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

RECOMMENDATION OF ACTING CHIEF ENGINEER FOR WATER PERMIT APPLICATION NO. 9029-3, Craig Vanderlei

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Acting Chief Engineer, Water Rights Program, Department of Agriculture and Natural Resources concerning Water Permit Application No. 9029-3, Craig Vanderlei, 40908 312th Street, Springfield SD 57062.

The Acting Chief Engineer is recommending APPROVAL of Application No. 9029-3 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. 9029-3 is located near domestic wells and other wells which may obtain water from the same aquifer. The well owner, under this Permit must 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. 9029-3 must be constructed by a licensed well driller and construction of the well and installation of the pump must 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.

Adam Mathiowetz, PE
Acting Chief Engineer
April 28, 2026

Report to the Chief Engineer

On Water Permit Application No. 9029-3

Craig Vanderlei

April 24th, 2026

Water Permit Application No. 9029-3 proposes to appropriate 1.45 cubic feet per second (cfs) from one existing well completed into the Niobrara aquifer (120 feet deep) located in the NW ¼ SW ¼ Section 15 for irrigation of 120 acres located in the SW ¼ Section 15; all in T93N-R60W. This site is located in Bon Homme County, approximately one and one-half miles northwest of Springfield, SD.

AQUIFER: Niobrara (NBRR)

HYDROGEOLOGY:

The Niobrara Formation is a bedrock formation that underlies most of eastern and western South Dakota (Hedges & others, 1982; Allen & others, 1985). The Niobrara Formation is a Late Cretaceous aged white to dark grey argillaceous (containing weathered clay) chalk marl, that can contain thin laterally continuous bentonite beds, minor sand, and chalky carbonaceous shale (Tomhave, and Schulz, 2004). Locally, the Niobrara Formation is also known as "chalk rock" (Water Rights, 2026d).

The Niobrara aquifer is contained within portions of the Niobrara Formation where sufficient permeability exists to allow for the transmission of groundwater and where the permeable portions of the formation are sufficiently saturated to yield quantities of groundwater to wells (Hedges & others, 1982; Stephens, 1967). Weathering and glacial activity likely contributed to higher productive zones in the Niobrara aquifer (Hedges & others, 1982), with greater amounts of weathering and glacial activity generally having occurred where the Niobrara Formation is exposed at ground surface or directly underlies glacial deposits and generally less where the Niobrara Formation underlies the Pierre Shale.

There are some portions of the Niobrara aquifer, erosional remnants, that eroded away locally prior to deposition of the overlying till and are separate from the main body (Hedges & others, 1982). The existing diversion point for this application is located in one such erosional remnant. This erosional remnant underlies approximately 180,000 acres in portions of Bon Homme and Yankton Counties (Tomhave and Schulz, 2004). The area of the erosional remnant of the Niobrara aquifer this application proposes to use is generally 200 feet thick (Johnson and McCormick, 2005). Groundwater movement in this erosional remnant is generally toward the Missouri River (Jorgensen, 1971). Since this portion of the Niobrara aquifer is isolated from the main body, the remainder of this report will focus solely on this isolated portion of the aquifer. Figure 1 is a map showing the approximate extent of the erosional remnant of the Niobrara aquifer and the existing diversion point for this application.

This erosional remnant of the Niobrara aquifer is in direct contact with several glacial outwash bodies and may have hydrologic connection to them (Bugliosi, 1986; Christensen, 1974;

Jorgensen, 1971; Water Rights, 2026b and 2026d). The glacial aquifers include the Choteau: Tyndall, Choteau: West, and Lower James Missouri: Scotland aquifers (Water Rights, 2026b and 2026d). The potentiometric surfaces of the various aquifers indicate the potential for water to move from the Niobrara aquifer into Choteau: Tyndall aquifer and from the Chouteau: West and Lower James Missouri: Scotland aquifers into the Niobrara aquifer (Water Rights, 2026b and 2026d). However, it should be noted that water can move in the opposite direction if there are changes in the relationship between the potentiometric surfaces of the aquifers. The Niobrara aquifer overlies the Codell Sandstone member of the Carlile Shale (Fahrenbach & others, 2010). Typically, there is a layer of impermeable shale, 5 to 30 feet thick, separating the Codell Sandstone from the Niobrara aquifer (Jorgensen, 1971). Where the shale is weathered and permeable, relatively thin, or even not present, there is potential for leakage between the Codell Sandstone and the Niobrara aquifer, typically from the Niobrara to the Codell (Jorgensen, 1971).

