

WATER PERMIT NO. 8411-3

Name of Applicant: Jed Chelmo

Address: 25661 368th Ave, Kimball SD 57355

Phone: 605 252-1099

Amount of Water Claimed: 0.098 cfs (43 AF)

Total Acres: na

Source of Water Supply: groundwater (2 existing wells)

Water to be used for: commercial

County: Brule

Type of Waste Disposal System:

Location: 5 miles east and 5 miles south of Kimball

PRIORITY Date Received: 8-27-19

Application/License Fee: \$ 300

Corrected Application Received: 10-21-19

Period of Annual Use: Jan 1 – Dec 31

Remarks: livestock confinement facility

Diversion Point: N 1/2 SE 1/4 Sec 3-T102N-R67W

Land to be Irrigated: na

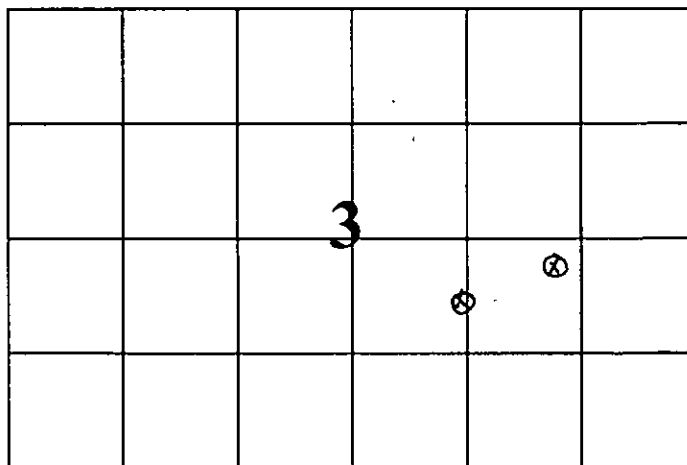
Depth of Well: 920 feet deep

Well Driller:

Remarks:

Type of Map: aerial

Prepared by:



Reviewed and the Number Assigned on: 10-21-19

By: Karen Schlaak

Notice of Hearing - date to intervene: _____

SOUTH DAKOTA
WATER PERMIT NO. 8411-3

Date of first receipt of application August 27, 2019.

Date of return to applicant for corrections, amendments or changes September 3, 2019.

Date of receipt of corrected application October 21, 2019.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 8411-3 to Jed Chelmo, 25661 368th Ave, Kimball SD 57355 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. 8411-3 appropriates 43 acre-feet of water annually at a maximum pump rate of 0.098 cubic feet of water per second from two wells completed into the Dakota Aquifer (920 feet deep) located in the N 1/2 SE 1/4 Section 3 for commercial use in a livestock facility located in the SE 1/4 Section 3; all in T102N-R67W. This site is located 5 miles east and 5 miles south of Kimball SD.

The well completed in July 2019 was constructed using an alternative method in the well construction standards that is allowed only for private and reasonable domestic use wells for noncommercial livestock watering wells. Due to the fact the quantity of water requested is greater than reasonable domestic use, this application is a commercial use of water. Therefore, the 2019 well does not meet the South Dakota Well Construction Standards and cannot be authorized for use under this water permit. This permit affords the permit holder within the time to complete construction to plug the 2019 well and drill a replacement well that meets the well construction standards or rehabilitate the well to bring it into compliance with the standards. The 2019 well may be used for domestic use at a home residence.

2. The water appropriated shall be used for the purpose of commercial use in a livestock facility and may not exceed the amount of water needed for beneficial use.
3. The water is to be used during the following described annual period: January 1 – December 31.
4. The date of approval of Permit No. 8411-3 is January 27, 2020.
5. The date from which applicant may claim right is August 27, 2019.
6. One-fifth of the construction is to be completed on or before July 27, 2022.
7. All construction is to be completed on or before January 27, 2025.
8. Water is to be put to beneficial use on or before January 27, 2029.
9. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

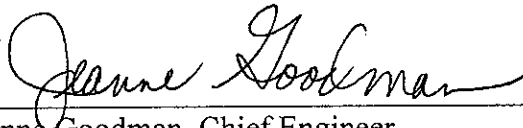
QUALIFICATIONS

1. The well completed in 1994 approved under Water Permit No. 8411-3 will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner, under these Permits shall control withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.

(continued)

2. Water Permit No. 8411-3 is subject to compliance with requirements of the Department's Water Pollution Control Permit issued pursuant to SDCL 34A-2-36 or 34A-2-36.2 or 34A-2-112 or 34A-2-124 for concentrated animal feeding operations.
3. Water Permit No. 8411-3 is subject to compliance with all existing and applicable Water Management Board Rules including but not limited to:
 - a) Chapter 74:54:01 Ground Water Quality Standards,
 - b) Chapter 74:54:02 Ground Water Discharge Permit,
 - c) Chapter 74:51:01 Surface Water Quality Standards,
 - d) Chapter 74:51:02 Uses Assigned to Lakes,
 - e) Chapter 74:51:03 Uses Assigned to Streams, and
 - f) Chapter 74:52:01 through 74:52:11 Surface Water Discharge Provisions
4. The Permit holder shall report to the Chief Engineer annually the amount of water withdrawn from the Dakota aquifer.
5. Water Permit No. 8411-3 authorizes a total annual diversion of 43.0 acre feet of water from the Dakota aquifer.

