

WATER PERMIT NO. 8587-3

Name of Applicant: Justin Christianson

Address: 201 E Park St, Irene SD 57036

Phone: 605 661-9889

Amount of Water Claimed: 1.78 cfs

Total Acres: 134

Source of Water Supply: groundwater (one well)

Water to be used for: irrigation

County: Turner

Type of Waste Disposal System:

Location: 2 miles east of Irene

PRIORITY Date Received: 1-25-22

Application/License Fee: \$ 1050

Corrected Application Received: 1-28-22

Period of Annual Use: May 1 – Sept 30

Remarks:

Diversion Point: SW 1/4 SE 1/4 Sec 33-T96N-
R53W

Land to be Irrigated: SE 1/4 Sec 33-T96N-R53W

Depth of Well: 97 feet deep

Well Driller:

Remarks:

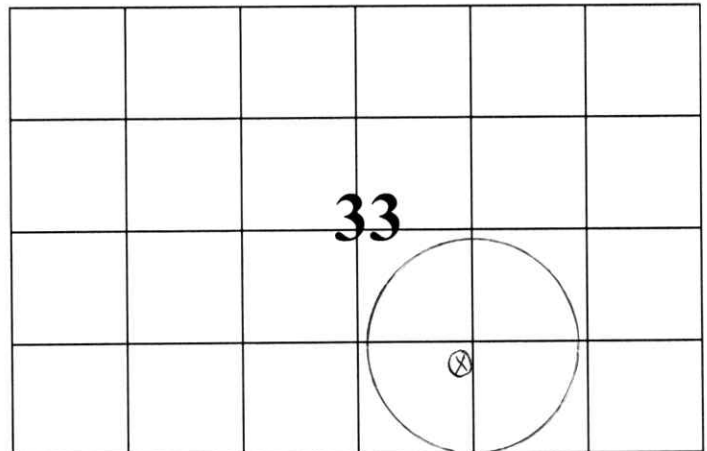
Type of Map: aerial

Prepared by:

Reviewed and the Number Assigned on: 1-31-22

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____



SOUTH DAKOTA
WATER PERMIT NO. 8587-3

Date of first receipt of application January 25, 2022.

Date of return to applicant for corrections, amendments or changes January 25, 2022.

Date of receipt of corrected application May 24, 2024.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 8587-3 to Justin Christianson, 201 East Park Street, Irene SD 57037, 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. 8587-3 appropriates 1.78 cubic feet of water per second from one well to be completed into Niobrara Aquifer (approximately 155 feet deep) located in the SW 1/4 SE 1/4 Section 33 for irrigation of 134 acres located in the SE 1/4 Section 33; all in T96N-R53W. This site is located approximately 2 miles east of Irene SD.
2. The amount of the appropriation may not exceed 2 acre feet annually for each acre of land to which water is actually and beneficially applied for irrigation. The water is to be used during the following described annual period: May 1 – September 30.
3. The date from which applicant may claim right is May 24, 2024.
4. The date of approval of Permit No. 8587-3 is September 9, 2024.
5. One-fifth of the construction is to be completed on or before March 9, 2027.
6. All construction is to be completed on or before September 9, 2029.
7. Water is to be put to beneficial use on or before September 9, 2033.
8. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

1. The well approved under Water Permit No. 8587-3 is located near domestic wells and other wells which may obtain water from the same aquifer. Water withdrawals must be controlled so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The well authorized by Permit No. 8587-3 must be constructed by a licensed well driller and construction of the well and installation of the pump must comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

WATER MANAGEMENT BOARD

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

OCT 11 2024

date



SD EForm - 0499LD V5

FORM 2: Application for irrigation in South Dakota

(type or print)

Mail to: DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>8587-3</u> (office use only) Hydrologic Unit <u>10170102</u>
	Basin <u>Vermillion R</u>
	Newspaper <u>Turner Co New Era</u>
	<u>Daily Press & Dakotan</u>

PAID

JAN 25 2022

Ck# 8567

Rec't# _____

Application For Permit To Appropriate Water For Irrigation

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

(Use predates Mar 2, 1955)

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

1. Name to Appear on Irrigation Permit Justin Christensen

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

Mailing Address 201 East Park St. Irene SD 57037

(Address)

(City)

(State)

(Zip Code)

Phone _____ Mobile 605-661-9889 Email jchrist4020@gmail.com2. Amount of water claimed 1.78 *CFS or 800 **GPM ***AF Total Acreage 134

(*Cubic Feet per Second)

(**Gallons per Minute)

(***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)

3. Source of water supply Aquifer4. Location of point of diversion 1 well NW 1/4 SE 1/4 SW 1/4 SE 1/4

(example - 3 wells in SW 1/4 NE 1/4 section 12-T104N-R53W)

T096N R053W S33County Turner5. County or counties where water will be used Turner6. Annual period during which water is to be used May - September 30

7. List below each forty acre division, or lot, or fraction thereof and show number of acres to be irrigated in each.

(Attach sheet if more space is needed)

Land Description	Acres	Land Description	Acres
<u>SE 1/4</u>	<u>134</u>		
<u>T096N R053W S33</u>			

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

Plan to irrigate SE 1/4 of section 33 via pivot irrigator

RECEIVED

JAN 25 2022

WATER RIGHTS PROGRAM

I, Justin Christensen 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.

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 Thein Well Company
(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:

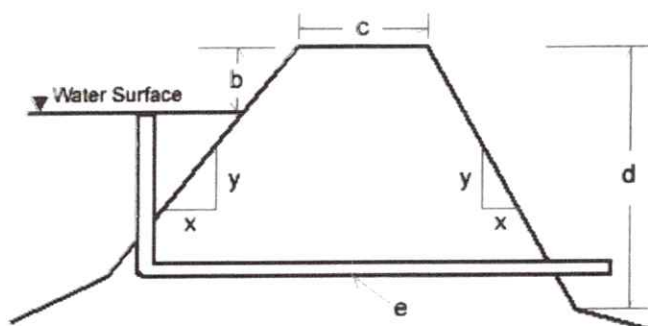
c) Well Depth (required) 97' Depth to Top of Water Bearing Material 50' Depth to Water from Surface d) Distance to nearest domestic well on applicant's property Property owned by others **2. Wastewater Disposal System Information**a) Type of System (i.e. septic tank, drain field) b) System Capacity (gallons) Year Constructed c) Connected to the City of Sanitary System **3. Dugout Information**a) Surface Dimensions Depth b) Depth to water (ground surface to water level) **4. Water Storage Dams**

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

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

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

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

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

Farmer County
Darnville
Township

96N 53W
Section: 33

Root Point
Well
Point

Justin Christiansen Sec 33 TSP 96 R 53 Irene SD

Legend

TH # 1 160' 12/28/21

TH # 2 180' 12/20/21

MW # 1 72' 4/11/2022

TH # 4 120' 1/11/2022 12" Irrigation Well 95' 4/6/2022

MW # 2 98' 4/8/2022

TH # 3 170' 1/12/2022



Justin Christianson vv Sec 33 Irene

Legend

TH #

RECEIVED
MAY 24 2024
OFFICE OF
WATER

Section 33

TH # 2 180' 12/20/21

TH # 1 160' 12/28/21

TH # 4 120' 1/11/2022

n 43.0850959 w 97.1097851 TH # 5 1/4/2024 160' Justin Christianson

TH # 3 170' 1/12/2022

Google Earth

2000 ft



Justin Christianson TH # 5 160' Sec 33 Irene SD

GPS N 43.0820959 W 97.10974851

<i>Formation</i>	<i>From</i>	<i>To</i>
Top soil	0	6
Clay brown	6	13
Sand brown clay	13	21
Clay grey	21	31
Chalk tan/grey- firm to hard	31	44
Chalk brown firm	44	46
Gravel	46	47
Chalk brown hard w/ soft layers	47	95
Chalk soft	95	97
Chalk firm	97	119
Chalk hard	119	121
Chalk	121	149
Chalk soft	149	152
Chalk hard	152	155
Shale	155	160

RECEIVED

MAY 24 2024

OFFICE OF
WATER

8587-3

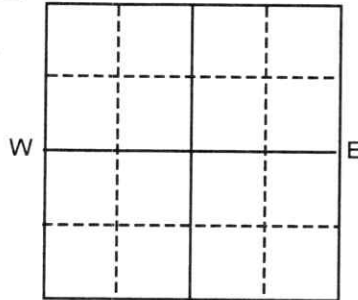
SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location SW ¼ SE ¼ Sec 33 Twp 96 Rg 53

County Turner

North

Please mark well
location with an "X"

Well Completion Date

April 6, 2022

1 Mile

Distance to nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)?
1,500.0 ft. from EAST OF SEPTIC (identify source)

PROPOSED USE:

☐ Domestic/Stock ☐ Municipal ☐ Business ☐ Test holes
☒ Irrigation ☐ Industrial ☐ Institutional ☐ 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	63.0 FT	17.75 IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
BENTONITE	10	Lb/gal	0.0 Ft	60.0 Ft
		Lb/gal	Ft	Ft

Describe grouting procedure
TREMMIE PIPED

SCREEN:

☐ Perforated pipe ☒ Manufactured

Diameter 12.00 Inches Length 32.0 Feet

Material STAINLESS STEEL

Slot Size .080 Set From 63.0 Feet to 95.0 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

IRRIGATION ONLY

Well Owner: JUSTIN CHRISTIANSEN

Business Name:

Address: 201 EAST PARK STREET

City, State, Zip: IRENE SD 57037

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
TOP SOIL	0	1
CLAY BROWN	1	27
CLAY BLUE	27	39
GRAVEL	39	43
CLAY BLUE	43	50
GRAVEL	50	97

STATIC WATER LEVEL 47.0 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

75.0 Ft. After 2.5 Hrs. pumped 100.0 GPM

Ft. After Hrs. pumped GPM

If pump installed, pump rate: GPM

REMARKS

12" IRR WELL GPS N 43 5.1960 W 97 6.3960

This well was drilled under license # 475 and this report is true and accurate.

Drilling firm: THEIN WELL COMPANY, INC

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

Date:

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location NW ¼ SE ¼ Sec 33 Twp 96 Rg 53

County Turner

North

Please mark well
location with an "X"

RECEIVED

APR 29 2022

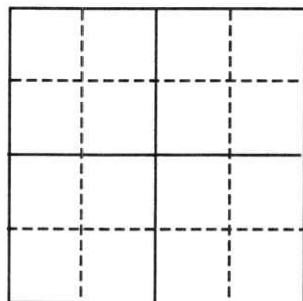
WATER RIGHTS
PROGRAM

Well Completion Date

April 11, 2022

W

E



1 Mile

Distance to nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)?
1,500.0 ft. from EAST OF SEPTIC (identify source)

PROPOSED USE:

☐ Domestic/Stock
☐ Irrigation
 ☐ Municipal
☐ Industrial
 ☐ Business
☐ Institutional
 ☒ Test holes
☒ Monitoring well
METHOD OF DRILLING:
MUD ROTARY

CASING DATA:

If other describe

☐ Steel ☒ Plastic ☐ Other

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	2.00 IN	0.0 FT	62.0 FT	6.25 IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
BENTONITE	4	Lb/gal	0.0 Ft	60.0 Ft
		Lb/gal	Ft	Ft

Describe grouting procedure
TREMMIE PIPED

SCREEN:

☐ Perforated pipe ☒ Manufactured
 Diameter 2.00 Inches Length 10.0 Feet
 Material PVC SLOTTED
 Slot Size .020 Set From 62.0 Feet to 72.0 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

MONITOR WELL

Well Owner: JUSTIN CHRISTIANSEN

Business Name:

Address: 201 EAST PARK STREET

City, State, Zip: IRENE SD 57037

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
TOP SOIL	0	2
CLAY BROWN W/ SOME CHALK	2	18
CLAY GRAY	18	49
SAND AND GRAVEL	49	70
CLAY AND GRAVEL TILL	70	78

STATIC WATER LEVEL 39.0 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: NONE OB WELL
☐ Bailed
☐ Other

Pumping Level Below Land Surface

Ft. After Hrs. pumped GPM

Ft. After Hrs. pumped GPM

If pump installed, pump rate: GPM

REMARKS

MW # 1 GPS N 43 5.2470 W 97 6.4650

This well was drilled under license # 475 and this report is true and accurate.