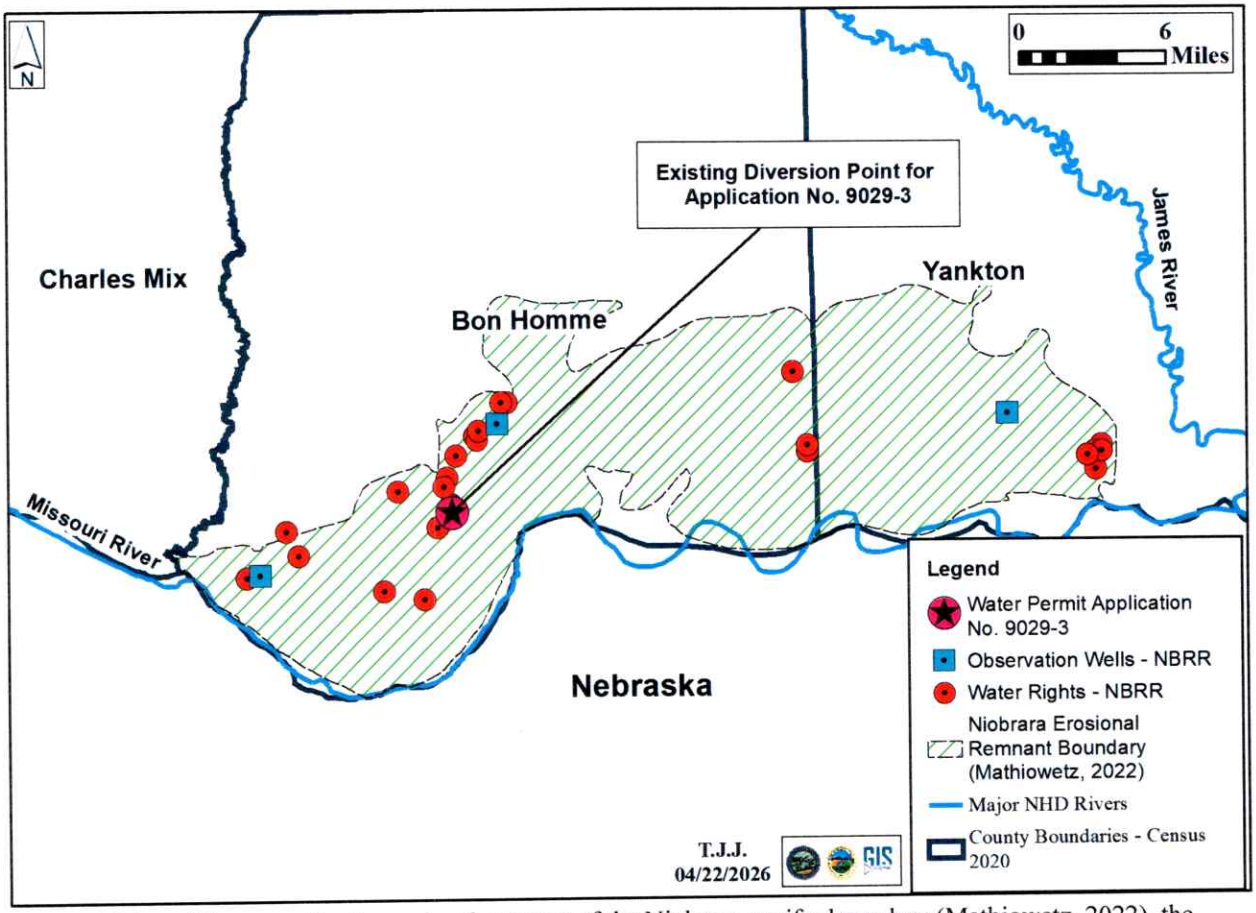

Figure 1. Map of the approximate erosional remnant of the Niobrara aquifer boundary (Mathiowetz, 2022), the location of the existing diversion point for Water Permit Application No. 9029-3, and the Niobrara aquifer observation wells and water rights/permits within the same erosional remnant (Water Rights, 2026b and 2026c).