WATER MANAGEMENT BOARD

By: 

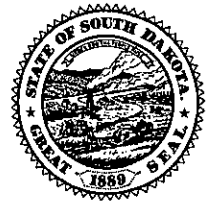
Jeanne Goodman, Chief Engineer

Water Rights Program

Department of Environment and Natural Resources

FEB 06 2020

date



RECEIVED

AUG 27 2019

WATER RIGHTS
PROGRAM

Mail to: DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>8411-3</u>	(office use only) Hydrologic Unit <u>10140101</u>
	Basin <u>Missouri River</u>	
	Newspaper <u>Central Dakota Times</u>	
	<u>Daily Republic</u>	

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

Check use(s) of water:

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

Type of Application:
(check one)

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

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

1. Name to Appear on Water Permit Jed Chelmo

Mailing Address 25661 368th Avenue Kimball SD 57355
(Address) (City) (State) (Zip Code)

Phone (605) 252-1099 Mobile _____ Email n6391j@hotmail.com

2. Amount of water claimed 0.098 *CFS or 44 **GPM and 43 ***AF or _____ Gallons
Flow rate and volume are both required. (*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use)

3. Source of water supply Two wells4. Location of point of diversion SE 1/4 Section 3 T102N R67W (N 1/2 SE 1/4) County Brule
(example - 3 wells in SW 1/4 NE 1/4 section 12-T104N-R53W)If not a public water supply (e.g. municipal), will water be used outside of the area described above? ☐ Yes ☒ NoIf "Yes," where will water be used? SE 1/4 Sec 3-T102N-R67W
(example - NW 1/4 section 12-T104N-R53W)5. County or counties where water will be used Brule6. Annual period during which water is to be used full year Jan 1 - Dec 31

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

A new well was added in July of 2019 to help supply sufficient water to the feedlot areas. The second well makes the capacity of the system 44 GPM, above the level for which water rights are required. The landowners would like to be able to use their wells at full capacity when needed to water their livestock, with a maximum head population of 2,700 head.

I, Jed Chelmo, the applicant, certify under
Name of Person Title (if applicable)

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

Supplemental Information

(type or print)

1. Well Information (check one or both as applicable) ☒ Drilling new well(s) ☒ Using existing well(s)

a) If new wells, how many 1 Have test holes been drilled ☐ Yes ☒ No Drilled by Pullman Well Drilling
(if yes, please provide copies of logs)

b) If existing wells, how many 1 Provide copy of log(s), if available. Drilled by Hutmacher Drilling Inc

For either Existing or Proposed Wells:

c) Well Depth (required) 920 Depth to Top of Water Bearing Material 800' Depth to Water from Surface 30

d) Distance to nearest domestic well on applicant's property 1,152 ft 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)

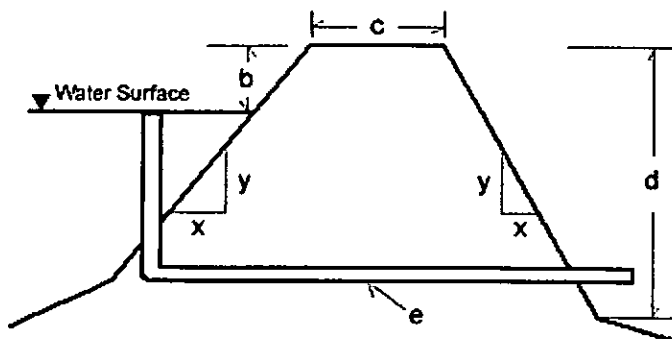
Upstream _____

Downstream _____

h) Surface Area of Impoundment _____

i) Storage _____ Acre Feet

j) Drainage Area Above Dam _____ Acres



Water Use Documentation

Site: JC Livestock

Location: SE 1/4 Section 3 T102N R67W, Brule County, SD

Completed by: Justin Bonnema, PE

Date: 8/19/2019

Water Use Source #1: Well 1

Description of Source #1:

- Well is 920 feet deep with a 2" PVC casing and 2.5" screen.
- Well capacity is estimated at 22 gallons per minute.
- Construction of the well was completed December 8, 1994.
- This well supplies water to the residence and to Lots 1-5 (the eastern lots).
- See attached well log for construction details.

Water Use Source #2: Well 2

Description of Source #2:

- Well is 920 feet deep with a 5" PVC casing 0 to 300 ft, a 2" PVC casing 300 ft to 840 ft and 2.5" PVC screen.
- Well capacity is estimated at 22 gallons per minute based on the installed pump (22SQ15).
- Construction of the well was completed July 11, 2019.
- This well supplies water to the residence and to Lots 6-15 (the western lots).
- See attached well log for construction details.

Water Use Source #3: Aurora-Brule Rural Water

Description of Source: Producer is planning to have an additional connection to rural water installed for the west lots if possible.

Maximum water usage for this site is projected to be 44 gallons per minute.

SOUTH DAKOTA WATER WELL COMPLETION REPORT

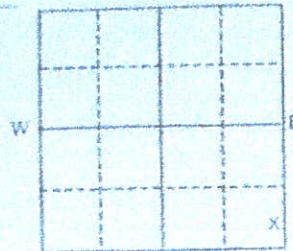
11-02

Location SE ¼ SE ¼ Sec 3 Twp 102 Rg 67

County Brule

North

Please mark well location with an "X"



Well Completion Date

July 11, 2019

1 Mile

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

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

METHOD OF DRILLING:
Forward RotaryCASING DATA: ☐ Steel ☒ Plastic ☐ Other
If other describe

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	5.00 IN	0.0 FT	300.0 FT	7.88 IN
LB/FT	2.00 IN	300.0 FT	840.0 FT	4.50 IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
		Lb/gal	FT	FT
		Lb/gal	FT	FT

Describe grouting procedure

SCREEN: ☐ Perforated pipe ☒ Manufactured

Diameter 2.50 Inches Length 80.0 Feet

Material PVC

Slot Size 0.016 Set From 840.0 Feet to 920.0 Feet

Other information

WAS A PACKER OR SEAL USED? ☒ Yes ☐ No

If so, what material? Shale Cup

Describe packer(s) and location

840'

DISINFECTION: Was well disinfected upon completion?

