

WATER PERMIT NO. 8725-3

Name of Applicant: **Roger Sieck**

Address: **11504 Melchert Place, Hill City SD 57745**

Phone: **402 670-1781**

Amount of Water Claimed: **1.89 cfs**

Total Acres: **151**

Source of Water Supply: **groundwater (1 well)**

Water to be used for: **irrigation**

County: **Clay**

Type of Waste Disposal System:

Location: **7 miles northwest of Vermillion**

PRIORITY

Date Received: **2-17-23**

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

Corrected Application Received:

Period of Annual Use: **May 1 – October 31**

Remarks:

Diversion Point: **center of NW 1/4 Sec 15-T93N-R51W**

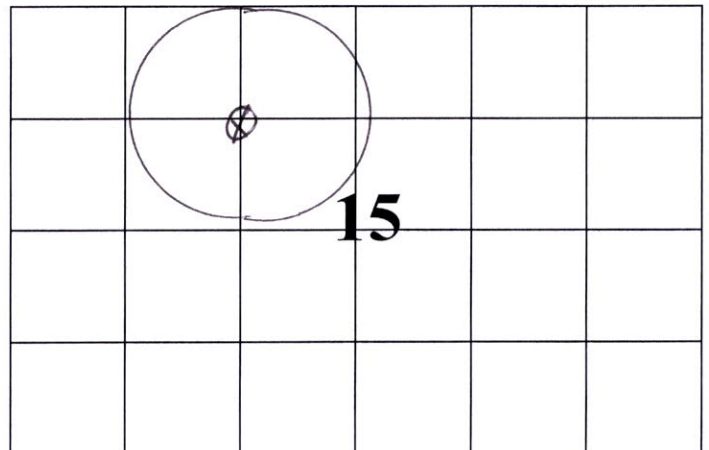
Land to be Irrigated: **NW 1/4, E 1/2 NE 1/4 Sec 15-T93N-R51W**

Depth of Well: **200 feet deep**

Well Driller: **Heine Electric & Irrigation**

Remarks:

Type of Map: **aerial**



Reviewed and the Number Assigned on: **2-21-23**

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____

SOUTH DAKOTA
WATER PERMIT NO. 8725-3

Date of first receipt of application February 17, 2023.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 8725-3 to Roger Sieck, 11504 Melchert Place, Hill City SD 57745 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. 8725-3 appropriates 1.89 cubic feet of water per second from one well to be completed into the Lower Vermillion Missouri Aquifer (approximately 200 feet deep) located in the center of the NW 1/4 Sec 15 for irrigation of 151 acres located in the NW 1/4, W 1/2 NE 1/4 Section 15; all in T93N-R51W. This site is located approximately 7 miles northeast 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: May 1 – October 31.
3. The date from which applicant may claim right is February 17, 2023.
4. The date of approval of Permit No. 8725-3 is May 1, 2023.
5. One-fifth of the construction is to be completed on or before November 1, 2025.
6. All construction is to be completed on or before May 1, 2028.
7. Water is to be put to beneficial use on or before May 1, 2032.
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. 8725-3 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. 8725-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

WATER MANAGEMENT BOARD

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

MAY 15 2023
date



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

Mail to: PMB 2020 DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>8725-3</u> (office use only) Hydrologic Unit <u>10170102</u>
	Basin <u>Vermillion R</u>
	Newspaper <u>Plain Talk 624-2695 (Fri)</u>
	<u>Press & Dakotan 605-7811</u>

PAID \$1050
FEB 17 2023
CK# 91615
Rec't# _____

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 Roger Sieck

(check one) ☒ Owner ☐ Tenant/lessee ☐ Owner's Legal Agent

(name and complete address if different than above name)

Mailing Address 11504 Melchert Place Hill City SD 57745
(Address) (City) (State) (Zip Code)

Home Phone 605-584-9910 Cell 402-670-1781 Email rogersieck025@gmail.com

2. Amount of water claimed 1.89 *CFS or 850 **GPM ***AF Total Acreage 144 15/
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)

3. Source of water supply aquifer

4. Location of point of diversion 1 well in center NW1/4 section 15-T93N-R51W

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

County Clay

5. County or counties where water will be used Clay

6. Annual period during which water is to be used May 1 - 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
NW1/4 of NW 1/4 S15 T93N R51W	36	W1/2 of NE 1/4 S15 T93N R51W	7
NE1/4 of NW 1/4 S15 T93N R51W	36		
SW1/4 of NW 1/4 S15 T93N R51W	36		
SE1/4 of NW 1/4 S15 T93N R51W	36		

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

A well for center pivot irrigation in ~~SW1/4 NE1/4~~ S15 T93N R51W.
NW1/4

RECEIVED

FEB 17 2023

OFFICE OF
WATER

I, Roger Sieck, the applicant, certify that I have read this application, have examined the attached map, and that the matters stated are true.

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 Heine Electric & Irrigation, Inc.
(if yes, please provide copies of logs)
- b) If existing wells, how many Provide copy of log(s), if available. Drilled by
- c) Well Depth 200' Depth to Top of Water Bearing Material 86 Depth to Water from Surface 92
- d) Distance to nearest existing domestic well:

On applicant's property no well On property owned by others 1 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

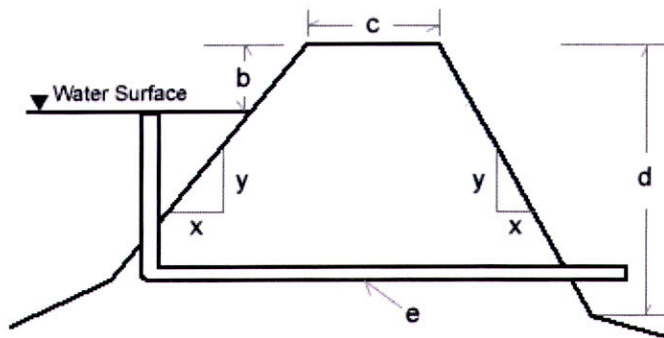
3. Dugout Information

- a) Surface Dimensions Depth
- b) Depth to water (ground surface to water level)

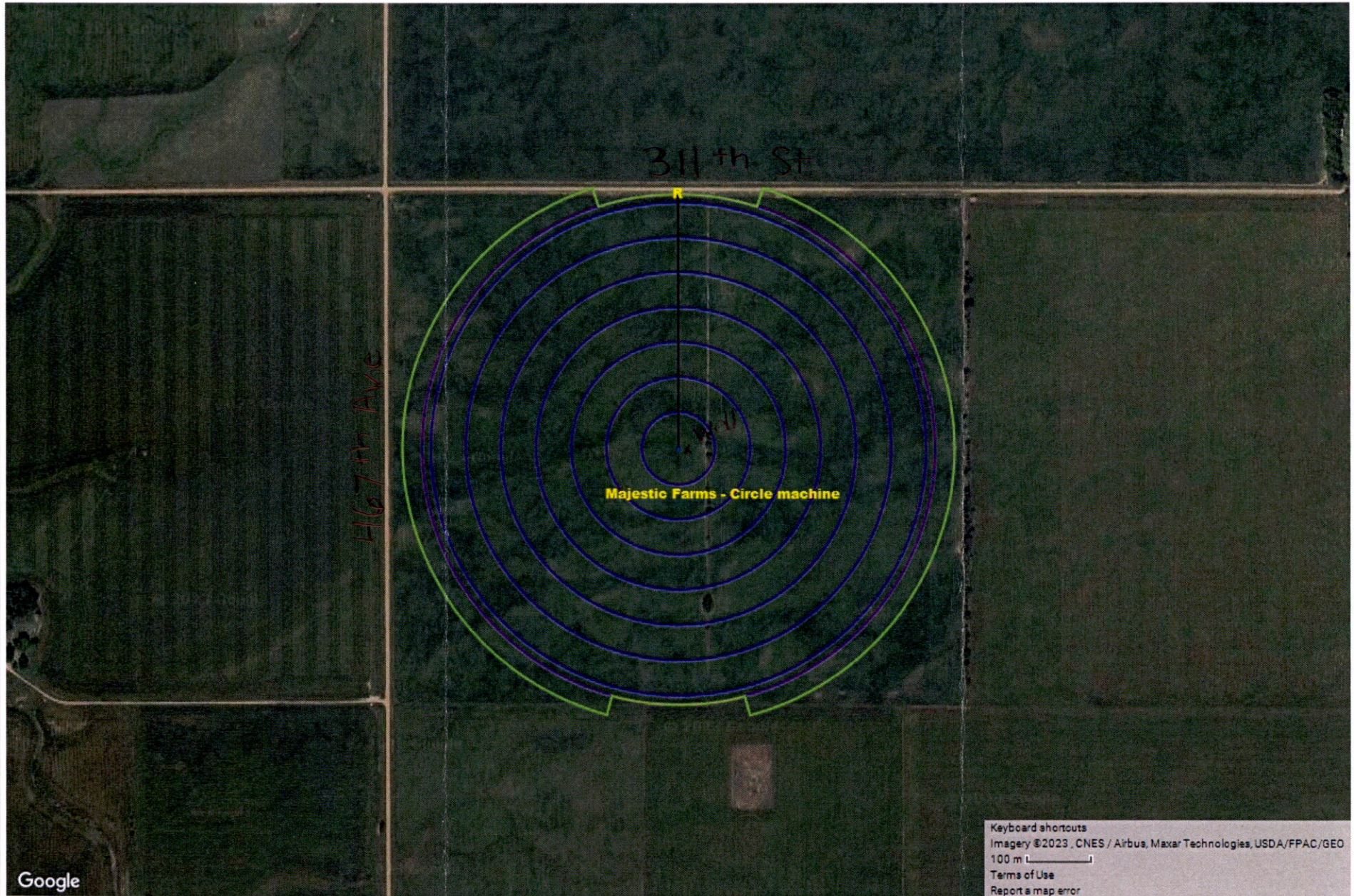
4. Water Storage Dams

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



RECEIPT

WATER RIGHTS PROGRAM South Dakota Department of Agriculture and Natural Resources