Drilling firm: THEIN WELL COMPANY, INC

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

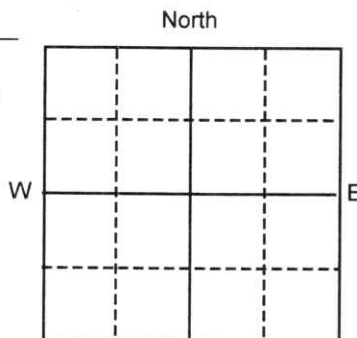
Date:

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location NW ¼ SE ¼ Sec 33 Twp 96 Rg 53

County Turner

Please mark well
location with an "X"

Well Completion Date

April 11, 2022

1 Mile

Distance to nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)?
1,500.0 ft. from EAST OF SEPTIC (identify source)

PROPOSED USE:

☐ Domestic/Stock ☐ Municipal ☐ Business ☐ Test holes
☐ Irrigation ☐ Industrial ☐ Institutional ☒ Monitoring well
METHOD OF DRILLING:
MUD ROTARY

CASING DATA:

☐ Steel ☒ Plastic ☐ Other
 If other describe

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	2.00 IN	0.0 FT	83.0 FT	6.25 IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
BENTONITE	7	Lb/gal	0.0 Ft	80.0 Ft
		Lb/gal	Ft	Ft

Describe grouting procedure

TREMMIE PIPED

SCREEN:

☐ Perforated pipe ☒ Manufactured
 Diameter 2.00 Inches Length 10.0 Feet

Material PVC SLOTTED

Slot Size .020 Set From 83.0 Feet to 93.0 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?

MONITOR WELL

Lab to which water
quality sample sent for analysis

Well Owner: JUSTIN CHRISTIANSEN

Business Name:

Address: 201 EAST PARK STREET

City, State, Zip: IRENE SD 57037

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
TOP SOIL	0	2
CLAY BROWN	2	22
CLAY BLUE	22	39
GRAVEL	39	46
SAND AND GRAVEL	46	56
GRAVEL AND CLAY	56	61
CLAY BLUE SANDY	61	82
Chalk w/ some clay and sand	82	91
Chalk soft/ a few thin hard layers - tan	91	98

STATIC WATER LEVEL 4.0 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: NONE - OB WELL
☐ Bailed
☐ Other

Pumping Level Below Land Surface

Ft. After Hrs. pumped GPM

Ft. After Hrs. pumped GPM

If pump installed, pump rate: GPM

REMARKS

MW # 2 GPS N 43 5.1550 W 97 6.4550

This well was drilled under license # 475 and this report is true and accurate.

Drilling firm: THEIN WELL COMPANY, INC

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

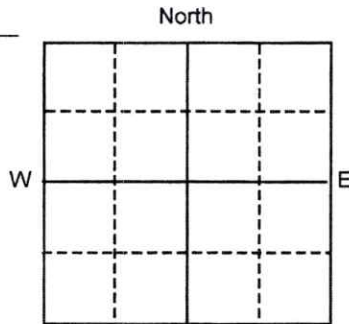
Date:

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location NW ¼ SE ¼ Sec 33 Twp 96 Rg 53

County Turner

Please mark well
location with an "X"

Well Completion Date

December 28, 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:
MUD ROTARY

CASING DATA:

☐ Steel ☐ Plastic ☐ Other

If other describe

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
BENTONITE	13	Lb/gal	0.0 Ft	160.0 Ft
		Lb/gal	Ft	Ft

Describe grouting procedure
TREMMIE PIPED

SCREEN:

☐ Perforated pipe ☐ Manufactured

Diameter _____ Inches Length _____ Feet

Material _____

Slot Size _____ Set From _____ Feet to _____ 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?

TEST HOLE ONLY

Lab to which water
quality sample sent for analysis

Well Owner: JUSTIN CHRISTIANSON

Business Name:

Address: 201 EAST PARK STREET

City, State, Zip: IRENE SD 57037

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
TOP SOIL	0	1
CLAY BROWN	1	35
SAND BROWN	35	49
CLAY BLUE	49	97
SAND	97	101
CLAY BLUE SANDY	101	123
GRAVEL COARSE	123	139
CLAY SOFT CHALK	139	157
CLAY BROWN SANDY W/ HARD LA	157	160

STATIC WATER LEVEL

FEET

If flowing: closed in pressure

PSI

GPM flow _____ through _____

Inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other

Reduced flow rate

GPM

Can well be completely shut in?

WELL TEST DATA:

☐ Pumped Describe:

☐ Bailed

☐ Other

Pumping Level Below Land Surface

_____ Ft. After _____ Hrs. pumped _____ GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: _____ GPM

REMARKS

TEST HOLE # 1 GPS N 43 5.2720 W 97 6.4250

This well was drilled under license # 475 and this report is true and accurate.

Drilling firm: THEIN WELL COMPANY, INC

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

RECEIVED

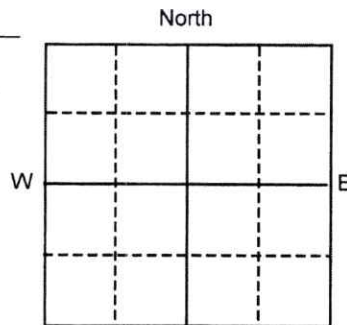
Date:

MAR 11 2022

WATER RIGHTS
PROGRAM

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location NE ¼ SE ¼ Sec 33 Twp 96 Rg 53County TurnerPlease mark well
location with an "X"

Well Completion Date

December 30, 2021

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:

MUD ROTARY

CASING DATA:

☐ Steel ☐ Plastic ☐ Other

If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
BENTONITE	15	Lb/gal	0.0 Ft	180.0 Ft
		Lb/gal	Ft	Ft

Describe grouting procedure
TREMMIE PIPED

SCREEN:

☐ Perforated pipe ☐ Manufactured

Diameter _____ Inches Length _____ Feet

Material _____

Slot Size _____ Set From _____ Feet to _____ 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 HOLE ONLY

Well Owner: JUSTIN CHRISTIANSON

Business Name: _____

Address: 201 EAST PARK STREETCity, State, Zip: IRENE SD 57037

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
TOP SOIL	0	1
CLAY BROWN	1	54
CLAY BLUE	54	68
CLAY BLUE W/ THIN GRAVEL LAYE	68	112
CLAY GRAY CHALK	112	141
CHALK BLACK FEW HARD LAYER	141	151
SHALE	151	180

STATIC WATER LEVEL

FEET

If flowing: closed in pressure _____ PSI

GPM flow _____ through _____ Inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other _____

Reduced flow rate _____ GPM

Can well be completely shut in? _____

WELL TEST DATA:

☐ Pumped Describe: _____

☐ Bailed

☐ Other

Pumping Level Below Land Surface

_____ Ft. After _____ Hrs. pumped _____ GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: _____ GPM

REMARKS

TEST HOLE # 2 GPS N 43 5.3000 W 97 6.2840

This well was drilled under license # 475 and this report is true and accurate.Drilling firm: THEIN WELL COMPANY, INC

Signature of License Representative: _____

Signature of Well Owner or Equitable Property Holder: _____

RECEIVED

Date: _____

MAR 11 2022

WATER RIGHTS
PROGRAM

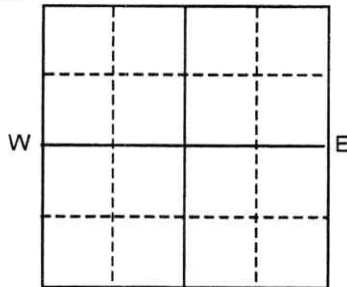
SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location SE ¼ SE ¼ Sec 33 Twp 96 Rg 53

County Turner

North

Please mark well
location with an "X"

Well Completion Date

1/11/2022

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:

MUD ROTARY

CASING DATA:

☐ Steel ☐ Plastic ☐ Other

If other describe

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
BENTONITE	14	Lb/gal	0.0 Ft	170.0 Ft
		Lb/gal	Ft	Ft

Describe grouting procedure

TREMMIE PIPED

SCREEN:

☐ Perforated pipe ☐ Manufactured

Diameter _____ Inches Length _____ Feet

Material _____

Slot Size _____ Set From _____ Feet to _____ 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? TEST HOLE ONLY
 Lab to which water quality sample sent for analysis

Well Owner: JUSTIN CHRISTIANSON

Business Name: _____

Address: 201 EAST PARK STREET

City, State, Zip: IRENE SD 57037

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
TOP SOIL	0	2
CLAY BROWN	2	6
CLAY TAN	6	33
CLAY BLUE	33	67
CHALK GRAY	67	77
CHALK GRAY HARD/ FIRM	77	121
CHALK WHITE W/ HARD LAYERS	121	147
CHALK BLACK W/ HARD LAYERS	147	162
SHALE BLACK	162	170

STATIC WATER LEVEL

FEET

If flowing: closed in pressure _____ PSI

GPM flow _____ through _____ Inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other _____

Reduced flow rate _____ GPM

Can well be completely shut in?

WELL TEST DATA:

☐ Pumped Describe: _____
☐ Bailed
☐ Other

Pumping Level Below Land Surface

_____ Ft. After _____ Hrs. pumped _____ GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: _____ GPM

REMARKS

TEST HOLE # 3 GPS N 43 5.0560 W 97 6.2980

This well was drilled under license # 475 and this report is true and accurate.

Drilling firm: THEIN WELL COMPANY, INC

Signature of License Representative: _____

Signature of Well Owner or Equitable Property Holder: _____

RECEIVED

Date: _____

MAR 11 2022

WAT-7-2100-1
PR-2022

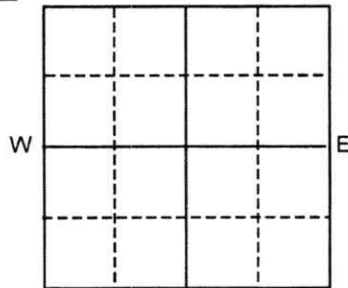
SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location SW ¼ SE ¼ Sec 33 Twp 96 Rg 53

County Turner

North

Please mark well
location with an "X"

Well Completion Date

1/12/2022

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:

MUD ROTARY

CASING DATA:

☐ Steel ☐ Plastic ☐ Other
 If other describe

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
BENTONITE	10	Lb/gal	0.0 Ft	120.0 Ft
		Lb/gal	Ft	Ft

Describe grouting procedure
TREMMIE PIPED

SCREEN:

☐ Perforated pipe ☐ Manufactured
 Diameter _____ Inches Length _____ Feet
 Material _____
 Slot Size _____ Set From _____ Feet to _____ 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?

TEST HOLE ONLY

Lab to which water
quality sample sent for analysis

Well Owner: JUSTIN CHRISTIANSON

Business Name:

Address: 201 EAST PARK STREET

City, State, Zip: IRENE SD 57037

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
TOP SOIL	0	1
CLAY BROWN	1	27
CLAY BLUE	27	39
GRAVEL	39	43
CLAY BLUE	43	50
GRAVEL	50	97
CLAY	97	112
CHALK - WHITE	112	120

STATIC WATER LEVEL

FEET

If flowing: closed in pressure

PSI

GPM flow _____ through _____

Inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other

Reduced flow rate

GPM

Can well be completely shut in?

WELL TEST DATA:

☐ Pumped Describe:☐ Bailed☐ Other

Pumping Level Below Land Surface

_____ Ft. After _____ Hrs. pumped _____ GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: _____ GPM

REMARKS

TEST HOLE # 4 GPS N 43 5.1960 W 97 6.3960

This well was drilled under license # 475 and this report is true and accurate.

Drilling firm: THEIN WELL COMPANY, INC

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

Date:

RECEIVED

MAR 11 2022

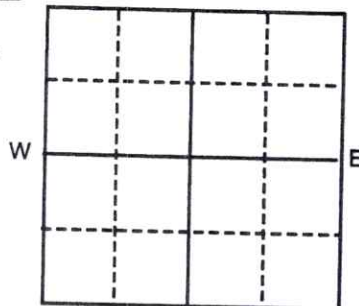
Justin Christianson Sec 33 Irene

Legend



Location SW $\frac{1}{4}$ SE $\frac{1}{4}$ Sec 33 Twp 96 Rg 53

Please mark well
location with an "X"



1/1/2024

1 Mile

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

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

MUD ROTARY

If other describe ☐ Steel ☐ Plastic ☐ Other

PIPEWEIGHT	DIAMETER		FROM	TO	HOLE DIAMETER	
LB/FT	IN	FT	FT		IN	
LB/FT	IN	FT	FT		IN	
LB/FT	IN	FT	FT		IN	

Grout Type	No. of Sacks	Grout Weight	From	To
BENTONITE	13	Lb/gal	0 Ft	160 Ft
		Lb/gal	Ft	Ft

Describe grouting procedure

TREMMIE PIPED

SCREEN: ☐ Perforated pipe ☐ Manufactured

Diameter _____ Inches Length _____ Feet

Material _____

Slot Size _____ Set From _____ Feet to _____ Feet

Other information _____

If so, what material?

Describe packer(s) and location

☐ Yes, How?

