

WATER PERMIT NO. 8536-3

Name of Applicant: **Berwald Family RLLP**

Address: **47143 196th St, Toronto SD 57268**

Phone: **605-690-3319**

Amount of Water Claimed: **2.0 cfs**

Total Acres: **154**

Source of Water Supply: **groundwater (2 wells)**

Water to be used for: **irrigation**

County: **Deuel**

Type of Waste Disposal System:

Location: **approximately 7 miles west of Toronto SD**

PRIORITY

Date Received: **8-3-21**

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

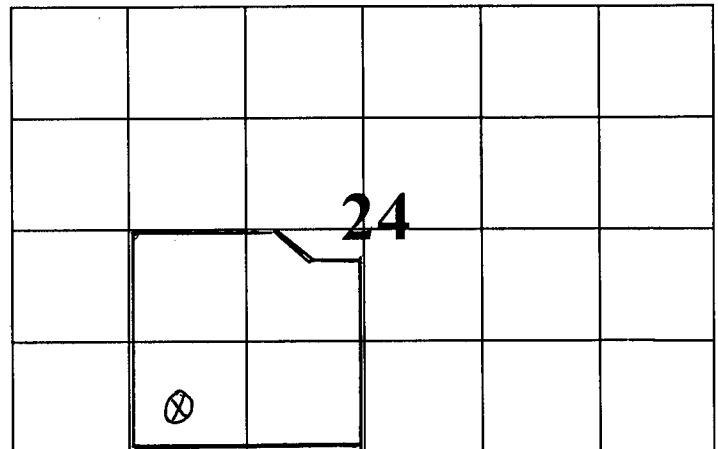
Corrected Application Received:

Period of Annual Use: **June 1 – September 30**

Remarks:

Diversion Point: **SW 1/4 SW 1/4 Sec 24-T113N-
R50W**

Land to be Irrigated: **SW 1/4 Sec 24-T113N-
R50W**



Depth of Well: **124 feet deep**

Well Driller:

Remarks:

Type of Map: **aerial**

Prepared by:

Reviewed and the Number Assigned on: **8-10-21**

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____

**SOUTH DAKOTA
WATER PERMIT NO. 8536-3**

Date of first receipt of application August 3, 2021.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 8536-3 to Berwald Family RLLP, 47143 196th St, Toronto SD 57268 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. 8536-3 appropriates 2.0 cubic feet of water per second from up to two wells to be completed into the Pleistocene:Unknown Series Aquifer (approximately 124 feet deep) located in the SW 1/4 SW 1/4 Section 24 for irrigation of 154 acres located in the SW 1/4 Section 24; all in T113N-R50W. This site is located approximately 7 miles west of Toronto SD.
2. The amount of the appropriation may not exceed 2 acre feet annually for each acre of land to which water is actually and beneficially applied for irrigation. The water is to be used during the following described annual period: June 1 – September 30.
3. The date from which applicant may claim right is August 3, 2021.
4. The date of approval of Permit No. 8536-3 is November 22, 2021.
5. One-fifth of the construction is to be completed on or before May 22, 2024.
6. All construction is to be completed on or before November 22, 2026.
7. Water is to be put to beneficial use on or before November 22, 2030.
8. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

1. The wells approved under Water Permit No. 8536-3 may be located near domestic wells. Water withdrawals shall be controlled so there is not a reduction of needed water supplies in adequate domestic wells.
2. The wells authorized by Permit No. 8536-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

WATER MANAGEMENT BOARD

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

1/13/2022
date



RECEIVED

AUG 03 2021

PAID

AUG 3 2021

Ck# 3605

Mail to: DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	(office use only)		WATER RIGHTS PROGRAM
	No. <u>8536-3</u>	Hydrologic Unit <u>10170202</u>	
	Basin <u>Sioux River</u>		
	Newspaper <u>Clear Lake Courier</u> <u>Brookings Register</u>		

Application For Permit To Appropriate Water For Irrigation

Type of Application: ☒ New ☐ Vested Right ☐ Amendment/Correction to Permit No. _____

(Use predates Mar 2, 1955)

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

1. Name to Appear on Irrigation Permit Berwald Family RLLP

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

Mailing Address 47143 196th St Toronto SD 57268
(Address) (City) (State) (Zip Code)Phone _____ Mobile (605) 690-3319 Email austinberwald@hotmail.com2. Amount of water claimed 2.0 *CFS or 900 **GPM 154 ***AF Total Acreage 154
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)3. Source of water supply new well - 102 if needed4. Location of point of diversion 102 wells in SW 1/4 Sec 24 T113N R50W
(example - 3 wells in SW 1/4 NE 1/4 section 12-T104N-R53W)County Deuel5. County or counties where water will be used Deuel6. Annual period during which water is to be used June thru september7. List below each forty acre division, or lot, or fraction thereof and show number of acres to be irrigated in each.
(Attach sheet if more space is needed)

Land Description	Acres	Land Description	Acres
SW corner	40	all in SW 1/4 Sec 24 T113N-R50W	
SE corner	40		
NE corner	34		
NW corner	40		

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

We would like to install a corner system irrigation pivot to water our crops.

I, Austin Berwald owner, the applicant, certify under
Name of Person Title (if applicable)

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

Supplemental Information

(type or print)

1. Well Information (check one or both as applicable) ☒ Drilling new well(s) ☐ Using existing well(s)a) If new wells, how many 1-2 Have test holes been drilled ☒ Yes ☐ No Drilled by Kaiser Well Drilling
(if yes, please provide copies of logs)b) If existing wells, how many Provide copy of log(s), if available. Drilled by

For either Existing or Proposed Wells:

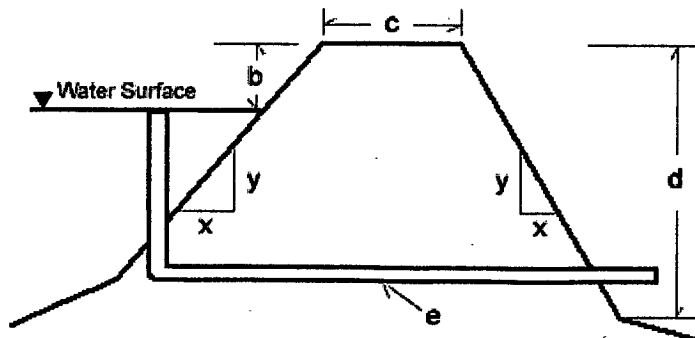
c) Well Depth (required) 124 Depth to Top of Water Bearing Material 110 Depth to Water from Surface 45d) Distance to nearest domestic well on applicant's property Property owned by others 700 ft**2. Wastewater Disposal System Information**a) Type of System (i.e. septic tank, drain field) b) System Capacity (gallons) Year Constructed c) Connected to the City of Sanitary System **3. Dugout Information**a) Surface Dimensions Depth b) Depth to water (ground surface to water level) **Water Storage Dams**

