

WATER PERMIT NO. 8626-3

Name of Applicant: Tri-Cross Renewable Energy LLC

Address: 45144 289th St, Viborg SD 57070 Phone: 949 205-6613

Amount of Water Claimed: 0.10 cfs Total Acres: NA

Source of Water Supply: groundwater (one well)

Water to be used for: commercial County: Turner

Type of Waste Disposal System:

Location: 5 miles northwest of Viborg

PRIORITY Date Received: 3-28-22

Application/License Fee: \$ 300

Corrected Application Received: 4-7-22

Period of Annual Use: Jan 1 – Dec 31

Remarks: supply an anaerobic digester

Diversion Point: NE 1/4 SW 1/4 Sec 24-T97N-
R54W

Land to be Irrigated: NA

Depth of Well: 215 feet deep

Well Driller:

Remarks:

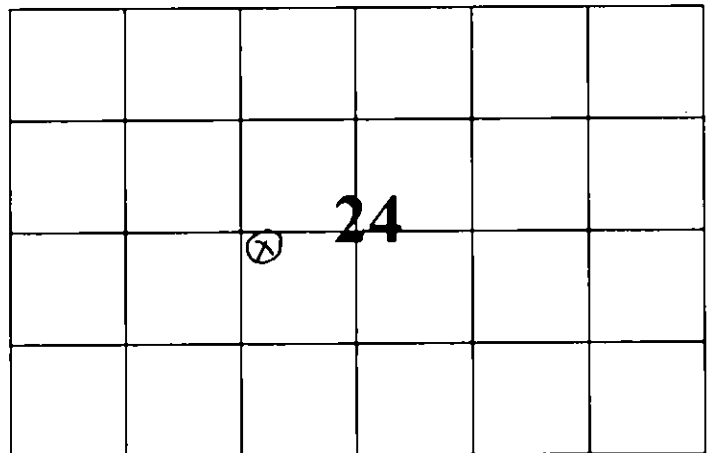
Type of Map: aerial

Prepared by:

Reviewed and the Number Assigned on: 4-7-22

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____



**SOUTH DAKOTA
WATER PERMIT NO. 8626-3**

Date of first receipt of application March 28, 2022.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 8626-3 to Tri-Cross Renewable Energy LLC, c/o Will Flanagan, 45144 289th St, Viborg SD 57070 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. 8626-3 appropriates 4.6 acre-feet of water annually at a maximum pump rate of 0.10 cubic feet of water per second from one well to be completed into the Niobrara Aquifer (approximately 215 feet deep) located in the NE 1/4 SW 1/4 Section 24-T97N-R54W for commercial use to supply an anaerobic digester. This site is located approximately five miles northwest of Viborg SD.
2. The water appropriated shall be used for the purpose of commercial use and may not exceed the amount of water needed for beneficial use.
3. The water is to be used during the following described annual period: January 1 – December 31.
4. The date from which applicant may claim right is March 28, 2022.
5. The date of approval of Permit No. 8626-3 is July 25, 2022.
6. One-fifth of the construction is to be completed on or before January 25, 2025.
7. All construction is to be completed on or before July 25, 2027.
8. Water is to be put to beneficial use on or before July 25, 2031.
9. 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. 8626-3 is located near domestic wells and other wells which may obtain water from the same aquifer. Water withdrawals under this Permit shall be controlled so there is not a reduction of needed water supplies in adequate domestic wells.
2. The well authorized by Permit No. 8626-3 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. The permit holder shall report to the Chief Engineer annually the amount of water withdrawn from the Niobrara aquifer.
4. Water Permit No. 8626-3 authorizes a total annual diversion of up to 4.6 acre-feet of water.

WATER MANAGEMENT BOARD

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

AUG 04 2022

date



RECEIVED

MAR 28 2022

SD EForm - 1585LD V5

FORM 2: Application for uses other than irrigation
(type or print)WATER RIGHTS
PROGRAM

PAID

MAR 28 2022

Ck# 1176

Rec't#

Mail to: DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>8626-3</u>	(office use only) Hydrologic Unit <u>10170102</u>
	Basin <u>Vermillion R</u>	
	Newspaper <u>Turner County New Era</u>	
	<u>Press & Dakotan</u>	

Application For Permit To Appropriate Water Within The State Of South Dakota

Check use(s) of water:

☐ Municipal	☐ Water Distribution System	☐ Recreational	☐ Institutional
☐ Rural Water System	☒ Commercial	☐ Fish & Wildlife	☐ Geothermal
☐ Domestic (over 18 gpm)	☐ Industrial	☐ Other	

Type of Application:
(check one)

☒ New	☐ Vested Right (Use predates Mar 2, 1955)	☐ Future Use Reservation
☐ Place to Beneficial Use Water Reserved by Future Use Permit No. _____		
☐ Amendment/Correction to Permit No. _____		

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

Contact person: Jason Dages @ dynamicgrp-us1. Name to Appear on Water Permit Tri-Cross Renewable Energy, LLCPhysical Mailing Address 45144 289th St. Viborg, SD 57070

(Address)

(City)

(State)

(Zip Code)

Phone _____

Mobile 949-205-6613Email will.flanagan@cleanenergyfuels.com2. Amount of water claimed 0.10 *CFS or 45**GPM and 4.6 ***AF or 1,500,000 Gallons
Flow rate and volume are both required. (*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use3. Source of water supply Niobrara Marl4. Location of point of diversion 1 Well in NE 1/4 SW1/4 Sec.24-T97N-R54W County Turner

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

If not a public water supply (e.g. municipal), will water be used outside of the area described above? ☐ Yes ☒ No

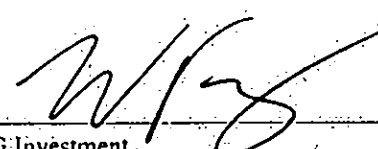
If "Yes," where will water be used? _____

(example - NW1/4 section 12-T104N-R53W)

5. County or counties where water will be used Turner6. Annual period during which water is to be used January 1-December 31

7. Give a description of the project. When available include any preliminary engineering report or other reports or information that will help explain the project. (Attach sheet if more space is needed)

Process water supply for the anaerobic digestors to be built on N side of the dairy. First year water usage will be higher due to start up water demands. Subsequent years will be less than 1.5 million annually. A reverse osmosis system will produce the needed water once operational. the estimated yearly use includes RO downtime for maintenance/repair at which time the facility will require 20gpm to operate.


I, Will Flanagan

VP, Strategic Development & RNG Investment, the applicant, certify under

Name of Person

Title (if applicable)

penalty of perjury that I have read this application; examined the attached map; and that the matters stated are true. I further certify, if acting on behalf of an entity or individual other than myself, that I am authorized to submit this application.

2015-10

Attachments: Attach Form 2A if diversion is from a well or dugout, or if storage of water is proposed. Also, attach map and any other technical information. (see instructions)

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 Sam Heine Well Co.
(if yes, please provide copies of logs)
- b) If existing wells, how many 2 Provide copy of log(s), if available. Drilled by Steffl Drilling & Pump Inc.

For either Existing or Proposed Wells:

- c) Well Depth (required) 215 Depth to Top of Water Bearing Material 84 Depth to Water from Surface 10
- d) Distance to nearest domestic well on applicant's property None Property owned by others _____

2. Wastewater Disposal System Information

- a) Type of System (i.e. septic tank, drain field) N/A
- b) System Capacity (gallons) _____ Year Constructed _____
- c) Connected to the City of _____ Sanitary System

3. Dugout Information

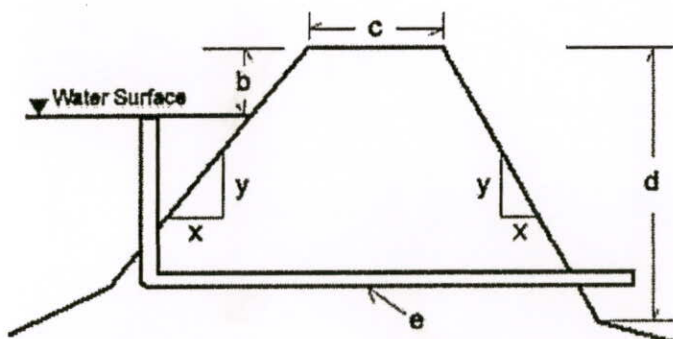
- a) Surface Dimensions N/A Depth _____
- b) Depth to water (ground surface to water level) _____

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 N/A
- 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

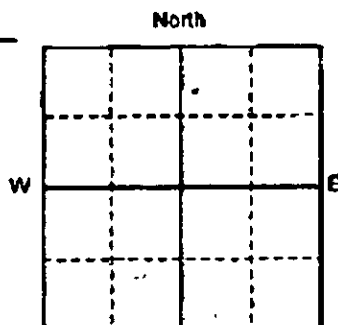


8216-3

SD EForm - 1621LD V1

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location SE 1/4 SW 1/4 Sec 24 Twp 87N Rg 54WCounty TURNERPlease mark well
location with an "X"

Well Completion Date

9/14/17

1 Mile

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

PROPOSED USE:

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

METHOD OF DRILLING:

Mud Rotary

CASING DATA:

☐ Steel
☒ Plastic
☐ Other

If other describe

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	12.00 IN	0.0 FT	57.0 FT	17.50 IN
LB/FT	12.00 IN	197.0 FT	200.0 FT	17.50 IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
Quick Grout	57	Lb/gal	0.0 Ft	50.0 Ft
Red Flint	270	Lb/gal	50.0 Ft	200.0 R

Describe grouting procedure

Drill Rod

SCREEN:

☐ Perforated pipe
☒ Manufactured
Diameter 12.00 inches Length 140.0 FeetMaterial Stainless SteelSlot Size 80 Set From 57.0 Feet to 197.0 Feet

Other information

WAS A PACKER OR SEAL USED? ☐ Yes ☒ No

If so, what make/model?

Describe packer(s) and location

DISINFECTION: Was well disinfected upon completion?