Lab to which water ☒ No,
quality sample sent for analysis

TEST HOLE ONLY

City, State, Zip: Irene SD 57037

[illegible]

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?

☐ Pumped Describe:☐ Other

Pumping Level Below Land Surface

_____ Ft. After _____ Hrs. pumped GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: _____ GPM

TH # 5 GPS N 43.0850959 W 97.1097851

This well was drilled under license # 475 and this report is true and accurate.

Drilling firm: **THEIN WELL COMPANY, INCORPORATED**

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

Date:

Justin Christianson TH # 5 160' Sec 33 Irene SD

GPS N 43.0820959 W 97.10974851

<i>Formation</i>	<i>From</i>	<i>To</i>
Top soil	0	6
Clay brown	6	13
Sand brown clay	13	21
Clay grey	21	31
Chalk tan/grey- firm to hard	31	44
Chalk brown firm	44	46
Gravel	46	47
Chalk brown hard w/ soft layers	47	95
Chalk soft	95	97
Chalk firm	97	119
Chalk hard	119	121
Chalk	121	149
Chalk soft	149	152
Chalk hard	152	155
Shale	155	160

RECEIVED

MAY 24 2024

**OFFICE OF
WATER**

Justin Christianson vv Sec 33 Irene

Legend

TH #

RECEIVED
MAY 24 2024
OFFICE OF
WATER

Section 33

TH # 2 180' 12/20/21

TH # 1 160' 12/28/21

TH # 4 120' 1/11/2022

n 43.0850959 w 97.1097851 TH # 5 1/4/2024 160' Justin Christianson

TH # 3 170' 1/12/2022

RECEIPT

WATER RIGHTS PROGRAM South Dakota Department of Agriculture and Natural Resources

Date January 25, 2022

RECEIVED OF Justin/Erin Christensen 201 East Park St. Irene SD 57037

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

Fee for Application for Permit No. <u>8587-3</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>8587-3</u>	\$ <u>200.00</u>
Fee for Filing Transfer Form _____	\$ _____
Fee for _____	\$ _____
Fee for Issuing New Well Driller's License No. _____	\$ _____
Fee for Renewal of Well Driller's License No. _____	\$ _____
Fee for Issuing Well Pump Installer's License No. _____	\$ _____
Fee for Renewal of Well Pump Installer's License No. _____	\$ _____
(Any Other Work Provided by Law) TOTAL	\$ <u>1050.00</u>

By Eric Gronlund
Chief Engineer me

Dewell, Amanda

From: Dewell, Amanda
Sent: Friday, May 24, 2024 1:37 PM
To: Justin Christensen
Subject: RE: [EXT] Amending the permit

Justin,

I've received your email and just returned your voicemail. I apologize that we are playing "phone tag" today. Once we've received the well log for the test hole from Mr. Thein, we will proceed with processing Application No. 8587-3 for appropriations from the Niobrara Aquifer, Section 33, T96N-R53W, Turner County.

Thank you and enjoy the holiday weekend.

Amanda Dewell
DANR - Water Rights Program
Permitting Administrator
Main Phone: 605 773-3352
Website: danr.sd.gov

-----Original Message-----

From: Justin Christensen <jchrist4020@gmail.com>
Sent: Friday, May 24, 2024 11:48 AM
To: Dewell, Amanda <Amanda.Dewell@state.sd.us>
Subject: [EXT] Amending the permit

This is Justin christensen I want to amend the well permit for section 33 in Danville town ship to pull out of the niobrara aquifer. It in Turner county South Dakota.

Justin christensen
201 E park st
Irene sd 57037
jchrist4020@gmail.com

**Water Rights Program
File Documentation**

NAME OF PERSON OR FILE: Zach Thein, Thein Well Drilling

DATE: May 24, 2024 TELEPHONE: 800-450-8000

RE: 2024 test hole Justin Christianson irrigation application

COMMENTS:

Zach called regarding a new test hole drilled in 2024 for Justin Christianson. The new test hole did not encounter any sand or gravel like some of the 2022 and 2021 test well and test holes did.

Discussion between myself and Zach, review of the well completion reports and test hole logs as well as additional well completion reports submitted since initial review of the application in 2022 determined the sand and gravel deposits encountered in the 2022 & 2021 borings were likely to be isolated deposits of sand and gravel that were intermingled with and surrounded by the upper portion of the Niobrara formation. This is more specifically supported by "Test Hole #1" drilled 12/28/2021 and "Test Hole #2" drilled 12/30/2021 encountering sand layers within or directly on top of the Niobrara. Furthermore, the encountered sand and gravel deposits have inconsistent depths and deposition thickness that are more variable than a continuous aquifer deposit would be expected to have. Also, the 2024 test hole clearly shows Niobrara formation to a depth of 160 feet.

Therefore, based on the available information, it is highly likely the sand and gravel deposits previously encountered are discontinuous and may even be functioning as a portion of the Niobrara aquifer and should be considered as such.



Adam Mathiowetz
Natural Resources Engineer
DANR-Water Rights Program

**Water Rights Program
File Documentation**

NAME OF PERSON OR FILE: Zach Thein, Thein Well Drilling

DATE: May 24, 2024 TELEPHONE: 800-450-8000

RE: Justin Christianson irrigation application

COMMENTS:

Zach called regarding the status of the Justin Christianson irrigation application and to discuss a new test hole drilled in 2024. The original application included test well and test hole completion reports that encountered some sand and gravel as well as some chalk (Niobrara). The Chief Engineer was recommending deferral pending an aquifer performance test. Mr. Christianson asked the application be held prior to making a decision.

A test hole was drilled in 2024 for Mr. Christianson that did not encounter any sand or gravel but did encounter Niobrara of sufficient thickness and hydraulic conductivity to make an irrigation well. Based on this, Zach belied the sand and gravel encountered in the previous test well and test holes were isolated discontinuous deposits. Zach wanted to determine what Mr. Christianson needed to do to proceed with the application as withdrawing from the Niobrara aquifer. I informed Zach he needed to have Mr. Christianson contact Amanda Dewell with the Water Rights Program.



Adam Mathiowetz

Natural Resources Engineer

DANR-Water Rights Program

**Water Rights Program
File Documentation**

NAME OF PERSON OR FILE: Justin Christianson

DATE: March 25, 2022

TELEPHONE: 605-661-9889

RE: Irrigation application aquifer extent and location

COMMENTS:

Chief Engineer Gronlund and I called Mr. Christianson on March 25, 2022 to discuss my March 11 phone call and to determine how Mr. Christianson would like to proceed with his application. We reviewed the basic geologic information with Mr. Christianson and told him we could not make a determination on the requirements of SDCL 46-2A-9 based on the information we had available. Mr. Christianson stated he had discussed an aquifer performance test with Zach of Thein Well Drilling after my March 11 phone call with him. Mr. Christianson also stated he had spoken to a hydrologist that Thein Well Drilling has worked with in the past.

We presented Mr. Christianson with his two general options, run an aquifer performance test or commit to drilling deeper into the Niobrara aquifer and allow us to amend his application as needed. Mr. Christianson stated he intended to proceed with the aquifer performance test. Chief Engineer Gronlund informed Mr. Christianson he would be issuing a recommendation for deferral as required by statute. Mr. Christianson stated he would be calling Zach with Thein Well Drilling to discuss his options.



Adam Mathiowetz

Natural Resources Engineer

DANR-Water Rights Program

**Water Rights Program
File Documentation**

NAME OF PERSON OR FILE: Justin Christianson

DATE: March 11, 2022

TELEPHONE: 605-661-9889

RE: Irrigation application aquifer extent and location

COMMENTS:

I called Mr. Christianson on March 11, 2022 to discuss his irrigation application and review of aquifer. Review of SDGS lithologic logs and well completion reports on file with the Water Rights Program determined the extent of the gravel identified from 50 to 97 feet below ground surface on the submitted test hole log was likely limited. Lithologic logs on the edges of the same section as Mr. Christianson's test hole log identified Niobrara formation or no sand and gravel present at the same approximate elevation (1,233 to 1,283 feet above sea level). However, approximately 1 mile east and west, and 2 miles north and south of Mr. Christianson's test hole sand and gravel is identified in the same or similar elevation intervals.

Mr. Christianson was presented with three options: 1) proceed with the application as is, discussion between Chief Engineer Gronlund and I determined the Chief Engineer's recommendation would likely be denial; 2) provide more information whether that be additional test holes which would need to extend out beyond Mr. Christianson's property or have a qualified engineer or hydrologist design and run an aquifer performance test; or 3) drill deeper and change his application to the Niobrara aquifer. I recommended that Mr. Christianson should consult with his well driller, Thein Well Drilling, to discuss what they believe may be the best course of action based on their knowledge of the formations they drilled into.

Mr. Christianson stated he would contact his well driller and then call me back. Zach Thein of Thein Well Drilling called to discuss the exact details of my discussion with Mr. Christianson and the options available to him. Mr. Thein stated that had worked with consultants in the past and would discuss this with them. Furthermore, Mr. Thein stated they drilled several more test hole and they would be sending in logs ASAP.



Adam Mathiowetz
Natural Resources Engineer
DANR-Water Rights Program

**Water Rights Program
File Documentation**

NAME OF PERSON OR FILE: Zach Thein

DATE: April 1, 2022

TELEPHONE: 605-661-9889

RE: Aquifer Performance Test Requirements and Procedures for App. No. 8587-3

COMMENTS:

I called Zach with Thein Well Drilling to discuss the requirements and basic procedure of performing the aquifer performance test for Application No. 8587-3. Discussed the 72 hour pumping and recovery period and pre-pumping background period. I informed Zach that at least one of the monitoring wells should be completed into the chalk (Niobrara aquifer) to show if there is a significant connection to the Niobrara. Zach was aware a temporary appropriation and a temporary discharge permit would be required for the pumping portion of the test. I also told Zach that the hydrologist hired by Mr. Christianson can contact me as needed to make sure they understand the requirements and goals of the aquifer performance test so it can be designed and analyzed appropriately



Adam Mathiowetz
Natural Resources Engineer
DANR-Water Rights Program

Schlaak, Karen

From: Justin Christensen <jchrist4020@gmail.com>
Sent: Friday, January 28, 2022 10:58 AM
To: Schlaak, Karen
Subject: [EXT] Well and section pivot to be put in
Attachments: image0.jpeg



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

January 25, 2022

Justin Christianson
201 E Park St
Irene SD 57037

Dear Mr. Christianson:

Thank you for submitting the *Application for a Permit to Appropriate Water* for irrigation in Turner County. In order to complete the application, the following is required.

- A map needs to be submitted that references a government section corner or quarter corner including section, township and range. For your use, I have enclosed a map with those designations. Please outline the acres to be irrigated and mark the proposed well location with an "X".

If you have any questions, please contact me.

Sincerely,

Karen Schlaak

Karen Schlaak
Water Rights Program
605 773-3352
karen.schlaak@state.sd.us

enclosure



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

**REVISED RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 8587-3, Justin Christianson**

Pursuant to SDCL 46-2A-2, the following is the revised recommendation of the Chief Engineer, Water Rights Program, Department of Agriculture and Natural Resources concerning Water Permit Application No. 8587-3, Justin Christianson, 201 East Park Street, Irene SD 57037.

Based on additional test hole drilling determining the proposed water source is the Niobrara Aquifer, the Chief Engineer is recommending APPROVAL of Application No. 8587-3 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. 8587-3 is located near domestic wells and other wells which may obtain water from the same aquifer. Water withdrawals must be controlled so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The well authorized by Permit No. 8587-3 must be constructed by a licensed well driller and construction of the well and installation of the pump must comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

See report on application for additional information.

Eric Gronlund, Chief Engineer
August 22, 2024

Updated Report to the Chief Engineer
Water Permit Application 8587-3
Justin Christianson
August 21, 2024

Water Permit Application No. 8587-3 proposes to appropriate water at a maximum diversion rate of 1.78 cubic feet per second (cfs) from one well completed into the Niobrara aquifer in the SW ¼ SE ¼ Section 33 for the irrigation of 134 acres located in the SE ¼ Section 33; all in T96N-R53W. This site is in Turner County located approximately two miles east of Irene, SD.

There are several applications undergoing review related to this portion of the Niobrara aquifer, which are summarized in Table 1 with locations shown in Figure 1. The initial test holes for this application indicated the target aquifer was a sand and gravel aquifer likely overlaying the Niobrara Formation. Mathiowetz (2022) initially reviewed this application in March 2022 and found there was not sufficient information available to evaluate the sand and gravel aquifer. The Chief Engineer recommended deferral of this application for an aquifer pump test or change of aquifer, then the applicant put the application on hold to consider their options. An additional test hole was drilled in January 2024, which led the applicant to update the application to the target aquifer being the Niobrara aquifer. This application is now being reviewed for the updated target aquifer.