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

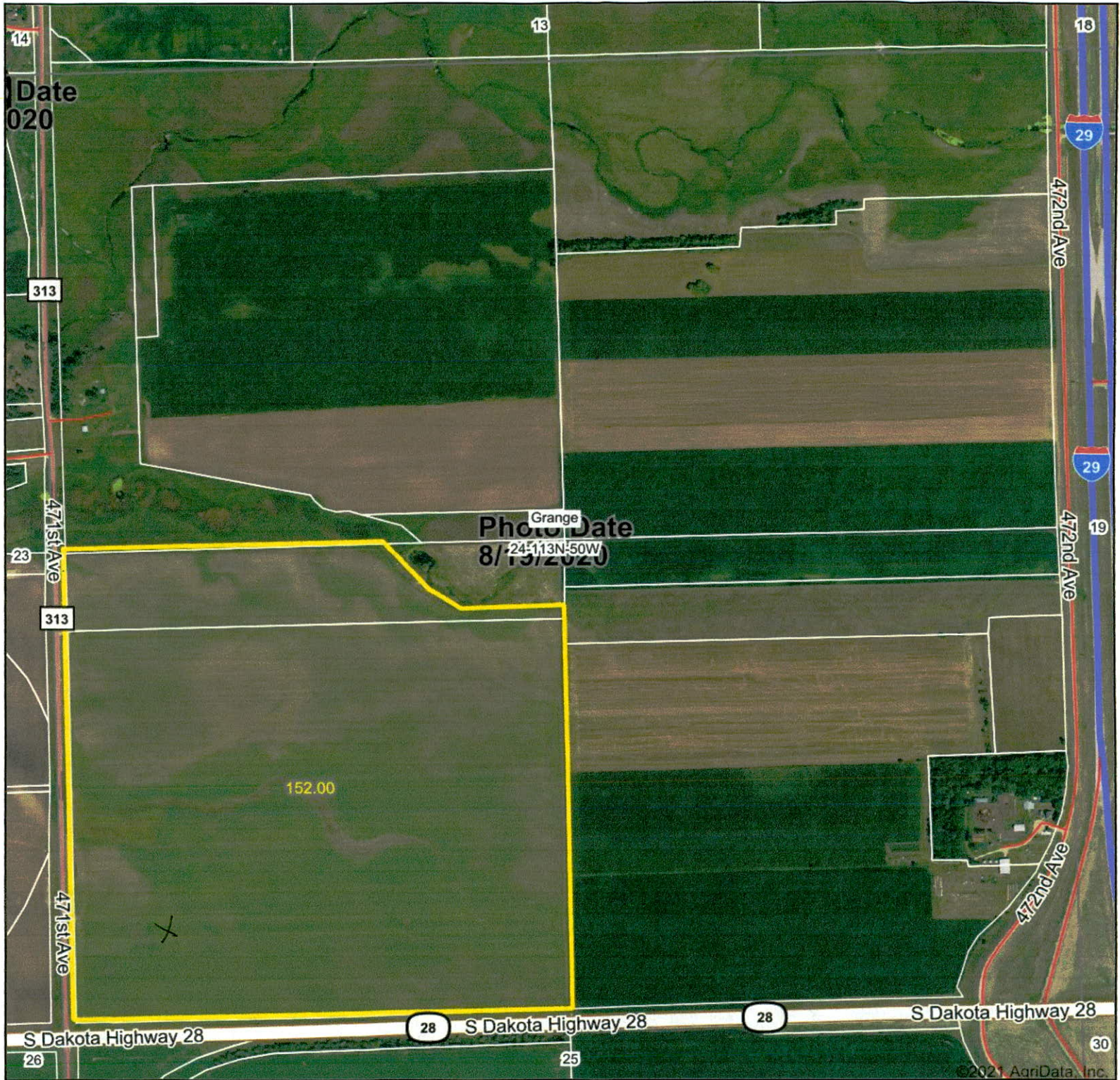
a) If a private engineering firm or government agency was involved in the design of this dam, please give their name and address:

b) Freeboard c) Crest Width Crest Length d) Height e) Primary Outlet Capacity If pipe, diameter f) Secondary Spillway Capacity Spillway Width

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

Upstream Downstream h) Surface Area of Impoundment i) Storage Acre Feet j) Drainage Area Above Dam Acres

North Highway 28



Map Center: 44° 34.8006', -96° 46.4636'

0ft 844ft 1687ft

24-113N-50W
Deuel County
South Dakota



Maps Provided By:



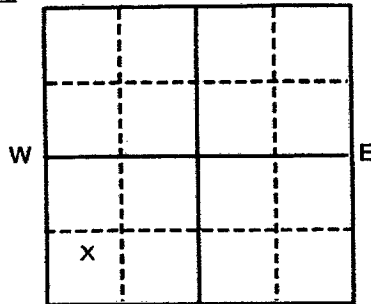
Field borders provided by Farm Service Agency as of 5/21/2008.

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location SW 1/4 SW 1/4 Sec 24 Twp 113N Rg 50WCounty DEUEL

North

Please mark well
location with an "X"

Well Completion Date

7-12-2021

1 Mile

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

PROPOSED USE:

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

METHOD OF DRILLING:

DIRECT ROTARY

CASING DATA:

☐ Steel ☒ Plastic ☐ Other

If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
40 LB/FT	3 IN	+2 FT	130 FT	6.25 IN
LB/FT	IN	FT	114 FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
grtweldf	7	50 Lb/gal	0 Ft	128 Ft
		Lb/gal	Ft	114 Ft

Describe grouting procedure
pressure pull

SCREEN:

☐ Perforated pipe ☒ Manufactured
Diameter 3 Inches Length 10 FeetMaterial sch 40Slot Size 80 Set From 130 Feet to 124 FeetOther information 114 124WAS A PACKER OR SEAL USED? ☐ Yes ☐ No

If so, what material? _____

Describe packer(s) and location _____

DISINFECTION: Was well disinfected upon completion?

☐ Yes, How? _____☒ No, Why Not? _____Lab to which water
quality sample sent for analysis _____ irrigation test holeWell Owner: Austin BerwaldBusiness Name: Berwald Family Dairy LLPAddress: 47143 196th StCity, State, Zip: Torono ☒ SD ☒ 57268

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
TOP SOIL	0	1
YELLOW CLAY	1	8
YELLOW GRAVEL	8	18
YELLOW CLAY	18	36
BLUE CLAY	36	110
GRAY GRAVEL <u>screen</u>	110	122
BLUE CLAY	122	125
YELLOW CLAY	125	130
YELLOW SAND	130	142

STATIC WATER LEVEL 45 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: AIR 100+++☐ Bailed☐ Other

Pumping Level Below Land Surface

75 Ft. After 5 Hrs. pumped 100w/AIR GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: _____ GPM

REMARKS

This well was drilled under license # 689 and this report is true and accurate.Drilling firm: KAISER WELL DRILLING INC

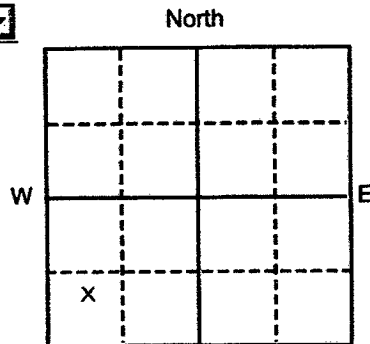
Signature of License Representative: _____

Signature of Well Owner or Equitable Property Holder: _____

Date: 7/26/2021

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location SW 1/4 SW 1/4 Sec 24 Twp 113N Rg 50WCounty DEUELPlease mark well
location with an "X"

Well Completion Date

7-12-2021

1 Mile

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

PROPOSED USE:

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

METHOD OF DRILLING:

DIRECT ROTARY

CASING DATA:

If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
40 LB/FT	3 IN	+2 FT	130 FT	6.25 IN
LB/FT	IN	FT	114 FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
grtweldf	7	50 Lb/gal	0 Ft	128 Ft
		Lb/gal	Ft	114 Ft

Describe grouting procedure
pressure pull

SCREEN:

☐ Perforated pipe ☒ Manufactured
 Diameter 3 Inches Length 10 Feet
 Material sch 40
 Slot Size 80 Set From 130 Feet to 140 Feet
 Other information 114 134

WAS A PACKER OR SEAL USED?

☐ Yes ☐ No

If so, what material? _____

Describe packer(s) and location _____

DISINFECTION: Was well disinfected upon completion?

☐ Yes, How?☒ No, Why Not?Lab to which water
quality sample sent for analysis

irrigation test hole

Well Owner: Austin BerwaldBusiness Name: Berwald Family Dairy LLPAddress: 47143 196th StCity, State, Zip: Torono ☒ SD ☒ 57268

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
TOP SOIL	0	1
YELLOW CLAY	1	8
YELLOW GRAVEL	8	18
YELLOW CLAY	18	36
BLUE CLAY	36	110
GRAY GRAVEL <u>Screen</u>	110	122
BLUE CLAY	122	125
YELLOW CLAY	125	130
YELLOW SAND	130	142

STATIC WATER LEVEL 45 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: AIR 100+++
☐ Bailed
☐ Other

Pumping Level Below Land Surface

75 Ft After 5 Hrs. pumped 100w/AIR GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: _____ GPM

REMARKS

This well was drilled under license # 689 and this
report is true and accurate.Drilling firm: KAISER WELL DRILLING INC

Signature of License Representative: _____

Signature of Well Owner or Equitable Property Holder: _____

Date: Austin Berwald



OFFICE OF THE SECRETARY OF STATE

STEVEN J. BARNETT, SECRETARY OF STATE

JASON LUTZ, DEPUTY SECRETARY OF STATE

Filing Information

Name: **Berwald Family RLLP**

General Information

SOS Business ID DR001692
Filing Type: Limited Liability Partnership - Domestic
12/15/2014
Delayed Effective Date: 12/15/2014 12:00 AM
Status: Good Standing
Duration Term: Perpetual

Registered Agent Address

Austin M Berwald
47143 196TH ST
TORONTO, SD 57268

Principal Address

19460 471ST AVENUE
TORONTO, SD 57278-6278

The following document(s) was/were filed in this office on the date(s) indicated below:

Date Filed	Filing Description	Image #
11/16/2020	2020 Annual Report	B0158-4407
11/04/2019	2019 Annual Report	B0118-7919
11/27/2018	2018 Annual Report	B0081-2465
12/04/2017	2017 Annual Report	B0046-6451
11/30/2016	2016 Annual Report	B0015-7807
12/28/2015	2015 Annual Report	
12/15/2014	Initial Filing (Delayed Date 12/15/2014)	DR001692

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Agriculture and Natural Resources