A water well completion report was submitted with this application. The well is located in the NW ¼ SW ¼ in Section 15-T93N-R60W and was completed on October 21st, 2025 (Water Rights, 2026d). The water well completion report shows the top of aquifer material (gray shale) to be 48 feet below ground surface. This and other nearby well completion reports show the static water level to range from 15 to 96 feet below ground surface (Water Rights, 2026d). The

estimated aquifer thickness using top of aquifer material, the static water level, and bottom of aquifer material is approximately 36 ft (Water Rights, 2026d). Based on this well completion reports, other nearby well completion reports, and nearby lithologic logs, the aquifer is expected to be buried unconfined (SDGS, 2026; Water Rights, 2026b and 2026d). Nearby well completion reports indicate the local aquifer material is confined by a layer of clay (Water Rights, 2026d).

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 SDCL 46-2-9 and 46-2-11." This report will address the availability of unappropriated water and the potential for unlawful impairment of existing domestic uses and water rights within the Niobrara aquifer.

WATER AVAILABILITY:

Water Permit Application No. 9029-3 proposes to appropriate water from the Niobrara aquifer for the purpose of irrigation. 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 Niobrara 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 Niobrara aquifer must be considered.

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 to the aquifer.

The DANR-Water Rights Program monitors three observation wells completed into this erosional remnant of the Niobrara aquifer. Of those observation wells, YA-2020A, was installed in 2020 and has a limited period of record, so the usefulness of the data is limited for evaluating long term water availability. The observation wells provide data on how the aquifer reacts to regional climatic conditions and local pumping. The three observation wells completed into this erosional remnant of the Niobrara aquifer are BH-82E (approximately 8.2 miles southwest), BH-82C (approximately 4.0 miles northeast), and YA-2020A (approximately 23 miles northeast) (Water Rights, 2026b). The locations of these observation wells are displayed in Figure 1 (Water Rights, 2026b).

The hydrographs in Figure 2 display stable to slightly increasing water levels in this erosional remnant of the Niobrara aquifer over their periods of record. Several observation wells in close proximity to irrigation wells show localized seasonal dips in measured water levels during the irrigation season in response to pumping and recover to pre-pumping levels in the spring (Water Rights, 2026b). The observation well data show that climatic conditions (NOAA, 2026), and therefore natural discharge from and recharge to the aquifer, govern the long-term fluctuations in water level. Since recharge to and natural discharge from an aquifer can be captured for pumping, there is a reasonable probability that unappropriated water is available from this erosional remnant of the Niobrara aquifer for the proposed appropriation.