☒ Yes, How?☐ No, Why Not?Lab to which water
quality sample sent for analysisWell Owner: Tom KoolhaasBusiness Name: TriCross DairyAddress: 45144 289th StCity, State, Zip: Viborg SD 57070

WELL LOG:

			DEPTH	
FORMATION			FROM	TO
Clay	Tan	M	0	25
Sandy/Clay	Tan	M/H	25	35
Clay	Brown	M	35	37
Clay	Blue	M	37	40
Clay	Whit	M	40	43
Clay	Whit/Gray	M	43	186
Sandy/Clay	Whit	M	186	196
Clay	Blue/Bik	M/H	196	200

STATIC WATER LEVEL 27 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:

With Submersible

☐ Bailed☐ Other

Pumping Level Below Land Surface

105' 4" Ft. After 14 Hrs. pumped 205 GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: 200 GPM

REMARKS

West Well #3

66 hours Air Development

GPS: 43 11 58.1N

97 10 32.3W

Drilled by Krs VanHeuveln

Date: 11/21/2017

This well was drilled under license # 463 and this report is true and accurate.Drilling firm: Steffl Drilling & Pump Inc

Signature of License Representative:

Signature of Well Owner/Equity/Property Holder:

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DEC 18 2018

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Tri-cross Dairy

WELL



40

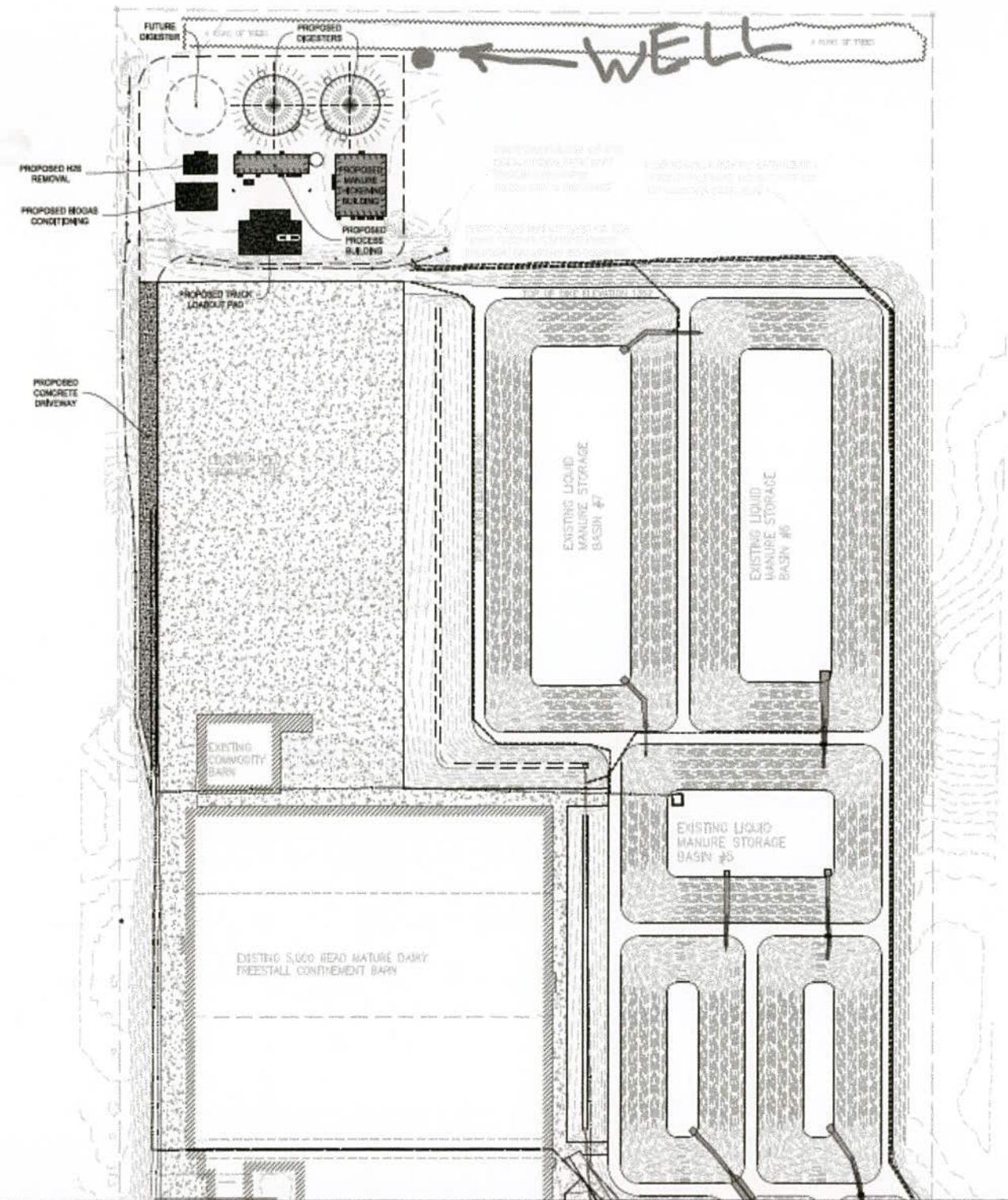
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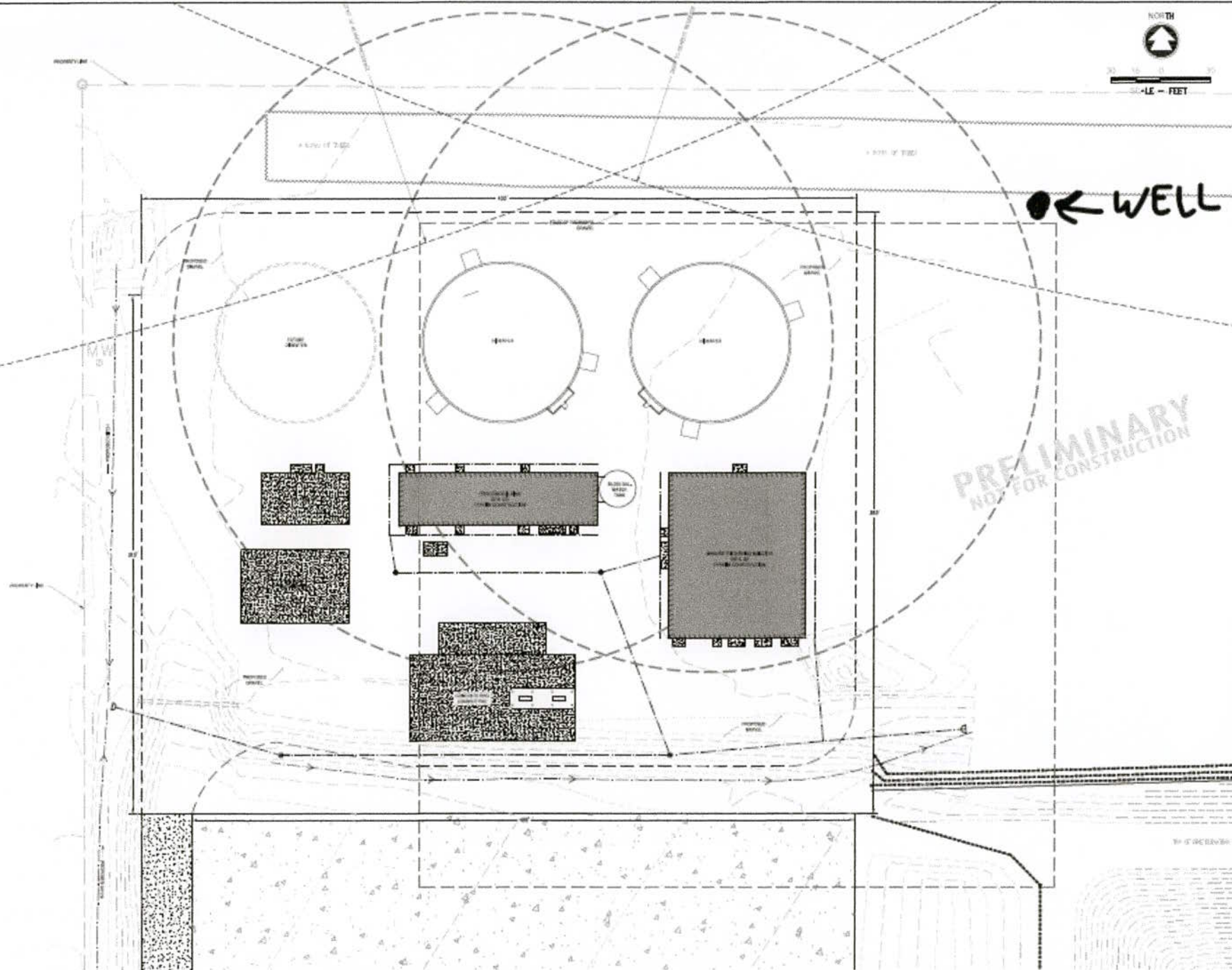
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Google

Imagery ©2022 Mapbox Technologies, USDA Farm Service Agency, Map





TRICROSS

TRICROSS RENEWABLE ENERGY, LLC.

41-1
2009



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MAR 28 2022

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Dept. DANR

Should you have any questions with the permit, please contact;

Jason Dagel

Cell# 432-935-0174

Thank you

Jason Dagel

State of South Dakota

Office of the Secretary of State

Certificate of Authority

Foreign Limited Liability Company

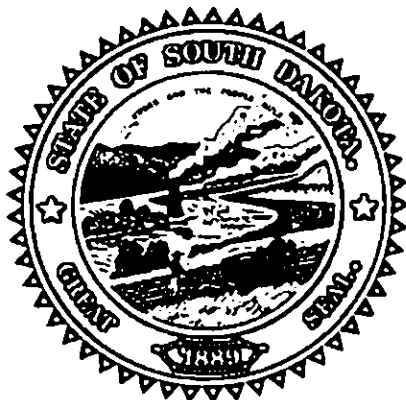
I, **Steve Barnett**, Secretary of State of the State of South Dakota, hereby certify that the Application for Certificate of Authority to transact business in this state for

TRI-CROSS RENEWABLE ENERGY, LLC

BUSINESS ID# FL224225

with an effective date of: April 4, 2022, duly signed and verified, pursuant to the provisions of the South Dakota Limited Liability Company Act, has been received in this office and is found to conform to law.