Date August 3, 2021

RECEIVED OF Berwald Family RLLP 19460 471st Ave Toronto SD 57268

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

Fee for Application for Permit No. <u>8536-3</u> to Appropriate Water, to construct and to put water to beneficial use	\$ <u>850.00</u>
Fee for Application for Permit No. _____ to Appropriate Water for Future use	\$ _____
Fee to retain Future Use Permit No. _____ after period of seven years.	\$ _____
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. <u>8536-3</u>	\$ <u>200.00</u>
Fee for Filing Transfer Form _____	\$ _____
Fee for _____	\$ _____
Fee for Issuing New Well Driller's License No. _____	\$ _____
Fee for Renewal of Well Driller's License No. _____	\$ _____
Fee for Issuing Well Pump Installer's License No. _____	\$ _____
Fee for Renewal of Well Pump Installer's License No. _____	\$ _____
(Any Other Work Provided by Law)	
TOTAL	\$ <u>1050.00</u>

By Eric Bronlund
Chief Engineer
EB

Schlaak, Karen

From: Schlaak, Karen
Sent: Tuesday, November 2, 2021 8:41 AM
To: austinmberwald@hotmail.com
Subject: Water Permit Application No. 8536-3
Attachments: 2144.pdf

Attached is a copy of the report, chief engineer recommendation and information regarding the public notice for your water permit application. As stated in the letter, please contact the paper(s) as soon as possible to authorize publication and arrange for payment. This information is being mailed to you today.

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





**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. 8536-3, Berwald Family RLLP**

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. 8536-3, Berwald Family RLLP, c/o Austin Berwald, 47143 196th Street, Toronto SD 57268.

The Chief Engineer is recommending APPROVAL of Application No. 8536-3 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 wells approved under Water Permit No. 8536-3 may be located near domestic wells. Water withdrawals shall be controlled so there is not a reduction of needed water supplies in adequate domestic wells.
2. The wells authorized by Permit No. 8536-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

See report on application for additional information.

Eric Gronlund, Chief Engineer
November 1, 2021

REPORT TO THE CHIEF ENGINEER
ON
WATER PERMIT APPLICATION NO. 8536-3
BERWALD FAMILY RLLP
C/O AUSTIN BERWALD
NOVEMBER 01, 2021

Water Permit Application No. 8536-3 proposes to irrigate 154 acres at a maximum instantaneous diversion rate of 2.0 cubic feet of water per second (cfs) from up to two wells to be completed into the Pleistocene Series: Unknown aquifer (approximately 124 feet deep) located in the SW $\frac{1}{4}$ SW $\frac{1}{4}$ Section 24-T113N-R50W. The acres proposed for irrigation are located in the SW $\frac{1}{4}$ Section 24-T113N-R50W. The project site is located approximately 7 miles west of Toronto, SD.

AQUIFER: Pleistocene Series: Unknown (PS:U)

Aquifer Characteristics:

The Pleistocene Series: Unknown aquifer is a catch-all term for many of the Pleistocene-aged deposits of glacial outwash and similar materials that store and release economical amounts of water to wells and are not portions of, or correlated with, any previously mapped aquifer. The glacial outwash deposit from which the applicant proposes to withdraw water has not been previously mapped nor does it correlate well with any mapped aquifer (Hedges et al, 1985; Water Rights, 2021c, 2021d, and 2021e). The applicant proposes to withdraw water from a portion of the Pleistocene Series: Unknown aquifer located in the general area of Section 24-T113N-R50W to the east of the Big Sioux River valley and deposited at elevations ranging from approximately 1,620 and 1,690 feet above mean sea level with a majority of the deposit lying in the 1,640 to 1,670 feet above mean sea level range.

This outwash deposit was likely deposited as part of the “Drift Complex II” that occurred in the pre-late Wisconsin period glaciation (Beisel and Gilbertson, 1987). Drift Complex II is divided into several lithologic units. The applicant’s proposed aquifer corresponds with a portion of the “Interbedded Outwash” unit (Beisel and Gilbertson, 1987). The interbedded outwash unit is composed of discontinuous outwash lenses ranging in makeup from silts to coarse gravels that occur within the till unit of Drift Complex II (Beisel and Gilbertsen, 1987).

The glacial outwash materials comprising this particular portion of the aquifer ranges from coarse gravel that contains noticeable amounts of clay to clayey fine sand, weathered and unweathered, intermixed into layers that may change elevation location depending on geographic location (SDGS, 2021; Water Rights, 2021e). A review of area lithologic log data (SDGS, 2021), well completion reports (Water Rights, 2021e), observation well data (Water Rights, 2021c), and annual irrigation questionnaire data (Water Rights, 2021b) estimated this portion of the Pleistocene Series: Unknown aquifer likely underlies at least 6,300 acres and has some hydrologic connection to the Big Sioux: Brookings aquifer. The estimated areal extent of the aquifer, observation wells completed into the aquifer, and water right withdrawing water from the aquifer are shown in Figure 1.

The test well completion report submitted with this application identified “Gray Gravel” from 110 to 122 feet below ground surface, which was screened and is the production zone, and “Yellow Sand” from 130 to 142 feet below grade. The static water level at the time of completion in July 2021 was 45 feet below ground surface. Therefore, this portion of the Pleistocene Series: Unknown aquifer is under confined conditions.

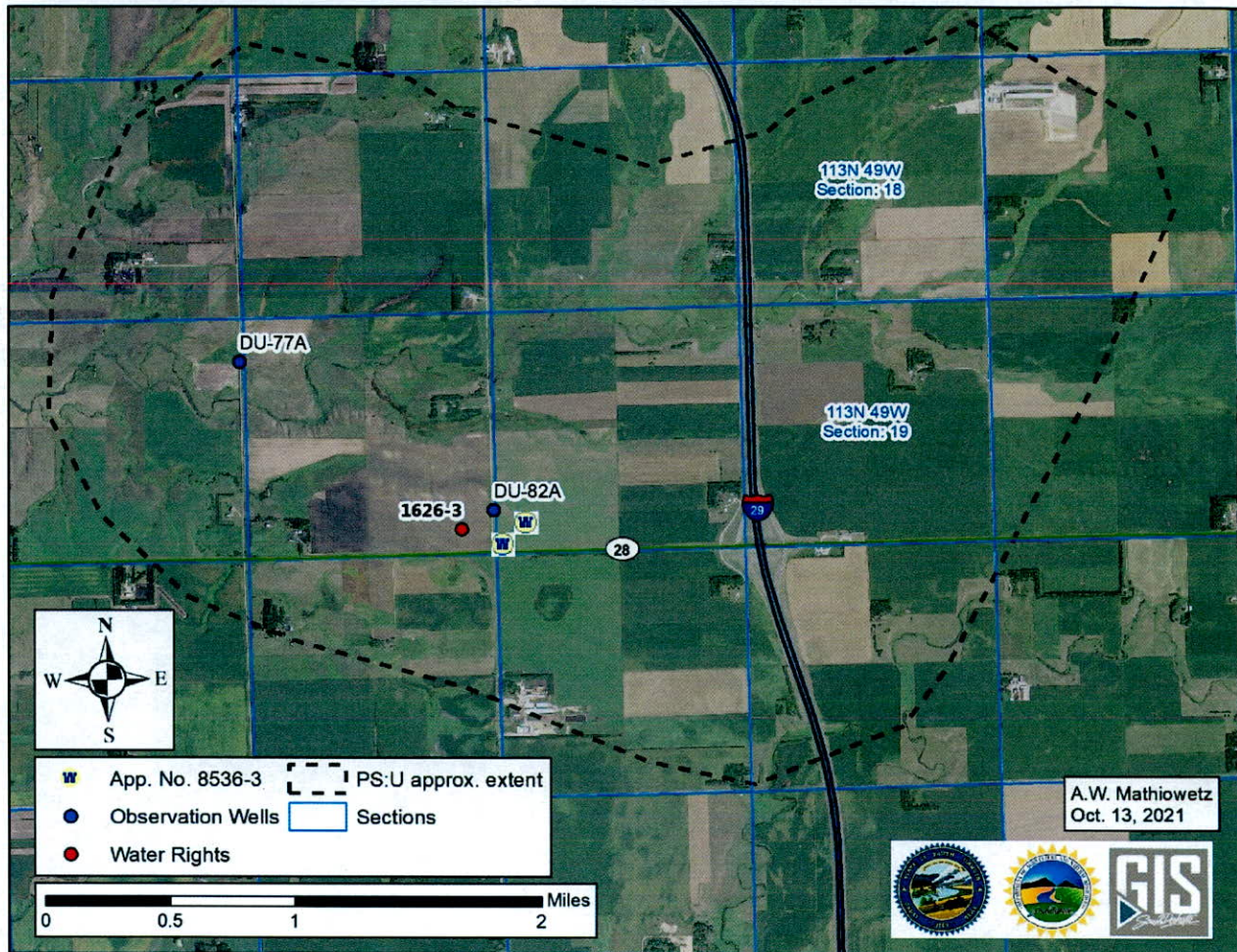


Figure 1- Map of the area of Application No. 8536-3 including estimated aquifer extent, observation wells, and water rights (Water Rights, 2021c and 2021d)

SOUTH DAKOTA CODIFIED LAW (SDCL) 46-2A-9

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

WATER AVAILABILITY:

This application proposes to appropriate water from the Pleistocene Series: Unknown aquifer. The probability of unappropriated water 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 Pleistocene Series: Unknown aquifer is not stratigraphically lower/older than the Greenhorn Formation, and the applicant is not a water distribution system as defined in SDCL 46-1-6(17). Therefore, a comparison of average annual recharge and average annual withdrawals from the Pleistocene Series: Unknown aquifer is required for this application.