Date February 17, 2023

RECEIVED OF Roger/Debrah Sieck 11504 Melchert Place Hill City SD 57745

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

Fee for Application for Permit No. <u>8725-3</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>8725-3</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
vm

Water Rights Program - File Documentation

NAME: Roger Sieck

ADDRESS: Hill City

DATE: 2-21-23

RE: Application

COMMENTS:

I called Mr. Sieck and clarified that in Item No. 8 of the application should read
“A well for center pivot irrigation in NW 1/4 Sec 15-T93N-R51W.”



Karen Schlaak
Water Rights Program



**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. 8725-3, Roger Sieck**

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. 8725-3, Roger Sieck, 11504 Melchert Place, Hill City SD 57745.

The Chief Engineer is recommending APPROVAL of Application No. 8725-3 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. 8725-3 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. 8725-3 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
April 4, 2023

Report to the Chief Engineer
On Water Permit Application No. 8725-3

Roger Sieck

April 3rd, 2023

Water Permit Application No. 8725-3 proposes to appropriate 1.89 cubic feet of water per second (cfs) from one well to be completed into the Lower Vermillion Missouri aquifer (approximately 200 feet deep) located in the center of the NW ¼ Section 15 for irrigation of 151 acres located in the NW ¼, W ½ NE ¼ Section 15; all in T93N-R51W. The site of interest is located approximately 7 miles northeast of Vermillion, SD in Clay County.

AQUIFER: Lower Vermillion Missouri (LVM)

HYDROGEOLOGY:

The Lower Vermillion Missouri aquifer, referred as the LVM aquifer for the remainder of this report, is a buried glacial outwash that was deposited by meltwater streams beyond the margin of active glacial ice (Stephens, 1967). The LVM aquifer materials range in size from a coarse sand to a coarse gravel (Niehus, 1994). The LVM aquifer is primarily confined but can be locally found under unconfined conditions in the flood plain of the Vermillion River (Niehus, 1994; Stephens, 1967). The LVM aquifer has an average thickness of about 100 feet in Clay County (Stephens, 1967). Table 1 shows the information related to the areal extent of the LVM aquifer. The area utilized for this report is approximately 106,000 acres (Mathiowetz, 2018).

Table 1. Estimated areal extent for the historic LVM aquifer boundary (Hedges and others, 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 and others, 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 and others, 1982)	

The LVM aquifer is hydrologically connected to the Upper Vermillion Missouri: South (UVM:S) aquifer to the north, the Missouri: Elk Point aquifer to the south, the underlying Dakota aquifer, and the Vermillion River (Buhler, 2014; Mathiowetz, 2018; Niehus, 1994; Stephens, 1967). Hedges and others (1982) delineated a boundary between the Upper Vermillion Missouri aquifer and LVM aquifer with portions of each boundary being modified by Buhler (2014) and Mathiowetz (2018) in response to additional study of the Upper Vermillion Missouri aquifer, as shown on Figure 1.

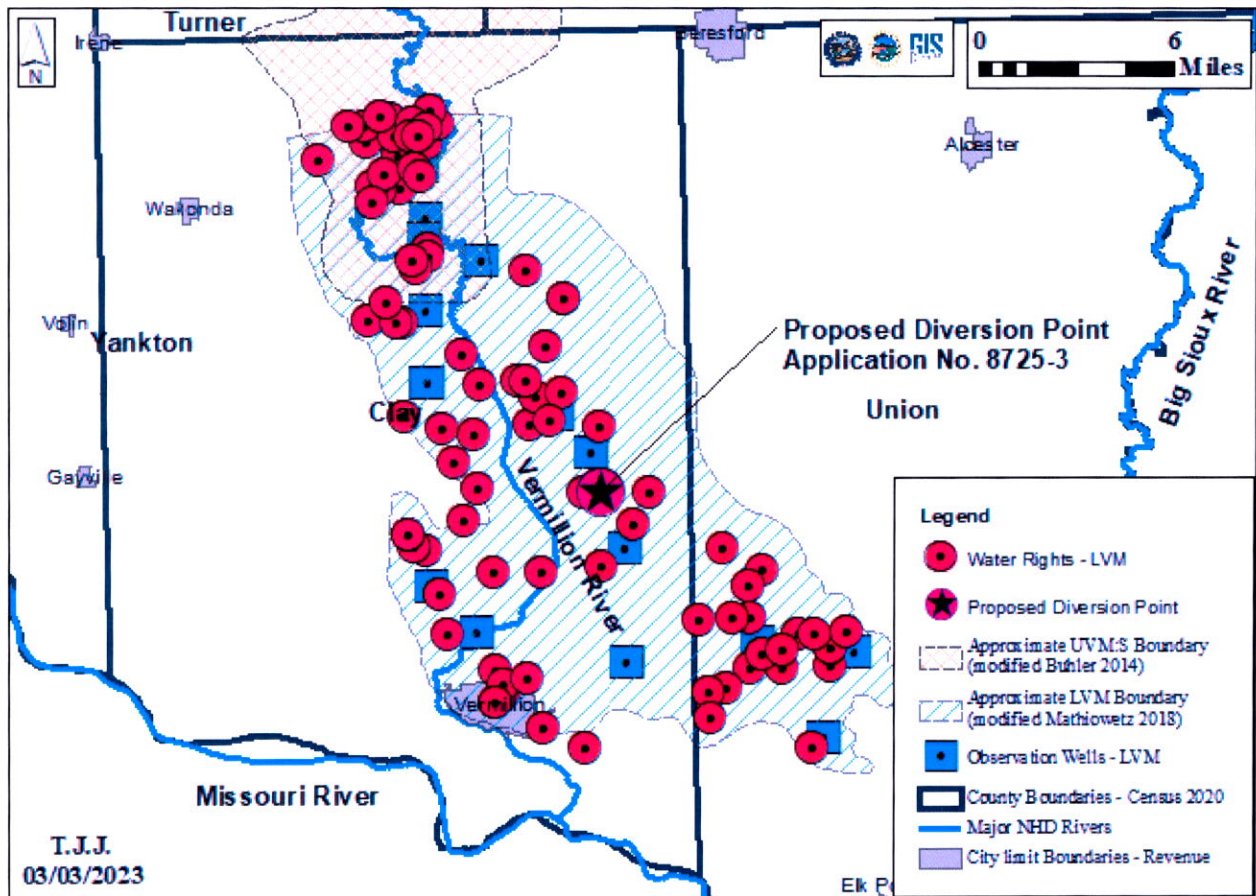


Figure 1. Map of the approximate LVM aquifer boundary delineated by Hedges and others (1982) with a portion of the UVM:S and LVM aquifer boundary estimated by Buhler (2014) and Mathiowetz (2018) respectively, and the location of proposed diversion point for Water Permit Application No. 8725-3, and LVM aquifer water rights/permits and observation wells (Water Rights, 2023b and 2023c). Note a number of water rights/permits considered to be appropriating water from the Upper Vermillion Missouri: South for the purposes of water management have not been formally reassigned so they still show up in Water Rights' databases (and therefore this map) as LVM permits.

A water well completion report was not submitted with the application. A nearby irrigation well completion report, located approximately 0.7 miles southwest of the proposed diversion point, lists a screen depth from 100 to 160 feet and a static water level of 72 feet below ground surface at the time of well completion, January 13th, 2013 (Water Right, 2023e). The geology on the Irrigation well completion report lists “topsoil” 0 to 2 feet below ground surface, “glacial till tan” 2 to 28 feet, “glacial till grey” 28 to 73 feet, “fine sand dark grey” 73 to 93 feet, “s

mall pebble gravel” 93 to 98 feet, “sand & gravel” 98 to 126 feet, “coaly sand” 126 to 151 feet, “small to medium gravel” 151 to 158 feet, and “clay mix w/ sandy dark color” 158 to 180 feet (Water Right, 2023e). Based on the geological data from irrigation well completion reports near the proposed diversion point, the LVM aquifer is expected to be confined at the diversion point (SDGS, 2023; Water Rights, 2023b and 2023d).