☒ Yes, How? Granulated Chlorine

Lab to which water quality sample sent for analysis

Well Owner: Steve Mairose

Business Name:

Address: 36640 256th St

City, State, Zip: Kimball SD

57355

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
Yellow Clay	0	40
Blue Clay	40	140
Sandy Blue Clay w/ Rocks	140	180
Black Chalk	180	300
Shale	300	640
Sandy Shale	640	740
Shale w/ S/S	740	800
Good Sand w/ Shale Breaks	800	860
Good Sand	860	920

STATIC WATER LEVEL

30.0 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: w/ Air

☐ Bailed

☐ Other

Pumping Level Below Land Surface

200.0 Ft. After Hrs. pumped 60.0 GPM

Ft. After Hrs. pumped GPM

If pump installed, pump rate: GPM

REMARKS

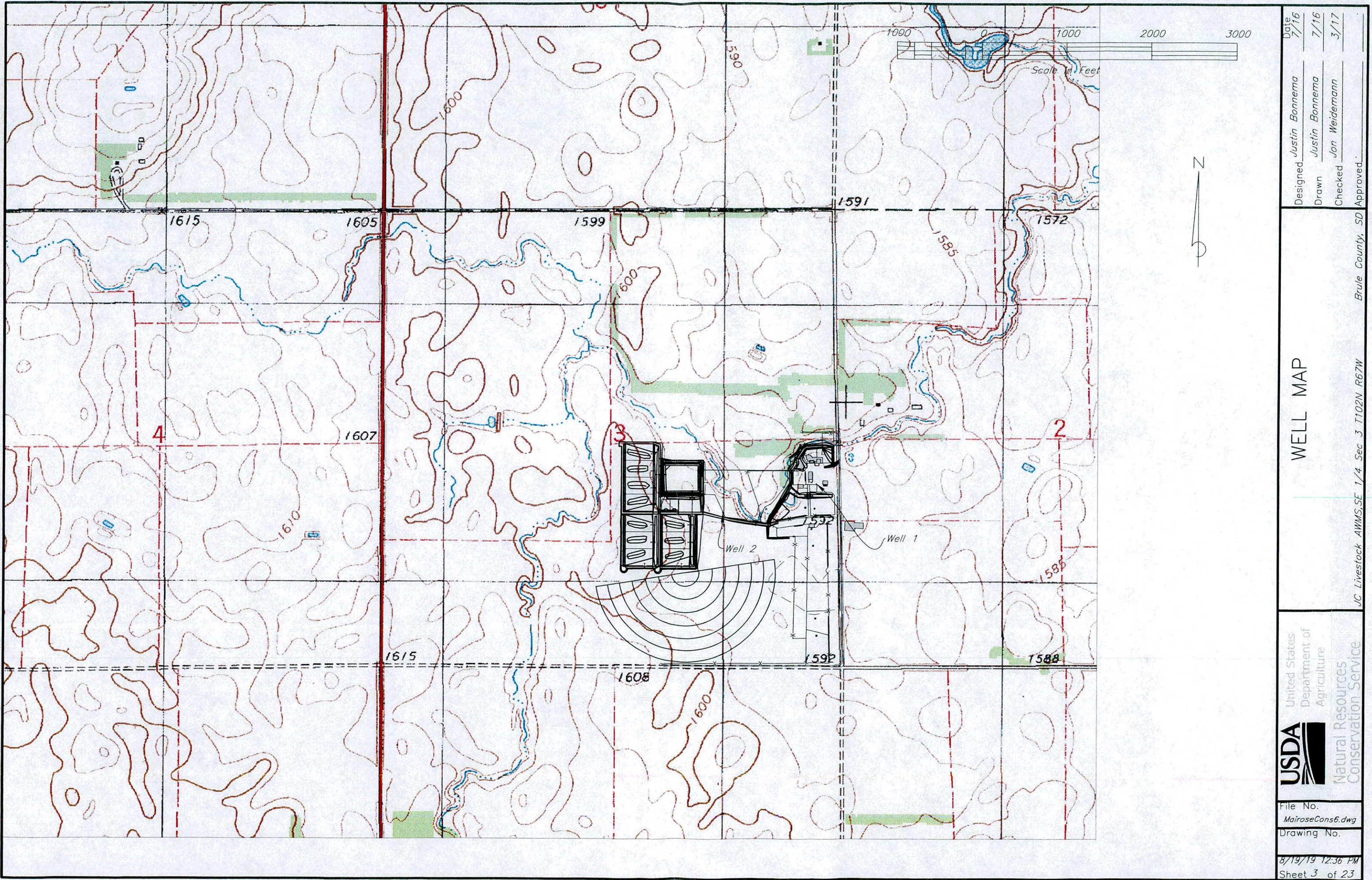
This well was drilled under license # 440 and this report is true and accurate.

Drilling firm: Pullman Well Drilling Inc.

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

Date:





WELL MAP



United States Department of Agriculture

RECEIVED

AUG 27 2019

WATER RIGHTS
PROGRAM

SD DENR – Water Rights
523 East Capitol Ave
Pierre, SD 57501

Dear Water Rights Department,

Enclosed is an application for a water rights permit for our site located in Brule County, SD. We currently house 999 head of beef cattle at our facility and are planning to increase capacity at the facility. We have recently completed a second well to help us provide sufficient water for the livestock. Since our capacity for pumping from our two wells will be approximately 44 gallons per minute, we are applying for the right to use the two wells to their capacity when we have the need to use that much water.

We have worked with the Natural Resources Conservation Service throughout the design and construction of the facilities. Our plans and specifications for the feedlot system were approved by the SD DENR Feedlot Program in 2017. We anticipate that our certificate of compliance will be issued soon. The obtaining of the water rights applied for here is part of obtaining final approval from the Feedlot Program.

Our engineering representative for the feedlot design and installation of containment is Justin Bonnema of the NRCS. Mr. Bonnema can be reached at (605) 690-6723 if there are questions related to the feedlot system, well locations, survey work at the site, or other similar issues. Our nutrient management plan is handled by Jason Gilb, also of the NRCS. Questions related to manure handling, application, setbacks, and so forth, can be directed to Jason at (605) 996-1564.

Other questions can be directed to Jed Chelmo at (605) 252-1099.

Sincerely,

Jed Chelmo
Operator/manager
JC Livestock

CC: Kent Woodmansey, SD DENR Feedlot Permit Program Administrator, Pierre, SD
Justin Bonnema, USDA-NRCS, Canton, SD
Jason Gilb, USDA-NRCS, Mitchell, SD



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

September 3, 2019

Jed Chelmo
25661 368 Ave
Kimball SD 57355

Dear Mr. Chelmo:

Thank you for submitting the *Application for a Permit to Appropriate Water* for your livestock confinement facility located in Brule County. In order to complete the application, the following is required.

