Hult explained that he had an agreement with Knock's, allowing his irrigation system to run over their land, which has made the need for their well obsolete, however, the well is still functional and, in an emergency, could be reconnected for irrigation in the matter of a week or so.

It is the wish of the permit holder to maintain the well authorized under 968-3 as a backup source in the event that irrigation is no longer possible under 8461-3.



Amanda Dewell
Water Rights Program

**Report of Examination of Works and/or Application of Water to Beneficial Use
For Permit No. 8461-3**

I have this day, October 23, 2024, made a thorough examination of the water use system owned by Jerome Hult, 45967 US Hwy 18, Davis, SD 57021, holder of Permit No. 8461-3, bearing the priority date of December 2, 2020. This permit appropriates 1.78 cubic feet of water per second (cfs) from one well to be completed into the Upper Vermillion Missouri: North Aquifer (200 feet deep) located in the SW1/4 NE1/4 Section 32 for irrigation of 140 acres located in the NE1/4 Section 32; all in T98N-R52W. Water Permit No. 7789-3 authorizes irrigation of a portion of the same acreage from wells completed into the Parker Centerville Aquifer. This site is located approximately 1/2 mile north of Davis, in Turner County, SD.

Inspection contacts: Jerome Hult

A. Works used to divert the water:

Well Information

- 1) Well Drilling Firm: Sam Heine Well Co. LLC
- 2) No. of Wells: 1
- 3) Depth(s): Unknown feet
- 4) Well log is available: No

Casing:

- 1) Diameter: Unknown inches
- 2) Length: Unknown feet
- 3) Type: Unknown

Screen:

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

Pump:

- 1) Make: Custom Pipe & Fabrication Inc.
- 2) Model: 9RKLC
- 3) Capacity: 850 gpm

Motor:

- 1) Make: Unknown
- 2) Model No.: Unknown
- 3) Horsepower rating: 40 hp

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

- 1) Type: Aluminum Size: 8 inches Length: 15 feet

C. Works used to apply water to beneficial use:

Center Pivot:

- 1) Make: Zimmatic
- 2) Overall length: 1,301 feet
- 3) Number of towers: 7
- 4) End gun: Yes Range: 96 feet
- 5) Capacity: 800 gpm

Chemigation Equipment:

- 1) Does chemigate: No

D. Compliance with Permit Requirements:

- 1) Permit qualifications being abided by: No
- 2) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period: Yes
- 3) Exceptions to compliance are: The pump is rated for more than what is permitted but pivot system is valved down to 800 gpm.

E. Condition and Location:

- 1) The system is in good condition with the point(s) of diversion located as follows:
The well is 1,330 feet south and 1,300 feet west of the northeast corner of Section 32-T98N-R52W. (Latitude 43.26858, Longitude -97.00891– SW ¼ NE ¼).
- 2) The works are capable of diverting and conveying to the places of use 1.78 cu. ft. per second of water from the well which is to be used for irrigation purposes. Water has been put to beneficial use to the maximum extent as follows: All in

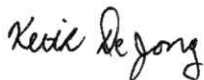
Section 32-T98N-R52W

<u>NW1/4NE1/4</u>	<u>34 acres</u>
<u>NE1/4NE1/4</u>	<u>34 acres</u>
<u>SW1/4SE1/4</u>	<u>34 acres</u>
<u>SE1/4SE1/4</u>	<u>34 acres</u>

comprising a total of 136 acres of land and the license should be issued for 1.78 cfs.