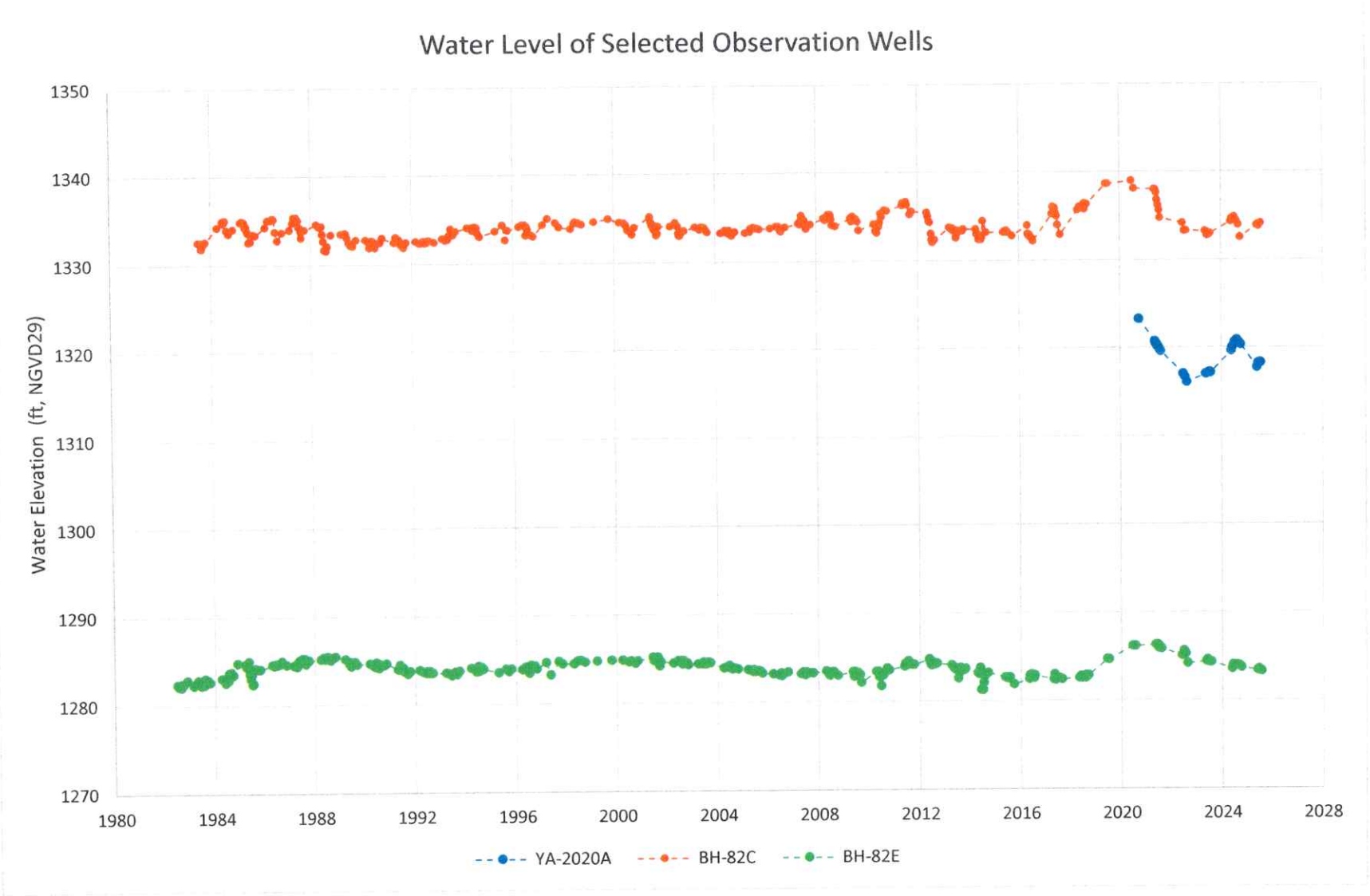

Figure 2. A hydrograph showing the elevation of water levels of observation wells in this erosional remnant of the Niobrara aquifer (Water Rights, 2026b)

HYDROLOGIC BUDGET:

Recharge

Recharge to the Niobrara aquifer in Bon Homme County is primarily from groundwater inflow and percolation through overlying till, outwash or shale deposits (Jorgensen, 1971). Additionally, recharge is likely to come through infiltration of precipitation where the Niobrara aquifer is at or near land surface. There is also potential for leakage from the Choteau: West and Lower James Missouri: Scotland aquifers as well as any other hydrologically connected aquifers (Bugliosi, 1986; Christensen, 1974; Jorgensen, 1971; Water Rights, 2026b).

There is no estimate of average annual recharge of the Niobrara aquifer in South Dakota (Hedges & others, 1985). However, Hedges, & others (1985) noted the Niobrara aquifer, in South Dakota, has such high storage and low use it is unlikely that withdrawals are approaching or exceeding recharge. There is no evidence of significant head loss from observation wells completed into the erosional remnant of the Niobrara aquifer in Bon Homme & Yankton Counties (see Figure 2) (Water Rights, 2026b).

Discharge

Discharge from this erosional remnant of the Niobrara aquifer is primarily due to well withdrawals, outflow to the Missouri River, leakage to hydrologically connected aquifers with a lower water level, and evapotranspiration in areas where the aquifer is at or near land surface (Bugliosi, 1986; Christensen, 1974; Jorgensen, 1971; Water Rights, 2026d). There are currently 92 active water rights/permits for the Niobrara aquifer, 16 of those water rights/permits are withdrawing from this erosional remnant of the Niobrara aquifer (Water Rights, 2026c). Of the 16 water rights/permits, 14 are for irrigation use and the remaining two are for municipal use and geothermal use as listed on Table 1.