Table 1: Applications Related to this Portion of the Niobrara Aquifer (Water Rights, 2024b)					
Application Number	Diversion Rate (cfs)	Acres	Purpose	Priority Date	Status
8579-3	0.89	32	irrigation	01/10/2022	deferred by Board-for 2 years for unlawful impairment review
8587-3	1.78	134	irrigation	01/25/2022	2022-deferral recommendation-for aquifer determination June 2024-test hole received for Niobrara aquifer
8616-3	no additional	21	irrigation	03/23/2022	abeyance-deferral recommendation due to 8579-3, adding additional acres to Water Permit No. 7344-3

Aquifer: Niobrara (NBRR)

Aquifer Information

Geology and Basic 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), with greater amounts of weathering and glacial activity generally having occurred where the Niobrara Formation is exposed at ground surface or directly underlies glacial deposits and generally less where the Niobrara Formation underlies the Pierre Shale.

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 (Tomhave and Schulz, 2004). The proposed well site is located within the extent of one of these isolated portions of the Niobrara Formation. The initial mapping of this portion of the Niobrara Formation was done by Tomhave and Schulz (2004) and is shown in Figure 1. Holmes and Filipovic (2015) as part of a study of the Upper Vermillion aquifer updated a section of the eastern boundary of this portion of the Niobrara aquifer. This update is shown in Figure 1. This portion of the Niobrara Formation underlies approximately 338,130 acres (Niobrara Portion (Holmes and Filipovic, 2015)) of portions of Hutchinson, Clay, Turner, Yankton, and McCook Counties. In general, this portion of the Niobrara Formation either directly underlies the Pierre Shale (shown in Figure 1) or glacial deposits (in areas not underlying the Pierre Shale) and overlies the Carlile Shale (Tomhave and Schulz, 2004). This portion of the Niobrara may also directly underlie a portion of the undifferentiated Tertiary deposits of the Turkey Ridge aquifer (Kilts, 2023a). Well completion reports on file with the Water Rights Program report encountering water throughout this portion of the Niobrara Formation generally indicating aquifer potential (Water Rights, 2024a; 2024b; 2024c). Since this portion of the Niobrara aquifer is isolated from the main body, the remainder of this report will focus solely on this portion of the Niobrara aquifer.

This portion of the Niobrara aquifer is surrounded by valleys in the bedrock where the Niobrara Formation has been eroded, which contain glacial outwash aquifers. Where these glacial outwash aquifers are in contact with this portion of the Niobrara (either overlaying or are adjacent to), there is potential for leakage between the aquifers based on hydraulic head. The Lower James Missouri (LJM) aquifer lies in the bedrock valley to the west of this portion of the Niobrara and in some locations extends far enough east to be in contact with this portion of the Niobrara (Tomhave and Schulz, 2004; Hedges et al., 1982). The Upper Vermillion Missouri: West and Upper Vermillion Missouri: South aquifers lies in the bedrock valley to the east of this portion of the Niobrara aquifer and can also be hydrologically connected to this portion of the Niobrara (Lindgren and Hansen, 1990). Stephens (1967) indicated the presence of a glacial outwash aquifer (named the Wakonda aquifer) directly overlaying and with a strong hydrologic connection to this portion of the Niobrara in portions of Clay County. However, the first occurrence of aquifer materials mapping by Jensen (2000 & 2015) indicates that the Wakonda aquifer is unlikely to be as extensive as was mapped by Hedges et al. (1982) and is instead several discontinuous sand and gravel deposits that were lumped together. Potentiometric surface mapping by Kilts (2023) indicated that water movement in this portion of the Niobrara is generally from the center toward the edges of the aquifer.

As part of this application, reports for five test holes, two monitoring wells, and one 12-inch irrigation well; with completion dates spread over the period of several years (2021-2024) were submitted to the Water Rights Program. The irrigation well was completed into gravel from 50-97 feet below grade with a static water level (April 2022) at 47 ft below grade; indicated the aquifer at the well site is under confined conditions. The January 2024 test hole indicated that the

top of the chalk was encountered at 31 feet below grade. The January 2024 test hole is consistent with the approximate depth to the top of the bedrock in the area (Tomhave and Schulz, 2004; Jensen, 2015). Mathiowetz (2024) after reviewing the drilling information, available geology information, and discussion with the driller determined the sand and gravel deposits encountered in the 2021 and 2022 borings were likely isolated deposits of sand and gravel intermingled with and surrounded by the upper portion of the Niobrara Formation. Based on this Mathiowetz (2024) determined that, “based on the best available information, the sand and gravel deposits previously encountered are discontinuous and may even be functioning as a portion of the Niobrara aquifer and should be considered as such.”

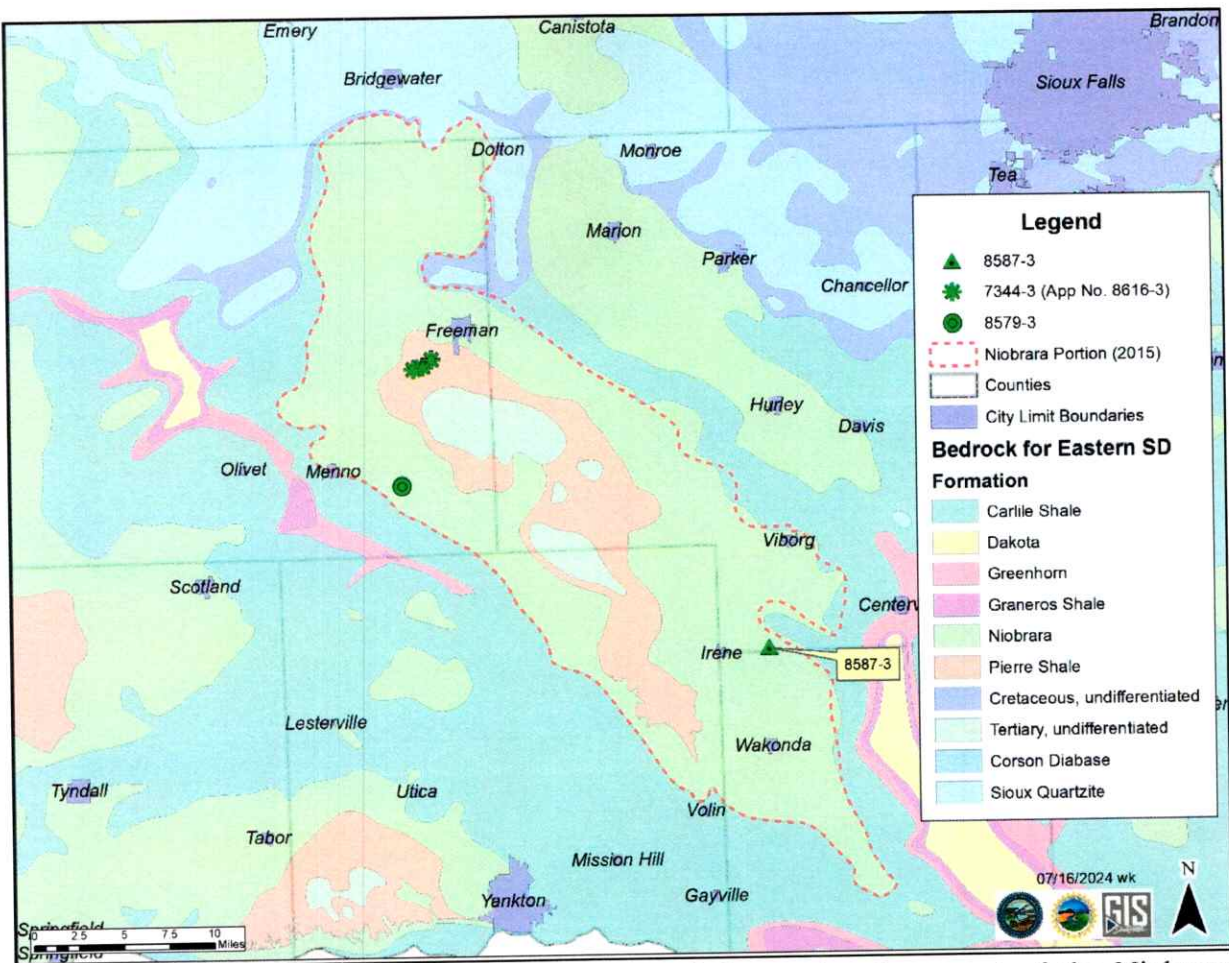


Figure 1: Map showing the approximate extent of the erosional remnant of the Niobrara Formation this application proposes to use and the first occurrence of bedrock material (modified from Tomhave and Schulz, 2004 and Holmes and Filipovic, 2015)

Water Availability

Water Permit Application No. 8587-3 proposes to appropriate water from a portion of the Niobrara aquifer for irrigation 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 neither older or stratigraphically lower than the Greenhorn Formation and this application is not for a water distribution system as defined in SDCL 46-1-6 (17); therefore, the withdrawal/recharge issue must be considered.

Hydrologic Budget

Direct comparison of average annual withdrawals to average annual recharge is statutorily required to determine whether water is available for appropriation from an aquifer. However, other components of an aquifer’s budget can be used to examine the approximate status of water availability (or provide a general idea of the magnitude of recharge to an aquifer) in an aquifer or area of an aquifer. In general, for aquifers under natural conditions (no artificial withdrawals), the hydrologic budget of an aquifer can be represented by Equation 2. When using Equation 2 to look at the natural conditions of an aquifer, the change in storage is typically estimated to average out to zero over the longer term. However, the shorter-term recharge and discharge fluctuate from year to year based on climatic conditions. Thus, the shorter-term changes can be examined to estimate water movement through the aquifer.

$$\text{Equation 2: } \Delta S = R - D$$

Where:

ΔS = change in storage

R = recharge (water entering the aquifer)

D = discharge (water leaving the aquifer)

In general, once pumpage (artificial withdrawals) from the aquifer start, the discharge component of equation can be broken down into pumping withdrawals and natural discharges (i.e. seepage to other aquifers, evapotranspiration, seepage to surface water, etc.), shown in equation 3.

$$\text{Equation 3: } \Delta S = R - (W + D_{nat})$$

Where:

ΔS = change in storage

R = recharge (water entering the aquifer)

D_{nat} = natural discharge (water leaving the aquifer through natural means)

W = withdrawals (water leaving the aquifer through artificial means (e.g. pumpage))

Given the management requirements, that the quantity of water withdrawn from a groundwater source not exceed the quantity of the average estimated annual recharge to the groundwater source, the goal is long-term change in storage in the aquifer be zero or be positive. In order for this balance to be achieved, either additional recharge has to occur (e.g. by pumping the target aquifer in close proximity to a connected aquifer creating a gradient to allow flow from

the connected aquifer into the target aquifer) or natural discharge to other connected water sources has to decrease (or a combination of the two). Ultimately, there is a limit to how much recharge can increase, and natural discharge can decrease to support increasing withdrawals; when this limit is exceeded, depletion of the water in storage in an aquifer begins. Equation 3 also illustrates how natural discharge estimates can be used as part of monitoring an aquifer's hydrologic budget, since groundwater tends to move from areas of recharge to areas of discharge (which can be seen in the potentiometric surface map of an aquifer). Ideally the location of the natural discharge estimate is at the location of the discharge; however, data limitations typically prevent this.

Recharge

Recharge to this portion of the Niobrara aquifer is primarily 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 indicates potential for leakage into the Niobrara aquifer), with some recharge also likely from infiltration from precipitation where the Niobrara is at or near ground surface, and leakage through till (Lindgren and Hansen, 1990). Kilts (2023a) presents the support for the Turkey Ridge aquifer being a source of recharge to this portion of the Niobrara aquifer.

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 South Dakota, 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 long term head loss across the entirety of the aquifer (Water Rights, 2024b).

Discharge

Natural discharge from an aquifer can be used to gain understanding into the status of an aquifer's hydrologic budget when an estimated average annual recharge value is not available. Kilts (2023b) estimated overall natural discharge from this portion of the Niobrara aquifer to the Lower James Missouri aquifer to be approximately 1,803 acre-feet per year for May of 2016. 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 of discharge from the western flank of the aquifer at the time the analysis was performed. Actual natural groundwater discharge from this aquifer (and therefore recharge to) is likely higher than indicated by this estimate. 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 this estimate is only for natural discharge from the western side of the aquifer. Additionally, Kilts (2023b) estimated discharge from this portion of the Niobrara aquifer to the Upper Vermillion Missouri: West aquifer downgradient of the well site for Water Permit No. 8684-3 to be 685 to 890 acre-feet per year. Kilts (2023b) also noted there was likely additional natural discharge potential to the Upper Vermillion Missouri: South aquifer and other adjacent aquifers that have not yet been quantified.