ACCORDINGLY, and by virtue of the authority vested in me by law, I hereby issue this Certificate of Authority and attach hereto a duplicate of the Application for Certificate of Authority.



IN TESTIMONY WHEREOF, I have hereunto set my hand and caused to be affixed the Great Seal of the State of South Dakota, in Pierre, the Capital City, this day, April 4, 2022.

Steve Barnett

Steve Barnett
Secretary of State

04/05/2022 12:58 PM

Secretary of State Office
500 E Capitol Ave
Pierre, SD 57501
(605)773-4845
corpinfo@state.sd.us

**APPLICATION FOR
CERTIFICATE OF AUTHORITY
FOREIGN LIMITED LIABILITY COMPANY**
SDCL 47-34A-1002

FILING FEE: \$765

Make check payable to SECRETARY OF STATE

Application must be accompanied by a one page Original Certificate of Existence issued by the Secretary of State or other official having custody of the organizational records in the state or other jurisdiction under whose law it is organized.

1. The name of the company:

Tri-Cross Renewable Energy, LLC

2. If the name indicated above does not include Limited Liability Company, Limited Company or the abbreviation L.L.C., LLC, L.C. or LC. (Limited may be abbreviated as Ltd. and company may be abbreviated as Co.), then what is the alternative name adopted:

3. The name of the state or other jurisdiction under whose laws it is organized: Delaware

4. The address of its principal office (this is the address of the executive offices of the company):

4675 MacArthur Court, Suite 800	Newport Beach	CA	92660
Street Address	City	State	ZIP+4

Mailing Address if different from street address	City	State	ZIP+4
--	------	-------	-------

Email Address (Optional)

5. If the jurisdiction under which the company is formed requires the company to maintain an office in that jurisdiction then provide for that office:

Street Address	City	State	ZIP+4
----------------	------	-------	-------

Mailing Address if different from street address	City	State	ZIP+4
--	------	-------	-------

6. The South Dakota Registered Agent's name:

South Dakota law permits the registered agent to be either: A) noncommercial registered agent (this may be an individual) or B) a commercial registered agent. Complete only one below, either (a) or (b).

(a) The South Dakota Noncommercial Registered Agent's name _____

Actual Street Address in this State	City	State	ZIP+4
-------------------------------------	------	-------	-------

Mailing Address in this State, if Different from Street Address	City	State	ZIP+4
---	------	-------	-------

Email Address (Optional)

(b) When listing a Commercial Registered Agent, please state their CRA#. This number can be obtained from the Commercial Registered Agent.

C T Corporation System

CR000002

Commercial Registered Agent Name

CRA#

No person may execute this report knowing it is false in any material respect. Any violation may be subject to a criminal penalty (SDCL 22-39 36).

Dated March 31, 2022

Email denisc.peters@cleancenergyfuels.com

(Optional)

Signature of an authorized person

William Flanagan

Printed Name

Vice President, Strategic Development

Title

Delaware

The First State

Page 1

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY "TRI-CROSS RENEWABLE ENERGY, LLC" IS DULY FORMED UNDER THE LAWS OF THE STATE OF DELAWARE AND IS IN GOOD STANDING AND HAS A LEGAL EXISTENCE SO FAR AS THE RECORDS OF THIS OFFICE SHOW, AS OF THE FIRST DAY OF APRIL, A.D. 2022.

AND I DO HEREBY FURTHER CERTIFY THAT THE ANNUAL TAXES HAVE BEEN ASSESSED TO DATE.



6097381 8300

SR# 20221274569

You may verify this certificate online at corp.delaware.gov/authver.shtml

A handwritten signature in black ink, appearing to read "JB", is written over a horizontal line. Below the line, the text "Jeffrey W. Bullock, Secretary of State" is printed in a small font.

Authentication: 203074164

Date: 04-01-22

B0208-9605 04/04/2022 1:25PM Rec'd by SD SOS

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Agriculture and Natural Resources

Date March 28, 2022

RECEIVED OF Dynamic Systems Management W175 N11117 Stonewood Dr. Ste. 209 Germantown WI 53022

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

Fee for Application for Permit No. <u>8626-3</u> to Appropriate Water, to construct and to put water to beneficial use	\$ <u>100.00</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>8626-3</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>300.00</u>

By Eric Gronlund
Chief Engineer
One



**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. 8626-3, Tri-Cross Renewable Energy LLC**

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. 8626-3, Tri-Cross Renewable Energy LLC, 45144 289th Street, Viborg SD 57070.

The Chief Engineer is recommending APPROVAL of Application No. 8626-3 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. 8626-3 is located near domestic wells and other wells which may obtain water from the same aquifer. Water withdrawals under this Permit shall be controlled so there is not a reduction of needed water supplies in adequate domestic wells.
2. The well authorized by Permit No. 8626-3 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. The permit holder shall report to the Chief Engineer annually the amount of water withdrawn from the Niobrara aquifer.
4. Water Permit No. 8626-3 authorizes a total annual diversion of up to 4.6 acre-feet of water.

See report on application for additional information.

Eric Gronlund, Chief Engineer
June 9, 2022

Report of Water Permit Application 8626-3

Report to the Chief Engineer Water Permit Application No. 8626-3 TriCross Renewable Energy LLC

Water Permit Application No. 8626-3 proposes to appropriate up to 4.6 acre-feet of water annually at a maximum instantaneous diversion rate of 0.10 cubic feet per second (cfs) from one well (approximately 215 feet deep) to be completed into the Niobrara aquifer for commercial use to supply an anaerobic digester. The well and commercial use site is located in the NE ¼ SW ¼ Section 24-T97N-R54W in Turner County. This site is located approximately five miles northwest of Viborg, SD.

Aquifer: Niobrara aquifer

Hydrogeology

The Niobrara Formation is a bedrock formation that underlies most of eastern and western South Dakota (Hedges et al, 1982; Allen et al, 1985). The Niobrara Formation is a Late Cretaceous age white to dark grey argillaceous (clay containing) chalk, marl, and shale that can contain thin bentonite beds, minor sand, and chalky carbonaceous shale (Tomhave, and Schulz, 2004). Locally, the Niobrara Formation is also known as “chalk rock” and is extensive throughout South Dakota; however, characteristics of the Niobrara aquifer vary greatly across the state (Hedges et al., 1982). 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. Both Hedges et al. (1982) and Stephens (1967) identified fractures and solution cavities as the main means of water movement through the Niobrara aquifer. Hedges et al. (1982) noted these features are partially controlled by flexures and faults. Where these secondary porosity features are absent, the Niobrara Formation is generally a low-permeability or almost a no-permeability formation that transmits little to no water (Hedges et al., 1982; Stephens, 1967). Weathering and glacial activity may also contribute to higher productive zones in the Niobrara aquifer (Hedges et al., 1982). The interconnected nature of secondary porosity is highly variable and unpredictable.

In southeastern South Dakota, there are several areas where portions of the Niobrara Formation were isolated from the main body of the Niobrara through erosional forces prior to being overlain by glacial deposits (Tomhave and Schulz, 2004). The proposed well site is located within the extent of one of these isolated portions of the Niobrara Formation. The extent of this portion of the Niobrara Formation is shown in Figure 1. This portion of the Niobrara Formation underlies approximately 340,550 acres (estimated from Tomhave and Schulz, 2004) in portions of Hutchinson, Clay, Turner, Yankton, and McCook Counties. This portion of the Niobrara directly underlies either the Pierre Shale (shown in Figure 1) or glacial deposits in areas not underlying the Pierre Shale and overlies the Carlilie Shale (Tomhave and Schulz, 2004). 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. This portion of the Niobrara aquifer is described further in Kilts (2022).