The Town of Tabor purchases their water from a rural water system but maintains their water rights on standby for emergency use pursuant to ARSD 74:02:01:37.02 (Drinking Water, 2026). Since Water Right No. 5356-3 is not consistently pumping water for municipal use, they will be estimated as withdrawing 0 acre-feet from the Niobrara aquifer. It is estimated that Water Right No. 7176-3 will pump at their maximum permitted diversion rate for 60 percent of the time. The 60 percent estimation was established by Water Rights Staff to be a reasonable and safe assumption of average annual withdrawals by non-irrigation appropriations. Historically, the 60 percent estimate has been accepted by the Water Management Board. The estimated average annual appropriative use by Water Right No. 7176-3 from this erosional remnant of the Niobrara aquifer is 48 acre-ft per year.

Table 1. Water rights/permits authorized to divert water from this erosional remnant of the Niobrara aquifer (Water Rights, 2026c)

Permit No.	Name	Priority Date	Status	Use	Authorized Diversion Rate (cfs)	Acres
4578-3	Nagel Feedyard LLC	10/17/1980	License	IRR	1.04	73
4779-3	Terry Balvin	06/01/1981	License	IRR	3.90	287
5356-3*	Town of Tabor	08/17/1989	License	MUN	0.40	N/A
5840-3	City of Yankton	12/19/1994	License	IRR	0.43	30
6365-3	City of Yankton	10/15/2002	License	IRR	2.23	99.6
7176-3	Yankton School District 63-3	12/28/2009	License	GEO	0.11	N/A
7266-3	Verlyn & Jermie Jelsma	09/06/2011	License	IRR	1.33	109
7269-3	Verlyn Jelsma	09/06/2011	License	IRR	1.67	158
7985-3	William Chenoweth	03/26/2014	License	IRR	0.95	230
8053-3	Blane Nagel	09/17/2014	License	IRR	1.45	140
8062-3	Kenneth & Carol Guenther Revocable Trust	11/06/2014	License	IRR	1.67	131
8246-3	Verlyn Jelsma	09/06/2011	License	IRR	1.78	293
8507-3	Craig Vanderlei	04/12/2021	License	IRR	1.78	132
8561-3	Blane Nagel	11/15/2021	License	IRR	1.11	65
8574-3	Ivan Jelsma	12/27/2021	License	IRR	1.33	130
8979-3	Craig Vanderlei	09/02/2025	Permit	IRR	1.78	106
MUN: Municipal, INS: Institutional, COM: Commercial. *This Water Right gets their water from a separate system rather than local wells.						

Currently, there are 14 irrigation water rights/permits appropriating water from this erosional remnant of the Niobrara aquifer (Water Rights, 2026c). Irrigation water rights/permits have been typically required to report their annual use by submitting an irrigation questionnaire since 1981. The average annual withdrawal rate for this portion of the aquifer irrigation water rights/permits that have reported over the period of record (1981 to 2024) is approximately 386 acre-feet per year (Table 2) (Water Rights, 2026a). To reflect the current development of irrigation water rights/permits more accurately, the average annual withdrawal rate for irrigation appropriations from 2015 to 2024 is approximately 768 acre-feet per year (Table 2) (Water Rights, 2026a).