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 water level elevation in the Niobrara aquifer than in an overlying or adjacent aquifer would indicate potential for discharge from the Niobrara) some limited seepage to surface water. There are currently 24 active water rights/permits in this portion of the Niobrara aquifer, and three (including this application) pending applications for irrigation use (summarized in Table 1). Of the water rights/permits, 16 are for irrigation use, 3 for municipal use, 4 for commercial use, and 1 for institutional use.

The eight non-irrigation water rights/permits are summarized in Table 2. 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, 2024). Historically, average water use by non-irrigation appropriations limited solely by instantaneous diversion rate have been estimated as pumping 60% of the time 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 2. The estimated average annual appropriative non-irrigation use from this portion of the Niobrara aquifer is 539.7 acre-ft per year. There are several domestic wells completed into this portion of the Niobrara aquifer that do not require appropriative water permits or report annual pumpage. Due 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.

Permit 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	30.4
6706-3	Pheasant Run Farm	02/21/2006	PE	COM	0.1	n/a	43.4
8216-3	B&K Dairy Farms LLC	02/01/2016	PE	COM	0.67	460	460.0
8597-3	CHS Farmers Alliance	02/22/2022	PE	COM	0.1	1.3	1.3
8626-3	Tri-Cross Renewable Energy	03/28/2022	PE	COM	0.1	4.6	4.6
						Total	539.7
LC-water right, PE-water permit, MUN-municipal, INS-institutional, COM-commercial							

The majority of water rights/permits for irrigation in South Dakota are required to report annual irrigation usage to the Water Rights Program. The 16 active irrigation water rights for this aquifer are summarized in Table 3. Reported use for 15 of the 16 active water rights/permits for irrigation from this portion of the Niobrara aquifer are summarized in Table 4. Water Permit No. 8684-3 is still in its five-year construction period and has not yet started irrigation. 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 4.

Report on Water Permit Application No. 8587-3

Table 3: Summary of Irrigation Water Rights/Permits (Water Rights, 2024b)						
Permit 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, starts being consistent in 2013
6708-3	David Huber	04/03/2006	LC	1.78	271	
7344-3	Michael Schultz	04/09/2012	PE	5.33	399	has been inspected, developed 21 extra acres
7448-3	Robert Heckenlaible	10/03/2012	LC	6.67	560	
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	LC	2.22	160	
7893-3	Wayne or Trina Knutson	09/03/2013	LC	0.07	1.2	allows up to 3 acre-feet per year
8162-3	Don Schellpfeffer	05/28/2015	LC	1.78	122.65	
8260-3	Cameron Johnson	12/27/2016	LC	1.67	117.35	
8326-3	Jerry Nelsen	01/08/2018	PE	2.00	120	reported system destroyed in 2020 & no water available since
8416-3	Jerome Poeschl	12/02/2019	LC	1.56	116	
8684-3	Matthew Wirth	11/30/2022	PE	2.11	300	not yet irrigating
LC-license, PE-permit						

Average reported irrigation usage for the water rights/permits for irrigation from this portion of the Niobrara aquifer is 233 acre-ft per year. Since the number of irrigation water rights/permits has continued to increase, the estimated average annual withdrawal rate for irrigation appropriations for the entire period of record may not accurately reflect the current level of development. The average annual withdrawal rate for irrigation appropriations from 2013 to 2023 better represents the current level of irrigation development in this portion of the Niobrara aquifer. Average reported irrigation usage from 2013 to 2023 for the water rights/permits in this portion of the Niobrara aquifer is 773 acre-ft per year. Water Permit Application No. 8616-3 is the result of a licensing inspection for Water Permit No. 7344-3, to reflect an additional 21 acres being irrigated by the irrigation systems authorized under Water Permit No. 7344-3. Since irrigation of these acres is being reported as part of water use under Water Permit No. 7344-3, the water use proposed by Application No. 8616-3 is assumed to be already reflected in the reported irrigation data. Typically, average irrigation rates in eastern South Dakota are less than 10 inches per acre per year (Water Rights, 2024b). Water Permit Nos. 8326-3 and 8684-3 have yet to report any use, so using this rate, average annual water usage is estimated at less than 350 acre-feet per year. This application and Application No. 8579-3 propose to irrigate a total of 166 new acres, estimated average annual water use for these applications is less than 138 acre-feet per year. Total estimated average annual irrigation use from this portion of the Niobrara aquifer is less than 1,261 acre-feet per year.

Report on Water Permit Application No. 8587-3

Table 4: Reported Irrigation use (Water Rights, 2024e)

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	1	6.6
1997	1	9.0
1998	1	0.0
1999	1	0.0
2000	1	0.0
2001	1	0.0
2002	1	25.2
2003	1	7.7
2004	1	0.0
2005	1	0.0
2006	1	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
2021	19	1024.5
2022	19	1451.1
2023	15	1310.7
Max	19	1451.1
Min	1	0
1981-2023 Avg	5.2	233.1
2013-2023 Avg	16.6	773.4

Balance

Estimated average appropriate withdrawals from this aquifer, including the applications summarized in Table 1, is less than 1,801 acre-feet per year (irrigation: 1,123 acre-feet, non-irrigation: 540 acre-feet, Application No. 8579-3 and this application: 138 acre-feet). There is no recharge estimate for this portion of the Niobrara aquifer. However, natural discharge estimates can be used to gain an understanding of the approximate amount of recharge an aquifer is receiving. Total estimated natural discharge ranges from 2,488 to 2,693 acre-feet per year based on the points in time the discharge was calculated. Kilts (2023b) also noted there is likely additional natural discharge occurring to the Upper Vermillion: South aquifer from this portion of

the Niobrara aquifer. Based on these estimates of natural discharge from the aquifer, there is a reasonable probability that water is available from the overall extent of this portion of the Niobrara aquifer for the appropriation requested by this application. However, since this natural discharge estimate only serves as an indicator of the magnitude of discharge from the aquifer at the point in time of the estimate, it is worth emphasizing the importance of observation well data as part of assessing water availability in this aquifer.

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 DANR Water Rights Program monitors 13 observation wells completed into this portion of the Niobrara aquifer (Water Rights, 2024c). Two of those observation wells (HT-2022A and HT-2022B) were installed in 2022 and have a limited period of record, so their data is of limited usefulness in evaluating long term water availability and therefore not presented. The rest of the observation wells hydrographs are shown in Figure 2, the hydrographs for observation wells within ten miles are in Figure 3, and the location of all observation wells is shown in Figure 4.

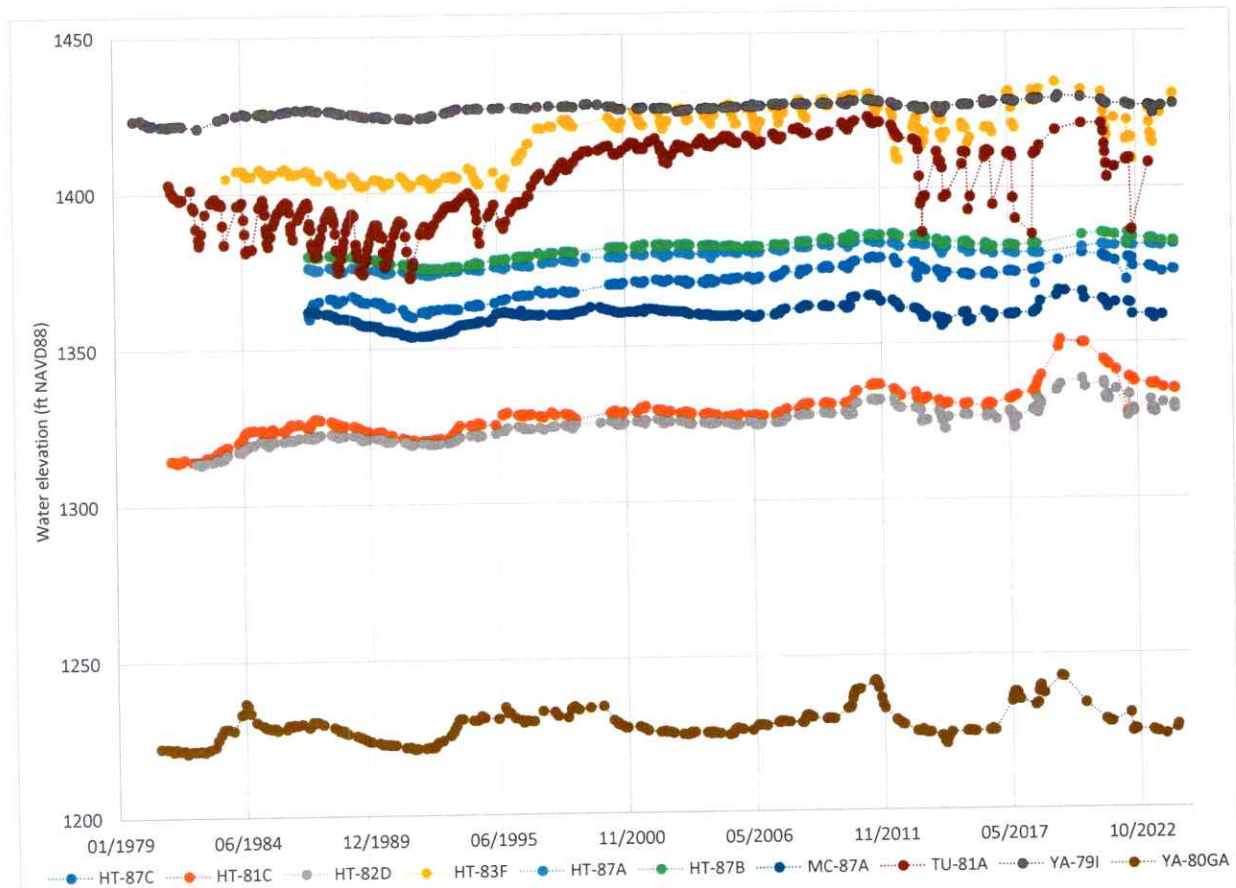


Figure 2: Hydrographs for observation wells monitoring this portion of the Niobrara aquifer with over 20 years of data (Water Rights, 2024c).

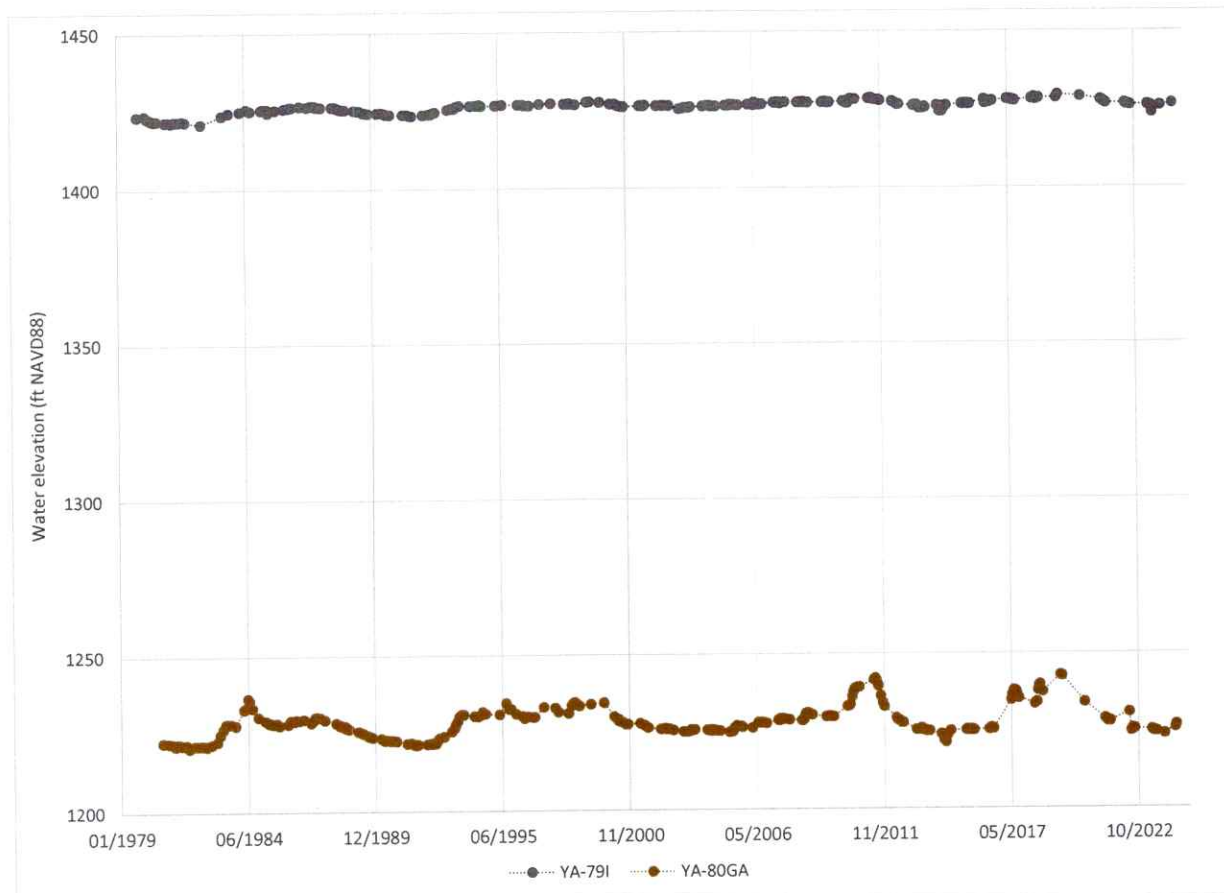


Figure 3: Hydrographs for the observation wells within approximately 10 miles of the well site for this application monitoring this portion of the Niobrara aquifer with over 20 years of data (Water Rights, 2024c). Note these wells are also shown in Figure 2.