- The application requests an appropriation of 44 gallons per minute (gpm). In addition to the pump rate, the application needs to include the annual volume in either gallons/year or acre feet/year. In calculating the annual volume, be reasonable but also plan for the maximum annual volume of use from the wells at full development. It is unrealistic that 44 gpm will be pumped continuously during an entire year. Therefore, DENR requests an annual volume to be used at the facility.

A general practice is to convert the diversion rate to a volume in acre-feet of water annually based on 60% pumping. Applying this 60% rate to 44 gpm over the course of a year equates to 43 acre-feet of water annually. Do you concur with this amount?

- The application/license fee will be \$300.00. Please submit.

If you have any questions, please contact me.

Sincerely,

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

October 4, 2019

RECEIVED

OCT 21 2019

WATER RIGHTS
PROGRAM

PAID

OCT 21 2019

Ck# 1789

Dear Karen Schlaak:

Enclosed is the \$300.00 fee for the application/license for the Application for a Permit to Appropriate Water. I concur with the amount you stated of 43 acre-feet of water annually.

Sincerely,

Jed Chelmo

Jed Chelmo

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date October 21, 2019

RECEIVED OF Jed Chelmo 25661 268th Avenue Kimball, SD 57355

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

Fee for Application for Permit No. <u>8411-3</u> to Appropriate Water, to construct and to put water to beneficial use	100	00
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>8411-3</u>	200	00
Fee for Filing Transfer Form _____		
Fee for _____		
Fee for Issuing New Well Driller's License No. _____ for C.Y. _____		
Fee for Renewal of Well Driller's License No. _____ for C.Y. _____		
Fee for Issuing Well Pump Installer's License No. _____ for C.Y. _____		
Fee for Renewal of Well Pump Installer's License No. _____ for C.Y. _____		
(Any Other Work Provided by Law)	TOTAL	300 00

No. **09223**

By Jeanne Goodman
Chief Engineer Jm

Gronlund, Eric

From: Gronlund, Eric
Sent: Friday, January 3, 2020 3:39 PM
To: n6391@hotmail.com
Subject: well completed in 2019 for livestock facility
Attachments: 2019well.pdf

Mr. Chelmo:

Attached is the well completion report for the well completed in July 2019. This well was constructed using an alternative method allowed only for private and reasonable domestic use well and for noncommercial livestock watering well. Due to the diversion "pump" rate from the wells your use is a commercial use of water that requires a water right permit to be obtained and the alternative construction is not allowed.

The issue is the well was constructed in a manner that the well does not meet the definition of an adequate well in that the casing goes from 5 inch to 2 inch at the 300 foot level and therefore a pump can not be placed into the aquifer.

Below are applicable rules dealing with the matter.

Administrative Rule of South Dakota (ARSD) 74:02:04:20(6) - "Adequate well," a well constructed or rehabilitated to allow various withdrawal methods to be used, to allow the inlet to the pump to be placed not less than 20 feet into the saturated aquifer or formation material when the well is constructed, or to allow the pump to be placed as near to the bottom of the aquifer as is practical if the aquifer thickness is less than 20 feet;

74:02:01:01 (1) "Commercial use," water use supplied from other than a common water distribution system to a business such as a truckstop; tourist attraction; eating, drinking, or lodging establishment; commercial campground; convenience store; implement business; salvage business; or any other business or to a livestock confinement operation that exceeds reasonable domestic use;

ARSD 74:02:04:23.01. Construction of adequate well required. Except for monitoring wells, all wells shall be constructed to comply with the definition of an adequate well in subdivision 74:02:04:20(6).

ARSD 74:02:04:35. Alternative well construction requirements for certain Dakota aquifer wells. The well construction described in this section may be used for private and reasonable domestic use wells and for noncommercial livestock watering wells as an alternative to the construction required by § 74:02:04:28. All other wells, including public water supply wells, shall be constructed as required by § 74:02:04:28. If any of the following requirements cannot be met, the well construction must comply with requirements of § 74:02:04:28. The following alternative well construction may be used to construct wells which are completed into the Dakota aquifer in the Kennedy Basin, Sioux Ridge, the Canadian Shield, and the eastern portion of the Williston Basin if the following requirements are met:

- (1) The drill bit used to drill into the Dakota aquifer is no larger than four and one-half inches in diameter;
- (2) The vertical distance between the ground surface and the top of the Greenhorn formation is more than 300 feet;
- (3) The size of the production casing installed to the top of the production aquifer, below any larger upper casing which is installed to allow installation of a pump is no larger than two inches in diameter and is type K hard copper, schedule 80 thermoplastic, brass, or stainless steel. The casing must be installed in accordance with the manufacturer's recommendations;
- (4) Packers are located above the Dakota as necessary to help form a seal to stop movement of mud, silt, or other aquifer water into the Dakota aquifer well. Packers made from burlap bags, gunny sacks, or similar materials are prohibited. Local conditions may require use of other construction techniques in lieu of packers; however, the well driller shall construct the well to prevent movement of mud, silt, or other aquifer water into the Dakota aquifer well;

(5) The production casing and packers are not installed unless the weight of the drilling fluid is heavy enough to overcome aquifer pressures;

(6) If any flow of water at the surface outside the casing does not stop within a reasonable length of time, the well driller shall pressure-grout the upper portion of the casing with cement grout using a tremie pipe to a depth of 300 feet or into unweathered clay or shale, whichever depth is greater;

(7) Only one casing is placed into the production aquifer of a new well. New wells double-cased into the production aquifer are prohibited. However, if the original casing becomes defective, the well may be rehabilitated by placing new casing inside the old defective casing; and

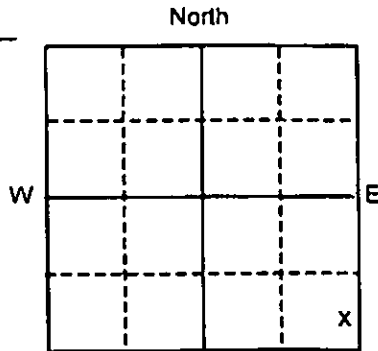
(8) In those locations where pressures greater than 50 pounds per square inch at the surface may be encountered in the Dakota aquifer, to assure compliance with § 74:02:04:73, surface casing is installed and pressure-grouted with cement grout to a depth of at least 300 feet or into an unweathered clay or shale formation, whichever depth is greater.