Observation Well Data:

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

The Water Rights Program maintains 2 observation wells completed into the portion of the Pleistocene Series: Unknown aquifer the applicant proposes to use (Water Rights, 2021c). It should be noted that both observation wells and Water Right No. 1626-3 were previously designated as completed into the Big Sioux: Brookings aquifer (Water Rights, 2021c). However, review of local lithologic (SDGS, 2021; Water Rights, 2021e) and observation well data (Water Rights, 2021c) determined that the observation wells and the well(s) historically used by Water Right No. 1626-3 are completed into a different aquifer than originally thought. Observation wells DU-77A and DU-82A are located approximately 1.3 miles northwest and 0.14 miles north/northwest of the proposed diversion points for this application, respectively. The hydrograph for DU-77A and DU-82A are shown in Figures 2 and 3, respectively.

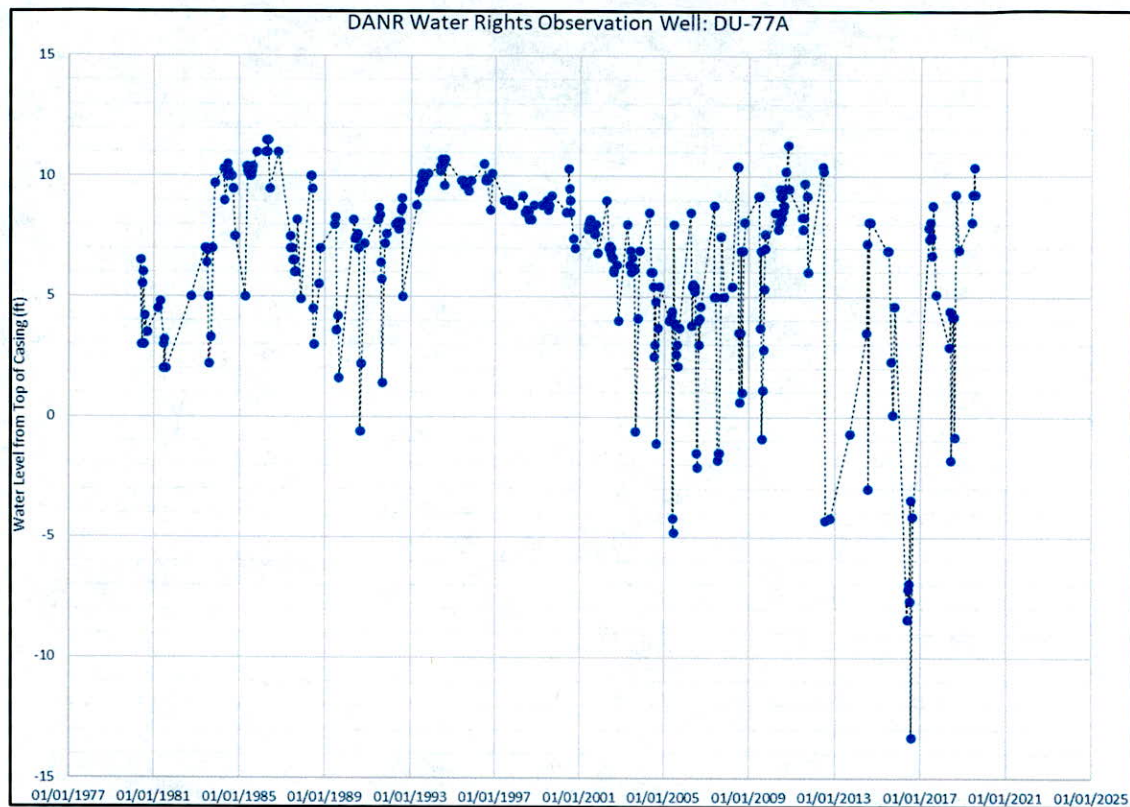


Figure 2- Hydrograph for observation well DU-77A (Water Rights, 2021c)

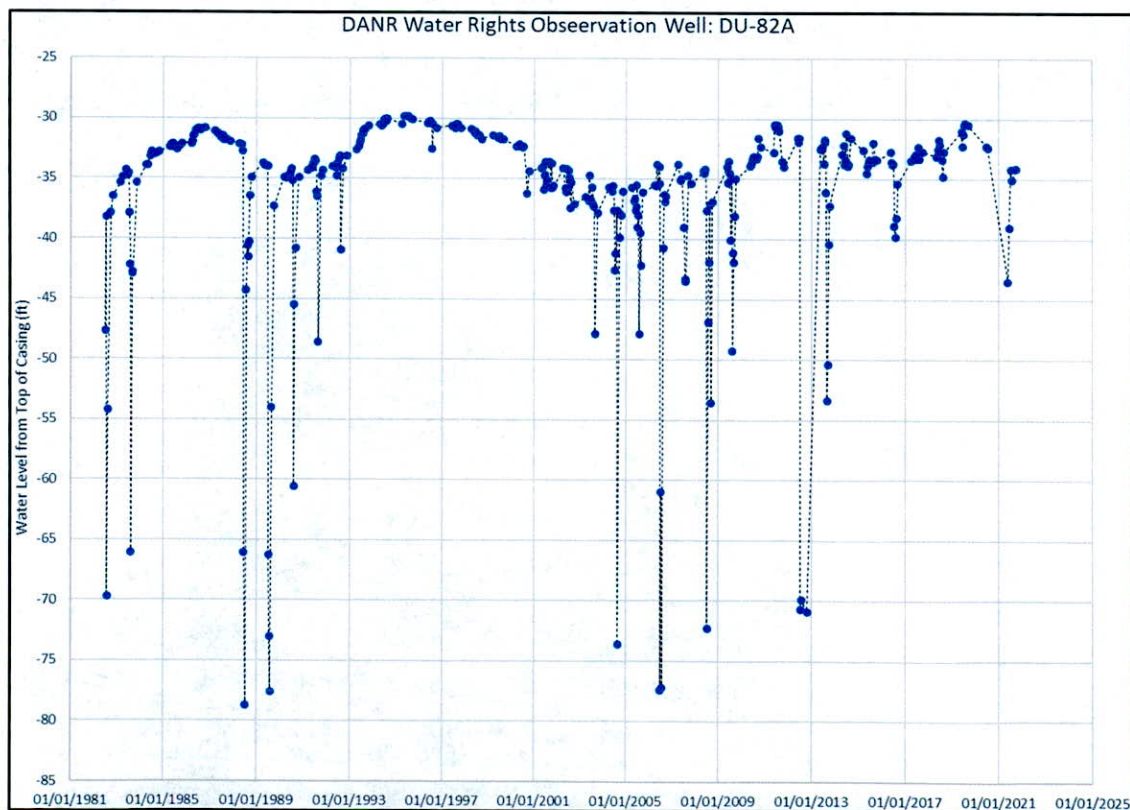


Figure 3- Hydrograph for observation well DU-82A (Water Rights, 2021c)

For observation well DU-77A data is not available past 2019 and some of the data between 2012 and 2019 is suspect. Observation well DU-77A switches between flowing and non-flowing. Much of the missing or suspect data is due to access issues or the technician having a pressure gage that was not sufficiently sensitive enough to measure very low pressures. Other than that, both hydrographs are representative of a confined aquifer with little development. The water levels follow the climatological cycle of rising during wetter periods and slowly declining during drier periods. Furthermore, the water level, particularly in DU-82A, rapidly recovers after the end of the irrigation season. In fact, the noticeable downward spikes of water level shown in DU-82A lines up with reported pumping occurring under Water Right No. 1626-3 (Water Rights, 2021a). This means natural conditions, recharge to and natural discharge from an aquifer, govern the long term changes of water level in the aquifer. Recognizing that recharge to and natural discharge from an aquifer can be captured for pumping, the observation well data demonstrates there is unappropriated water available for this proposed appropriation.