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 unappropriated water is available for the applicant’s proposed use, the proposed diversion can be developed without unlawful impairment of existing domestic water uses and water rights, the proposed use is a beneficial use, and the permit is in the public interest as it pertains to matters of public interest within the regulatory authority of the Water Management Board as defined by §§ 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 uses and water rights within the LVM aquifer.

WATER AVAILABILITY:

Water Permit Application No. 8725-3 proposes to appropriate water from the LVM 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 LVM 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 LVM aquifer must be considered.

HYDROLOGIC BUDGET:

Recharge

Recharge to the LVM aquifer is received primarily through infiltration of precipitation where the aquifer is at or near land surface, groundwater inflow from the Upper Vermillion Missouri: South aquifer, seepage from Vermillion River, and leakage from the underlying Dakota aquifer (Niehus, 1994; Stephens, 1967). Using observation well analysis, Hedges and others (1985) estimated a recharge rate of 3.8 inches per year for the unconfined portion of the LVM aquifer. However, Stonesifer (2013) recalculated the recharge rate to be an estimated 4.58 inches per year by using the same method but with additional observation well data. The unconfined area for this primarily confined aquifer is approximately 12,000 acres (Table 1; modified from Jensen, 2000; modified from Stonesifer, 2013). Therefore, the estimated average annual recharge rate for the

unconfined portion of the LVM aquifer is approximately 4,580 acre-feet/year (based on Stonesifer, 2013 and modified from Jensen, 2000).

It is assumed that the confined portion of the LVM 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 the recharge rate of the, primarily confined, Upper Vermillion Missouri aquifer to be approximately 0.25 inches per year. The confined portion of the LVM aquifer is approximately 94,000 acres, this was found by subtracting the unconfined area from the current total area on Table 1. Using the Hedges and others (1985) confined recharge rate multiplied by the confined portion areal extent, the average annual recharge rate for the confined portion of the LVM aquifer is approximately 1,960 acre-feet per year. Combining average annual recharge rate for both the confined and unconfined portions of the LVM aquifer (within the LVM aquifer within Hedges and others (1982) historical aquifer boundary minus Buhler (2014) delineation of the UVM:S aquifer boundary), the average annual recharge rate is approximately 6,540 acre-feet per year.

Discharge

Discharge from the LVM aquifer in South Dakota primarily occurs through well withdrawals, seepage to surface water features, and evapotranspiration in areas where the aquifer is at or near land surface. There are 94 water rights/permits authorized to appropriate water from the LVM aquifer within the historical aquifer boundary delineated by Hedges and others (1982) (Water Rights, 2023c). However, 61 water rights/permits are in both the LVM aquifer boundary delineated by Hedges and others (1982) and the Upper Vermillion Missouri: South aquifer boundary delineated by Buhler (2014). Of the 61 water rights/permits, 29 are currently withdrawing water from the Upper Vermillion Missouri: South aquifer but are still labeled as withdrawing water from the LVM aquifer. Therefore, by excluding the 29 water rights/permits that are withdrawing from the Upper Vermillion Missouri: South aquifer from the 94 water rights/permits, there are 65 water rights/permits authorized to appropriate water from the LVM aquifer within the current aquifer boundary delineated by Mathiowetz (2018). There are no future use permits reserving water from the LVM aquifer (Water Rights, 2023c).

Table 2 summarizes the 7 non-irrigation water rights/permits authorized to appropriate water from the LVM aquifer with the estimated annual use for each water right/permit as determined by their limiting diversion rate or annual volume. The data on Table 2 is broken up into two sets of water rights/permits 1) those that are located in the historic aquifer boundary by Hedges and others (1982) but not in the Upper Vermillion Missouri: South aquifer boundary delineated by Buhler (2014) and 2) water rights/permits that are located within both boundaries. The amount of water withdrawn was estimated by assuming the non-irrigation water rights/permits limited by an annual volume will withdraw their entire appropriated volume every year. It is estimated that the non-irrigation water rights/permits limited only by a diversion rate will pump at their maximum permitted diversion rate for 60 percent of the time. This is a standard method used by the DANR-Water Rights Program for estimating average annual withdrawals by non-irrigation appropriations limited solely by diversion rate. Overall, the estimated average annual withdrawal rate for the LVM aquifer non-irrigation water rights/permits within the historic aquifer boundary

(Hedges and others, 1982) is approximately 1,224.4 acre-feet/year, and approximately 48.6 acre-feet/year excluding water rights/permits that are in the Upper Vermillion Missouri: South delineation by Buhler (2014) (Table 2) (Water Rights, 2023c).

Table 2. Estimated average annual use for non-irrigation water rights/permits authorized to appropriate water from the LVM aquifer within the historic aquifer boundary by Hedges and others (1982) but not the UVM:S aquifer delineation by Buhler (2014), and non-irrigation water rights within aquifer boundary delineated by Hedges and others (1982) and Buhler's (2014) UVM:S boundary (Water Rights, 2023c).

Permit No.	Name	Uses	Status	Authorized Diversion Rate (cfs)	Authorized Annual Volume (acre-feet)	Estimated Use (acre-feet/year)
1870-3	USD FACILITIES MGMT	INS	LC	0.03	NA	13.0
6397-3	SD DEPT OF TRANSPORTATION	INS	LC	0.033	NA	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	KNIFE RIVER	IND	PE	0.133	1.84	1.84
					Total:	48.6
3905-3*	CLAY RURAL WATER SYSTEM INC	RWS	LC	2	NA	868.8
5979-3*	CLAY RURAL WATER SYSTEM INC	RWS	LC	2	307	307
					Total:	1175.8
*Within aquifer boundary delineated by Hedges and others (1982) and Buhler's (2014) UVM:S boundary						
LC Licensed Water Right, PE Water Permit, INS Institutional, COM Commercial, RWS Rural Water System						

There are 87 irrigation water rights/permits appropriating water from the LVM aquifer within Hedges and others (1982) historical aquifer boundary (Water Rights, 2023c). Irrigation water rights/permits have been typically required to report their annual usage on an irrigation questionnaire since 1979. However, due to changes in farming practices, new equipment, and an increase in the number of permits from 43 in 2006 to 71 in 2013, the average over the entire period of record may not be an accurate reflection of average annual irrigation withdrawal at the present time. The average annual withdrawal rate for the LVM aquifer within Hedges and others (1982 historical boundary for irrigation water rights/permits that have reported over the past ten years of record (2012 to 2021) is approximately 3,015 acre-feet per year (Table 3) (Water Rights, 2023a).

There are 58 irrigation water rights/permits appropriating water from the LVM aquifer within Hedges and others (1982) historical aquifer boundary excluding rights/permits within delineation UVM:S aquifer by Buhler (2014) (Water Rights, 2023c). However, due to changes in farming practices and an increase in the number of permits from 27 in 2006 to 45 in 2013, the average over the entire period of record may not be an accurate reflection of actual average annual withdrawal at the present time. The average annual withdrawal rate for the LVM aquifer

irrigation water rights/permits that have reported over the past ten years of record (2012 to 2021) is approximately 1,866 acre-feet per year (Table 3) (Water Rights, 2023a).

Application No. 8725-3 is requesting to irrigate 151 acres (Water Rights, 2023c). Generally, irrigators in eastern South Dakota apply less than one foot of water per acre per year. However, to account for 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 average annual withdrawal rate for this irrigation water permit application. Therefore, the estimated average annual withdrawal rate for Application No. 8725-3 is approximately 151 acre-feet per year.

There were six water permits approved in 2022 and early 2023 (Nos. 8632-3, 8589-3, 8641-3, 8672-3, 8680-3, and 8692-3) and two other pending applications in 2023 (Nos. 8693-3, and 8711-3) that were not included in the irrigation questionnaire compilation and need to be accounted for. The new permits are authorized to irrigate 682 acres, while the pending applications, including this application (No. 8725-3), propose to irrigate 341 acres. All together a total of 1,023 acres are planned to be irrigated (Water Rights, 2023c). Assuming one foot of water per acre per year, the withdrawal rate for these water permits/applications is approximately 1,023 acre-feet per year. The average annual withdrawal rate for irrigation appropriations from 2012 to 2021 combined with 2022 and 2023 permits and new applications, including this one, within Hedges and others (1982) historical aquifer boundary, is approximately 4,038 acre-feet per year (Table 3) (Water Rights, 2023a). The average annual withdrawal rate for irrigation appropriations from 2012 to 2021 combined with 2022 and 2023 permits and new applications, including this one, within Hedges and others (1982) historical aquifer boundary excluding rights/permits within delineation UVM:S aquifer by Buhler (2014), is approximately 2,889 acre-feet per year (Table 3) (Water Rights, 2023a).

There are domestic wells completed into the LVM aquifer that do not require a water right/permit, so the withdrawal amount from those wells is unknown (Water Rights, 2023d). Due to their relatively low diversion rates, withdrawals from domestic wells are not considered to be a significant portion of the hydrologic budget. Additionally, with the development of rural water systems in areas where the LVM aquifer is the uppermost aquifer available; it is likely some domestic users may have transitioned to rural water. Therefore, the quantity of water withdrawn by domestic wells is estimated to be negligible to the hydrologic budget for the LVM aquifer.