The hydrographs shown in Figures 2 and 3 show stable to slightly increasing water level trends in this portion of the Niobrara aquifer over the period of record. Observation well YA-79I is located 6.7 miles to the north-northwest of the well site for this application and Observation well YA-80GA is located 6.9 miles to the south-southwest of the well site for this application. The magnitude of shorter period fluctuations in response to wet and dry climatic cycles varies between observation wells. For example, see the variation in the hydrographs for observation wells YA-79I and YA-80GA. Several observation wells (for example HT-83F and TU-81A) in close proximity to irrigation wells show localized seasonal dips in measured water levels during the irrigation season in response to pumping (Water Rights, 2024b and 2024c). 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.

Water levels in the observation wells monitoring this 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.

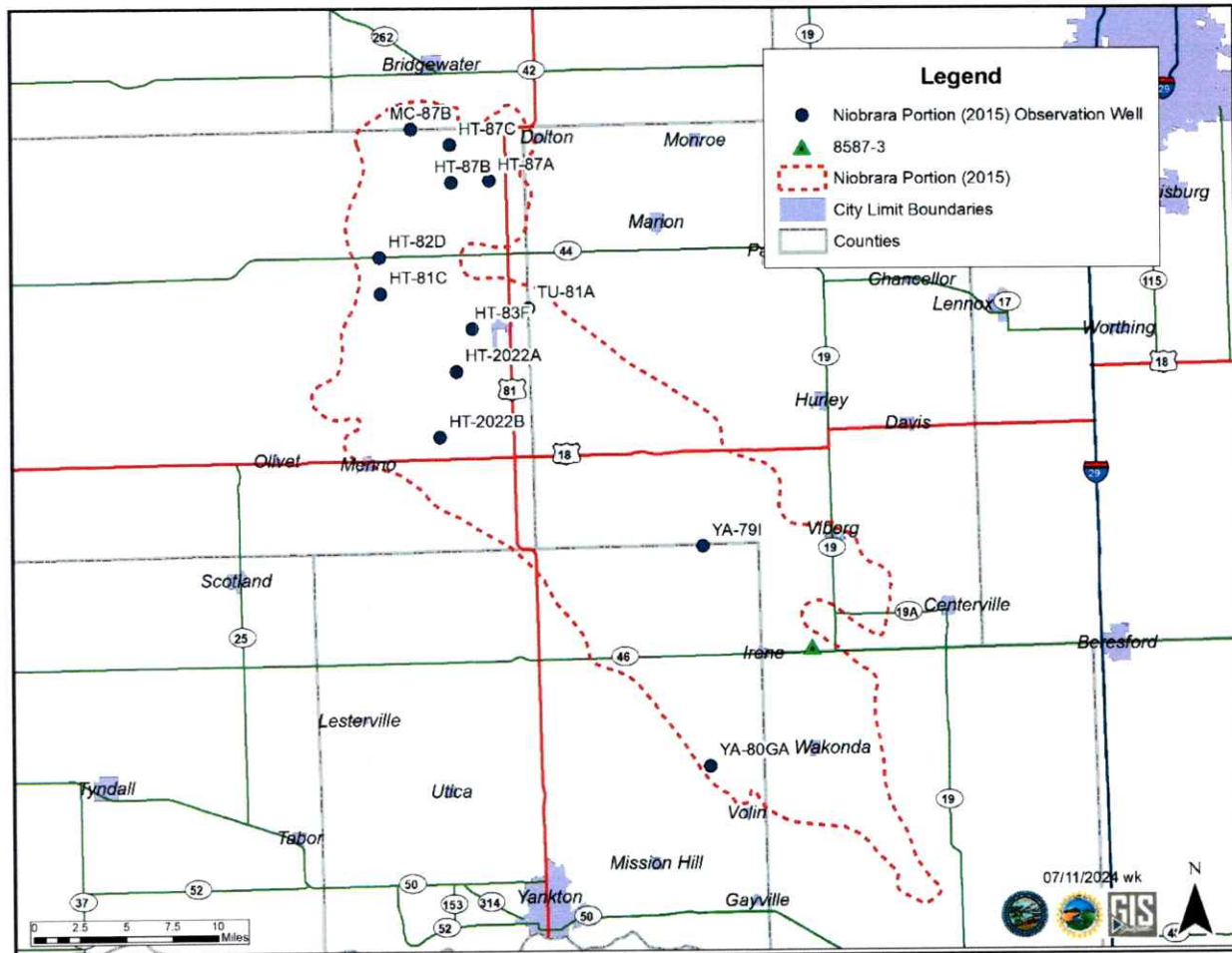


Figure 4: Location of observation wells monitoring this portion of the Niobrara aquifer (Water Rights, 2024c)

Potential for Unlawful Impairment

Area water rights/permits completed into this portion of the Niobrara aquifer are shown in Figure 5 and summarized in Tables 2 and 3. The nearest water right/permit to the well site for this application is Water Right No. 1229-3 for the Town of Irene located approximately 2.4 miles to the west, which is connected to rural water. The next nearest water right/permit is Water Permit No. 7515-3 for irrigation located 2.5 miles to the northeast. The nearest domestic well on file with the Water Rights Program (not under the last name of Christianson) was drilled in 1982 located approximately 1.2 miles to the north-northwest based on the legal location provided by the well driller. There could potentially be other domestic wells completed into the Niobrara aquifer near the proposed diversion point that are not on file with the DNR-Water Rights Program.

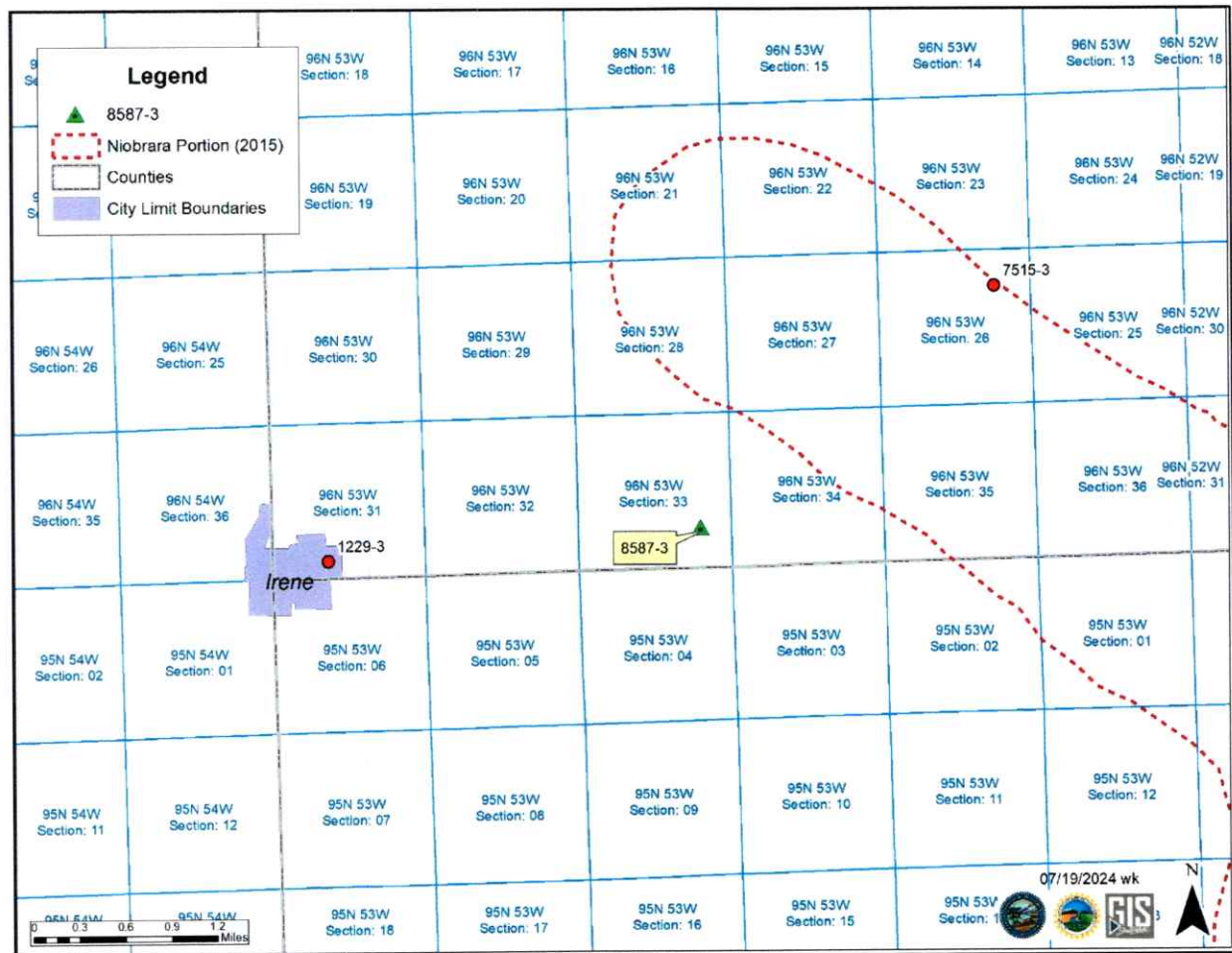


Figure 5: Niobrara water rights/permits in the area of the well site for this application (Water Rights, 2024b and modified from Holmes and Filipovic, 2015)

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).

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 22.1 miles to the northwest of the well site for this application in Hutchinson County (Water Rights, 2024b). 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, 2024b and 2024e). The domestic wells that were the subject of the complaint are located approximately 23.2 miles to the northwest of the well site for this application (No. 8684-3). Given the hydrogeologic properties of this portion of the Niobrara aquifer, diversion rate, annual volume, and distance of the well site for this application (No. 8587-3), this application, if approved, is not expected to increase drawdown in the area of the complaint of unlawful impairment of two adequate domestic wells.

In 2013, the Water Rights Program received a complaint of a domestic well being impacted in this portion of the Niobrara aquifer (approximately 20 miles northwest of the well site for this application); 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 Turner and Clay Counties, there is not a history of substantiated well interference complaints in this portion of the Niobrara aquifer (Water Rights, 2022d). Additionally, the applicant has a domestic well for livestock use in close proximity to the proposed well sites for this application, so it is within the interest of the applicant to control withdrawals so as not to impact his own well. 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. 8587-3 proposes to appropriate water at a maximum diversion rate of 1.78 cfs from one well (approximately 155 feet deep) to be completed into the Niobrara aquifer in the SW $\frac{1}{4}$ SE $\frac{1}{4}$ Section 33 for the irrigation of 134 acres located in the SE $\frac{1}{4}$ Section 33; all in T96N-R53W.
2. Based on the hydrologic budget and observation well data, there is a reasonable probability that water is available in the aquifer to meet the water use proposed by this application.
3. There is a reasonable probability that this application can be developed without unlawful impairment to domestic users or existing water right/permit holders with adequate wells.