Note: Although this type of well construction may be less expensive, it is more likely to fail than a well constructed and grouted pursuant to § 74:02:04:28. The success of this type of well construction is dependent upon the use of packers or other sealing techniques outside the casing above the Dakota aquifer and the sloughing off of the shale above the Dakota to fill and seal the drill hole annulus outside the casing, preventing movement of water, mud, or silt into the Dakota aquifer well or movement of water on the outside of the casing between aquifers or to the surface. When aquifer pressures above the Dakota are great enough to overcome the Dakota pressure, the success of the well is also dependent upon establishing a packer and shale seal just above the Dakota before the remainder of the annulus toward the surface is sealed. Water may flow outside the casing to the surface for a short period of time until an annulus seal is established even though the well does not produce a flow from the Dakota. If any flow toward the surface is sealed off first, the packer and shale seal may not be established and the well may produce silt or muddy water or water of a different chemical quality.

Eric Gronlund
Water Rights Program, DENR
605 773-3352
eric.gronlund@state.sd.us

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location SE ¼ SE ¼ Sec 3 Twp 102 Rg 67County BrulePlease mark well
location with an "X"

Well Completion Date

July 11, 2019

1 Mile

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

PROPOSED USE:

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

METHOD OF DRILLING:

Forward Rotary

CASING DATA:

☐ Steel
 ☒ Plastic
 ☐ Other

If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	5.00 IN	0.0 FT	300.0 FT	7.88 IN
LB/FT	2.00 IN	300.0 FT	840.0 FT	4.50 IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
		Lb/gal	Ft	Ft
		Lb/gal	Ft	Ft

Describe grouting procedure _____

SCREEN:

☐ Perforated pipe
 ☒ Manufactured
 Diameter 2.50 Inches Length 80.0 FeetMaterial PVCSlot Size 0.016 Set From 840.0 Feet to 920.0 Feet

Other information _____

WAS A PACKER OR SEAL USED?

☒ Yes
 ☐ No
 If so, what material? Shale Cup

Describe packer(s) and location

840'

DISINFECTION: Was well disinfected upon completion?

☒ Yes, How? Granulated Chlorine
☐ No, Why Not?
Lab to which water
quality sample sent for analysisWell Owner: Steve Mairose

Business Name: _____

Address: 36640 256th StCity, State, Zip: Kimball SD 57355

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
Yellow Clay	0	40
Blue Clay	40	140
Sandy Blue Clay w/ Rocks	140	180
Black Chalk	180	300
Shale	300	640
Sandy Shale	640	740
Shale w/ S/S	740	800
Good Sand w/ Shale Breaks	800	860
Good Sand	860	920

STATIC WATER LEVEL 30.0 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: w/ Air
☐ Bailed☐ Other

Pumping Level Below Land Surface

200.0 Ft. After _____ Hrs. pumped 60.0 GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: _____ GPM

REMARKS

This well was drilled under license # 440 and this report is true and accurate.Drilling firm: Pullman Well Drilling Inc.

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

Date: _____

AFFIDAVIT OF PUBLICATION

State of South Dakota

ss.

County of Brule

Debi Ruiz of said county, being first duly sworn, on oath, says: That she is the publisher of *Central Dakota Times*, a weekly newspaper, published in the City of Chamberlain, in said County of Brule and State of South Dakota; that she has full and personal knowledge of the facts herein stated; that said newspaper is a legal newspaper as defined in SDCL 17-2-2.1 through 17-2-2.4 inclusive; that said newspaper has been published within the said County of Brule and State of South Dakota, for at least one year next prior to the first publication of the attached public notice and that the Notice of Application No. 8411-3
To Appropriate Water

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

January 15, 2020; _____, 20____;
_____, 20____; _____, 20____;
_____, 20____; _____, 20____;

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

\$ 22.80

Signed: Debi Ruiz

Subscribed and sworn to before me this 16th day

of January, 2020

Janet L. Petrak
Notary Public In and For The County of Brule,
South Dakota

JANET L. PETRAK
Notary Public
SEAL
South Dakota

My commission expires June 5, 2022.

NOTICE OF APPLICATION NO. 8411-3 TO APPROPRIATE WATER

Notice is given that Jed Chelmo, 25661 368th Avenue, Kimball, SD 57355 has filed an application for a water permit to appropriate 43 acre-feet of water annually at a maximum pump rate of 0.098 cubic feet of water per second from two wells completed into the Dakota Aquifer (920 feet deep) located in the N 1/2 SE 1/4 Section 3 for commercial use in a livestock facility located in the SE 1/4 Section 3; all in T102N-R67W. This site is located five miles east and five miles south of Kimball, SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8411-3 with qualifications because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water and 4) it is in the public interest. The Chief Engineer's recommendation with qualifications, the application and staff report are available at <http://denr.sd.gov/public> or contact Eric Gronlund for this information or other information, at the Water Rights Program address provided below.

Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 East Capitol, Pierre, SD 57501 (605-773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by Jan. 27, 2020.

The petition may be informal but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

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 one week, January 15, 2020, at a total approximate cost of \$22.80.)

(January 15)

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AFFIDAVIT OF PUBLICATION

**NOTICE OF
APPLICATION NO.
8411-3 to Appropriate
Water**

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Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8411-3 with qualifications because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) It is a beneficial use of water, and 4) It is in the public interest. The Chief Engineer's recommendation with qualifications, the application, and staff report are available at <http://denr.sd.gov/public> or contact Eric Gronlund for this information, or other information, at the Water Rights Program address provided below.