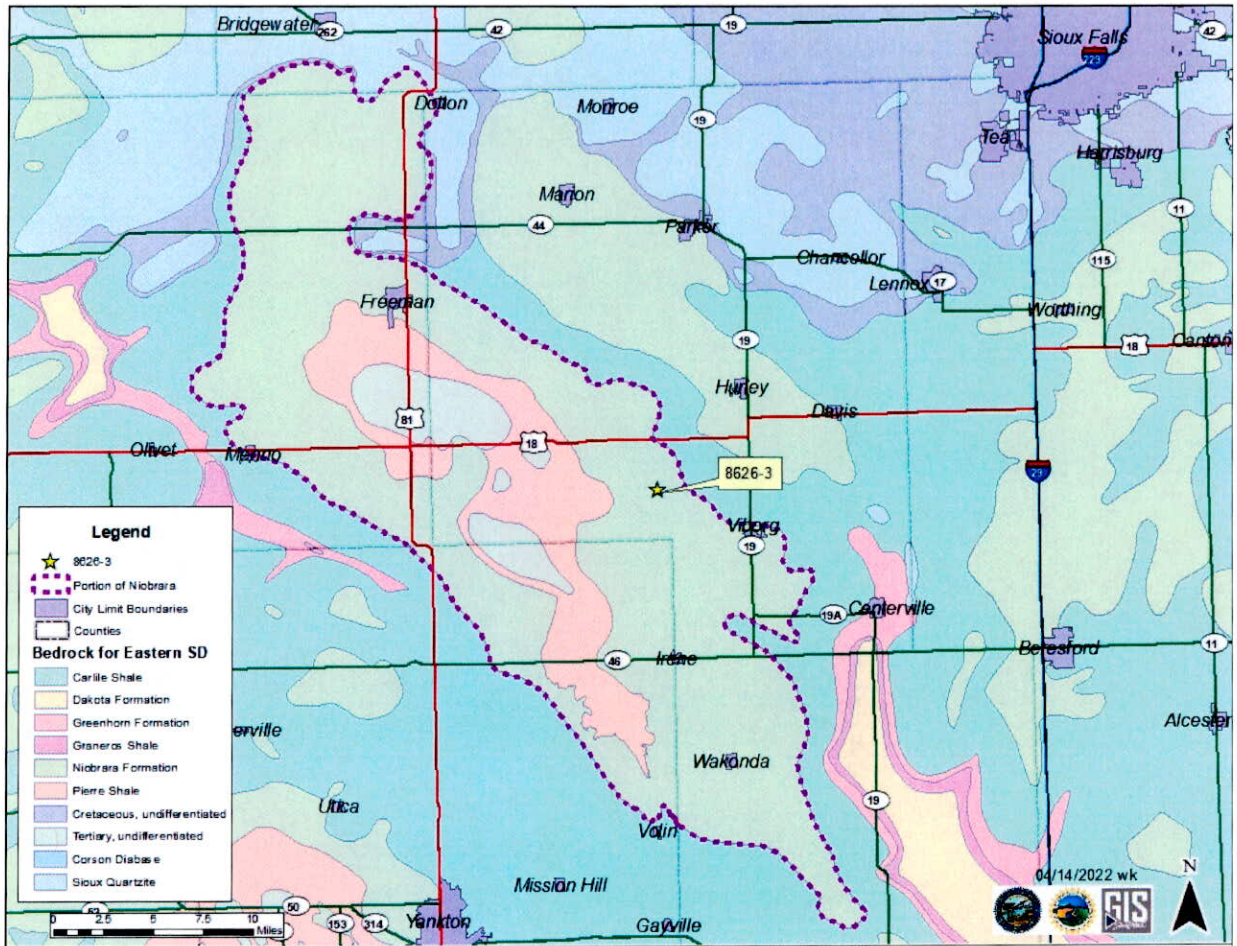


Figure 1: Map shown the first occurrence of bedrock material with the erosional remnant of the Niobrara Formation this application proposes to use (modified from Tomhave and Schulz, 2004)

The test hole and well completion reports for Water Permit No. 8216-3 for the dairy associated with the digester proposed under this application were submitted with this application. The test hole log reported the top of the chalk (Niobrara) at 84 feet below grade and the well completion report indicated the top of the Niobrara was approximately 40 feet below grade. The static water level at the time the well was completed (September 2017) was 27 feet below grade. Other information available indicated that at the proposed well location the requested well depth of approximately 215 feet would be expected to be completed into the Niobrara aquifer (Water Rights, 2022a; SDGS, 2022; and Tomhave and Schulz, 2004). Well completion reports on file with the Water Rights Program within one mile of the proposed well location for this application indicated that the Niobrara Formation can have sufficient permeability and saturated thickness to act as an aquifer in this area (Water Rights, 2022a). The Niobrara aquifer is expected to be under confined conditions in the area of the proposed well location for this application (Water Rights, 2022a).

South Dakota Codified Law (SDCL) 46-2A-9

Pursuant to SDCL 46-2A-9, "A permit to appropriate water may be issued only if there is a reasonable probability that there is unappropriated water available for the applicant's proposed use, that the diversion point can be developed without unlawful impairment of existing domestic water uses and water rights, and that the proposed use is a beneficial use and in the public interest as it pertains to matters of public interest within the regulatory authority of the Water Management Board as defined by SDCL 46-2-9 and 46-2-11." This report will address the availability of unappropriated water and the potential for unlawful impairment of existing domestic water uses and water rights within this portion of the Niobrara aquifer.

Water Availability

Water Permit Application No. 8626-3 proposes to appropriate water from the Niobrara aquifer for commercial use. The probability of unappropriated water being available from an aquifer can be evaluated by considering SDCL 46-6-3.1 which requires, "No application to appropriate groundwater may be approved if, according to the best information reasonably available, it is probable that the quantity of water withdrawn annually from a groundwater source will exceed the quantity of the average estimated annual recharge of water to the groundwater source." If the source of the water is older or lower than the Greenhorn Formation and the application is for a water distribution system defined in SDCL 46-1-6 (17), the Board need not consider the recharge/withdrawal issue. The Niobrara Formation is not older or lower than the Greenhorn Formation and this application is not for a water distribution system; therefore, the withdrawal/recharge issue must be considered.

Observation Well Data

In determining the availability of unappropriated water for a permit application Administrative Rule 74:02:05:07 requires the Water Management Board to rely on 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 annual recharge.

The Water Rights Program monitors 12 observation wells in this portion of the Niobrara aquifer. The nearest observation well to the proposed well location is observation well YA-79I located approximately 3.5 miles to the southwest. The hydrograph for observation well YA-79I is shown in Figure 2. The hydrograph for observation well YA-79I is generally representative of the other observation wells monitoring this portion of the aquifer.

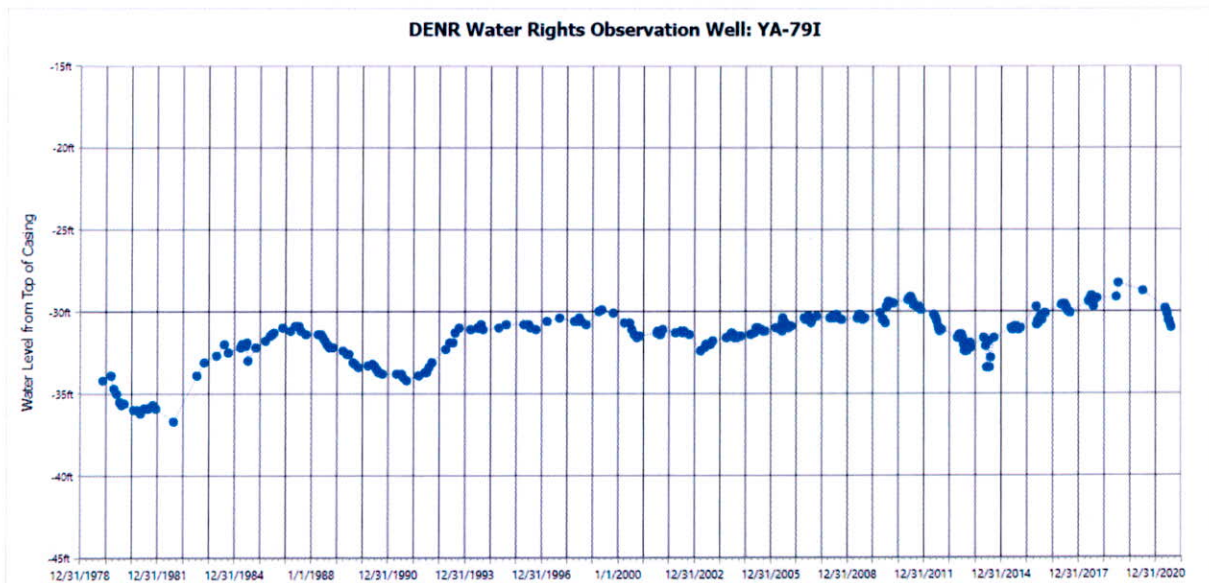


Figure 2: Hydrograph of observation well YA-79I located approximately 3.5 miles to the southwest (Water Rights, 2022b)

Generally, the observation wells in this portion of the Niobrara show an increasing to stable water levels since the start of their periods of record (Water Rights, 2022b). Within that trend, the response of water levels to climatic conditions can be noted, although the magnitude of the response to climatic condition varies due to localized conditions within the aquifer (Water Rights, 2022b). Several observation wells that are in close proximity to irrigation wells show localized seasonal dips in measured water levels during the irrigation season in response to pumping (Water Rights, 2022b). This is representative of the artesian head pressure of the aquifer in the area responding to seasonal irrigation pumping. However, water levels recover after the end of the irrigation season when pumping ends for the season. Water levels in the observation wells monitoring the aquifer generally rise during wet periods and decline to stable levels during drier periods. This type of behavior, along with aquifer recovery following the irrigation season, is indicative that climatic conditions, and therefore the effects of recharge to and natural discharge from the aquifer, govern the long-term fluctuations in water levels in the aquifer instead of pumping. 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 portion of the Niobrara aquifer for the proposed appropriation.

Hydrologic Budget

Recharge

Recharge to this portion of the Niobrara aquifer is likely from groundwater inflow from adjacent or overlying aquifers due to leakage from these hydrologically connected aquifers when the potentiometric gradients are favorable (a higher hydraulic head in the connected overlying or adjacent aquifer than in the Niobrara aquifer would indicate potential for leakage into the Niobrara aquifer), infiltration from precipitation where the Niobrara is at or near ground surface, and leakage through till (Lindgren and Hansen, 1990). There is no estimate of average annual recharge to this portion of the Niobrara aquifer or the Niobrara aquifer in general available for South Dakota

(Hedges et al., 1985). However, of the Niobrara aquifer in SD, Hedges, et al. (1985) noted the Niobrara aquifer had such high storage and low use it was unlikely that withdrawals are approaching or exceeding recharge and there was no evidence of significant head loss in the aquifer to suggest that use is exceeding recharge at that time. As documented in the observation well section of this report, the additional years of observation well data collected since Hedges, et al. (1985) still show no evidence of significant head loss in the aquifer (Water Rights, 2022b).

Discharge

Discharge from this portion of the Niobrara aquifer is due to well withdrawals and leakage to hydrologically connected aquifers where the potentiometric gradients are favorable (a higher hydraulic head in the Niobrara aquifer than in an overlying or adjacent aquifer would indicate potential for discharge from the Niobrara). Mathiowetz (2016) created and analyzed a May 2016 potentiometric surface for this portion of the Niobrara aquifer using observation well and water well data. The Mathiowetz (2016) analysis estimated that natural groundwater discharge along the western side of this portion of the Niobrara aquifer to the Lower James Missouri aquifer to be at least 9,837 acre-feet per year. Natural discharge from an aquifer serves as an indicator of the magnitude by which recharge is exceeding withdrawals from an aquifer. Since this estimate is for a single point in time (May 2016), this value does not represent an average annual value for discharge from the aquifer but does offer insight into the magnitude by which recharge is exceeding withdrawals on the western flank of the aquifer at the time the analysis was performed. Actual natural groundwater discharge from this aquifer is likely higher than indicated by Mathiowetz (2016). This is due to the direction of groundwater flow being generally from the center of the aquifer outward to the edges of the aquifer and Mathiowetz (2016) only quantified discharge from the western side of the aquifer, so an unquantified amount of natural discharge is likely occurring to the north, east, and south edges of the aquifer.