There is one other irrigation use water permit approved in 2025 (No. 8979-3), to irrigate 106 acres, that is not accounted for in Table 2 (Water Rights, 2026c). Over the entire period of record, crop irrigators in the Tulare aquifer of South Dakota applied, on average, 7.58 inches of water per acre per year (Drennon, 2025). However, the Tulare aquifer is more than 100-miles north of the Niobrara aquifer. To account for the fluctuation in wet and dry cycles from year to year and differences in percolation of local soils, an estimate of 10 inches (0.83 feet) of water per acre per year will be used to somewhat overestimate the annual withdrawal rate of the recently approved irrigation water permits. Assuming 0.83 feet of water per acre per year, the withdrawal rate for Water Permit No. 8979-3 is approximately 88 acre-feet per year. Additionally, this application, if approved, proposes to irrigate 120 acres. Using the same described estimation

method as above, the estimated average annual withdrawal rate for this pending application, if approved, is approximately 100 acre-feet per year. Collectively, the average annual withdrawal rate for the irrigation appropriations from 2015 to 2024 (768 acre-feet/year), plus the estimated average annual withdrawal rate for the irrigation water permits approved in 2025 (88 acre-feet/year), plus the estimated average annual withdrawal rate for this application (100 acre-feet/year), is approximately 956 acre-feet per year for irrigation.

The natural discharge from this erosional remnant of the Niobrara aquifer is proportional to the hydraulic gradient between this aquifer and the other aquifer, river, or other water body receiving the discharge. Aquifer characteristics (e.g. hydraulic conductivity, saturated thickness) are generally site specific for bedrock aquifers such as the Niobrara aquifer or are relatively site specific and can only be determined through aquifer performance testing. Buhler (2015) estimated transmissivity to determine an approximate discharge rate to the Missouri River for this erosional remnant of the Niobrara aquifer. The estimate was in excess of 11,000 ac-ft/yr (Buhler, 2015). There is not sufficient data available to estimate discharge to the Codell Sandstone or other glacial aquifers that would receive discharge from this erosional remnant of the Niobrara aquifer.

There are domestic wells completed into this erosional remnant of the Niobrara aquifer that do not require a water right/permit, so the withdrawal amount from those wells is unknown (Water Rights, 2026d). 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 Niobrara 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 this erosional remnant of the Niobrara aquifer.

Table 2. Reported historic irrigation use from this portion of the Niobrara aquifer (Water Rights, 2026a)

Year	No. of Permits	Reported Use (acre-feet)	Year	No. of Permits	Reported Use (acre-feet)
1981	3	100	2003	6	549
1982	3	137	2004	6	349
1983	4	290	2005	5	330
1984	4	170	2006	5	284
1985	4	171	2007	5	296
1986	4	185	2008	5	365
1987	4	266	2009	4	118
1988	4	315	2010	4	160
1989	4	324	2011	4	266
1990	3	172	2012	8	1,365
1991	3	310	2013	8	613
1992	4	187	2014	9	617
1993	4	192	2015	11	767
1994	3	378	2016	11	852
1995	4	267	2017	13	1,025
1996	4	505	2018	11	157
1997	4	307	2019	11	160
1998	4	271	2020	11	499
1999	4	259	2021	12	1,034
2000	5	352	2022	13	1,242
2001	5	374	2023	13	1,143
2002	5	494	2024	13	800
Min.	**3**	**100**			
Max.	**13**	**1,365**			
Average (1981-2024)	**6**	**386**			
Average (2015-2024)	**12**	**768**			

Hydrologic Budget Summary

Currently, there is not an estimated recharge rate available for the Niobrara aquifer. The estimated average withdrawal rate from this portion of the Niobrara aquifer totals to approximately 1,004 acre-feet/year; (non-irrigation: 48 acre-feet/year; and irrigation (avg 2015 to 2024), and this pending application: 956 acre-feet/year). It should be noted additional pumping from this remnant of the Niobrara aquifer could induce more recharge from the Lower James Missouri: Scotland and Choteau: West aquifers as well as reduce the amount of natural discharge to the Missouri River. The observation well hydrographs document there has been no significant decrease in artesian head pressure in the aquifer despite continued irrigation development (see Figure 2). Recognizing that natural discharge can be captured for pumping, the estimated discharge to the Missouri River alone would be more than sufficient to supply existing appropriative users, domestic users, and this application. Therefore, there is a reasonable probability there is unappropriated water available for this proposed appropriation.

Table 3. List of water rights/permits withdrawals (Water Rights, 2026a & 2026c), and this application (if approved) from the erosional remnant to the Niobrara aquifer.