Hydrologic Budget

Recharge

Recharge to buried, confined glacial outwash aquifers is generally from aquifer interflow with other aquifers that have higher potentiometric surfaces and percolation through permeable sediments when present. This portion of the Pleistocene Series: Unknown aquifer likely receives recharge through a hydrologic connection with the Big Sioux: Brookings aquifer and possibly through other nearby glacial deposits.

The best information reasonably available indicates this portion of the Pleistocene Series: Unknown aquifer likely underlies approximately 6,300 acres (SDGS, 2021; Water Rights, 2021c, 2021d, and 2021e). Hedges and others (1985) recommended a recharge rate range of 0.15 to 0.60 inches per year (in/yr) should be used by management and development programs for buried, confined glacial aquifers. Over the estimated area of this aquifer that would be an annual estimated recharge rate range of approximately 79 to 315 acre-feet per year (ac-ft/yr).

The Big Sioux: Brookings aquifer has an estimated recharge rate of 4.0 in/yr (Hedges et al, 1985). Considering there is likely a hydrologic connection between this portion of the Pleistocene Series: Unknown aquifer and the Big Sioux: Brookings aquifer, it is reasonable to assume the recharge rate is likely on the higher end of the Hedges and other's (1985) estimate of 0.15 (79 ac-ft/yr) to 0.6 in/yr (315 ac-ft/yr) or possibly even greater.

Discharge:

Discharge from this portion of the Pleistocene Series: Unknown aquifer is through well withdrawals (Water Rights, 2021e) and likely through aquifer interflow with hydrologically connected aquifers that have lower potentiometric surfaces than this aquifer. Table 1 is the historically reported irrigation water use by Water Right No. 1626-3 (Water Rights, 2021b). Water Right No. 1626-3 authorizes the irrigation of 215 acres at a maximum instantaneous diversion rate of 2.25 cfs. The application rate per irrigated acre has been calculated to be 3.17 in/yr from 1979-2020 (the full period of record) and 3.33 in/yr from 2002-2020 (resumption of reported irrigation after a 9 year hiatus). During those 9 years, it was noted on the annual irrigation questionnaires there were timely and sufficient rains irrigation was not needed in those years. Also note, for much of the irrigation history less than the full 215 permitted acres were irrigated each year. Using those

two application rates and assuming irrigation of all of the 215 permitted acres, the estimated average annual use by Water Right No. 1626-3 ranges from approximately 57 to 60 ac-ft/yr.

This application, if approved, will be assumed to use an application rate of 12 in/yr. For east river glacial aquifers where an application rate per irrigated acre has been calculated, the application rate per irrigated acre generally ranges from 7 to 10 in/yr (Farmer, 2012a and 2012b; Water Rights, 2021f). Assuming an application rate of 12 in/yr over the requested 154 acres results in an estimated use by this proposed appropriation of 154 ac-ft/yr.

There are 9 domestic well completion reports on file with the Water Rights Program within the approximate boundaries of this portion of the Pleistocene Series: Unknown aquifer that appear to be completed into the aquifer (Water Rights, 2021e). Two of those wells are under the name Berwald and appear to be associated either directly or indirectly with this project (Water Rights, 2021e). Based on 2020 FSA imagery, there appears to be approximately 23 rural domiciles within or very close to the approximate aquifer boundaries. Assuming a per capita use of 70 gallons per day (Carter and Neitzert, 2008) and 2.5 people served per well or at each domicile, which is approximately 1.4 to 4.5 ac-ft/yr for domestic use.

Balance of Hydrologic Budget

The best information available indicates the estimated average recharge to this portion of the Pleistocene Series: Unknown aquifer is in the area of 315 ac-ft/yr. Current, appropriative use averages 60 ac-ft/yr. This application if approved is estimated to pump 154 ac-ft/yr. Local domestic use is estimated to be less than 5 ac-ft/yr. Therefore, there is a reasonable probability unappropriated water is available for this proposed appropriation. This conclusion is supported by and agrees with the observation well data.

Table 1- Historic Irrigation use and application rate per irrigated acre for Water Right No. 1626-3 (Water Rights, 2021b)

Year	Land Reported Irrigated	Reported Annual pumpage	Application Rate per Irrigated Acre	2002-2020 Application Rate per Irrigated Acre
	<i>acres</i>	<i>ac-ft</i>	<i>in/ac</i>	<i>in/ac</i>
1979	220	33.16	1.81	n/a
1980	0	0	0	n/a
1981	220	137.03	7.47	n/a
1982	167	72.36	5.20	n/a
1983	88.25	74.54	10.14	n/a
1984	0	0	0	n/a
1985	0	0	0	n/a
1986	1	0.01	0.09	n/a
1987	0	0	0	n/a
1988	130	137.96	12.73	n/a
1989	130	187	17.26	n/a
1990	130	71	6.55	n/a
1991	120	75.24	7.52	n/a
1992	120	11.93	1.19	n/a
1993	0	0	0	n/a
1994	0	0	0	n/a
1995	0	0	0	n/a
1996	0	0	0	n/a
1997	0	0	0	n/a
1998	0	0	0	n/a
1999	0	0	0	n/a
2000	0	0	0	n/a
2001	0	0	0	n/a
2002	89.8	44.19	5.91	5.91
2003	61.4	28.36	5.54	5.54
2004	65	17.16	3.17	3.17
2005	80	2.44	0.37	0.37
2006	130.2	172.60	15.91	15.91
2007	80	33	4.95	4.95
2008	215	60.1	3.35	3.35
2009	197	76.85	4.68	4.68
2010	30	2.95	1.18	1.18
2011	215	68.44	3.82	3.82
2012	215	90.15	5.03	5.03
2013	167	48.57	3.49	3.49
2014	0	0	0	0
2015	0	0	0	0
2016	174	45.36	3.13	3.13
2017	0	0	0	0
2018	0	0	0	0
2019	0	0	0	0
2020	130	29.3	2.70	2.70
Average	75.6	36.18	3.17	3.33
Min	0	0	0	0
Max	220	187	17.26	15.91
Values used in Average	42	42	42	19

POTENTIAL FOR UNLAWFUL IMPAIRMENT OF EXISTING WATER RIGHTS:

The nearest and only appropriative well completed into this portion of the Pleistocene Series: Unknown aquifer is Water Right No. 1626-3 located approximately 0.2 miles west of the nearest proposed diversion point (Water Rights, 2021d). The nearest domestic well likely completed into this portion of the Pleistocene Series: Unknown aquifer on file with the DANR-Water Rights

Program is approximately 0.25 miles north of the proposed diversion points and appears to be held by the applicant or someone associated with the applicant's project (Water Rights, 2021e.) The nearest domestic well not associated with the applicant is approximately 1.2 miles southeast from the proposed diversion points (Water Rights, 2021e). There is a reasonable probability there are domestic wells completed into this portion of the Pleistocene Series: Unknown aquifer less than 1.2 miles from the applicant's proposed diversion points that are not on file with the Water Rights Program.

The hydrograph for observation well DU-82A (see Figure 3) shows that during periods when Water Right No. 1626-3 reported pumping, there was a reduction of artesian head pressure ranging from a few feet to approximately 47 feet in the observation well (Water Rights, 2021b). The well for Water Right No. 1626-3 and observation well DU-82A are approximately 800 feet apart. The static water level in DU-82A typically ranges from 30 to 35 feet below the top of the well casing. The top of the Pleistocene Series: Unknown aquifer is at 111 feet below the top of the well casing. That means under static conditions there is between 76 and 81 feet of artesian head pressure in this portion of the Pleistocene Series: Unknown aquifer. At the lowest recorded water level in DU-82A, the amount of artesian head pressure was reduced to 32 feet.

Water Right No. 1626-3 authorizes a diversion rate of 2.25 cfs. Diversion rates reported on the annual irrigation questionnaires for Water Right No. 1626-3 have ranged from 1.78 to 2.25 cfs. This application is requesting a diversion rate of 2.0 cfs from up to two wells. The diversion points proposed by this application are approximately 740 to 750 feet away from DU-82A. Therefore, under completely independent pumping by Water Right No. 1626-3 or by this application, if approved, less than 47 feet of drawdown as measured in DU-82A is expected to occur. Under that scenario, unlawful impairment of existing appropriative rights with adequate wells would not be expected to occur.

However, both Water Right No. 1626-3 and this application, if approved, are likely to pump simultaneously at times. If both systems were to pump simultaneously and, based on the observation well data in DU-82A, it is expected that all artesian head pressure of the aquifer in the area between the well for Water Right No. 1626-3 and the two wells proposed by this application would be removed under continuous pumping, particularly in drier years or in a year immediately following a dry period. When all artesian head pressure is removed by pumping, an aquifer becomes locally unconfined. The physics of how drawdown occurs is different between confined and unconfined aquifers. In a confined aquifer, the drawdown cone around a pumping well is steep immediately around the well and then has a fairly large areal extent. In an unconfined aquifer, measurable drawdown does not extend very far from the pumped well. There is limited saturated aquifer thickness locally, 12 feet at the applicant's wells and 20 feet in DU-82A, meaning the potential for adverse impacts is greater than in an aquifer with greater than 20 feet of saturated thickness.