There are currently 25 active water rights/permits in this portion of the Niobrara aquifer, two pending applications (one for commercial use (Application No. 8597-3) and one for irrigation use (Application No. 8616-3)) with priority dates senior to this application, and one deferred application (Water Rights, 2022b). Of the water rights/permits, 20 are for irrigation use, 3 for municipal use, 3 for commercial use, and 1 for institutional use.

The six non-irrigation water rights/permits and one pending non-irrigation application in this portion of the Niobrara aquifer are summarized in Table 1. The Town of Irene and the City of Freeman both purchase their water from a rural water system but keep their water rights on standby for emergency use, so their average annual withdrawal is estimated to be zero (Drinking Water, 2022). Historically, average water use by non-irrigation appropriations limited solely by instantaneous diversion rate have been less than 60% of full time pumping at the maximum permitted diversion rate. For water rights/permits limited to an annual volume, full use of that volume is assumed for estimation of average annual withdrawal. Appropriative non-irrigation water use is summarized in Table 1. The estimated average annual appropriative non-irrigation use from this portion of the Niobrara aquifer is 534.3 acre-ft per year. There are a number of domestic wells completed into this portion of the Niobrara aquifer that do not require appropriative water permits or report annual pumpage. Due to the development of rural water systems in the area and to their relatively limited diversion rates; it is assumed the volume pumped from domestic wells is negligible to the hydrologic budget for this aquifer.

Report of Water Permit Application 8626-3

Table 1. Summary of Non-irrigation Use (Water Rights, 2022b)							
Permit/ Application No	Name of Permit Holder	Priority Date	Status	Use	Rate (cfs)	Annual Volume Limit (acre-ft)	Estimated Average Annual Use (acre-ft per yr.)
810-3	City of Freeman	01/01/1950	LC	MUN	1.26	n/a	0 (system on standby)
1229-3	Town of Irene	01/01/1915	LC	MUN	0.56	n/a	0 (system on standby)
5239-3	City of Freeman	10/17/1988	LC	MUN	0.33	n/a	0 (system on standby)
6524-3	Freeman Jr College & Freeman Academy	07/19/2004	LC	INS	0.07	n/a	30
6706-3	Pheasant Run Farm	02/21/2006	PE	COM	0.1	n/a	43
8216-3	B&K Dairy Farms LLC	02/01/2016	PE	COM	0.67	460	460
8597-3	CHS Farmers Alliance	02/22/2022	AP	COM	0.1	13	
Total							534.3
LC-water right, PE-water permit, MUN-municipal, INS-institutional, COM-commercial, AP-pending application							

The majority of water rights/ permits for irrigation are required to report annual irrigation usage to the Water Rights Program. The 19 active water rights/permits for irrigation from this portion of the Niobrara aquifer, one deferred irrigation application, and one pending application, which are summarized in Table 2. The reported annual irrigation pumping for the water rights/permits is summarized Table 3. Water Right No. 5913-3 incorporated portions of another permit when licensed, so reported irrigation usage for the incorporated permit is also included in Table 3. Water use for deferred Water Permit Application No. 8579-3 for the irrigation of 32 acres and for Water Permit Application No. 8616-3 is estimated at full irrigation appropriation 2 feet per acre per year for an estimated use of 106 acre-feet per year. Water Permit Nos. 7512-3, 7513-3, and 7514-3 all have a required completion of construction date of February 19, 2018; however, the 2013-2021 irrigation questionnaires for these permits all indicated that the systems have not been constructed (Water Rights, 2022a; Water Rights, 1980-2022). Water Permit No. 7814-3 has a completion of construction date of June 24, 2018; however, the 2013-2021 irrigation questionnaires for this permit all indicated that the system has not been constructed (Water Rights, 2022a; Water Rights, 1980-2022). Water Permit Nos. 7512-3, 7513-3, 7514-3, and 7814-3 are all likely subject to cancellation due to failure to construct the system in the five year construction period for the permit. Therefore, since they are subject to cancellation the average annual usage for these permits is estimated at zero acre-feet per year.

Report of Water Permit Application 8626-3

Table 2 Summary of Irrigation Water Rights/Permits (Water Rights, 2022b)						
Permit/ Application No.	Name of Permit Holder	Priority Date	Status	Rate (cfs)	Acres	Comments
5764-3	City of Freeman	03/15/1993	LC	0.24	27.5	irrigation reporting started in 2016
5913-3	Roger Schmidt	04/02/1981	LC	0.77	123	incorporates portions of 4679-3
6708-3	David Huber	04/03/2006	LC	1.78	271	
7344-3	Michael Schultz	04/09/2012	PE	5.33	399	
7448-3	Robert Heckenlaible	10/03/2012	PE	6.67	560	
7512-3	Greg Wirth	10/24/2012	PE	2.28	160	not constructed
7513-3	Greg Wirth	10/24/2012	PE	1.74	122	not constructed
7514-3	Greg Wirth	10/24/2012	PE	2.28	160	not constructed
7515-3	Greg Wirth	10/24/2012	PE	2.28	160	
7526-3	Derrick Walter	11/15/2012	PE	3.56	257	
7617-3	Brett Guthmiller	01/07/2013	LC	1.34	119	
7683-3	Roger Guthmiller	01/28/2013	LC	1.34	134	
7700-3	David Huber	02/14/2013	PE	2.22	160	
7814-3	David Huber	04/01/2013	PE	1.78	80	not constructed
7893-3	Wayne or Trina Knutson	09/03/2013	LC	0.07	1.2	
8162-3	Don Schellpfeffer	05/28/2015	PE	1.78	122.65	
8260-3	Cameron Johnson	12/27/2016	PE	1.67	117.35	
8326-3	Jerry Nelsen	01/08/2018	PE	2	120	
8416-3	Jerome Poeschl	12/02/2019	PE	1.56	116	
8579-3	Brett Guthmiller	DF	DF	0.89	32	deferred for 2 years
8616-3	Michael Schultz	AP	AP	0	21	
LC= license, PE= permit, DF=deferred, AP=application						

Report of Water Permit Application 8626-3

Table 3: Reported Irrigation use (Water Rights,1981-2021; Water Rights, 1982-2022)

Year	No. Permits	Reported Pumping (acre-feet)
1981	1	0.0
1982	1	69.7
1983	1	35.6
1984	1	42.0
1985	1	50.0
1986	1	50.0
1987	1	120.0
1988	1	72.9
1989	1	136.6
1990	1	92.8
1991	1	106.1
1992	1	6.6
1993	1	0.0
1994	1	33.1
1995	1	29.4
1996	2	6.6
1997	2	18.0
1998	2	0.0
1999	2	0.0
2000	2	0.0
2001	2	0.0
2002	2	25.2
2003	2	7.7
2004	2	0.0
2005	2	0.0
2006	2	0.0
2007	2	23.1
2008	2	49.5
2009	2	28.3
2010	2	0.0
2011	2	141.4
2012	3	381.6
2013	13	999.1
2014	14	928.9
2015	15	724.6
2016	16	518.1
2017	17	616.8
2018	18	98.0
2019	18	20.5
2020	19	815.0
Max	19	999.09
Min	1	0
1981-2020 Avg	4.5	156.2
2013-2020 Avg	16.25	590.1

Balance

Estimated average annual appropriative withdrawals for this portion of the Niobrara aquifer are estimated at 1,230.4 acre-ft per year (irrigation: 696.1 acre-ft per year and non-irrigation: 534.3 acre-ft per year). Natural discharge along the western side of this portion of the Niobrara aquifer to the Lower James Missouri aquifer is estimated to be at least 9,837 acre-feet per year (Mathiowetz, 2016). Since natural discharge from an aquifer represents water available in excess of withdrawals at the time of the estimation, and estimated natural discharge exceeds estimated average annual appropriative withdrawals, there is a reasonable probability that unappropriated water is available in this portion of the Niobrara aquifer for the annual use of the 4.6 acre-feet per year being requested by this application.

Potential For Unlawful Impairment of Existing Water Rights

Water rights/permits currently authorized to appropriate water from this portion of the Niobrara aquifer in the area of the well for this application are shown in Figure 3 and summarized in Table 1 and Table 2. The nearest water right/permit in this portion of the Niobrara aquifer to the proposed well site for this application is Water Permit No. 8216-3 for B&K Dairy Farms LLC located approximately 0.4 miles to the south (Water Rights, 2022a). The commercial use (anaerobic digester) proposed by this application appears to be associated to the dairy obtaining water under Water Permit No. 8216-3. The nearest water right/permit in this portion of the Niobrara aquifer not associated with this application is Water Permit No. 8326-3 located approximately 4.4 miles to the southeast (Water Rights, 2022a).

Deferred Water Permit Application No. 8579-3 proposes to appropriate water from this portion of the Niobrara aquifer from a proposed diversion point located approximately 16.5 miles to the west of the well site for this application (Water Rights, 2022e). The Water Management Board deferred Application No. 8579-3 for up to two years to allow for further study to determine if the existing irrigation in the area of the proposed well site for Application No. 8579-3 is unlawfully impairing two adequate domestic wells whose owner complained of loss of water during late summer and early fall of 2021 (Water Rights, 2022e). The domestic wells that were the subject of the complaint are located approximately 16.5 miles to the west northwest of the well site for this application (No. 8626-3) and the nearest irrigation well related to the complaint is located approximately 3.3 miles to the southwest of the well site for this application. Given the diversion rate, annual volume, and distance of the well site for this application (No. 8626-3), this application, if approved, is not expected to increase drawdown in the area of the complaint of unlawful impairment of two adequate domestic wells.