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Published once at the total approximate cost of \$63.75

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF DAVISON)

Penny Hohbach of said county, being, first duly sworn, on oath, says; that he/she is the publisher or an employee of the publisher of The Daily Republic, a daily newspaper, published in the City of Mitchell, in said County of Davison, and State of South Dakota; that he/she has full and personal knowledge of the facts herein stated; that said newspaper is a legal newspaper as defined in SDCL 17-2-2.1 through 17-2-2.4 inclusive; that said newspaper has been published within the said County of Davison and State of South Dakota, for at least one year next prior to the first publication of the attached public notice, and that the notice, order or advertisement, a printed copy of which, taken from the paper in which the same was published, and which is hereto attached and made a part of this affidavit, was published in said newspaper for 1 issues(s), to wit:

Wednesday, January 15, 2020

That the full amount of the fee charged for the publication of the attached public notice insures to the sole benefit of the publisher or publishers; that no agreement or understanding for the division thereof has been made with any other person, and that no part thereof has been agreed to be paid to any person whomsoever, that the fees charged for the publication thereof are: \$63.75

Signed: Penny Hohbach

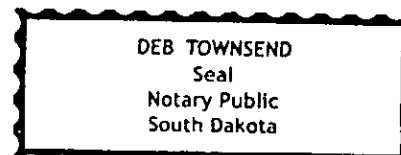
Subscribed and sworn to before me this 15th day of January 2020.

Deb Townsend

Notary Public
County of Davison

My Commission Expires: 10-02-2024

Prepared by: The Daily Republic, P.O. Box 1288, Mitchell S.D. 57301 605-996-5515



NOTICE OF APPLICATION NO. 8411-3 to Appropriate Water

Notice is given that Jed Chelmo, 25661 368th Ave, Kimball SD 57355 has filed an application for a water permit to appropriate 43 acre-feet of water annually at a maximum pump rate of 0.098 cubic feet of water per second from two wells completed into the Dakota Aquifer (920 feet deep) located in the N 1/2 SE 1/4 Section 3 for commercial use in a livestock facility located in the SE 1/4 Section 3; all in T102N-R67W. This site is located 5 miles east and 5 miles south of Kimball SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8411-3 with qualifications because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. The Chief Engineer's recommendation with qualifications, the application, and staff report are available at <http://denr.sd.gov/public> or contact Eric Gronlund for this information, or other information, at the Water Rights Program address provided below.

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The petition may be informal, but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

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

Published once at the total approximate cost of _____.

Schlaak, Karen

From: Schlaak, Karen
Sent: Tuesday, December 31, 2019 1:45 PM
To: 'cdt@midstatesd.net'
Subject: 8411-3, Jed Chelmo
Attachments: 8411-3public.short.docx; FORM8.FRM.doc

Attached is a notice to be published on January 15, 2020.

Jed Chelmo, 25661 368th Ave, Kimball SD 57355 (605 252-1099) has been notified to contact you to authorize publication and arrange for payment.

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

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

Karen Schlaak

SD DENR, Water Rights Program
(605) 773-3352



Schlaak, Karen

From: Schlaak, Karen
Sent: Tuesday, December 31, 2019 1:46 PM
To: 'phohbach@mitchellrepublic.com'
Subject: 8411-3, Jed Chelmo
Attachments: 8411-3public.short.docx; FORM8.FRM.doc

Attached is a notice to be published on January 15, 2020.

Jed Chelmo, 25661 368th Ave, Kimball SD 57355 (605 252-1099) has been notified to contact you to authorize publication and arrange for payment.

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

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

Karen Schlaak

SD DENR, Water Rights Program
(605) 773-3352





**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

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

December 31, 2019

Jed Chelmo
25661 368th Ave
Kimball SD 57355

Dear Mr. Chelmo:

Water Permit Application No. 8411-3 for commercial use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Central Dakota Times printed at Chamberlain SD (Ph # 605 234-0266) and the Daily Republic printed at Mitchell SD (Ph # 605 996-5514). 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.

Please read the note at the end of the recommendation carefully. The recommendation does not allow for the use of the 2019 well for livestock watering since it does not meet the well construction standards.

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 publisher has been instructed to publish your notice. The newspaper has 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,

Eric Gronlund
Natural Resources Engineer
(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.

c: Justin Bonnema, NRCS, 805 E 5th St, Canton SD 57013



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3182
<http://denr.sd.gov>

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 8411-3, Jed Chelmo**

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Program, Department of Environment and Natural Resources concerning Water Permit Application No. 8411-3, Jed Chelmo, 25661 368th Avenue, Kimball SD 57355.

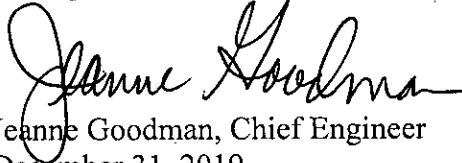
The Chief Engineer is recommending APPROVAL of Application No. 8411-3 because 1) there is reasonable probability that there is unappropriated water available for the applicant's proposed use, 2) the proposed diversion can be developed without unlawful impairment of existing rights, 3) the proposed use is a beneficial use and, 4) it is in the public interest with the following qualifications:

1. The well completed in 1994 approved under Water Permit No. 8411-3 will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner, under these Permits shall control withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. Water Permit No. 8411-3 is subject to compliance with requirements of the Department's Water Pollution Control Permit issued pursuant to SDCL 34A-2-36 or 34A-2-36.2 or 34A-2-112 or 34A-2-124 for concentrated animal feeding operations.
3. Water Permit No. 8411-3 is subject to compliance with all existing and applicable Water Management Board Rules including but not limited to:
 - a) Chapter 74:54:01 Ground Water Quality Standards,
 - b) Chapter 74:54:02 Ground Water Discharge Permit,
 - c) Chapter 74:51:01 Surface Water Quality Standards,
 - d) Chapter 74:51:02 Uses Assigned to Lakes,
 - e) Chapter 74:51:03 Uses Assigned to Streams, and
 - f) Chapter 74:52:01 through 74:52:11 Surface Water Discharge Provisions

(continued)

4. The Permit holder shall report to the Chief Engineer annually the amount of water withdrawn from the Dakota aquifer.
5. Water Permit No. 8411-3 authorizes a total annual diversion of 43.0 acre feet of water from the Dakota aquifer.