Table 3. Reported irrigation uses from the LVM aquifer for water right/permits within the historical boundary of LVM aquifer, historical boundary of LVM aquifer excluding delineation UVM:S aquifer (Buhler, 2014) (Water Rights, 2023a)

Historical Boundary of LVM aquifer (Hedges and others, 1982)			Historical Boundary of LVM aquifer (Hedges and others, 1982), Excluding UVM:S Aquifer Boundary (Buhler, 2014)		
Year	Number of Permit/License	Annual Pumpage (ac-ft/yr)	Year	Number of Permit/License	Annual Pumpage (ac-ft/yr)
1979	49	1163.0	1979	40	810.5
1980	47	2417.0	1980	38	1995.0
1981	49	1543.0	1981	39	1205.4
1982	37	870.0	1982	27	758.3
1983	38	716.3	1983	28	644.7
1984	47	691.0	1984	37	549.0
1985	46	1328.2	1985	36	927.2
1986	45	1047.5	1986	35	807.5
1987	37	1115.4	1987	27	794.4
1988	38	2083.8	1988	28	1442.4
1989	38	2301.2	1989	28	1522.2
1990	38	2113.2	1990	28	1288.2
1991	39	1670.1	1991	29	1044.1
1992	39	168.8	1992	29	116.7
1993	39	0.0	1993	29	0.0
1994	39	517.3	1994	29	308.7
1995	37	506.6	1995	28	368.2
1996	36	997.6	1996	27	572.9
1997	36	1085.0	1997	27	645.0
1998	36	1032.9	1998	26	736.6
1999	38	900.6	1999	27	698.9
2000	38	2041.7	2000	27	1574.9
2001	38	2037.0	2001	27	1781.8
2002	40	1762.3	2002	29	1123.2
2003	40	1800.6	2003	29	1470.6
2004	39	1747.5	2004	28	1167.6
2005	45	1410.2	2005	28	1071.1
2006	43	2674.5	2006	27	1734.3
2007	50	2909.1	2007	26	1327.0
2008	55	4301.3	2008	28	911.9
2009	58	482.6	2009	30	460.8
2010	59	144.6	2010	30	134.0
2011	62	2195.1	2011	33	1219.4
2012	61	7759.5	2012	33	3355.3
2013	71	4109.1	2013	45	2856.5
2014	75	1576.3	2014	48	1006.4
2015	78	1925.8	2015	50	1473.5
2016	79	2187.5	2016	51	1779.0
2017	79	3156.6	2017	52	2439.3
2018	79	427.7	2018	52	419.4
2019	79	339.6	2019	52	333.0
2020	78	3353.2	2020	51	1972.5
2021	80	5316.2	2021	54	3026.7
Average 1979-2021		1812.2	Average 1979-2021		1159.9
Average 2012-2021		3015.2	Average 2012-2021		1866.2

Hydrologic Budget Summary

The average annual recharge rate for the unconfined portion LVM aquifer not enclosed in the UVM:S aquifer (Buhler, 2014) is approximately 4,580 acre-feet/year. The average annual recharge rate for the current confined portion of the LVM aquifer (Mathiowetz, 2018) is approximately 1,960 acre-feet/year. Combining average annual recharge rate both the current confined and unconfined portions of the LVM aquifer not enclosed in the UVM:S aquifer, the average annual recharge rate is approximately 6,540 acre-feet per year.

The average annual withdrawal rate from the LVM aquifer within Hedges and others (1982) historical aquifer boundary (the non-irrigation appropriations (1,224 acre-feet/year); the average annual withdrawal rate for irrigation appropriations from 2012 to 2021, 2022-2023 water permits, and new applications, including this one, (4,038 acre-feet/year)) is approximately 5,262 acre-feet per year, also shown on Table 4 (Water Rights, 2023a).

The average annual withdrawal rate from the LVM aquifer within Hedges and others (1982) historical aquifer boundary excluding rights/permits within delineation UVM:S aquifer by Buhler (2014) (the non-irrigation appropriations (49 acre-feet/year); the average annual withdrawal rate for irrigation appropriations from 2012 to 2021, 2022-2023 water permits, and new applications, including this one, (2,889 acre-feet/year)) is approximately 2,938 acre-feet per year, also shown on Table 4 (Water Rights, 2023a).

Collectively, the average annual recharge rate for both the confined and unconfined portions of the LVM aquifer is greater than the average annual withdrawal rate from both the LVM aquifer within Hedges and others (1982) historical aquifer boundary and the LVM aquifer within Buhler (2014) and Mathiowetz (2018) boundary delineated portions of the UVM:S and LVM aquifers. Based on the hydrologic budget, there is a reasonable probability unappropriated water is available from the LVM aquifer for the proposed appropriation.

Table 4. List of water rights/permits withdrawals and new applications (if approved) approximate withdrawals from both the historic boundary of the LVM and current boundary of the LVM excluding the UVM:S delineated areas made by Buhler (2014) (Water Rights, 2023a)

	Historical Boundary of the LVM Aquifer (Hedges and others, 1982) Pumpage (ac-ft/yr)	Historic Boundary of the LVM Aquifer (Hedges and others, 1982), Excluding UVM:S Aquifer Boundary (Buhler 2014) Pumpage (ac-ft/yr)
Non-Irrigation Appropriation	1224	49
Irrigation Appropriation (2012-2022)	3015	1866
New Permits (2022-2023)	682	682
New Applications	341	341
Total	5262	2938

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.

The DNR-Water Rights Program monitors ten observation wells completed into the LVM aquifer with two additional observation wells (CL-80J and CL-66AR) that are within both the historic aquifer boundary delineated by Hedges and others (1982) and Upper Vermillion Missouri: South aquifer boundary as defined by Buhler (2014), with observation wells in the area of this application shown on Figure 4 (Water Rights, 2023b). These observation wells provide data on how the aquifer reacts to regional climatic conditions and local pumping. The two closest observation wells to the diversion point are CL-80F (approximately 1.9 miles southeast) and CL-80H (approximately 2.8 miles northwest) (Water Rights, 2023b). The hydrographs for these observation wells are displayed in Figures 2 & 3 respectively (Water Rights, 2023b). 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 hydrographs.

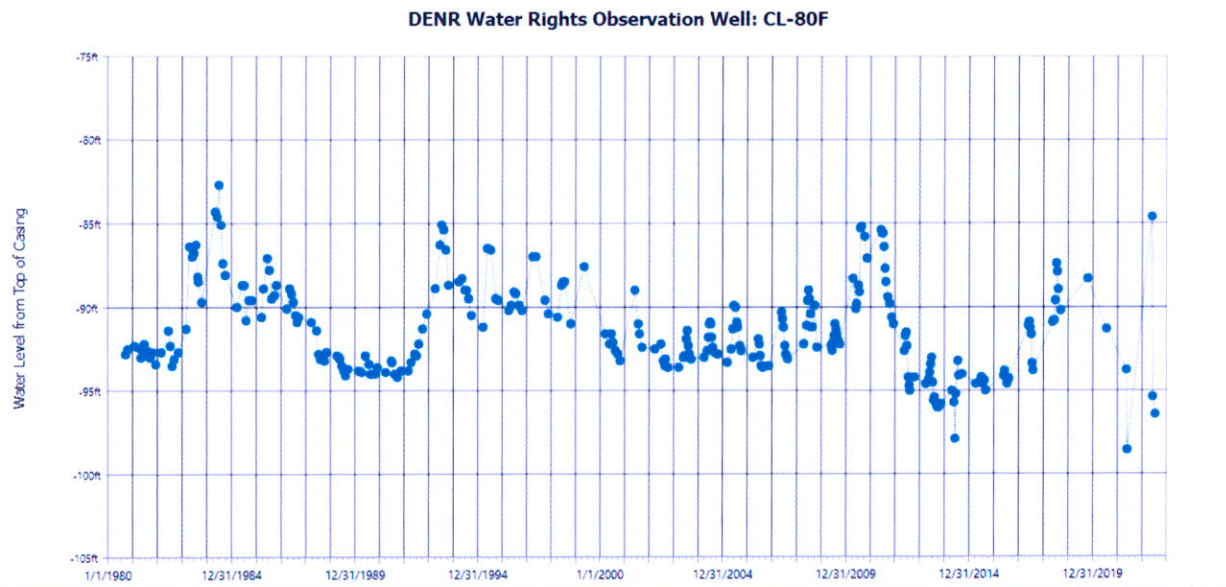


Figure 2. Hydrograph for observation well CL-80F (Water Rights, 2023b)