Report of Water Permit Application 8626-3

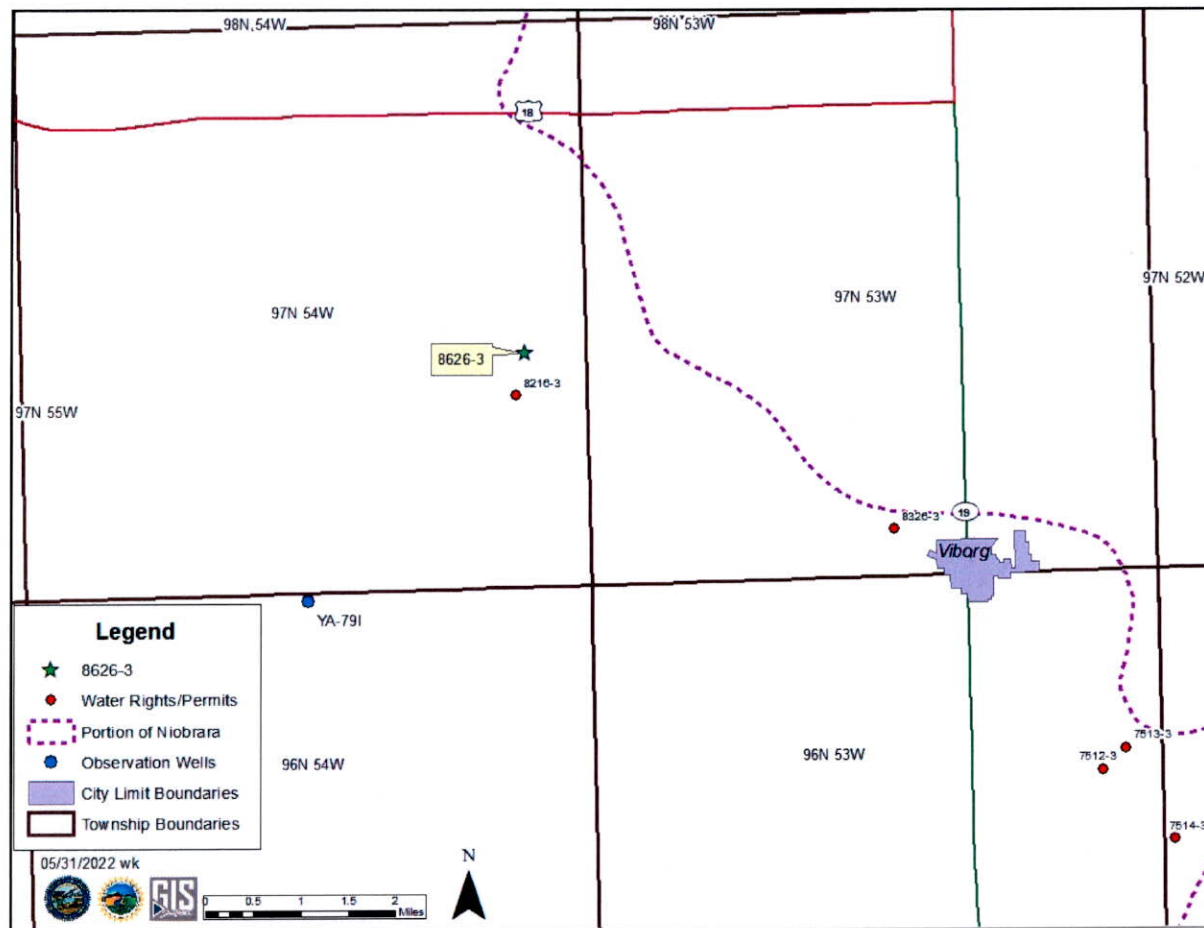


Figure 3: Water rights/permits located in the area of Application No. 8626-3 (Water Rights, 2022b and 2022c)

In 2013, the Water Rights Program received a complaint of a domestic well being impacted in the in this portion of the Niobrara aquifer; however, when investigated, it was determined that the well had likely collapsed and was not an adequate well as defined by ARSD 74:02:04:20(6) (Water Rights, 2022d). In 2015, a complaint was received that Water Permit No. 7526-3 (near the northern edge of this portion of the Niobrara aquifer) was impacting springs; however, the springs were identified as artesian in nature and artesian head pressure is not protected as a means of delivery. Therefore, it was concluded that no unlawful impairment was occurring (Water Rights, 2022d). In the case of Water Permit Application No. 2313-2 for the Coca-Cola Bottling Company of the Black Hills the Water Management Board adopted findings that noted that if the increased costs or decreased production as a result of the impacts of legitimate users on artesian head pressure could be considered an adverse impact, it would conflict with SDCL 46-1-4 (Water Rights, 1995). SDCL 46-1-4 requires the water resources of the state be put to beneficial use to the maximum extent of which they are capable (Water Rights, 1995). In Yankton County, there is not a history of substantiated well interference complaints in this portion of the Niobrara aquifer (Water Rights, 2022f).

The exact amount of drawdown as a result of the diversion requested by this application cannot be quantified without aquifer testing. However, the Theis equation can be used to estimate

theoretical drawdown from a pumping well in a confined aquifer. Aquifer transmissivity for the area of the well for this application was estimated using specific capacity from the well test information from the well completion report submitted with the application, which resulted in an estimated aquifer transmissivity for the area of 5,234 gallons/day/ft (699.7 ft²/day) (Aqtesolv, 2014). Storativity was estimated at 0.0001 (Mathiowetz, 2016). For a conservative estimate of drawdown, it was assumed that that entire annual volume would be pumped at one time, so at a diversion rate of 0.1 cfs continuously the annual limit of 4.6 acre-feet would be pumped in approximately 23.2 days. This results in a calculated theoretical drawdown estimate of 4.33 feet at a distance of 0.4 miles, 2.57 feet at a distance of 1 mile, and 1.33 feet of drawdown at a distance of 2 miles (Utah, 2010). A more realistic pattern of water use for this application is pumping for very short periods of time throughout the year. This would allow for the partial to full recovery of water levels within the area of influence for the well when the well is not in use. The two well completion reports for the nearby dairy indicated at the time of well completion (September 2017) artesian head pressure in the area ranged from approximately 13 to 79 feet. The Board has defined an adversely impacted domestic well 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.” In the case of Water Permit Application No. 2313-2 for the Coca-Cola Bottling Company of the Black Hills, the Water Management Board adopted findings that noted that if the increased costs or decreased production as a result of the impacts of legitimate users of artesian head pressure could be considered an adverse impact it would conflict with SDCL 46-1-4 (Water Rights, 1995). SDCL 46-1-4 requires the water resources of the state be put to beneficial use to the maximum extent of which they are capable (Water Rights, 1995). Therefore, there is a reasonable probability that this application, if approved, will not adversely impact nearby adequate wells as defined by ARSD 74:02:04:20(6).

Conclusions

1. Water Permit Application No. 8626-3 proposes to appropriate up to 4.6 acre-feet of water annually at a maximum instantaneous diversion rate of 0.10 cubic feet per second (cfs) from one well to be completed into the Niobrara aquifer for commercial use located in the NE ¼ SW ¼ Section 24-T97N-R54W in Turner County.
2. Based on the hydrologic budget and observation well data, there is a reasonable probability that water is available in this portion of the Niobrara aquifer to meet the water use proposed by this application.
3. There is a reasonable probability that, based on the available information for the area, that this application will not unlawfully impair existing water rights/permits with adequate wells or domestic users with adequate wells.



Whitney Kilts

SDDANR-Water Rights Program

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Affidavit of Publication

STATE OF SOUTH DAKOTA
COUNTY OF TURNER

I, Michelle Stewart, of the City of Parker, County of Turner, State of South Dakota being first duly sworn on oath, deposes and says: The New Era is a weekly legal newspaper of general circulation, printed and published in the City of Parker, in said County of Turner, by The New Era, New Century Press, publishers, and has been such legal newspaper during the times here in after mentioned; that the said newspaper has been in existence as such legal newspaper for more than one year prior to the publication of the notice here unto attached, and has during all of said publication of the notice hereunto attached, and has during all of said time had, and now has, more than 200 bona fide subscribers; that the undersigned, the affiant, is the Office Manager of the said newspaper, in charge of the advertisement department thereof and has personal knowledge of all the facts stated in this affidavit and the advertisement headed:

N0714-2-Tri-Cross Will Flanagan

once printed copy of hereto attached, is printed and published in the said newspaper for one successive week, one each week and on the same day of the week, on the following dates, to wit:

On Thursday, the 14th day of July 2022

That \$52.13 being the full amount of the fees for publication of the attached notices insure solely for the benefits of the publishers of the said newspaper, that no arrangement or understanding for a division thereof has been made with any other person and that no part thereof has been agreed to be paid to any other person whomsoever.

Michelle C Stewart

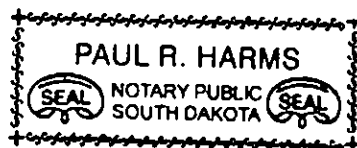
Subscribed and sworn to before me this 19th

Day of July, 2022
Paul R Harms

Notary Public, Turner County, South Dakota

My Commission Expires: April 24, 2024

Publication Fee \$52.13
Notary Fees \$
Total \$52.13



**NOTICE OF APPLICATION
NO. 8626-3 to Appropriate**

Water

Notice is given that Tri-Cross Renewable Energy LLC, c/o Will Flanagan, 45144 289th St, Viborg S.D. 57070 has filed an application for a water permit to appropriate 4.6 acre-feet of water annually at a maximum pump rate of 0.10 cubic feet of water per second from one well to be completed into the Niobrara Aquifer (approximately 215 feet deep) located in the NE 1/4 SW 1/4 Section 24-T97N-R54W for commercial use to supply an anaerobic digester. This site is located approximately five miles northwest of Viborg S.D.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8626-3 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 July 25, 2022.

The petition shall include a statement describing the unique injury upon approval of the application on the petitioner, the petitioner's reasons for opposing the application, and the 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 July 25, 2022.