Hydrologic Budget for the erosional remnant of the Niobrara Aquifer (ac-ft/yr)	
Non-Irrigation Estimated Use	48
Irrigation Reported Use (2015-2024)	768
Recent Permit (No. 8979-3)	88
Current Estimated Withdrawal	**904**
Pending Application (No. 9028-3)	100

POTENTIAL FOR UNLAWFUL IMPAIRMENT OF EXISTING WATER RIGHTS:

Water rights/permits in the general vicinity of the existing diversion point for this application are shown in Figure 3 and summarized in Table 4 (Water Rights, 2026c). The closest water right/permit to the existing diversion point, not held by the applicant, is Water Right No. 8574-3 held by Ivan Jelsma as shown on Figure 3. The diversion point for Water Right No. 8574-3 is located approximately 0.3 miles north of the existing diversion point for this application (Water Rights, 2026c). There are domestic wells on file with the DANR-Water Rights Program that are completed into the Niobrara aquifer, with the closest domestic well on file (not held by the applicant) located approximately 0.1 miles northwest of the existing diversion point based on the well completion report submitted by the driller (Water Rights, 2026d). There could potentially be other domestic wells completed into the Niobrara aquifer near the existing diversion point that are not on file with the DANR-Water Rights Program. The location of the domestic wells in the well completion report database maintained by the Water Rights Program is based on the location listed by the driller on the well completion report.

Table 4. List of water rights/permits shown in Figure 3 (Water Rights, 2026c).

Permit	Name/Business	Priority	Status	Use Type	CFS	Acres
4578-3	Nagel Feedyard LLC	10/17/1980	License	Irrigation	1.04	73
4779-3	Terry Balvin	06/01/1981	License	Irrigation	3.90	287
7266-3	Verlyn & Jeremie Jelsma	09/06/2011	License	Irrigation	1.33	109
7269-3	Verlyn Jelsma	09/06/2011	License	Irrigation	1.67	158
7985-3	William Chenoweth	03/26/2014	License	Irrigation	0.95	230
8053-3	Blane Nagel	09/17/2014	License	Irrigation	1.45	140
8062-3	Kenneth & Carol Guenther Revocable Trust	11/06/2014	License	Irrigation	1.67	131
8246-3	Verlyn Jelsma	09/06/2011	License	Irrigation	1.78	293
8561-3	Blane Nagel	11/15/2021	License	Irrigation	1.11	65
8574-3	Ivan Jelsma	12/27/2021	License	Irrigation	1.33	130
8979-3	Craig Vanderlei	09/02/2025	Permit	Irrigation	1.78	106