South Dakota Codified Law (SDCL) 46-6-6.1 does not necessarily protect artesian head pressure as a means of delivery, and the Water Management Board has recognized in the past to place water to maximum beneficial use, a certain amount of drawdown may occur. In order to balance interests between appropriative use and delivery of water by artesian head pressure, the Water Management

Board defined an “adversely impacted domestic well” in Administrative Rule of South Dakota (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 of water issue for Water Right No. 2313-2 for Coca-Cola Bottling Company of the Black Hills (Water Rights, 1995). The Water Management Board adopted Findings of Facts and Conclusions of Law that noted 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 an adverse impact it would also be in conflict with SDCL 46-1-4 (Water Rights, 1995). With that in mind, some existing well owners may need to lower their pumps to accommodate for deeper water levels. There are no complaints on file with the DANR-Water Rights Program regarding well interference issues from this portion of the Pleistocene Series: Unknown aquifer (Water Rights, 2021a). However, when considering the statute (SDCL 46-6-6.1), rule (ARSD 74:02:04:20(7)), the artesian head pressure normally available, and the fact the applicant is requesting two wells so they will need to manage withdrawals so as to not impair themselves, there is a reasonable probability this proposed diversion will not unlawfully impair existing users with adequate wells. It should be noted that due to proximity to each other, Water Right No. 1626-3 and this application, if approved, may need to ensure their pumps are set near the bottom of the aquifer and carefully monitor their respective pumping and irrigation systems for issues that could result from excessive local drawdown but are not considered an unlawful impairment.

CONCLUSIONS:

1. Application No. 8536-3 proposes to irrigate 154 acres at a maximum instantaneous diversion rate of 2.0 cfs from up to two wells be completed into a portion of the Pleistocene Series: Unknown aquifer in Deuel County.
2. Based on the observation well data and a hydrologic budget, there is a reasonable probability unappropriated water is available for this proposed appropriation.
3. There is a reasonable probability that pumping this proposed diversion will not unlawfully impair existing domestic water users and water rights with adequate wells.



Adam Mathiowetz, PE
SD DANR-Water Rights Program

REFERENCES:

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- Water Rights. 1995. Findings of Fact, Conclusions of Law, and Final Decision in the Matter of Water Permit Application No. 2313-2, Coca-Cola Bottling Company of the Black Hills. DANR-Water Rights Program file for Water Right No. 2313-2. Pierre, South Dakota.

Instruction to Newspaper - Publish the Notice on November 10, 2021. The applicant is responsible for payment.

NOTICE OF APPLICATION NO. 8536-3 to Appropriate Water

Notice is given that Berwald Family RLLP, c/o Austin Berwald, 47143 196th St, Toronto SD 57268 has filed an application for a water permit to appropriate 2.0 cubic feet of water per second from up to two wells to be completed into the Pleistocene:Unknown Series Aquifer (approximately 124 feet deep) located in the SW 1/4 SW 1/4 Section 24 for irrigation of 154 acres located in the SW 1/4 Section 24; all in T113N-R50W. This site is located approximately 7 miles west of Toronto SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8536-3 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 November 22, 2021.

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 November 22, 2021.

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 _

Affidavit of Publication

State of South Dakota

Exhibit "A"

ss

County of Brookings

Katherine Foiles of said county, first duly sworn, on oath, says: That she is the office clerk of THE BROOKINGS REGISTER, a daily newspaper, printed and published in the City of Brookings, in said County of Brookings, and State of South Dakota; that she has full and personal knowledge of the facts herein stated; that said newspaper is a legal newspaper and has a bona fide circulation of at least two hundred copies of each issue daily; that said newspaper has been published within the said County of Brookings and State of South Dakota, for more than one year prior to the first publication of Exhibit "A," hereto attached and herein mentioned, and was and is printed that the

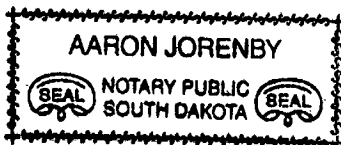
LEG# 16568 Notice of Application to Appropriate Water

same was published, is hereto attached marked Exhibit said newspaper for _____ 1 times, to-wit:

November 8, 2021

said Exhibit "A" inures to the sole benefit for the publishers of said newspaper; that no agreement or understanding for the division thereof has been made with any other person, and that no part thereof has been agreed to be paid to any person whomsoever; that the fees charged for the publication thereof are:

Forty-One Dollars and Ninety-Two Cents \$41.92



Km Foiles

9 day of

November

2021

Notary Public in and for the County of Brookings, South Dakota.
My Commission expires February 22, 2026

Ag

RECEIVED

DEC - 6 2021

WATER RIGHTS
PROGRAM

**NOTICE OF
APPLICATION
NO. 8536-3 TO
APPROPRIATE WATER**
Notice is given that Berwald Family RLLP, c/o Austin Berwald, 47143 196th St, Toronto SD 57268 has filed an application for a water permit to appropriate 2.0 cubic feet of water per second from up to two wells to be completed into the Pleistocene:Unknown Series Aquifer (approximately 124 feet deep) located in the SW 1/4 SW 1/4 Section 24 for irrigation of 154 acres located in the SW 1/4 Section 24; all in T113N-R50W. This site is located approximately 7 miles west of Toronto SD. Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8536-3 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

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

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AFFIDAVIT OF PUBLICATION

STATE OF SOUTH DAKOTA
COUNTY OF DEUEL

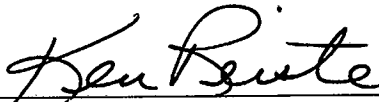
Ken Reiste being first duly sworn, on oath says: That he is publisher of the Clear Lake Courier, a weekly newspaper published in the City of Clear Lake, Deuel County, South Dakota; that he has full and personal knowledge of all facts herein stated; that said newspaper is a legal newspaper as defined in SDCL 17-2-2.1 through 17-2-2.4 inclusive; that said newspaper has been published within the said County of Deuel and State of South Dakota, for at least one year next prior to the first publication of the attached public notice, and that

Notice Of Application No.8536-3 Appropriate Water

a printed copy of which, taken from the paper in which the same was published, and which is hereto attached and made a part of this affidavit, was published in said newspaper for one successive week(s) to wit:

November 10,2021

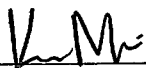
That the full amount of the fee charged for publication of the attached public notice insures to the sole benefit of the publisher; that no agreement or understanding for the division thereof has been made with any other person, and that no part thereof has been agreed to be paid to any person whomsoever; that the fees charged for the publication thereof are \$40.22



Ken Reiste

Subscribed and sworn to before me

this 10th day of November
2021



Notary Public, South Dakota
My commission expires: 09-27-2027

KELSEY MONNIER



Public notice

NOTICE OF APPLICATION NO. 8536-3 to Appropriate Water

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plication, 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.

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Any interested person may file a

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Published once at the total approximate cost of \$40.22. (39-1/119)

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NOV 12 2021

WATER RIGHTS
PROGRAM

Schlaak, Karen

From: Schlaak, Karen
Sent: Tuesday, November 2, 2021 8:39 AM
To: registerclassifieds@brookingsregister.com
Subject: 8536-3, Berwald Family RLLP
Attachments: 8536-3public.short_final.docx; FORM8.FRM.doc

Attached is a notice to be published on November 8, 2021.

Berwald Family RLLP, c/o Austin Berwald, 47143 196th St, Toronto SD 57268 (605 690-3319) 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: Tuesday, November 2, 2021 8:35 AM
To: 'clprint@itctel.com'
Subject: 8536-3, Berwald Family RLLP
Attachments: 8536-3public.short_final.docx; FORM8.FRM.doc

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Karen Schlaak

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





**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

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

November 2, 2021

Berwald Family RLLP
c/o Austin Berwald
47143 196th St
Toronto SD 57268

Dear Mr. Berwald

Water Permit Application No. 8536-3 for irrigation use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Clear Lake Courier printed at Clear Lake SD (Ph # 605 874-2499) and the Brookings Register printed at Brookings SD (Ph # 605 692-6271). 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.

Instruction to Newspaper - Publish the Notice on November 10, 2021. The applicant is responsible for payment.