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 \$52.13.
(N0714-2)

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JUN 27 2022

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C/O US BIOGAS LLC
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COLGATE WI 53017

STATE OF SOUTH DAKOTA
COUNTY OF YANKTON

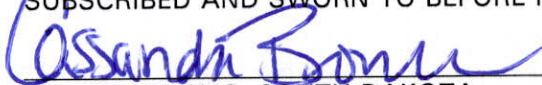
KELLY HERTZ, BEING FIRST DULY SWORN ON OATH DEPOSES
AND SAYS THAT (S)HE IS THE MANAGING EDITOR OF YANKTON
MEDIA INC, A CORPORATION, THE PRINTER AND THE PUBLISHER OF THE
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PUBLISHED AND CIRCULATED IN THE CITY OF YANKTON, SAID COUNTY
AND STATE, AND ONE OF THE OFFICIAL NEWSPAPERS OF THE SAID
COUNTY OF FACTS STATED IN THIS AFFIDAVIT; THAT THE ANNEXED
6 + 23 NOTICE OF APPLICATIO

TAKEN FROM THE PAPER, IN WHICH IT WAS LAST PUBLISHED IN THE
NEWSPAPER ON THE 23rd DAY OF June, 2022
THAT THE FULL AMOUNT OF THE FEE CHARGED FOR THE PUBLICATION
OF SAID NOTICE TO WIT \$40.16 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: 06/23/2022

FILED ON: 06/23/2022


SUBSCRIBED AND SWORN TO BEFORE ME THIS 23rd DAY OF June, 2022


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

NOTICE OF APPLICATION NO. 8626-3 to Appropriate Water

Notice is given that Tri-Cross Renewable Energy LLC, c/o Will Flanagan, 45144 289th St, Viborg SD 57070 has filed an application for a water permit to appropriate 4.6 acre-feet of water annually at a maximum pump rate of 0.10 cubic feet of water per second from one well to be completed into the Niobrara Aquifer (approximately 215 feet deep) located in the NE 1/4 SW 1/4 Section 24-T97N-R54W for commercial use to supply an anaerobic digester. This site is located approximately five miles northwest of Viborg SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8626-3 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 Engineers 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 July 5, 2022.

The petition shall include a statement describing the unique injury upon approval of the application on the petitioner, the petitioner's reasons for opposing the application, and the 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 July 5, 2022.

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 \$40.16 and can be viewed free of charge at www.sdpublicnotices.com.

Schlaak, Karen

From: Mark Dorn <mark.dorn@dynamic-renewables.com>
Sent: Tuesday, June 14, 2022 11:35 AM
To: Schlaak, Karen
Subject: RE: [EXT] 8626-3, Tri-Cross Renewable Energy LLC

US Biogas, LLC.
764 Ravine Ridge Dr.
Colgate, WI. 53017

Mark Dorn
Project Coordinator | Dynamic Renewables
920-539-5789 | mark.dorn@dynamic-renewables.com



**DYNAMIC
RENEWABLES**

WE'VE REBRANDED!
Visit our new website | www.dynamic-renewables.com

This message (including any attachments) contains confidential information intended for a specific individual and purpose, and is protected by law. If you are not the intended recipient, you should delete this message and are hereby notified that any disclosure, copying, or distribution of this message, or the taking of any action based on it, is strictly prohibited. This communication should not be considered as contractually or legally binding in any way.

From: Schlaak, Karen <Karen.Schlaak@state.sd.us>
Sent: Tuesday, June 14, 2022 11:14 AM
To: Mark Dorn <mark.dorn@dynamic-renewables.com>
Subject: RE: 8626-3, Tri-Cross Renewable Energy LLC

Where to send the bill. I have the site address.

From: Mark Dorn <mark.dorn@dynamic-renewables.com>
Sent: Tuesday, June 14, 2022 11:08 AM
To: Jason Dagele <jason.dagele@dynamic-renewables.com>
Cc: Schlaak, Karen <Karen.Schlaak@state.sd.us>
Subject: RE: [EXT] 8626-3, Tri-Cross Renewable Energy LLC

Karen-

Are you looking for the site address or where you will send the bill?

Mark Dorn
Project Coordinator | Dynamic Renewables
920-539-5789 | mark.dorn@dynamic-renewables.com

Schlaak, Karen

From: Schlaak, Karen
Sent: Monday, June 13, 2022 1:19 PM
To: Cassandra Brockmoller (cassandra@yankton.net)
Subject: 8626-3, Tri-Cross Renewable Energy LLC
Attachments: 8626-3public.short_final.docx; FORM8.FRM.doc

Attached is a notice to be published on June 23, 2022.

Jason Dagele (432 935-0174) at jason.dagele@dynamicgrp.us has been notified to contact you to authorize publication and arrange for payment.

Please send the affidavit or return the attached Proof of Publication form ASAP to the Water Rights Program, 523 E Capitol, Pierre SD 57501.

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

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



Schlaak, Karen

From: Schlaak, Karen
Sent: Monday, June 13, 2022 1:19 PM
To: 'journal@iw.net'
Subject: 8626-3, Tri-Cross Renewable Energy LLC
Attachments: 8626-3public.short_final.docx; FORM8.FRM.doc

Attached is a notice to be published on June 23, 2022.

Jason Dagel (432 935-0174) at jason.dagel@dynamicgrp.us has been notified to contact you to authorize publication and arrange for payment.

Please send the affidavit or return the attached Proof of Publication form ASAP to the Water Rights Program, 523 E Capitol, Pierre SD 57501.

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

Karen Schlaak

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



Schlaak, Karen

From: Schlaak, Karen
Sent: Monday, June 13, 2022 1:25 PM
To: Jason Dage
Subject: Water Permit Application No. 8626-3, Tri-Cross Renewable Energy LLC
Attachments: 3578.pdf

Jason

Attached is a copy of the report, chief engineer recommendation and information regarding the public notice for Water Permit Application No. 8626-3, Tri-Cross Renewable Energy LLC. As stated in the letter, please contact the paper(s) as soon as possible to authorize publication and arrange for payment.

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





**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

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

Emailed: June 13, 2022

Jason Dagel, Facility Technician for
Tri-Cross Renewable Energy LLC

Dear Mr. Dagel:

Water Permit Application No. 8626-3 for commercial use have been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Centerville Journal printed at Centerville (Ph # 605 563-2351) and the Press & Dakotan printed at Yankton (Ph # 605 665-7811). You will need to contact the newspapers and authorize publication of this notice. For your information, a copy of the notice, the recommendation of the Chief Engineer and report on the application are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

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

Sincerely,

Karen Schlaak

Karen Schlaak
Water Rights Program
(605) 773-3352

enclosures

NOTE: If you plan to contest any part of the Chief Engineer's recommendation, you must file a petition pursuant to the procedures outlined in the attached notice of hearing. The Water Management Board will then consider your concerns during a hearing on the application.

NOTICE OF APPLICATION NO. 8626-3 to Appropriate Water

Notice is given that Tri-Cross Renewable Energy LLC, c/o Will Flanagan, 45144 289th St, Viborg SD 57070 has filed an application for a water permit to appropriate 4.6 acre-feet of water annually at a maximum pump rate of 0.10 cubic feet of water per second from one well to be completed into the Niobrara Aquifer (approximately 215 feet deep) located in the NE 1/4 SW 1/4 Section 24-T97N-R54W for commercial use to supply an anaerobic digester. This site is located approximately five miles northwest of Viborg SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8626-3 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 July 5, 2022.

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If the applicant does not contest the recommendation of the Chief Engineer and no petition to oppose the application is received, the Chief Engineer shall act on the application pursuant to the recommendation with no hearing held before the Water Management Board. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled, and the Water Management Board will consider this application. Notice of the hearing will be given to the applicant and any person filing a petition.

Published once at the total approximate cost of _

Schlaak, Karen

From: Schlaak, Karen
Sent: Wednesday, July 6, 2022 11:23 AM
To: NCPPUB
Subject: 8626-3, Tri-Cross Renewable Energy LLC
Attachments: 8626-3public.short_final.docx; FORM8.FRM.doc

Attached is a notice to be published on July 14, 2022 in The Turner County New Era.

Mark Dorn, (920 539-5789) US Biogas, LLC, 764 Ravine Ridge Dr., Colgate WI 53017 has been notified to contact you to authorize publication and arrange for payment.

Please send the affidavit or return the attached Proof of Publication form ASAP to the Water Rights Program, 523 E Capitol, Pierre SD 57501.

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

Karen Schlaak

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



Schlaak, Karen

From: Schlaak, Karen
Sent: Wednesday, July 6, 2022 11:28 AM
To: Mark Dorn
Subject: 8626-3, Tri-Cross Renewable Energy LLC
Attachments: 8626-3public.short_final.docx

Mark,

Please contact Michele with The Turner County New Era (605 297-4419) to authorize publication and arrange for payment of this Notice. It is scheduled to be published on July 14th.

Sorry for all the delays.

Karen Schlaak

DANR - Water Rights Program
(605) 773-3352

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



Water Rights Program - File Documentation

NAME: Tri-Cross Renewable Energy LLC

ADDRESS: Viborg SD

DATE: 7-6-22

RE: Publication Notice

COMMENTS:

Notice was originally scheduled to be published on June 23, 2022 in the Centerville Journal and the Press & Dakotan.

After many phone calls, I talked with the old publisher and was informed that the Centerville Journal was no longer in operation. All the Turner County papers have combined into The Turner County New Era printed in Parker.

On July 6th I sent the notice to The Turner County New Era to be published on July 14th. I called Mark Dorn with Tri-Cross and explained what was going on and why he was having trouble contacting the paper. I emailed him the new information. I also told him that we had received the affidavit from the Press and Dakotan and the notice would not have to be published in that paper again.



Karen Schlaak
Water Rights Program

NOTICE OF APPLICATION NO. 8626-3 to Appropriate Water

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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 July 25, 2022.

The petition shall include a statement describing the unique injury upon approval of the application on the petitioner, the petitioner's reasons for opposing the application, and the 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 July 25, 2022.

If the applicant does not contest the recommendation of the Chief Engineer and no petition to oppose the application is received, the Chief Engineer shall act on the application pursuant to the recommendation with no hearing held before the Water Management Board. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled, and the Water Management Board will consider this application. Notice of the hearing will be given to the applicant and any person filing a petition.