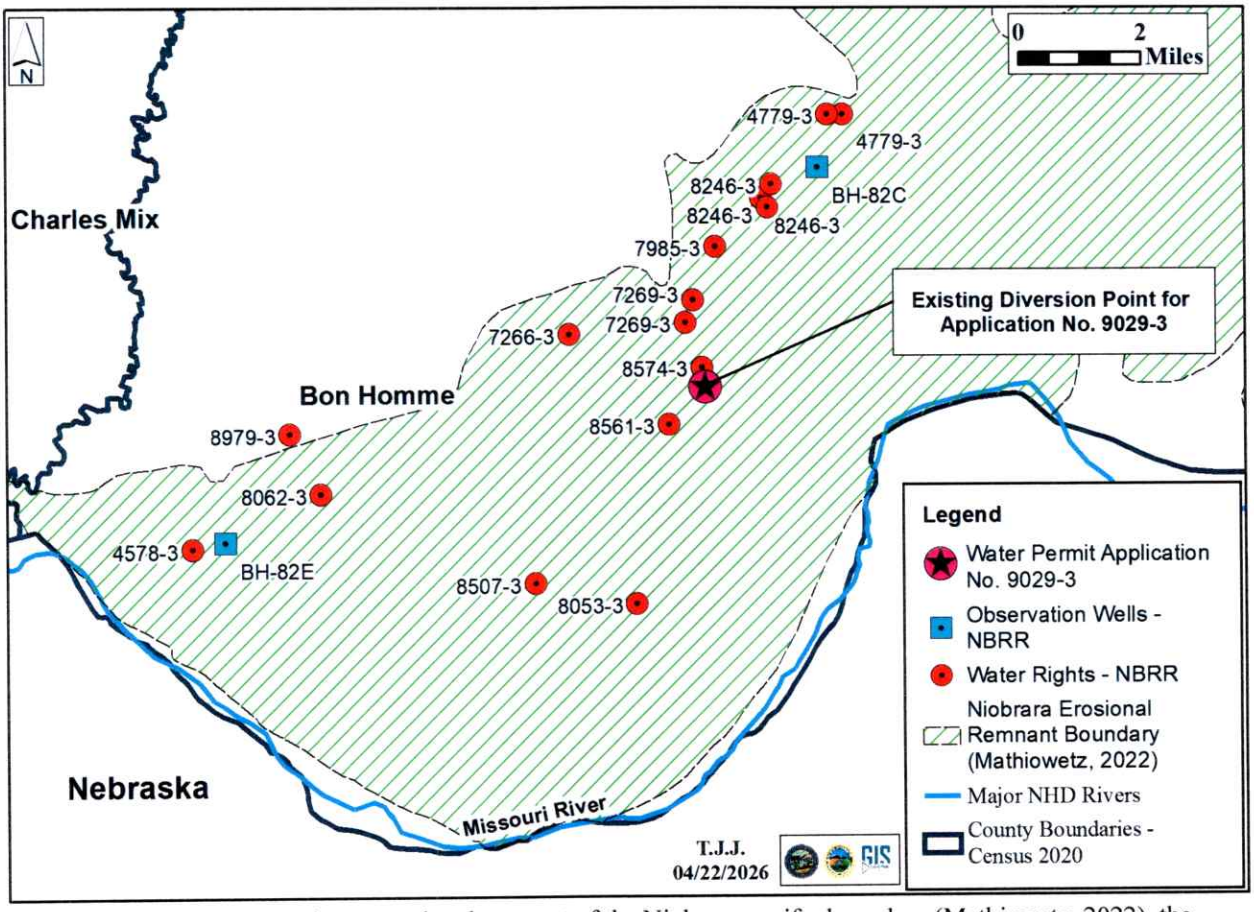

Figure 3. Map of the approximate erosional remnant of the Niobrara aquifer boundary (Mathiowetz, 2022), the location of the existing diversion point for Water Permit Application No. 9029-3, and the Niobrara aquifer observation wells and water rights/permits within 9 miles in the same erosional remnant (Water Rights, 2026b and 2026c).

The Niobrara aquifer is primarily under confined conditions. However, the well completion report submitted with this application is a buried unconfined aquifer. In a buried unconfined aquifer, drawdown from a pumping well doesn't extend far 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).

A complaint was made in June of 2025 in regard to a domestic well going dry (Water Rights, 2026e). The complainant suspected new irrigation wells were the cause. However, based on data of several observation wells between the complainant's well and the new irrigation wells, and the distance between the wells (located approximately 8.7 miles north-northwest of the complainant's well), the complaint was not substantiated, and no action was taken. It should be noted that this complaint was made in Charles Mix County which is approximately 10 miles northwest of this application's diversion point. So, it is likely that the complaint's well was completed into a southern main body portion of the Niobrara aquifer which is separate from the erosional remnant portion of the Niobrara aquifer.

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 Niobrara aquifer in Bon Homme County, and the lack of any substantiated well interference complaints for wells completed into the Niobrara aquifer, any drawdown created from the proposed diversion is not expected to cause an unlawful impairment to 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 to existing users with adequate wells.

CONCLUSIONS:

1. Water Permit Application No. 9029-3 proposes to appropriate 1.45 cfs from one existing well completed into the Niobrara aquifer (120 feet deep) located in the NW ¼ SW ¼ Section 15 for irrigation of 120 acres located in the SW ¼ Section 15; all in T93N-R60W. This site is located in Bon Homme County, approximately one and one-half miles northwest of Springfield, SD.

2. Based on observation well data and the hydrologic budget, there is a reasonable probability that unappropriated water is available from the Niobrara aquifer to supply the proposed appropriation.

3. There is a reasonable probability that the diversion by Water Permit Application No. 9029-3 will not unlawfully impair adequate wells for existing water rights/permits and domestic uses.

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

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