Whitney Kilts
Natural Resources Engineer III
SDDANR-Water Rights Program

References

- Allen, J.C., Iles, D.L., and Petres, A.K. 1985. Analysis of Groundwater and Streamflow Data Western Dakotas Region of South Dakota Tasks 3A.B.C. and 4A.B.: Groundwater Resource Inventory Final Report. U.S. Army Corps of Engineers Contract DACW 45-82-C-0151. SD DANR-Geological Survey. Vermillion, South Dakota.
- Bugliosi, E. F. 1986. Water Resources of Yankton County, South Dakota. Water-Resources Investigation Report 84-4241. United States Geological Survey. Huron, SD.
- Drinking Water. 2024. South Dakota Drinking Water System Information. SDDANR-Water Rights Program. Accessed July 16, 2024.
<<https://danr.sd.gov/OfficeOfWater/DrinkingWater/default.aspx>>.
- Hedges, L.S., Burch, S. L., Iles, D. L., Barari, R. A., and Schoon, R. A. 1982. Evaluation of Ground-Water Resources Eastern South Dakota and Upper Big Sioux River, South Dakota, and Iowa. Task 1: Bedrock Topography and Distribution, Task 2: Extent of Aquifers, Task 3: Ground-Water Storage, Task 4: Computerized Data Base, Final Report. U.S. Army Corps of Engineers Contract DACW 45-80-C-0185.
- Hedges, L.S., Allen, J. and Holly, D.E. 1985. Evaluation of Ground-Water Resources Eastern South Dakota and Upper Big Sioux River, South Dakota, and Iowa. Task 7: Ground-Water Recharge. U.S. Army Corps of Engineers Contract DACW 45-80-C-0185.
- Holmes, S. L. and Filipovic, D. 2015. Hydrogeologic Investigation of the Upper-Vermillion-Missouri Aquifer. Open-File Report 93-UR. SD Geological Survey Program. Vermillion, SD.
- Jensen, A. R. 2000. First Occurrence of Aquifer Materials in Clay County, South Dakota. Aquifer Materials Map 1. South Dakota Geological Survey. Vermillion, SD.
- Jensen, A. R. 2015. First Occurrence of Aquifer Materials in Turner County, South Dakota. Aquifer Materials Map 36. South Dakota Geological Survey. Vermillion, SD.
- Kilts, W. 2023a. Report to the Chief Engineer on Water Permit Application No. 8654-3: Schultz Dairy. SD DANR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.
- Kilts, W. 2023b. Report to the Chief Engineer on Water Permit Application No. 8684-3: Matthew Wirth. SD DANR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.
- Lindgren, R.J. and Hansen, D.S. 1990. Water Resources of Hutchinson and Turner Counties, South Dakota. Water Resources Investigations Report 90-4093. USGS. Huron, SD.
- Mathiowetz, A. 2016. Report to the Chief Engineer on Water Permit Application No. 8216-3. SD DANR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.
- Mathiowetz, A. 2022. Report to the Chief Engineer on Water Permit Application No. 8587-3. SD DANR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.

- Mathiowetz, A. 2024. Water Rights Program File Documentation. 2024 test hole Justin Christianson irrigation application. SD DANR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.
- SDGS. 2024. South Dakota Geological Survey Lithologic Logs Database. Accessed July 2024. <<http://cf.sddenr.net/lithdb/>>.
- Stephens, J.C. 1967. Geology and Hydrology of Clay County South Dakota: Part II Water Resources. Bulletin 19. SDGS. Vermillion, SD.
- Tomhave, D. T. and Schulz, L.D. 2004 Bedrock Geologic Map Showing Configuration of the Bedrock Surface in South Dakota East of the Missouri River. General Map 9, scale 1:500,000. South Dakota Geological Survey. Vermillion, South Dakota.
- Water Rights. 2024a. Well Completion Reports. SD DANR-Water Rights Program, Joe Foss Building, Pierre, South Dakota.
- Water Rights. 2024b. Water Right/Permit Files. SD DANR-Water Rights Program, Joe Foss Building, Pierre, South Dakota.
- Water Rights. 2024c. Observation Well Files. SD DANR-Water Rights Program. Joe Foss Building, Pierre, South Dakota.
- Water Rights. 2024d. Water Rights County Complaint Files. SD DANR-Water Rights Program. Joe Foss Building, Pierre, South Dakota. Accessed June 2024.
- Water Rights. 2024e. Water Rights Irrigation Reporting Data. SD DANR-Water Rights Program. Joe Foss Building, Pierre, South Dakota. Accessed June 2024.



**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. 8587-3, Justin Christianson**

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. 8587-3, Justin Christianson, 201 East Park Street, Irene SD 57037.

The Chief Engineer is recommending DEFERRAL of Application No. 8587-3 for further study pursuant to SDCL 46-2A-2 and 46-2A-7. The deferral recommendation is so the applicant can provide information to make a determination if there is unappropriated water available and the potential effect of pumping on existing domestic water uses and water rights. These criteria need to be addressed as required by SDCL 46-2A-9 to determine whether a water right permit may be issued. The further study needed entails further delineation of either the aquifer boundaries and/or an aquifer performance test as agreed upon between applicant's consultant and the Water Rights Program.

Another option is to modify the application by identifying a deeper aquifer as the water source. This needs to be done prior to publishing the notice of hearing. If the water source is changed after publication, then a new application will need to be filed for the new water source.

The deferral of Application No. 8587-3 is for up to one year at which time the application will be brought back before the Water Management Board for consideration. The applicant can request the application be brought before the Board upon completion and analysis of an aquifer performance test or if the application is amended to another water source.

Eric Gronlund, Chief Engineer
March 25, 2022

NOTE: It is useful for the applicant or their consultant to consult with the Water Right Program regarding requirements for a suitable aquifer performance test. To discuss the requirements and recommendations for an aquifer performance test, please contact Adam Mathiowetz at (605) 773-3352. If an aquifer performance test is conducted, a monitoring well should also be located in the Niobrara aquifer to determine if there is a connection between the sand and gravel deposit and the Niobrara aquifer.

REPORT TO THE CHIEF ENGINEER
ON
WATER PERMIT APPLICATION NO. 8587-3
JUSTIN CHRISTIANSON
MARCH 25, 2022

Water Permit Application No. 8587-3 proposes to irrigate up to 134 acres located in the SE ¼ Section 33 at a maximum instantaneous diversion rate of 1.78 cubic feet of water per second from one well, approximately 97 feet deep, to be located in SW ¼ SE ¼ Section 33; all in T96N-R53W. The site is located approximately 2 miles east of Irene, SD.

HYDROGEOLOGY

The test hole log submitted with the application, labeled as "TEST HOLE # 4" by the driller, indicated gravel was encountered from 50 to 97 feet below grade (1,233 to 1,280 feet above mean sea level). Review of area lithologic logs (SDGS, 2022), well completion reports (Water Rights, 2022), and the bedrock geologic map of eastern South Dakota (Tomhave and Schulz, 2004), determined it is likely the gravel deposit is of very limited areal extent. Furthermore, this particular deposit may be in direct contact with and act as an extension of the Niobrara aquifer as suggested by Christensen and Stephens (1967) based on the presence of the Niobrara formation at similar elevations in lithologic logs within one mile of the supplied test hole log. However, there is not sufficient information available to determine the full areal extent of the gravel deposit the applicant intends to use or if it is functioning as an extension of the Niobrara aquifer. This inability to determine aquifer and aquifer areal extent prevents determination of the availability of unappropriated water and the potential for unlawful impairment of existing water rights.

These two criteria are required to be examined and determined by South Dakota Codified Law (SDCL) 46-2A-9. Therefore, this application should be deferred for further study. This further study could be, but is not necessarily limited to, an aquifer performance test with multiple monitoring wells. If an aquifer performance test is conducted, it should be designed, conducted, and analyzed by a licensed professional experienced in managing and analyzing aquifer performance tests. The Water Rights Program should be consulted regarding the design and requirements of such a test.

CONCLUSIONS:

1. Application No. 8587-3 proposes to irrigate 134 acres at a maximum instantaneous diversion rate of 1.78 cfs.
2. Based on the available information, there is not sufficient information available to determine if there is a reasonable probability unappropriated water is available.
3. Based on the available information, there is not sufficient information available to determine if there is a reasonable probability this application can be developed without unlawfully impairing water rights.
4. This application should be deferred for further study. Any decisions on how to conduct this further study should include direct consultation with the Water Rights Program to determine if it will likely be sufficient to determine the availability of unappropriated water and the potential for unlawful impairment of existing water rights.



Adam Mathiowetz, PE
SD DANR-Water Rights Program

REFERENCES:

- Christensen, C.M. and Stephens, J.C. 1967. Geology and Hydrology of Clay County South Dakota Part II. Bulletin 19. SD DANR-Geological Survey. Vermillion, South Dakota.
- SDGS. 2022. *Lithologic Logs Database*. <<http://cf.sddenr.net/lithdb/index.cfm>>. Accessed March 12, 2022. SD DANR-Geological Survey Program. Vermillion, South Dakota.
- Tomhave, D.W. and Schulz, L.D. 2004. Bedrock Geologic Map Showing Configuration of the Bedrock Surface in South Dakota East of the Missouri River. General Map 9. SD DANR-Geological Survey. Vermillion, South Dakota
- Water Rights. 2022. Well Completion Reports. SD DANR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.

REPORT TO THE CHIEF ENGINEER
ON
WATER PERMIT APPLICATION NO. 8587-3
JUSTIN CHRISTIANSON
MARCH 25, 2022

Water Permit Application No. 8587-3 proposes to irrigate up to 134 acres located in the SE ¼ Section 33 at a maximum instantaneous diversion rate of 1.78 cubic feet of water per second from one well, approximately 97 feet deep, to be located in SW ¼ SE ¼ Section 33; all in T96N-R53W. The site is located approximately 2 miles east of Irene, SD.

HYDROGEOLOGY

The test hole log submitted with the application, labeled as "TEST HOLE # 4" by the driller, indicated gravel was encountered from 50 to 97 feet below grade (1,233 to 1,280 feet above mean sea level). Review of area lithologic logs (SDGS, 2022), well completion reports (Water Rights, 2022), and the bedrock geologic map of eastern South Dakota (Tomhave and Schulz, 2004), determined it is likely the gravel deposit is of very limited areal extent. Furthermore, this particular deposit may be in direct contact with and act as an extension of the Niobrara aquifer as suggested by Christensen and Stephens (1967) based on the presence of the Niobrara formation at similar elevations in lithologic logs within one mile of the supplied test hole log. However, there is not sufficient information available to determine the full areal extent of the gravel deposit the applicant intends to use or if it is functioning as an extension of the Niobrara aquifer. This inability to determine aquifer and aquifer areal extent prevents determination of the availability of unappropriated water and the potential for unlawful impairment of existing water rights.

These two criteria are required to be examined and determined by South Dakota Codified Law (SDCL) 46-2A-9. Therefore, this application should be deferred for further study. This further study could be, but is not necessarily limited to, an aquifer performance test with multiple monitoring wells. If an aquifer performance test is conducted, it should be designed, conducted, and analyzed by a licensed professional experienced in managing and analyzing aquifer performance tests. The Water Rights Program should be consulted regarding the design and requirements of such a test.

CONCLUSIONS:

1. Application No. 8587-3 proposes to irrigate 134 acres at a maximum instantaneous diversion rate of 1.78 cfs.
2. Based on the available information, there is not sufficient information available to determine if there is a reasonable probability unappropriated water is available.
3. Based on the available information, there is not sufficient information available to determine if there is a reasonable probability this application can be developed without unlawfully impairing water rights.
4. This application should be deferred for further study. Any decisions on how to conduct this further study should include direct consultation with the Water Rights Program to determine if it will likely be sufficient to determine the availability of unappropriated water and the potential for unlawful impairment of existing water rights.



Adam Mathiowetz, PE
SD DANR-Water Rights Program

REFERENCES:

- Christensen, C.M. and Stephens, J.C. 1967. Geology and Hydrology of Clay County South Dakota Part II. Bulletin 19. SD DANR-Geological Survey. Vermillion, South Dakota.
- SDGS. 2022. *Lithologic Logs Database*. <<http://cf.sddenr.net/lithdb/index.cfm>>. Accessed March 12, 2022. SD DANR-Geological Survey Program. Vermillion, South Dakota.
- Tomhave, D.W. and Schulz, L.D. 2004. Bedrock Geologic Map Showing Configuration of the Bedrock Surface in South Dakota East of the Missouri River. General Map 9. SD DANR-Geological Survey. Vermillion, South Dakota
- Water Rights. 2022. Well Completion Reports. SD DANR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

April 4, 2022

Justin Christianson
201 East Park Street
Irene SD 57037

Dear Mr. Christianson:

Water Permit Application No. 8587-3 for irrigation use has been examined and found to comply with the South Dakota Water Laws and applicable rules. The recommendation is for DEFERRAL pending information being provided in order to determine if unappropriated water is available and the potential effect of pumping on existing domestic water uses and water rights. To comply with South Dakota Codified Law 46-2A-2, a copy of the notice, the recommendation of the Chief Engineer and report on the application are enclosed.