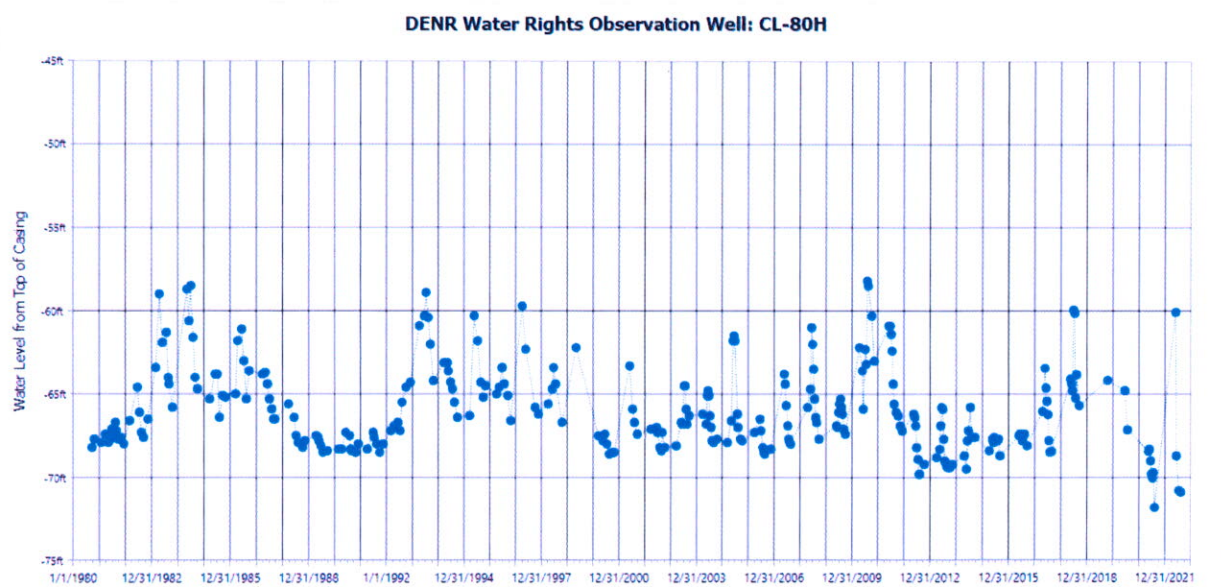


Figure 3. Hydrograph for observation well CL-80H (Water Rights, 2023b)

A majority of the observation wells in the LVM aquifer have a stable trend in the water level. The data shown on Figures 2 & 3 share a similar trend with most of the other observation wells in the LVM aquifer. The hydrographs for the LVM aquifer observation wells indicate that the aquifer responds well to climatic conditions because water levels are rising during wetter periods (early spring snowmelt and precipitation) 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 water levels 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 waters levels in the aquifer rather than the impacts of pumping from the LVM 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, 65 water rights/permits are authorized to appropriate water from the LVM aquifer, partially shown on Figure 4, within the historic boundary of the aquifer mapped by Hedges and others (1982) excluding the area of the UVM:S as delineated by Buhler (2014) (Water Rights, 2023c). Table 5 lists nearby water rights/permits that are shown on Figure 4. The closest water right/permit to the diversion point for this application not held by the applicant is Water Right No. 7477-3 which is held by Chad Heckathorn. The diversion point for Water Right No. 7477-3 is located approximately 0.5 miles west of the proposed diversion point for this application (Water Rights, 2023c). There are domestic wells on file with the DANR-Water Rights Program that are completed into the LVM aquifer, with the closest domestic well on file (not held by the applicant) approximately 0.8 miles southwest of the diversion point (Water Rights, 2023d).

There could potentially be other domestic wells completed into the LVM aquifer near the diversion point that are not on file with the DANR-Water Rights Program.

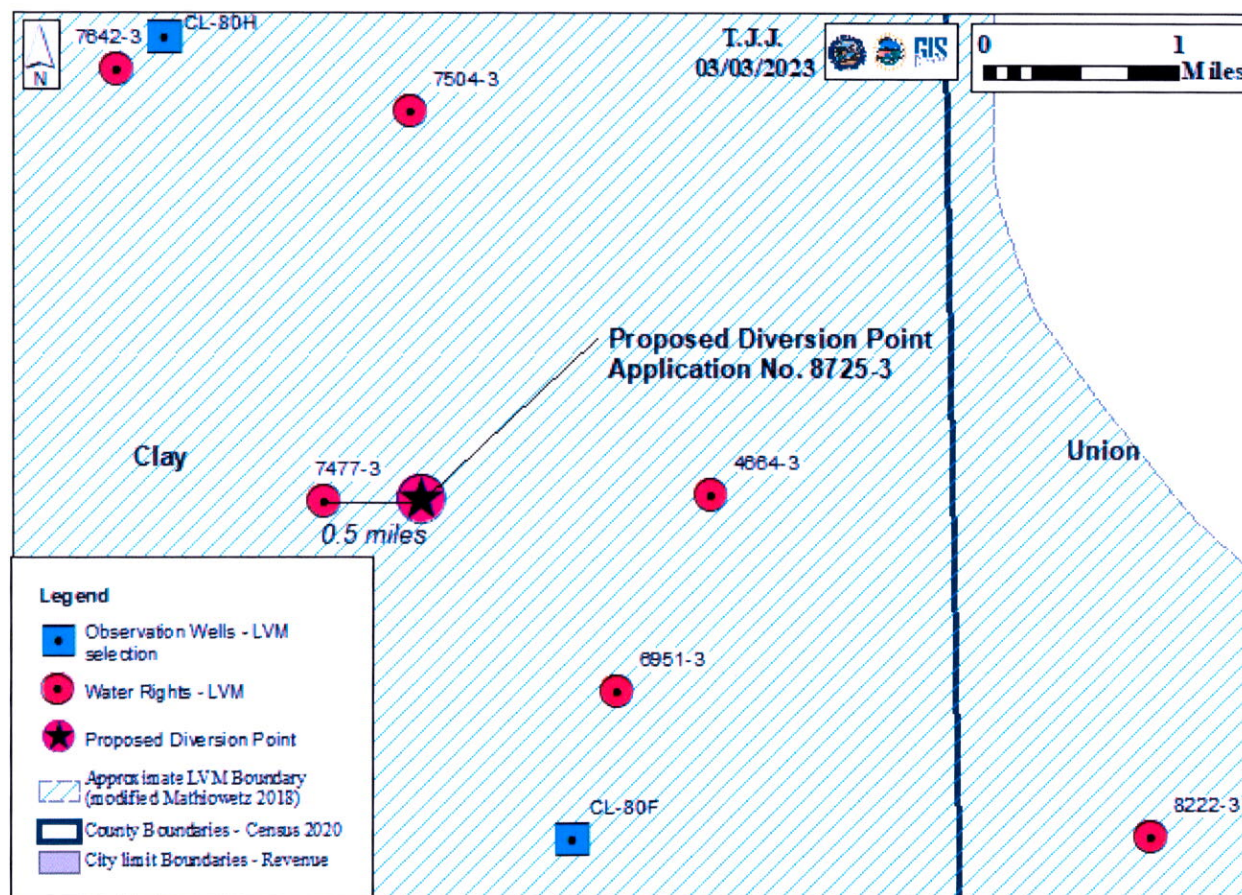


Figure 4. Map of the proposed diversion point for Water Permit Application No. 8725-3 and nearby LVM aquifer water rights/permits and observation wells (Water Rights, 2023b and 2023c).

Table 5. List of water rights/permits shown in Figure 4 (Water Rights, 2023c)

Permit	Name/Business	Priority	Status	Use Type	CFS	Acres
4664-3	William O'Connor	3/5/1981	License	Irrigation	1.7	120
6951-3	Verlyn Hybertson	1/22/2008	License	Irrigation	1.78	132
7477-3	Chad Heckathorn	10/22/2012	License	Irrigation	1.78	115
7504-3	Steven Andrews	11/5/2012	Permit	Irrigation	1.78	160
7642-3	Tom Austin	1/16/2013	License	Irrigation	1.22	63
8222-3	Southeast Farmers Coop.	5/12/2016	Permit	Commercial	0.167	0

The LVM aquifer is primarily under confined conditions, but it can be found to be locally unconfined near the Vermillion River. Based on well completion reports near the proposed diversion point for this application, it is expected to be under confined conditions. In a confined aquifer, drawdown from a pumping well can extend some distance from the well. 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 LVM 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)), history of irrigation in the area without any recent complaints of well interference (Water Rights, 2023e), the saturated aquifer thickness near the diversion point, any drawdown created from the 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. 8725-3 proposes to appropriate 1.89 cfs of water for irrigation of 151 acres from one proposed well to be completed into the LVM aquifer. The site of interest is located approximately 7 miles northeast of Vermillion, SD.
2. Based on observation well data and the hydrologic budget, there is a reasonable probability that unappropriated water is available from the LVM aquifer to supply the proposed appropriation.
3. There is a reasonable probability that the diversion by Water Permit Application No. 8725-3 will not unlawfully impair adequate wells for existing water rights/permits and domestic uses.