NOTICE OF APPLICATION NO. 8536-3 to Appropriate Water

Notice is given that Berwald Family RLLP, c/o Austin Berwald, 47143 196th St, Toronto SD 57268 has filed an application for a water permit to appropriate 2.0 cubic feet of water per second from up to two wells to be completed into the Pleistocene:Unknown Series Aquifer (approximately 124 feet deep) located in the SW 1/4 SW 1/4 Section 24 for irrigation of 154 acres located in the SW 1/4 Section 24; all in T113N-R50W. This site is located approximately 7 miles west of Toronto SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8536-3 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 November 22, 2021.

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 November 22, 2021.

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 _



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

January 13, 2022

Berwald Family RLLP
c/o Austin Berwald
47143 196th St
Toronto SD 57268

Dear Mr. Berwald:

Enclosed is Water Permit No. 8536-3 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

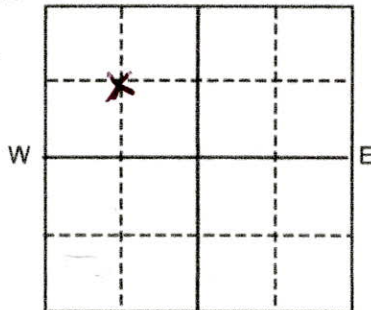
enclosures

8536-3

SD EForm - 1621LD V1

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location: 10 1/2 Sec 20 Twp T113N Rg 50WCounty DeuelNorth 24 per Kaiser
2/6/23 22Please mark well
location with an "X"

Well Completion Date

7-27-22

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 Drill

CASING DATA:

☐ Steel ☒ Plastic ☐ Other

If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
<u>SDR20</u> LB/FT	<u>12</u> IN	<u>12</u> FT	<u>110</u> FT	<u>19</u> IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

2/6/2023 W N per Kaiser
 Grout Type Groutwell No. of Sacks 38 Grout Weight 0 Lb/gal 108 Ft 108 Ft
DF Lb/gal _____ Ft _____ Ft

Describe grouting procedure

Pressure Pull

SCREEN:

☐ Perforated pipe ☒ Manufactured
Diameter 12 Inches Length 15 FeetMaterial StainlessSlot Size _____ Set From 110 Feet to 125 Feet

Other information _____

WAS A PACKER OR SEAL USED?

☐ Yes ☐ No

If so, what material? _____

Describe packer(s) and location _____

DISINFECTION:

Was well disinfected upon completion?

☐ Yes, How? _____

☒ No, Why Not?
Lab to which water
quality sample sent for analysisIrrigation
no pump

Well Owner:

Austin Berwald

Business Name:

Berwald Dairy

Address:

47143 196th St

City, State, Zip:

Toronto SD 57268

WELL LOG:

DEPTH

FORMATION	DEPTH	
	FROM	TO
<u>Top Soil</u>	<u>0</u>	<u>1</u>
<u>Yellow Clay</u>	<u>1</u>	<u>8</u>
<u>Yellow Gravel</u>	<u>8</u>	<u>18</u>
<u>Yellow Clay</u>	<u>18</u>	<u>36</u>
<u>Blue Clay</u>	<u>36</u>	<u>110</u>
<u>Grey Gravel</u>	<u>110</u>	<u>125</u>

STATIC WATER LEVEL

45

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: test pump
☐ Bailed

☐ Other
- 100 and depleting

Pumping Level Below Land Surface

Ft. After _____

Hrs. pumped _____

GPM

Ft. After _____

Hrs. pumped _____

GPM

If pump installed, pump rate: _____

GPM

REMARKS

This well was drilled under license # 1689

and this

report is true and accurate.

Drilling firm: Kaiser Well Drilling Inc

Signature of License Representative: _____

RECEIVED

Signature of Well Owner or Equitable Property Holder: _____

FEB 01 2023

OFFICE OF
WATER

Date: _____

8536-3

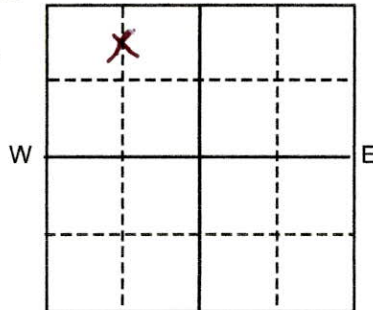
SD EForm - 1621LD V1

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location X 1/4 X 1/4 Sec 25 Twp 113N Rg 50WCounty DeuelNorth 216/23W

Please mark well location with an "X"



Well Completion Date

11-22

1 Mile

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

ft. from

(Identify source)

PROPOSED USE:

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

METHOD OF DRILLING:

Direct Rotary

CASING DATA:

☐ Steel ☒ Plastic ☐ Other

If other describe

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
<u>Sub 40</u> LB/FT	<u>3</u> IN	<u>12</u> FT	<u>97</u> FT	<u>6</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>Gravel</u>	<u>4</u>	<u>50</u> Lb/gal	<u>0</u> Ft	<u>95</u> Ft
<u>DF</u>		Lb/gal	Ft	Ft

Describe grouting procedure

Pressure Pull

SCREEN:

☐ Perforated pipe ☐ Manufactured
Diameter 3 Inches Length 20 FeetMaterial PVCSlot Size 60 Set From 97 Feet to 117 Feet

Other information

WAS A PACKER OR SEAL USED?

☐ Yes ☐ No

If so, what material?

Describe packer(s) and location

DISINFECTION: Was well disinfected upon completion?

☐ Yes, How?

☐ No, Why Not?

Lab to which water quality sample sent for analysis

test holeWell Owner: Austin BenwaldBusiness Name: Benwald DairyAddress: 47143 196th StCity, State, Zip: Toronto SD 57268

WELL LOG:

DEPTH

FORMATION	FROM	TO
Top Soil	0	1
Yellow Clay	1	10
Yellow Gravel	10	13
Yellow Clay	13	22
Blue Clay	22	90
MED-Gravel mixed w/rocks	90	97
Sand fine - med	97	99
Gravel	99	117

STATIC WATER LEVEL 37 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: air compressor
☐ Bailed

☐ Other

Pumping Level Below Land Surface

_____ Ft. After _____ Hrs. pumped _____ GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: _____ GPM

REMARKS

This well was drilled under license # 689 and this report is true and accurate.Drilling firm: Kaiser Well Drilling Inc

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

RECEIVED

FEB 01 2023

Date:

OFFICE OF
WATER

Mathiowetz, Adam (DENR)

From: Mathiowetz, Adam (DENR)
Sent: Monday, August 14, 2023 9:59 AM
To: Duvall, Ron; Gronlund, Eric
Subject: RE: Well Interference Complaint

I spoke with both Austin Berwald and Roger Svec this morning. Mr. Berwald said he made two rotations with his pivot and then turned it off because they got rain. Mr. Berwald stated Mr. Svec had spoken with him and they had discussed the issue. I also informed Mr. Berwald that if his system was the cause of the issue for Mr. Svec that we may need to take action whether that is helping the two of them plan a rotating irrigation schedule or possibly even shutting down the Berwald permit because it is junior. Mr. Berwald stated in his discussion with Mr. Svec that Svec had said he wasn't ruling out that his well from 1972 might be having issues with the screen plugging up and needing to be developed.

Mr. Svec stated after Berwald was done, he got 50 pounds of pressure in his system and was able to use it. He also stated he had discussed the issue with Mr. Berwald and they talked about the Berwald system possibly being the cause of the issue or the screen the in much older Svec well. I told Mr. Svec that we would like to stay informed on the issue. I informed him to pay attention the next time both pivots are attempting to run. If he loses pressure in his system, it is likely that the Berwald well is impacting him. Svec stated his well was around the same depth as the Berwald well, 125 feet based on the well log in the file, but that his surface elevation was around 20 feet higher. Mr. Svec estimated that the two wells are less than 300 feet apart. I said this works out if they are both good neighbors. It may end up they need to go on alternating irrigation schedule or that we may need to take action and shut down the Berwald well anytime there is an issue since Mr. Svec has the senior water right. I provided my name and number to Mr. Svec.



Adam Mathiowetz, PE
Engineer, Water Rights Program
Department of Agriculture and Natural Resources
523 E. Capitol Ave. Pierre SD, 57501
605.773.3352
danr.sd.gov

From: Duvall, Ron <Ron.Duvall@state.sd.us>
Sent: Monday, July 31, 2023 4:48 PM
To: Mathiowetz, Adam (DENR) <Adam.Mathiowetz@state.sd.us>; Gronlund, Eric <Eric.Gronlund@state.sd.us>
Subject: Well Interference Complaint

I spoke to Mrs. Roger Svec (is how she referred to herself) concerning a well interference issue. Svec's have Water Right No. 1626-3 and Permit No. 8536-3 was issued to Berwald Family RLLP in January 2022. The new system installed by Berwald is up and running and now the Svec well is experiencing pressure loss. According to Mrs. Svec, they never had a problem when they had high pressure irrigation systems which have since been replaced with low pressure systems and now a pressure problem is occurring which they believe is due to the Berwald system operating in the adjoining section. I asked Mrs. Berwald how far apart the wells are and she indicated 150 feet. The report for No. 8536-3 indicates 0.2 miles apart but perhaps Berwald drilled his well closer to the property line. I told Mrs. Svec we would need to investigate and get back to her – landline is 605.873.2651 and mobile is 605.237.5547 (Roger). A real easy test is to tell Berwald to stop pumping and see if the Svec well gets pressure back.