You indicated during a phone conversation with Eric Gronlund your intention to investigate whether to conduct an aquifer performance test or modify your application to the deeper Niobrara aquifer. Therefore, the Water Rights Program is uncertain whether you want to proceed to public notice of the application with the deferral recommendation or wait to public notice the application until you fully investigate options. Please let us know your wishes.

Upon your direction to proceed to public notice, our Program will send notice electronically to the Centerville Journal printed at Centerville (Ph # 605 563-2351) and the Press & Dakotan printed at Yankton (Ph # 605 665-7811). You will then need to contact the newspapers and authorize publication of this notice.

Please contact the Eric Gronlund at 605 773-3352 with any question.

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 HEARING on Application No. 8587-3

Notice is given that Justin Christianson, 201 East Park St, Irene SD 57037 has filed an application for a water permit to appropriate 1.78 cubic feet of water per second from one well to be completed into an unidentified sand and gravel deposit aquifer (approximately 97 feet deep) located in the SW 1/4 SE 1/4 Section 33 for irrigation of 134 acres located in the SE 1/4 Section 33; all in T96N-R53W. This site is located approximately 2 miles east of Irene SD.

South Dakota Codified Law (SDCL) 46-2A-4(10) provides that “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 Chief Engineer’s recommendation and no hearing may be held before the board, unless the Chief Engineer makes a finding that an application, even if uncontested, presents important issues of public policy or public interest that should be heard by the board.” In this case, the Chief Engineer finds that this application presents important issues of public interest that should be heard by the Water Management Board.

The Chief Engineer is recommending DEFERRAL of Application No. 8587-3 for further study pursuant to SDCL 46-2A-2 and 46-2A-7. The deferral recommendation is so the applicant can provide information to make a determination if there is unappropriated water available and the potential effect of pumping on existing domestic water uses and water rights. The Chief Engineer’s recommendation, 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.

The Water Management Board will consider this application at [REDACTED] on May 4 2022 in the Matthew Training Center, Joe Foss Bldg, 523 E Capitol Ave., Pierre SD. The Chief Engineer's recommendation is not final or binding upon the Board. The Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny this application based on the facts presented at the public hearing.

Any person who intends to participate in the hearing 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 April 24, 2022.

The petition shall be in writing and 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. The hearing is an adversary proceeding and any party has the right to be present at the hearing and to be represented by a lawyer. These and other due process rights will be forfeited if they are not exercised at the hearing and decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law.

The May 4, 2022 hearing date will be automatically delayed for at least 20 days upon written request to the Chief Engineer from the applicant or any person who has filed a petition to oppose the application. The request

for an automatic delay must be filed by April 25, 2022. If an automatic delay is requested, the hearing will be rescheduled for a future Board meeting and personal notice will be provided to the applicant and all petitioners regarding the time, date, and location.

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 April 25, 2022.

Notice is given to individuals with disabilities that this hearing is being held in a physically accessible place. Please notify the Department of Agriculture and Natural Resources at least 48 hours before the hearing if you have a disability for which special arrangements must be made at the hearing. The telephone number for making arrangements is (605) 773-3352.

Under SDCL 1-26-17(7) notices must state that "if the amount in controversy exceeds \$2,500.00 or if a property right may be terminated, any party to the contested case may require the agency to use the Office of Hearing Examiners by giving notice of the request to the agency no later than ten days after service of a notice of hearing issued pursuant to SDCL 1-26-17." This is a Notice of Hearing, service is being provided by publication, and the applicable date to give notice to the Chief Engineer is April 25, 2022. However, since this particular matter is a water permit application and not a monetary controversy in excess of \$2,500.00 or termination of a property right the Chief Engineer disputes the applicability of this provision and maintains that the hearing must be conducted by the Board.

As applicable, the following provides the legal authority and jurisdiction under which the hearing will be held and the particular statutes and rules pertaining to this application: SDCL 1-26-16 thru 1-26-28; SDCL 46-1-1 thru 46-1-9, 46-1-13 thru 46-1-16; 46-2-3.1, 46-2-9, 46-2-11, 46-2-17; 46-2A-1 thru 46-2A-12, 46-2A-14, 46-2A-15, 46-2A-20, 46-2A-21, 46-2A-23; 46-5-1.1, 46-5-2 thru 46-5-26, 46-5-30.2 thru 46-5-30.4, 46-5-31, 46-5-32 thru 46-5-34.1, 46-5-38 thru 46-5-39, 46-5-46, 46-5-47, 46-5-49; 46-6-1 thru 46-6-3.1, 46-6-6.1, 46-6-10, 46-6-13, 46-6-14, 46-6-21, 46-6-26; and Board Rules ARSD 74:02:01:01 thru 74:02:01:25.02; 74:02:01:35.01.

Published once at an approximate cost of_____.



**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.**

August 22, 2024

Justin Christianson
201 East Park Street
Irene SD 57037

Dear Mr. Christianson:

Water Permit Application No. 8587-3 for irrigation use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the New Era printed in Parker SD (Ph # 605 297-4419) and the Daily Press & Dakotan printed in Yankton SD (Ph # 605 665-7811). You will need to contact the newspapers and authorize publication of this notice. For your information, a copy of the notice, the recommendation of the Chief Engineer and report on the application are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

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

Sincerely,

Rachel Rodriguez

Rachel Rodriguez
Water Rights Program
(605) 773-3352

enclosures

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

Instruction to Newspaper - Publish the Notice on August 28 or 29, 2024. The applicant is responsible for payment.

NOTICE OF APPLICATION NO. 8587-3 to Appropriate Water

Notice is given that Justin Christianson, 201 East Park St, Irene SD 57037 has filed an application for a water permit to appropriate 1.78 cubic feet of water per second from one well to be completed into Niobrara Aquifer (approximately 155 feet deep) located in the SW 1/4 SE 1/4 Section 33 for irrigation of 134 acres located in the SE 1/4 Section 33; all in T96N-R53W. This site is located approximately 2 miles east of Irene SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8587-3 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. 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 September 9, 2024.

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 September 9, 2024.

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

Published once at the total approximate cost of_

Rodriguez, Rachel

From: Rodriguez, Rachel
Sent: Thursday, August 22, 2024 11:27 AM
To: New Era
Subject: 8587-3 Justin Christianson - Public Notice
Attachments: 8587-3 public.short_final.docx; FORM8.FRM.doc

Attached is a notice to be published on August 29, 2024.

Justin Christianson, 201 East Park St, Irene SD 57037, 605-661-9889, 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 Ave, Pierre SD 57501.

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

Thank you,

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



Rodriguez, Rachel

From: Rodriguez, Rachel
Sent: Thursday, August 22, 2024 11:28 AM
To: Kelly Kronaizl
Subject: 8587-3 Justin Christianson - Public Notice
Attachments: 8587-3 public.short_final.docx; FORM8.FRM.doc

Attached is a notice to be published on August 28, 2024 in the Daily Press & Dakotan.

Justin Christianson, 201 East Park St, Irene SD 57037, 605-661-9889, 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 Ave, Pierre SD 57501.

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

Thank you,

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



AFFIDAVIT OF PUBLICATION

YANKTON DAILY PRESS AND DAKOTAN

JUSTIN CHRISTENSEN
201 E PARK ST
IRENE SD 57037

STATE OF SOUTH DAKOTA
COUNTY OF YANKTON

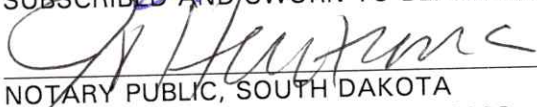
KELLY HERTZ, BEING FIRST DULY SWORN ON OATH DEPOSES
AND SAYS THAT (S)HE IS THE MANAGING EDITOR OF YANKTON
MEDIA INC, A CORPORATION, THE PRINTER AND THE PUBLISHER OF THE
YANKTON DAILY PRESS AND DAKOTAN, A LEGAL DAILY NEWSPAPER
PUBLISHED AND CIRCULATED IN THE CITY OF YANKTON, SAID COUNTY
AND STATE, AND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

TAKEN FROM THE PAPER, IN WHICH IT WAS LAST PUBLISHED IN THE
NEWSPAPER ON THE 29th DAY OF August, 2024
THAT THE FULL AMOUNT OF THE FEE CHARGED FOR THE PUBLICATION
OF SAID NOTICE TO WIT \$40.32 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: 08/29/2024

FILED ON: 08/29/24


SUBSCRIBED AND SWORN TO BEFORE ME THIS 29th DAY OF August, 2024


NOTARY PUBLIC, SOUTH DAKOTA
MY COMMISSION EXPIRES 07/15/2028



RECEIVED

SEP 03 2024

OFFICE OF
WATER

Ad text :

NOTICE OF APPLICATION NO. 8587-3 to Appropriate Water

Notice is given that Justin Christianson, 201 East Park St, Irene SD 57037 has filed an application for a water permit to appropriate 1.78 cubic feet of water per second from one well to be completed into Niobrara Aquifer (approximately 155 feet deep) located in the SW 1/4 SE 1/4 Section 33 for irrigation of 134 acres located in the SE 1/4 Section 33; all in T96N-R53W. This site is located approximately 2 miles east of Irene SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8587-3 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. 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 September 9, 2024.

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 September 9, 2024.

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 \$40.32 and can be viewed free of charge at www.sdpublicnotices.com

Published August 29, 2024.

RECEIVED
SEP 03 2024
OFFICE OF
WATER

Affidavit of Publication

STATE OF SOUTH DAKOTA
COUNTY OF TURNER

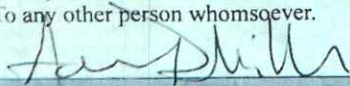
I, Amber Miller of New Century Press, publisher of The New Era, which is a weekly newspaper of general circulation, Printed and published in the City of Parker, in said County of Turner., and has been such legal newspaper during the times here in after mentioned; that the said newspaper has been in existence 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 Assistant 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:

N0829-11 Water Notice

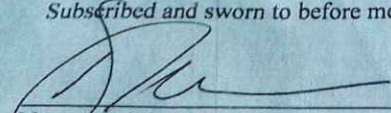
Once printed copy of hereto attached, is printed and published in the said newspaper for one week, to wit:

On Thursday, the 29th day of August, 2024

That \$34.72 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.



Subscribed and sworn to before me this 4th day of September, 2024



Notary Public, State of South Dakota
My Commission Expires August 11, 2029



Publication Fee...\$34.72
Notary Fee...\$
Total \$34.72

otices

024

n Page 9

1.78 cubic feet of water per second from one well to be completed into Niobrara Aquifer (approximately 155 feet deep) located in the SW 1/4 SE 1/4 Section 33 for irrigation of 134 acres located in the SE 1/4 Section 33; all in T96N-R53W. This site is located approximately 2 miles east of Irene SD.

NOTICE OF APPLICATION NO. 8587-3 to Appropriate Water
Notice is given that Justin Christianson, 201 East Park St, Irene SD 57037 has filed an application for a water permit to appropriate

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8587-3 because 1) there is reasonable probability that there is unappropriated water available

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. 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 September 9, 2024.

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 September 9, 2024.

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 \$34.72 and may be viewed free of charge at www.sdpublicnotices.com.

(N0825)

Rodriguez, Rachel

From: Rodriguez, Rachel
Sent: Thursday, August 22, 2024 11:33 AM
To: 'jchrist4020@gmail.com'
Subject: 8587-3 Justin Christianson - Public Notice
Attachments: 8587-3 Rec.pdf; 8587-3 Ltr.pdf; 8587-3 PubNotice.pdf

Good morning,

Attached is a copy of the report, chief engineer's 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 also being mailed to you today.

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

Thank you,

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





**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

OCT 11 2024

Justin Christianson
201 East Park Street
Irene SD 57037

Dear Mr. Christianson:

Enclosed is Water Permit No. 8587-3 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



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

**Affidavit of Public Notice
Posting on DANR Website**

Pursuant to SDCL § 46-2A-4, public notice of the following application was posted on the DANR web site at <https://danr.sd.gov/public>. The posted public notice is the same notice as published in the pertinent newspaper(s) and a copy of the public notice is maintained in the application file. If the application is contested, the posting is moved to the DANR contested case website at <https://danr.sd.gov/public/ContestedCase.aspx> until final action is taken on the application pursuant to SDCL § 46-2A-4.

Application No.: 8587-3

Name of Applicant: Justin Christianson

Date of Posting: 8/26/2024

Date of Removal: 10/11/2024

Ron Duvall, Engineer III

10/11/2024

Date

Subscribed and sworn to before me, a notary public, this 11th day of Oct, 2024.

Notary Public - South Dakota

My commission expires:

Rachel Rodriguez
My Commission Expires
May 16, 2029

(SEAL)