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

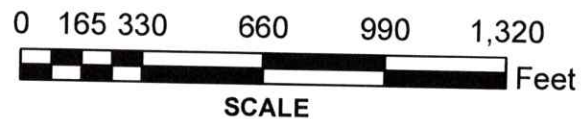
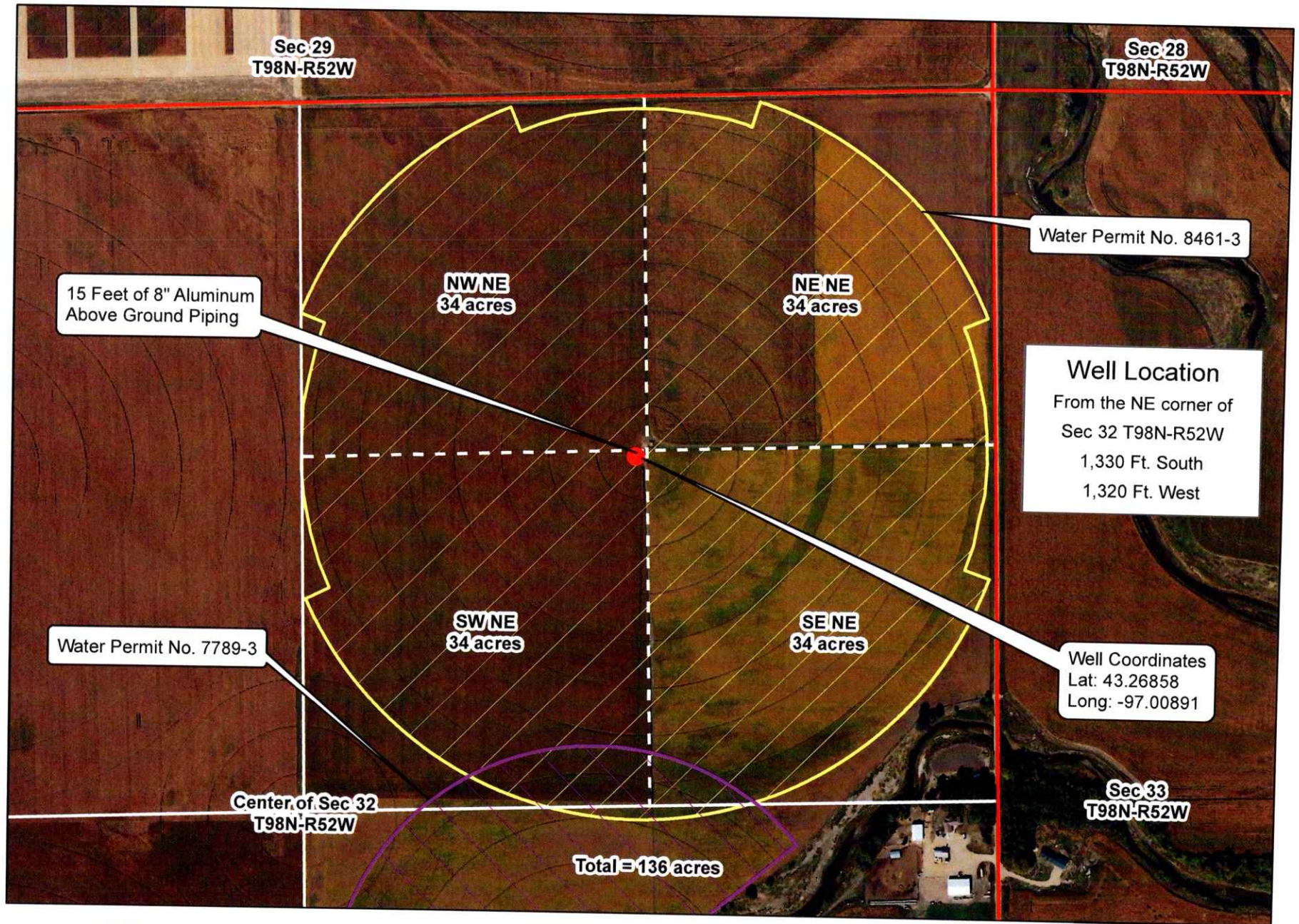
F. Comments or other permit(s) associated with the project: The irrigated area of this permit overlaps the irrigated area of Water Permit No. 7789-3. I included the overlap area in both permits since the water for the two permits comes from different aquifers. A portion of the area irrigated by this permit was originally included in Water Permit No. 7789-3. However, the original well did not produce enough water, so Water Permit No. 8461-3 was obtained to get water from another aquifer. Also, the pump is rated for more than what was permitted. However, the pivot is only nozzled for what was permitted. I obtained the pump and motor information from a plate on the well cap, but the well driller did not supply a well log. Irrigated acres in NE ¼ NE ¼ are also authorized under Water Right No. 968-3 (see Amanda Dewell's file docs for full explanation).



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

Date report completed: November 13, 2024

Water Permit No. 8461-3



Keith DeJong
Keith DeJong, PE Ret.
Staff Engineer
October 23, 2024

2024

Location SW 1/4 NE 1/4 Sec 32 Twp 98N Rg 52W

County Turner

GPS Coordinates
Lat: 43.268546
Lon: -97.008921

Please mark well location with an "X" on section grid

Well Completion Date 12-01-21

Distance from nearest potential pollution source (Septic tank, abandoned well, feed lot, etc.)
1763 ft. from Septic tank (identify source)

PROPOSED USE:
☐ Domestic/Stock ☐ Municipal ☐ Business ☐ Monitoring Well
☒ Irrigation ☐ Industrial ☐ Institutional ☐ Test Hole
☐ Dewatering Well ☐ Geothermal ☐ Other _____

METHOD OF DRILLING: Reverse rotary

CASING DATA: ☐ Steel ☒ Plastic ☐ Other
 If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	<u>12</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 Bentonite grout No. of Sacks _____ Grout Weight _____ Lb/gal
 From 0 Ft To 120 Ft
 Describe grouting procedure tremie pipe

SCREEN: ☒ Perforated pipe ☐ Manufactured
 Diameter 12 Inches Length 60 Feet
 Material RVC
 Slot Size 50 Set From 120 Feet to 180 Feet
 Other information 1- Johnson SS 20ft long 60 slot from 180ft to 200ft