Tyler Jensen
Natural Resources Engineer I
SD DANR - Water Rights Program



Adam Mathiowetz, PE
Natural Resources Engineer IV
SD DANR -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 DANR – Water Rights Program, Joe Foss Bldg. Pierre, SD.
- Hedges, L.S., Allen, J., Holly, D.E., 1985. Evaluation of Ground-Water Resources Eastern South Dakota and Upper Big Sioux River, South Dakota and Iowa, Task 7: Ground Water Recharge; United States Army Corps of Engineers Contract DACW 45-80-C-0185.
- Hedges, L.S., Burch, S.L., Iles, D.L., Barari, R.A., and Schoon, R.A. 1982. Evaluation of Ground-Water Resources Eastern South Dakota and Upper Big Sioux River, South Dakota and Iowa, Task 1: Bed rock Topography and Distribution, Task 2: Extent of Aquifers, Task 3 Ground-Water Storage, Task 4: Computerized Data Base. United States Army Corps of Engineers Contract DACW 45-80-C-0185.
- Jensen, A.R., 2000. First Occurrence of Aquifer Materials in Clay County, South Dakota. SD DANR-Geological Survey Aquifer Materials Map 1. Vermillion, SD.
- Mathiowetz, A. 2018. Report to the Chief Engineer on Water Permit Application 8335-3. Natural Resource Engineer IV, SD DANR – Water Rights Program, Joe Foss Bldg. Pierre, SD.
- Niehus, C.A., 1994. Water Resources of Lincoln and Union Counties, South Dakota. U.S. Geological Survey Water-Resources Investigations Report 93-4195. U.S. Geological Survey. Rapid City, SD.
- SDGS, 2023. South Dakota Geological Survey Lithologic Logs Database. Accessed March 5, 2023. <http://cf.sddanr.net/lithdb/>.
- Steen, N. 2022. Report to the Chief Engineer on Water Permit Application 8641-3. SD DANR – Water Rights Program, Joe Foss Bldg. Pierre, SD.
- Stephens, J.C., 1967. Geology and Water Resources of Clay Counties, South Dakota Part II: Water Resources. Bulletin 19. SD DANR-Geological Survey, Vermillion, SD.
- Stonesifer, J. R. 2013. Report to the Chief Engineer on Water Permit Application 7918-3. SD DANR – Water Rights Program, Joe Foss Bldg. Pierre, SD.
- 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. DANR-Water Rights Program file for Water Right No. 2313-2. Pierre, SD.

Water Rights, 2023a. "1979-2021 Irrigation Summaries by Aquifer", SD DANR-Water Rights Program, Joe Foss Building, Pierre, SD.

Water Rights, 2023b. Observation Well Data, SD DANR-Water Rights Program, Joe Foss Bldg, Pierre, SD.

Water Rights, 2023c. Water Right/Permit Files, SD DANR-Water Rights Program, Joe Foss Bldg, Pierre, SD.

Water Rights, 2023d. Well Completion Reports, SD DANR-Water Rights Program, Joe Foss Bldg, Pierre, SD.

Water Rights, 2023e. County Files, SD DANR-Water Rights Program, Joe Foss Bldg, Pierre, SD.



**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.**

April 11, 2023

Roger Sieck
11504 Melchert Place
Hill City SD 57745

Dear Mr. Sieck:

Water Permit Application No. 8725-3 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 Plain Talk printed at Vermillion SD (Ph # 605 624-2695) and the Press and Dakotan printed at Yankton SD (Ph # 605-665-7811). You will need to contact the newspapers and authorize publication of this notice. For your information, a copy of the notice, the recommendation of the Chief Engineer and report on the application are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

Be sure to contact the above newspapers to authorize publication of your Notice and to arrange for payment. Early contact with the papers can eliminate delays. Upon receiving authorization from you, the publishers have been instructed to publish your notice. The newspapers have also been instructed to send us the Proof of Publication. We must receive Proof of Publication before action can be taken on the application.

Sincerely,

Rachel Rodriguez

Rachel Rodriguez
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. 8725-3 to Appropriate Water

Notice is given that Roger Sieck, 11504 Melchert Place, Hill City SD 57745 has filed an application for a water permit to appropriate 1.89 cubic feet of water per second from one well to be completed into the Lower Vermillion Missouri Aquifer (approximately 200 feet deep) located in the center of the NW 1/4 Sec 15 for irrigation of 151 acres located in the NW 1/4, W 1/2 NE 1/4 Section 15; all in T93N-R51W. This site is located approximately 7 miles northeast of Vermillion SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8725-3 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 recommendation 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 May 1, 2023.

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 name and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

Any interested person may file a comment on the application with the Chief Engineer. The comment shall be filed on a form provided by the Chief Engineer and is available online at <https://danr.sd.gov/public> or by calling (605) 773-3352 or writing the Chief Engineer at the address provided above. Filing a comment does not make the commenter a party of record or a participant in any hearing that may be held. Any comment must be filed by May 1, 2023.

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 _

Rodriguez, Rachel

From: Rodriguez, Rachel
Sent: Tuesday, April 11, 2023 11:44 AM
To: cassandra@yankton.net
Subject: 8725-3 Roger Sieck - Public Notice
Attachments: 8725-3 public.short_final.docx; FORM8.FRM.doc

Attached is a notice to be published on April 21, 2023

Roger Sieck, 11504 Melchert Place, Hill City SD 57745, (402-670-1781) 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.

Thank you,

Rachel Rodriguez
DANR | Program Assistant
Rachel.Rodriguez@state.sd.us



Rodriguez, Rachel

From: Rodriguez, Rachel
Sent: Tuesday, April 11, 2023 11:42 AM
To: Kelly Kronaizl
Subject: 8725-3 Roger Sieck - Public Notice
Attachments: 8725-3 public.short_final.docx; FORM8.FRM.doc

Attached is a notice to be published on April 21, 2023

Roger Sieck, 11504 Melchert Place, Hill City SD 57745, (402-670-1781) 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.

Thank you,

Rachel Rodriguez
DANR | Program Assistant
Rachel.Rodriguez@state.sd.us



AFFIDAVIT OF PUBLICATION^v

RECEIVED

APR 24 2023

OFFICE OF
WATER

YANKTON DAILY PRESS AND DAKOTAN

ROGER SIECK
11504 MELCHERT PLACE
HILL CITY SD 57745

STATE OF SOUTH DAKOTA
COUNTY OF YANKTON

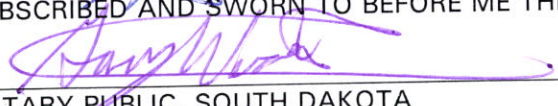
KELLY HERTZ, BEING FIRST DULY SWORN ON OATH DEPOSES
AND SAYS THAT (S)HE IS THE MANAGING EDITOR OF YANKTON
MEDIA INC, A CORPORATION, THE PRINTER AND THE PUBLISHER OF THE
YANKTON DAILY PRESS AND DAKOTAN, A LEGAL DAILY NEWSPAPER
PUBLISHED AND CIRCULATED IN THE CITY OF YANKTON, SAID COUNTY
AND STATE, AND ONE OF THE OFFICIAL NEWSPAPERS OF THE SAID
COUNTY OF FACTS STATED IN THIS AFFIDAVIT; THAT THE ANNEXED
NOTICE OF APPLICATION NO.

TAKEN FROM THE PAPER, IN WHICH IT WAS LAST PUBLISHED IN THE
NEWSPAPER ON THE 21st DAY OF April, 2023
THAT THE FULL AMOUNT OF THE FEE CHARGED FOR THE PUBLICATION
OF SAID NOTICE TO WIT \$39.36 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: 04/21/2023

FILED ON: 04/21/2023


SUBSCRIBED AND SWORN TO BEFORE ME THIS 21st DAY OF April, 2023


NOTARY PUBLIC, SOUTH DAKOTA
MY COMMISSION EXPIRES 03/06/2029

Ad text : NOTICE OF APPLICATION NO. 8725-3 to Appropriate Water

Notice is given that Roger Sieck, 11504 Melchert Place, Hill City SD 57745 has filed an application for a water permit to appropriate 1.89 cubic feet of water per second from one well to be completed into the Lower Vermillion Missouri Aquifer (approximately 200 feet deep) located in the center of the NW 1/4 Sec 15 for irrigation of 151 acres located in the NW 1/4, W 1/2 NE 1/4 Section 15; all in T93N-R51W. This site is located approximately 7 miles northeast of Vermillion SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8725-3 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 recommendation 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 May 1, 2023.

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 name and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

Any interested person may file a comment on the application with the Chief Engineer. The comment shall be filed on a form provided by the Chief Engineer and is available online at <https://danr.sd.gov/public> or by calling (605) 773-3352 or writing the Chief Engineer at the address provided above. Filing a comment does not make the commenter a party of record or a participant in any hearing that may be held. Any comment must be filed by May 1, 2023.

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 \$39.36 and can be viewed free of charge at www.sdpublicnotices.com.