See report on application for additional information.

A handwritten signature in black ink, appearing to read "Jeanne Goodman".

Jeanne Goodman, Chief Engineer
December 31, 2019

NOTE: The well completed in July 2019 was constructed using an alternative method in the well construction standards that is allowed only for private and reasonable domestic use wells for noncommercial livestock watering wells. Due to the fact the quantity of water requested is greater than reasonable domestic use, this application is a commercial use of water. Therefore, the 2019 well does not meet the South Dakota Well Construction Standards and cannot be authorized for use under this water permit. This application affords the permit holder to plug the 2019 well and drill a replacement well that meets the well construction standards or rehabilitate the well to bring it into compliance with the standards. Independent of what is done with the 2019 well, if this application is approved, the permit holder will be authorized to use the Dakota aquifer well that was constructed in 1994.

**Report to the Chief Engineer
Water Permit Application No. 8411-3**

Jed Chelmo
20 November 2019

Water Permit Application No. 8411-3 seeks to withdraw 43 acre-feet of water annually at a maximum pump rate of 0.098 cubic feet of water per second from two wells completed into the Dakota aquifer (920 feet deep) located in the N ½ SE ¼ Section 3 for commercial use in a livestock facility located in the SE ¼ Section 3; all in T102N-R67W. This site is located 5 miles east and 5 miles south of Kimball, South Dakota.

Aquifer: Dakota (DKOT)

Hydrogeologic characteristics

The Dakota Formation is composed of sandstone, siltstone, and clay/shale deposited during the late Cretaceous Period, which extends throughout most of South Dakota. It lies directly below the Mowry Shale and Graneros Shale and overlies the Skull Creek Shale in most of South Dakota (Fahrenbach, et al., 2010). Where the Skull Creek shale is not present, the Dakota Formation overlies older sedimentary rocks which are aquifers in some places (Schoon, 1971). A stratigraphically equivalent formation to the Dakota Formation, called the Newcastle Formation, outcrops near the Black Hills. In South Dakota, the Dakota aquifer is composed of the saturated and permeable portions of the Dakota and Newcastle Formations. It underlies approximately 66,500 square miles in South Dakota with an average thickness of at least 150 feet (Schoon, 1971). The amount of water in storage within the Dakota aquifer can be estimated by conservatively assuming an average porosity of 15% and multiplying the porosity (Rahn, 1979), average thickness, and areal extent of the aquifer together, resulting in at least 960 million acre-feet of water in storage in South Dakota. The Dakota aquifer is under confined conditions except near the outcrops of the Newcastle Formation in the Black Hills and the Dakota Formation near Dakota City, Nebraska (Schoon, 1971).

Two well completion reports were submitted for this application. The first well was completed December 8, 1994. The driller reported Pierre Formation from land surface to 238 feet below grade, Niobrara Formation from 238 to 456 feet, Carlile Formation from 456 to 622 feet, Greenhorn Formation from 622 to 646 feet, Graneros Formation from 646 to 760 feet, and the Dakota Formation from 760 to 920 feet below grade. The static water level was 12 feet below grade at the time of drilling. The second well was completed July 11, 2019. The driller reported yellow clay from 0 to 40 feet below grade, blue clay from 40 to 140 feet, sandy blue clay with rocks from 140 to 180 feet, black chalk from 180 to 300 feet, shale from 300 to 640 feet, sandy shale from 640 to 740 feet, shale with sandstone from 740 to 800 feet, "good" sand with shale breaks from 800 to 860 feet, and "good" sand from 860 to 920 feet. The static water level was 30 feet below grade at the time of drilling. The screens for both wells were placed from 840 to 920 feet below grade. There is a third well on file with the DENR in the same quarter-quarter as the 1994 well which was completed in 1966 (SD Water Rights, 2019c). According to the well driller, the 1966 well has been plugged (Hutmacher, 2019). There are no plugging reports on file with the DENR for that legal description or within 1 mile of that legal description (SD Water Rights, 2019c).

Applicable South Dakota Codified Law (SDCL)

Pursuant to SDCL 46-2A-9, a permit to appropriate water may be issued if there is reasonable probability that there is unappropriated water available for the applicant's proposed use, that the proposed diversion can be developed without unlawful impairment of existing rights, and that the proposed use is a beneficial use and in the public interest. This report will assess the availability of water and possibility of developing this application without unlawful impairment of existing rights only.

Pursuant to SDCL 46-6-3.1, 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 the water to the groundwater source. An exception allows water distribution systems to withdraw from groundwater sources older or stratigraphically lower than the Greenhorn Formation regardless of the results of a hydrologic budget. The Dakota aquifer is older and stratigraphically lower than the Greenhorn Formation. However, the applicant's livestock facility is not a water distribution system as defined in SDCL 46-1-6(17). Therefore, it is necessary to find that recharge exceeds withdrawals to approve this application.

Water availability

Hydrologic budget

Recharge

Recharge to the Dakota aquifer is by seepage from lower aquifers, infiltration from precipitation where the Newcastle formation crops out at the edge of the Black Hills, and infiltration from stratigraphically higher aquifers where they are adjacent to the Dakota aquifer and the hydraulic head in the Dakota aquifer is lower than that of the higher aquifers (Bredehoeft, et al., 1983; Iles, 1984). Bredehoeft, et al. (1983) calibrated a multidimensional computer model to match the modeled potentiometric surface of the Dakota aquifer to the one mapped by Darton (1909) and estimated that before development of the Dakota aquifer, recharge was approximately 79.4 cfs (approximately 57,500 ac-ft/yr). However, that model is based on a number of incorrect or outdated assumptions. For example, Bredehoeft et al. (1983) assumed there is no flow across state boundaries, and the recharge estimates used for the Madison aquifer are significantly less than estimates found by more recent research (Carter, et al., 2002). Bredehoeft et al.'s (1983) estimate may provide a sense of scale of the aquifer's recharge rate, but it cannot be used as a precise value for water management purposes. The number of confounding factors make it uncertain whether the true recharge rate to the Dakota aquifer is higher or lower than the Bredehoeft et al. (1983) estimate.