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? Chlorine Tablets
☐ No, Why Not? _____
 Lab sample sent to for water quality analysis _____

Well Owner: Jerome Hunt
 Business Name: _____
 Address: 45467 Hwy 18
 City, State, Zip: Davis, SD 57021

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
Asphalt Top Soil	<u>0</u>	<u>2</u>
Sand + gravel	<u>2</u>	<u>30</u>
Gray clay + rocks	<u>30</u>	<u>132</u>
Gravel, sand med.	<u>132</u>	<u>190</u>
clay gray	<u>190</u>	<u>200</u>

STATIC WATER LEVEL 10 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: diesel engine + turbine
☐ Bailed ☐ Air
☐ Other
 Pumping Level Below Land Surface
30 Ft. After 6 Hrs. pumped 750 GPM
 _____ Ft. After _____ Hrs. pumped _____ GPM
 If pump installed, pump rate: _____ GPM

REMARKS
 This well was drilled under license # 805
 And this report is true and accurate.
 Drilling firm: Sam Well Co
 Signature of License Representative: _____
 Signature of Well Owner or Equitable Property Holder: _____
 Date: 8-4-2023

Please return White Copy to DANR Water Rights 523 E. Capitol Ave., Pierre SD 57501

STATE OF SOUTH DAKOTA
WATER LICENSE NO. 8461-3

(1) Jerome Hult, 45967 US Hwy 18, Davis, SD 57021, made Application No. 8461-3, December 2, 2020, for a water permit to divert 1.78 cubic feet of water per second from groundwater, one well (Upper Vermillion Missouri: North Aquifer), Turner County, South Dakota for irrigation purposes. Permit No. 8461-3, with a priority date of December 2, 2020, was approved February 15, 2021, and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before February 15, 2026, and for the application to beneficial use of water on or before February 15, 2030.

The permit holder submitted a Notice of Completion of Works and Application of Water to Beneficial Use form on July 7, 2022. The Notice stated the diversion system was completed on June 15, 2022 and the water was placed to beneficial use on June 17, 2022.

(2) It is certified that the permit holder has complied with the provisions of South Dakota State Law relating to completion of the construction of the water supply system and is entitled to divert 1.78 cubic feet of water per second for beneficial use. The location of the diversion point is:

- 1,330 feet S and 1,320 feet W from the NE corner of Section 32, T98N, R52W (SW $\frac{1}{4}$ NE $\frac{1}{4}$)
(Latitude 43.26858 and Longitude -97.00891)

(3) The amount of appropriation may not exceed 2 acre-feet annually for each acre of land to which water is actually and beneficially applied for irrigation. The water is to be used during the following described annual period: April 1 – October 31.

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

Section 32, T98N, R52W
NE $\frac{1}{4}$ NE $\frac{1}{4}$ - 34 acres
NW $\frac{1}{4}$ NE $\frac{1}{4}$ - 34 acres
SW $\frac{1}{4}$ SE $\frac{1}{4}$ - 34 acres
SE $\frac{1}{4}$ SE $\frac{1}{4}$ - 34 acres
Total – 136 acres

(5) Pursuant to South Dakota Water Law 46-5-30.1 Jerome Hult, the holder and/or owner of Water Right No. 8461-3 is issued a license to appropriate water, the right to use 1.78 cubic feet of water per second from groundwater, one well (Upper Vermillion Missouri: North Aquifer), with a priority date of December 2, 2020, from the location specified in (2) of this license for irrigation purposes.

This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Right No. 8461-3 and subject to the following qualifications:

1. The well approved under Water Permit No. 8461-3 will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner, under this Permit shall control withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.

continued

2. The well authorized by Permit No. 8461-3 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. *(The well was drilled in 2021 by Sam Well Co. A copy of the well completion report is on file with the Water Rights Program.)*

3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.



Mark Mayer, PE
Director of Office of Water

8/22/25
date





**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

AUG 22 2025

Jerome Hult
45967 US Hwy 18
Davis, SD 57021

8461-3

Dear Mr. Hult:

Enclosed is Water License No. 8461-3. This is the final water right document completing your process of obtaining a Water Right. Included with your license is a map prepared by the staff engineer who conducted the field investigation.

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

So long as you use the water beneficially, as stated in the Water License, State Water Laws provide that you have a continuing right to use the water. If you have any questions regarding the enclosed license, please contact Water Rights Permitting Administrator, Amanda Dewell at (605) 773-3352 or Amanda.Dewell@state.sd.us.

Sincerely,

Mark Mayer, PE
Director of Office of Water
(605) 773-3352

Note: Water Right No. 968-3 (Gary & Rodney Knock) and Permit No. 7789-3 (Jerome Hult) authorize irrigation of a portion of acres authorized under this license from wells completed into the Parker Centerville Aquifer.

enclosures