Published April 21, 2023

AFFIDAVIT OF PUBLICATION

RECEIVED

APR 24 2023

OFFICE OF
WATER

PLAIN TALK

ROGER SIECK
11504 MELCHERT PLACE
HILL CITY SD 57745

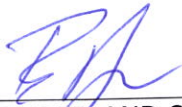
STATE OF SOUTH DAKOTA
COUNTY OF CLAY

BETH RYE, BEING FIRST DULY SWORN ON OATH DEPOSES
AND SAYS THAT (S)HE IS THE ADVERTISING DIRECTOR OF YANKTON
MEDIA INC, A CORPORATION, THE PRINTER AND THE PUBLISHER OF THE
PLAIN TALK, A LEGAL WEEKLY NEWSPAPER PUBLISHED AND CIRCULATED
IN THE CITY OF VERMILLION, SAID COUNTY AND STATE, AND ONE OF
THE OFFICIAL NEWSPAPERS OF THE SAID COUNTY OF FACTS STATED IN
THIS AFFIDAVIT; THAT THE ANNEXED
NOTICE OF APPLICATION NO.

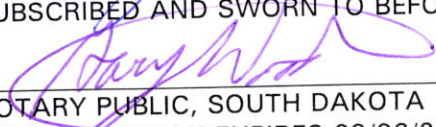
TAKEN FROM THE PAPER, IN WHICH IT WAS LAST PUBLISHED IN THE
NEWSPAPER ON THE 21st DAY OF April, 2023
THAT THE FULL AMOUNT OF THE FEE CHARGED FOR THE PUBLICATION
OF SAID NOTICE TO WIT \$39.36 ENSURES TO THE
BENEFITS OF THE PUBLISHER OF SAID NEWSPAPER AND THAT NO
AGREEMENT AND UNDERSTANDING FOR THE DIVISION 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: 04/21/2023

FILED ON: 04/21/2023



SUBSCRIBED AND SWORN TO BEFORE ME THIS 21st DAY OF April, 2023



NOTARY PUBLIC, SOUTH DAKOTA
MY COMMISSION EXPIRES 03/06/2029

Notice is given that Roger Sieck, 11504 Melchert Place, Hill City SD 57745 has filed an application for a water permit to appropriate 1.89 cubic feet of water per second from one well to be completed into the Lower Vermillion Missouri Aquifer (approximately 200 feet deep) located in the center of the NW 1/4 Sec 15 for irrigation of 151 acres located in the NW 1/4, W 1/2 NE 1/4 Section 15; all in T93N-R51W. This site is located approximately 7 miles northeast of Vermillion SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8725-3 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 recommendation 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 May 1, 2023.

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 name and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

Any interested person may file a comment on the application with the Chief Engineer. The comment shall be filed on a form provided by the Chief Engineer and is available online at <https://danr.sd.gov/public> or by calling (605) 773-3352 or writing the Chief Engineer at the address provided above. Filing a comment does not make the commenter a party of record or a participant in any hearing that may be held. Any comment must be filed by May 1, 2023.

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 \$39.36 and can be viewed free of charge at www.sdpublicnotices.com.

Published April 21, 2023.

Rodriguez, Rachel

From: Rodriguez, Rachel
Sent: Tuesday, April 11, 2023 11:48 AM
To: rogersieck025@gmail.com
Subject: 8725-3 Roger Sieck - Public Notice
Attachments: 8725-3 APPL2.docx; 8725-3 public.short_final.docx; 8725-3.rec.docx; 8725-3 Roger Sieck.docx

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.

Thank you,

Rachel Rodriguez
DANR | Program Assistant
Rachel.Rodriguez@state.sd.us





**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

MAY 15 2023

Roger Sieck
11504 Melchert Place
Hill City SD 57745

Dear Mr. Sieck:

Enclosed are Water Permit Nos. 8718-3 and 8725-3 authorizing construction of your water diversion systems and beneficial use of the water, not exceeding the limits as specified in the Water Permits.

Form 10's, *Notice of Completion of Works and Application of Water to Beneficial Use*, are enclosed. Please return the completed forms after you have finished the systems and have put the water to beneficial use. An investigation can then be scheduled so the water licenses 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 Gonlund, 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.: 8725-3

Name of Applicant: Roger Sieck

Date of Posting: 4/17/2023

Date of Removal: 5/15/2023



Ron Duvall, Water Rights Permitting Administrator

5/23/24

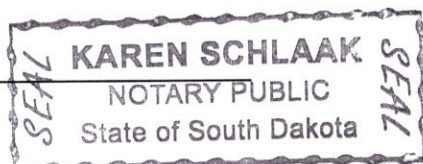
Date

Subscribed and sworn to before me, a notary public, this 24 day of May, 2023.



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

(SEAL)



8725-3

SD EForm - 1621LD V1

SOUTH DAKOTA WATER WELL COMPLETION REPORT

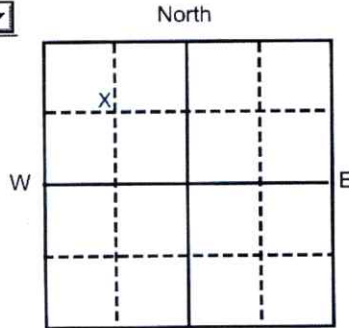
11-02

Location NW 1/4 NW 1/4 Sec 15 Twp 93N Rg 51WWell Owner: Roger Sieck

Business Name:

Address: 11504 Melchert PlaceCity, State, Zip: Hill City ☒ SD ☒ 57745County CLAY ☒

Please mark well location with an "X"



Well Completion Date

6/6/2023

1 Mile

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

PROPOSED USE:

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

METHOD OF DRILLING:

Rotary

CASING DATA:

☐ Steel ☒ Plastic ☐ Other

If other describe

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	16 IN	0 FT	120 FT	22 IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
Groutwell DF	23	Lb/gal	0 Ft	73 Ft
		Lb/gal	Ft	Ft

Describe grouting procedure
Tremmie

SCREEN:

☐ Perforated pipe ☒ ManufacturedDiameter 16 Inches Length 40 FeetMaterial PVCSlot Size .060 Set From 120 Feet to 160 Feet

Other information

WAS A PACKER OR SEAL USED?

☐ Yes ☒ No

If so, what material?

Describe packer(s) and location

DISINFECTION: Was well disinfected upon completion?

☒ Yes, How? HTH Tablets☐ No, Why Not?

Lab to which water quality sample sent for analysis

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
Top Soil	0	3
Brown Clay	3	22
Glacial Till	22	73
Gray Clay - Gravel Layers	73	85
Coarse Sand - Fine Gravel	85	119
Fine Gravel - Coarse Sand	119	127
Fine Gravel	127	160

STATIC WATER LEVEL 83 FEET

If flowing: closed in pressure _____ PSI

GPM flow _____ through _____ Inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other _____

Reduced flow rate _____ GPM

Can well be completely shut in?

WELL TEST DATA:

☐ Pumped Describe:
☐ Bailed
☐ Other

Pumping Level Below Land Surface

_____ Ft. After _____ Hrs. pumped _____ GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: _____ GPM

REMARKS

Latitude: 42.877917Longitude: -96.860083Elevation: 1220This well was drilled under license # 810 and this report is true and accurate.Drilling firm: Heine Electric & Irrigation, Inc.

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

RECEIVED

AUG 02 2023

Date: _____

OFFICE OF
WATER



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

November 1, 2024

4005-3

8718-3

8725-3

Roger Sieck
728 Appaloosa Ln
Spearfish SD 57783

Dear Mr. Sieck:

Enclosed is a "Notice" dated October 23, 2024, concerning the 2024 Irrigation Questionnaires.

The notice was originally mailed to 11504 Melchert Pl, Hill City SD 57745. The post office notified our office that your address has changed, and your records have been updated accordingly.

This is a time sensitive matter. Please complete and return the enclosed questionnaires or submit your reports online at <https://danr.sd.gov/iq/> using this password *BYIWQD*.

If this change of address is in-correct, please contact our office immediately to update your contact information.

Sincerely,

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

enclosures

NOV 01 2024 11:41:02 AM
RETURN TO SENDER
728 APPALOOSA LN
SPEARFISH SD 57783
RETURN TO SENDER

0725-3

**Report of Examination of Works and/or Application of Water to Beneficial Use
For Permit No. 8725-3**

I have this day, **September 11, 2024**, made a thorough examination of the water use system owned by **Roger Sieck, 11504 Melchert Place, Hill City, SD, 57745**, holder of Permit No. **8725-3**, bearing the priority date of **February 17, 2023**. This permit authorizes the diversion of **1.89** cu. ft. per second of the waters of **groundwater (Lower Vermillion Missouri Aquifer)** authorizing the irrigation of **151 acres** located in **Clay** County.