Mrs. Svec said her husband was going to wait for the Berwald system to complete its rotation and then Roger Svec is going to talk to Berwald.

Ron



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

June 17, 2024

8536-3

8537-3

Berwald Family RLLP
c/o Austin Berwald
47143 196th St
Toronto SD 57268

Dear Mr. Berwald:

I am writing in regard to Water Permit Nos. 8536-3 & 8537-3 authorizing the irrigation of 154 acres located within the SW ¼ Section 24-T113N-R50W, and 160 acres located within the NW ¼ Section 25-T113N-R50W, respectively.

On June 12, 2024, a staff engineer from the Water Rights Program made a site visit to conduct an inspection of the water use systems authorized under Permit Nos. 8536-3 & 8537-3, for the purpose of licensing the irrigation systems.

With the inspections having been conducted and the reports completed, we are ready to proceed with the licensing of your water use systems. However, as stated in Permit Nos. 8536-3 & 8537-3, you have until November 22, 2026 & October 18, 2026, to complete the construction of your water use systems and until November 22, 2030 & October 18, 2030, to put that water to beneficial use, respectively.

If you have finished the construction and are satisfied with your water use system, please complete the highlighted portions of the enclosed "Notice of Completion of Works" forms and return them in the postage paid envelope. Once we have these completed forms back from you, we will proceed with the licensing of your systems.

Sincerely,

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

enclosures

Report of Examination of Works and/or Application of Water to Beneficial Use For Permit No. 8536-3

I have this day, June 12, 2024, made a thorough examination of the water use system constructed by Berwald Family RLLP, 47143 196th St, Toronto, SD 57268 of Permit No. 8536-3, bearing the priority of August 3, 2021 authorizing the diversion of 2.0 cu. ft. per second of the waters of the Pleistocene:Unknown Series Aquifer for irrigation purposes, in Deuel County.

A. Works used to divert the water:

Well Information:

- 1) Well Drilling Firm: Kaiser Well Drilling
- 2) No. of Wells 1
- 3) Depth(s) 125 feet
- 4) Well log is available Y If no, explain in comments

Casing:

- 1) Diameter 12 inches
- 2) Length 110 feet
- 3) Type steel

Screen:

- 1) Type Stainless steel
- 2) Length 15 feet
- 3) Static water level 45 feet

Pump:

- 1) Make Submersible
- 2) Model Unknown
- 3) Size Unknown
- 4) Capacity 850 GPM

Motor:

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

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

- 1) Type Buried PVC
- 2) Size 8 inches
- 3) Length 1050 feet

C. Works used to apply water to beneficial use:**Center pivot:**

- 1) Make Valley
- 2) Overall length 1350 feet
- 3) Number of towers 7 + 1 corner leg
- 4) End gun Y
- 5) Capacity 850 GPM

Chemigation Equipment:

- 1) Does chemigate N

D. Compliance with Permit Requirements:

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

E. Condition and Location:

1. The system is in excellent condition with the point(s) of diversion located as follows: WELL LOCATION From the SW corner Sec 24 T113N R50W, 1170 ft N & 285 ft E, Lat 44.57591 Long -96.78360 (SW 1/4 SW 1/4).

2. The works are capable of diverting and conveying to the place of use 1.89 cu. ft. per second of water which is to be used for irrigation. Water has been put to beneficial use to the maximum extent as follows:

legal description/acreage
All in Sec 24 T113N R50W
NW 1/4 SW 1/4 40 acres
NE 1/4 SW 1/4 36 acres
SE 1/4 SW 1/4 35 acres
SW 1/4 SW 1/4 39 acres

legal description/acreage

comprising a total of 150 acres of land. The license should be issued for 1.89 cfs .

3. All structures, wells and lands on map Y

F. Comments or other permit(s) associated with the project:

I contacted Mr. Austin Berwald (605/690-3319) regarding this Permit. The mailing address in the permit materials is current.

FSA maps and the ArcGIS program was used to construct the attached well location map.

The 2023 Irrigation Questionnaire report was used to establish the pump flow rate.



Darrell DeBoer
Water Rights Inspector
DENR, Water Rights Program

Date report completed: **June 15, 2024**



0 500 1,000 2,000 3,000 4,000 Feet



Darrell DeBoer
Water Right Inspector
DANR-Water Rights Program



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

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

TO: Water Rights Program, DANR
523 E. Capitol Ave.
Pierre, SD 57501-3182
or via email to DANRmail@state.sd.us

Date 7-5-24

FROM:

Austin Bernwald

(name)

(605) 690-3319

(phone)

47143 196th st

(address)

austinmberwald@hotmail.com

(email)

Toronto, SD 57268

(city, state, zip)

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. 8536-3 states that the water use system is to be constructed by

November 22, 2026

(date)

, and water is to be put to beneficial use by

November 22, 2030

(date)

The water use system was completed on

August 2023

(date)

Applying the water to beneficial use was completed on

August 2023

(date)

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

RECEIVED

JUL 10 2024

**OFFICE OF
WATER**



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

JUL 23 2024

8536-3
8537-3

Berwald Family RLLP
c/o Austin Berwald
47143 196th St
Toronto SD 57268

Dear Mr. Berwald:

Enclosed are licenses for Water Right Nos. 8536-3 & 8537-3. These are the final water right documents completing the process of obtaining Water Rights. Included with your licenses are maps prepared by the staff engineer who conducted the field investigations.

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

So long as you use the water beneficially, as stated in the Water Licenses, State Water Laws provide that you have a continuing right to use the water. If you have any questions, please contact our office.

Sincerely,

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

NOTE: In the case of Water Right No. 8536-3, the well was drilled in closer proximity to the well authorized by Water Right No. 1626-3, held by your neighbors in the SE ¼ Section 23, T113N, R50W, than was represented on your application. Water Right No. 1626-3 is senior to Water Right No. 8536-3. In the event unlawful impairment occurs, your water right may be curtailed in order to satisfy the senior water right.

enclosures

STATE OF SOUTH DAKOTA
WATER LICENSE NO. 8536-3

(1) Berwald Family RLLP, 47143 196th St, Toronto SD 57268, made Application No. 8536-3, August 3, 2021, for a water permit to divert 2.0 cubic feet of water per second from groundwater, up to two wells (Pleistocene: Unknown Series Aquifer), Deuel County, South Dakota for irrigation purposes. Permit No. 8536-3, with a priority date of August 3, 2021, was approved November 22, 2021, and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before November 22, 2026, and for the application to beneficial use of water on or before November 22, 2030.

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

(2) It is certified that the permit holder has complied with the provisions of South Dakota State Law relating to completion of the construction of the water supply system and is entitled to divert 1.89 cubic feet of water per second for beneficial use. The location of the diversion point is:

- 1,170 ft N & 285 ft E of the SW corner Section 24, T113N, R50W (SW $\frac{1}{4}$ SW $\frac{1}{4}$)
(Latitude 44.57591 & Longitude -96.78360)

(3) The amount of appropriation may not exceed 2 acre-feet annually for each acre of land to which water is actually and beneficially applied for irrigation. The water is to be used during the following described annual period: June 1 – September 30.

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

Section 24, T113N, R50W			
NE $\frac{1}{4}$ SW $\frac{1}{4}$	36 acres	SW $\frac{1}{4}$ SW $\frac{1}{4}$	39 acres
NW $\frac{1}{4}$ SW $\frac{1}{4}$	40 acres	SE $\frac{1}{4}$ SW $\frac{1}{4}$	35 acres
TOTAL: 150 acres			

(5) Pursuant to South Dakota Water Law 46-5-30.1 Berwald Family RLLP, the holder and/or owner of Water Right No. 8536-3 is issued a license to appropriate water, the right to use 1.89 cubic feet of water per second from groundwater, one well (Pleistocene: Unknown Series Aquifer), with a priority date of August 3, 2021, from the location specified in (2) of this license for irrigation purposes.

This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Right No. 8536-3 and subject to the following qualifications:

1. The wells approved under Water Permit No. 8536-3 may be located near domestic wells. Water withdrawals shall be controlled so there is not a reduction of needed water supplies in adequate domestic wells. *(Only one well was developed.)*
2. The wells authorized by Permit No. 8536-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28. *(The well was drilled in 2022 by Kaiser Well Drilling Inc. A copy of the well completion report is on file with the Water Rights Program.)*

continued

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


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

JUL 22 2024
date