Published once at the total approximate cost of _

Schlaak, Karen

From: Schlaak, Karen
Sent: Friday, August 5, 2022 11:24 AM
To: Mark Dorn
Subject: Water Permit No. 8626-3
Attachments: 3842.pdf

Enclosed is a copy of Water Permit No. 8626-3, Tri-Cross Renewable Energy LLC

Karen Schlaak

DANR - Water Rights Program

(605) 773-3352

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



Schlaak, Karen

From: Schlaak, Karen
Sent: Thursday, August 4, 2022 9:08 AM
To: Jason Dagel
Cc: will.flanagan@cleanenergyfuels.com
Subject: Water Permit No. 8626-3
Attachments: 3828.pdf

Jason,

Attached is Water Permit No. 8626-3 authorizing construction of the water diversion system and beneficial use of water. Let me know if you have any questions.

Karen Schlaak

DANR - Water Rights Program

(605) 773-3352

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





**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

AUG 04 2022

Tri-Cross Renewable Energy LLC
c/o Will Flanagan
45144 289th St
Viborg SD 57070

Dear Sir:

Enclosed is Water Permit No. 8626-3 authorizing construction of the water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

Form 10, *Notice of Completion of Works and Application of Water to Beneficial Use*, is enclosed. Please return this completed form after you have finished the system and have put the water to beneficial use. An investigation can then be scheduled so the water license may be issued, thus completing the acquisition of a water right.

An informational sheet *Common Water Right Questions?* is also enclosed. This sheet is intended to answer some of the questions associated with obtaining and keeping a water right.

Sincerely,

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

enclosures

c: Jason Dagel, Dynamic (email)



8626-3

**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

January 17, 2024

8626-3

Tri-Cross Renewable Energy
45146 289th St
Viborg SD 57070

To whom it may concern:

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

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

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

Sincerely,

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

RECEIVED

JAN 16 2024

**NOTICE OF COMPLETION OF WORKS AND
APPLICATION OF WATER TO BENEFICIAL USE****OFFICE OF
WATER**Date 01/02/2024

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

FROM: Tri-Cross Renewable Energy LLC

(name)
45146 289th Street

(address)
Viborg, SD, 57070

(city, state, zip)

605-760-7541

(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. 8626-3 states that the water use system is to be constructed by
6/25/2027, and water is to be put to beneficial use by 7/25/2031.
(date) (date)

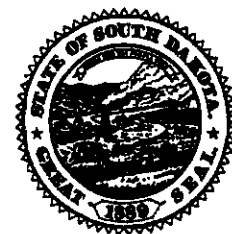
The water use system was completed on 06/27/2023.
(date)

Applying the water to beneficial use was completed on 06/27/2023.
(date)

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

William J. Flanagan

(signature)



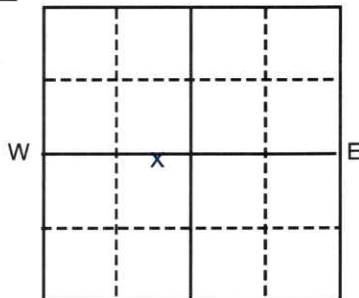
86 26-3

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location NE $\frac{1}{4}$ SW $\frac{1}{4}$ Sec 24 Twp 97N Rg 54WCounty Turner

North

Please mark well
location with an "X"

Well Completion Date

9/28/2022

1 Mile

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

PROPOSED USE:

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

METHOD OF DRILLING:

Rotary

CASING DATA:

☐ Steel ☒ Plastic ☐ Other

If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	<u>5</u> IN	<u>0</u> FT	<u>100</u> FT	<u>7.875</u> IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
<u>HS Bent</u>	<u>6</u>	Lb/gal	<u>0.0</u> Ft	<u>60</u> Ft
		Lb/gal	Ft	Ft

Describe grouting procedure

Tremmy

SCREEN:

☐ Perforated pipe ☒ Manufactured
Diameter 5 Inches Length 40 FeetMaterial PVCSlot Size 25 Set From 100 Feet to 140 Feet

Other information _____

WAS A PACKER OR SEAL USED?

☒ Yes ☐ NoIf so, what material? Rubber

Describe packer(s) and location

Shale packers 140' & 146'

DISINFECTION: Was well disinfected upon completion?

☒ Yes, How? Chlorine
☐ No, Why Not?
 Lab to which water
 quality sample sent for analysis
Well Owner: TriCross Renewable Energy LLCBusiness Name: TriCross Renewable Energy LLCAddress: 45144 289th StCity, State, Zip: Viborg SD 57070

WELL LOG:

			DEPTH	
FORMATION			FROM	TO
Top soil	Black	M	0	1
Clay	Tan	M	1	40
Clay/Shale strks	Blue	M	40	130
Chalk	Rock White/Gray	M	130	198
Clay	Black	M-H	198	200

STATIC WATER LEVEL 40 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

53 Ft. After 1 Hrs. pumped 25 GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: _____ GPM

REMARKS

GPS:

43 12 21.6N

97 10 25.3W

Well was developed for 4 hours

This well was drilled under license # 463 and this report is true and accurate.Drilling firm: Steffl Drilling & Pump Inc

Signature of License Representative: _____

Signature of Well Owner or Equitable Property Holder: _____

RECEIVED

DEC 20 2023

Date: _____

OFFICE OF
WATER

Laboratory Results
October 08, 2022

Report To: Steffl Drilling & Pump
2295 66th Ave NE
Willmar, MN, 56201

Bill To: Steffl Drilling & Pump
2295 66th Ave NE
Willmar, MN, 56201

Lab Code:	D037965-01	Sample Description:	45144 289th, Viborg, SD 57070
Matrix:	Water	Property Owner Name:	TriCross Renewable Energy LLC
Date/Time Sampled:	09/29/2022 10:00	Sampling Point:	Well
Date/Time Received:	09/29/2022 18:09	Unique Well ID:	
Samplers:	Mike	Sample Receipt Information:	Samples received on ice.
Sample Receipt Temperature °C	3.9		Samples received same day as collected.

Analyte	Result	Units	Analyte Qualifiers	RL	DF	Allowable Limit	Analysis Method	Preparation Method	Analyzed	Facility
<u>Microbiological</u>										
Total Coliform Bacteria	Absent	N/A		1	1	Absent	SM9223B-16	Colisure	09/29/22 20:25	DL
Laboratory Interpretation: The Total Coliform result MEETS the primary drinking water standards set by the US Environmental Protection Agency.										
E. Coli Bacteria	Absent	N/A		1	1	Absent	SM9223B-16	Colisure	09/29/22 20:25	DL
Laboratory Interpretation: The E. Coli result MEETS the primary drinking water standards set by the US Environmental Protection Agency.										
<u>Classical Chemistry Parameters</u>										
Nitrate as N	< 0.0300	mg/L		0.0300	1	10	EPA 353.2 (calc.)		09/30/22 14:02	DL
Laboratory Interpretation: The Nitrate as N result MEETS the primary drinking water standards set by the US Environmental Protection Agency.										
Specific conductance	1460	uS/cm		5.0	1	-	SM2510 B-2011		10/03/22 10:11	DL
Sulfate as SO4	755	mg/L		75.0	25	-	ASTM D516-11		10/03/22 16:35	DL
<u>Metals (Total) by ICP</u>										
Sodium	35.1	mg/L		1.0	1	-	EPA 200.7	EPA 200.7	10/05/22 11:25	DL

Qualifiers and Definitions

Item	Definition
RL	Reporting Limit
DF	Dilution Factor
DL	Indicates test performed by RMB Environmental Laboratories - Detroit Lakes.

RECEIVED

DEC 20 2023

OFFICE OF
WATER

Laboratory Results
October 08, 2022

Report To: Steffl Drilling & Pump
2295 66th Ave NE
Willmar, MN, 56201

Bill To: Steffl Drilling & Pump
2295 66th Ave NE
Willmar, MN, 56201

Lab Code:	D037977-01	Sample Description:	45144 289th, Viborg, SD 57070
Matrix:	Water	Property Owner Name:	TriCross Renewable Energy LLC
Date/Time Sampled:	09/28/2022 10:00	Sampling Point:	Well
Date/Time Received:	09/29/2022 18:09	Unique Well ID:	
Samplers:	Doc	Sample Receipt Information:	Samples received on ice.
Sample Receipt Temperature °C	3.9		Samples received same day as collected.

Analyte	Result	Units	Analyte Qualifiers	RL	DF	Allowable Limit	Analysis Method	Preparation Method	Analyzed	Facility
Classical Chemistry Parameters										
Chloride	3.7	mg/L		0.5	1	-	SM4500-CL E-2011		10/03/22 15:21	DL
Nitrate as N	< 0.0300	mg/L		0.0300	1	10	EPA 353.2 (calc.)		09/30/22 13:36	DL
Laboratory Interpretation: The Nitrate as N result MEETS the primary drinking water standards set by the US Environmental Protection Agency.										
pH	7.6	Units	h5	0.1	1	-	SM4500H+B2011		10/04/22 12:23	DL
Residue - filterable (TDS)	1560	mg/L		33.3		-	SM2540C-2011		09/30/22 15:06	DL
Specific conductance	1570	uS/cm		5.0	1	-	SM2510 B-2011		10/03/22 10:32	DL
Sulfate as SO4	783	mg/L		150	50	-	ASTM D516-11		10/03/22 16:44	DL
Metals (Total) by ICP										
Total Hardness	1290	mg/L		9.11	2	-	SM2340 B-2011		10/05/22 12:20	DL
Calcium	377	mg/L		2.0	2	-	EPA 200.7	EPA 200.7	10/05/22 12:20	DL
Copper	< 0.01	mg/L		0.01	1	1.3	EPA 200.7	EPA 200.7	10/05/22 11:31	DL
Iron	1.04	mg/L		0.05	1	-	EPA 200.7	EPA 200.7	10/05/22 11:31	DL
Manganese	0.25	mg/L		0.01	1	-	EPA 200.7	EPA 200.7	10/05/22 11:31	DL
Sodium	35.0	mg/L		1.0	1	-	EPA 200.7	EPA 200.7	10/05/22 11:31	DL

Qualifiers and Definitions

Item	Definition
RL	Reporting Limit
DF	Dilution Factor
DL	Indicates test performed by RMB Environmental Laboratories - Detroit Lakes.
h5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.

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