Inspection contacts: **Roger Sieck and Brad Farrar**

A. Works used to divert the water:

Well Information

- 1) Well Drilling Firm: **Heine Electric & Irrigation**
- 2) No. of Wells: **1**
- 3) Depth(s): **160** feet
- 4) Well log is available: **Yes**

Casing:

- 1) Diameter: **16** inches
- 2) Length: **120** feet
- 3) Type: **Plastic**

Screen:

- 1) Diameter: **16** inches
- 2) Length: **40** feet
- 3) Type: **PVC**
- 4) Static water level: **83** feet

Pump:

- 1) Make: **Wilo**
- 2) Model: **SPI8.650-2CC**
- 3) Capacity: **700** gpm

Motor:

- 1) Make: **Karlington**
- 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: **20** feet

C. Works used to apply water to beneficial use:

Center Pivot:

- 1) Make: **Valley**
- 2) Overall length: **1,313** feet
- 3) Number of towers: **7**
- 4) End gun: **Yes** Range: **95** feet
- 5) Capacity: **700** gpm

Chemigation Equipment:

- 1) Does chemigate: No

D. Compliance with Permit Requirements:

- 1) Permit qualifications being abided by: Yes
2) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period: Yes
3) Exceptions to compliance are: None

E. Condition and Location:

- 1) The system is in good condition with the point(s) of diversion located as follows:
The well is 1,350 feet south and 1,510 feet east of the northwest corner of Section 15-T93N-R51W (Latitude 42.87717, Longitude -96.85949– SE1/4 of the NW1/4).
2) The works are capable of diverting and conveying to the places of use 1.56 cu. ft. per second of water from the well which is to be used for irrigation purposes. Water has been put to beneficial use to the maximum extent as follows:

Section 15-T93N-R51W

<u>NW1/4NW1/4</u>	<u>28 acres</u>
<u>NE1/4NW1/4</u>	<u>38 acres</u>
<u>SW1/4NW1/4</u>	<u>28 acres</u>
<u>SE1/4NW1/4</u>	<u>38 acres</u>
<u>NW1/4NE1/4</u>	<u>4 acres</u>
<u>SW1/4NE1/4</u>	<u>4 acres</u>

comprising a total of 140 acres of land and the license should be issued for 1.56 cfs.

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

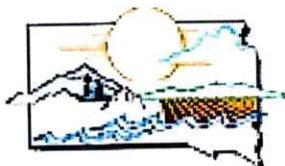
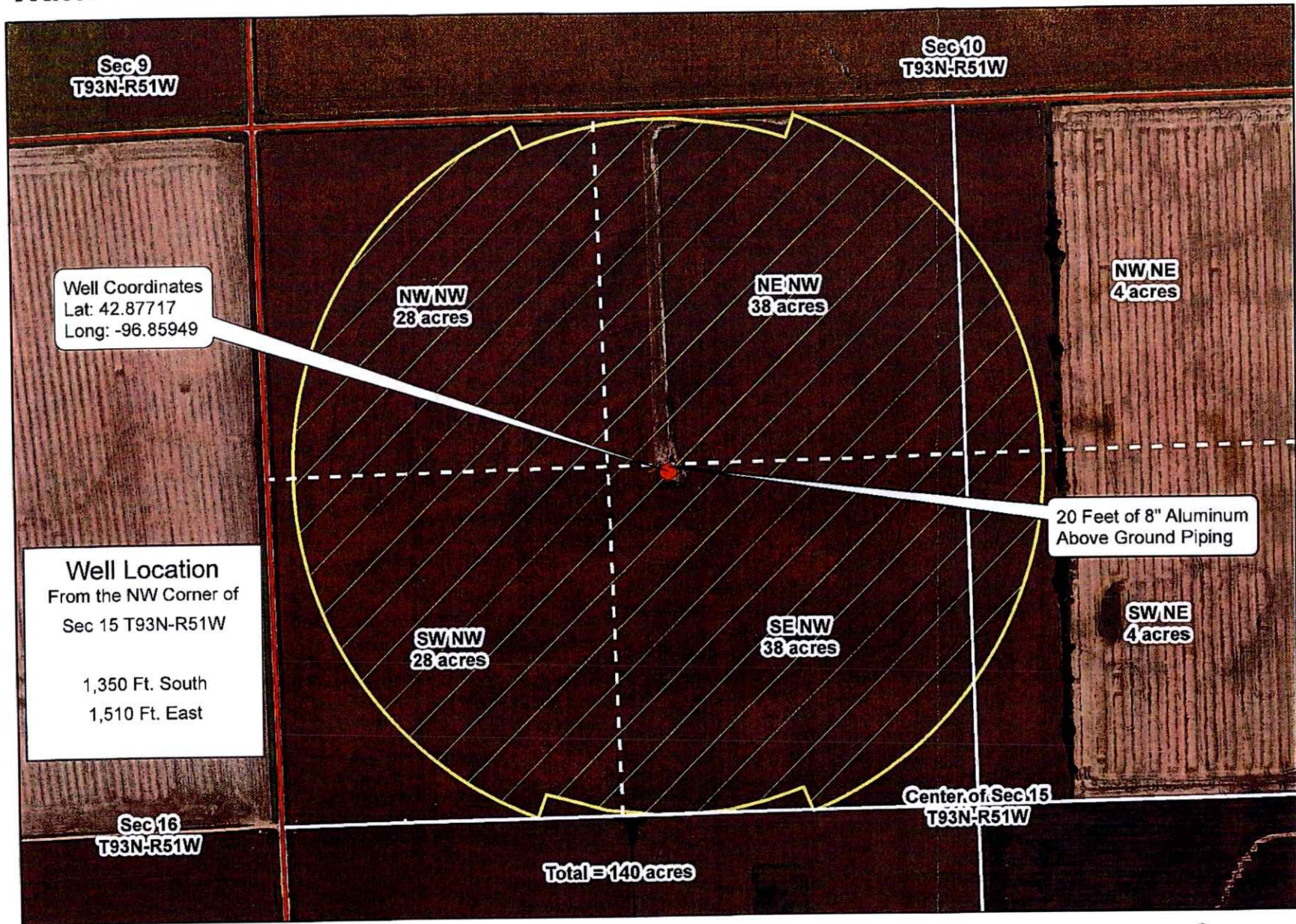
F. Comments or other permit(s) associated with the project: The pump and motor information was obtained from Heine Electric and Irrigation, Inc.

Keith DeJong

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

Date report completed: September 12, 2024

Water Permit No. 8725-3



Keith DeJong
Keith DeJong, PE Ret.
Staff Engineer
September 12, 2024

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

Date 9-11-24

MAIL TO: PMB 2020
DANR - Water Rights Program
523 E. Capitol Ave
Pierre, SD 57501-3182

Phone: (605) 773-3352

FROM: Roger Sieck
(name)11504 Melchert Place
(address)Hill City
(city)SD
(state)57745
(zip)402-670-1781
(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. 8725-3 states that the water use system is to be constructed by

May 1, 2028, and water is to be put to beneficial use by May 1, 2032.
(date) (date)

The water use system was completed on June, 2023.
(date)

Applying the water to beneficial use was completed on June, 2023.
(date)

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

Brad Farrar
Brad Farrar (operator) for Roger Sieck
(signature)





**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

MAR 07 2025

Roger Sieck
728 Appaloosa Ln
Spearfish, SD 57783

Nos. 8718-3, 8725-3

Dear Mr. Sieck:

Enclosed is Water License Nos. 8718-3 and 8725-3. These are the final water right documents completing your process of obtaining the Water Rights. Included with your licenses are maps 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 Licenses, State Water Laws provide that you have a continuing right to use the water.

Sincerely,

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

enclosures

**STATE OF SOUTH DAKOTA
WATER LICENSE NO. 8725-3**

(1) Roger Sieck, 728 Appaloosa Ln, Spearfish, SD 57783, made Application No. 8725-3, February 17, 2023, for a water permit to divert 1.89 cubic feet of water per second from groundwater, one well (Lower Vermillion Missouri Aquifer), Clay County, South Dakota for irrigation purposes. Permit No. 8725-3, with a priority date of February 17, 2023, was approved May 1, 2023, and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before May 1, 2028, and for the application to beneficial use of water on or before May 1, 2032.

The permit holder submitted a Notice of Completion of Works and Application of Water to Beneficial Use form on September 11, 2024. The Notice stated the diversion system was completed in June 2023 and the water was placed to beneficial use in June 2023

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

- 1,350 feet S and 1,510 feet E of the NW corner of Section 15, T93N, R51W (SE $\frac{1}{4}$ NW $\frac{1}{4}$)
(Latitude 42.87717 & Longitude -96.85949)

(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: May 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 15, T93N, R51W
NW $\frac{1}{4}$ NW $\frac{1}{4}$ - 28 acres
NE $\frac{1}{4}$ NW $\frac{1}{4}$ - 38 acres
SW $\frac{1}{4}$ NW $\frac{1}{4}$ - 28 acres
SE $\frac{1}{4}$ NW $\frac{1}{4}$ - 38 acres
NW $\frac{1}{4}$ NE $\frac{1}{4}$ - 4 acres
SW $\frac{1}{4}$ NE $\frac{1}{4}$ - 4 acres
Total – 140 acres

(5) Pursuant to South Dakota Water Law 46-5-30.1 Roger Sieck, the holder and/or owner of Water Right No. 8725-3 is issued a license to appropriate water, the right to use 1.56 cubic feet of water per second from groundwater, one well (Lower Vermillion Missouri Aquifer), with a priority date of February 17, 2023, 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. 8725-3 and subject to the following qualifications:

continued

Qualifications

1. The well approved under Water Right Permit No. 8725-3 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. 8725-3 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.

Eric Gronlund

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

MAR 07 2025

date