Discharge

Discharge from the Dakota aquifer is by outflow to the Dakota Formation in other states, outflow to adjacent aquifers when the hydraulic head of the Dakota aquifer is higher than the adjacent aquifers, outflow to uncontrolled flowing wells to the land surface or stratigraphically higher aquifers, and outflow to rivers when the hydraulic head of the Dakota aquifer is higher than the stage of the rivers (Schoon, 1971). The Water Management Board does not consider uncontrolled flow from wells a withdrawal, but rather, considers it discharge available for

capture (SD Water Rights, 2019a). There are 241 active water rights/permits authorized to withdraw from the Dakota aquifer and 7 future use permits associated with the Dakota aquifer, two of which reserve no water (SD Water Rights, 2019a). The total amount of water reserved for future use is 4,287 ac-ft/yr. Table 1 shows the number of each kind of permit withdrawing from the Dakota aquifer (SD Water Rights, 2019a).

Table 1: Number and kinds of Dakota aquifer water rights/permits (SD Water Rights, 2019a)

Primary Use Type:	Number of Licenses/Permits:
Commercial	95
Domestic	11
Fish and Wildlife Propagation	4
Geothermal	2
Industrial	6
Institutional	2
Irrigation	17
Municipal	89
Recreation	2
Rural Water System	6
Suburban Housing Development	7
Total:	241

Additionally, two water permit applications are pending. Water Permit Application No. 2804-2 seeks to withdraw 60.5 ac-ft/yr from the Dakota aquifer at a maximum instantaneous pump rate of 0.13 cfs for commercial purposes in Tripp County (Drennon, 2019a). Water Permit Application No. 8310-3 seeks a total withdrawal of 77 ac-ft/yr for that application and Water Permit No. 6637-3, which is 20.5 ac-ft/yr more than had been estimated previously (Drennon, 2019b). The rest of the hydrologic budget section of this report relies heavily upon the Drennon (2019a) analysis, as it was written approximately six weeks prior to this report.

Irrigation water right holders generally are required to submit an annual irrigation report. However, two irrigation water rights withdrawing from the Dakota aquifer are not required to report their withdrawals (SD Water Rights, 2019a). The two water rights not required to report comprise 31.2 of the 1,013.8 acres authorized to irrigate from the Dakota aquifer. Figure 1 shows the irrigation reported from the Dakota aquifer over the entire period of record (SD Water Rights, 2019d). The average irrigation reported over the period of record is 147.0 ac-ft/yr. By conservatively assuming the two non-reporting irrigation water rights apply water at a rate of 1 acre-foot per acre, the total estimated average annual use for irrigation is 178.2 ac-ft/yr.

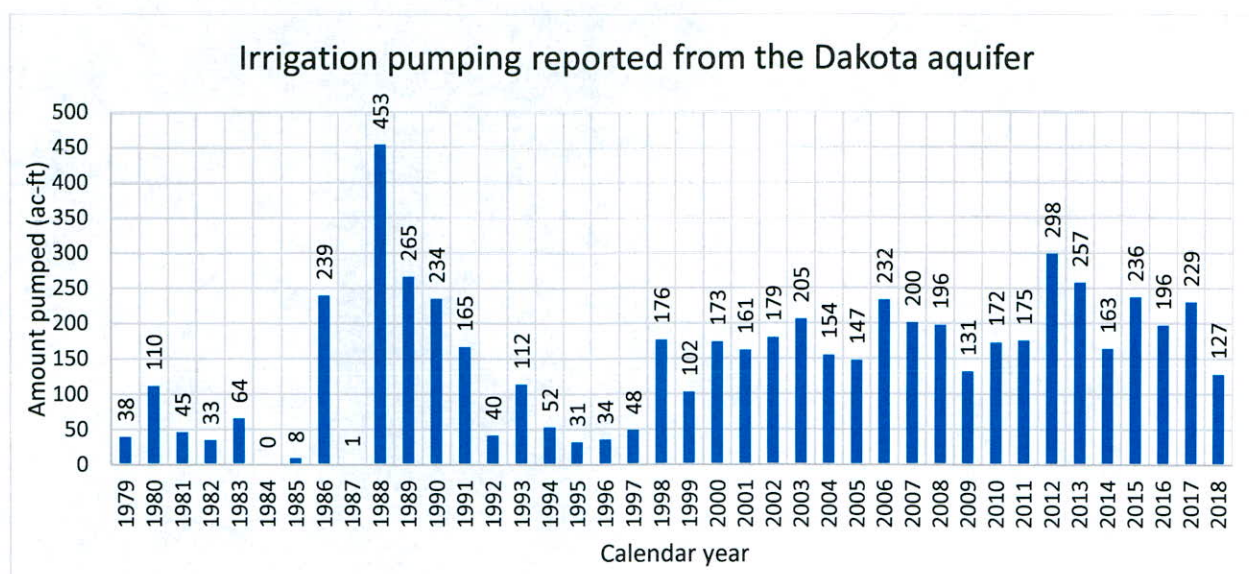


Figure 1: Irrigation reported in the Dakota aquifer (SD Water Rights, 2019d)

Of the non-irrigation water rights/permits, some are required to report annual use, some are limited to an annual volume, and some are limited by maximum instantaneous pump rate only. Water rights for municipal users, rural water systems, and suburban housing developments that are known to purchase their water from a different water distribution system were assumed to withdraw a negligible amount of water (Friedeman, 2019). For water rights/permits with an annual volume limit that were also required to report, the greater value between their annual volume limit and their average annual use was used in this withdrawal estimate (SD Water Rights, 2019e). This method increases the estimated use from the Dakota aquifer considerably above the actual average annual reported use, but some water right/permit holders report increased use each year while remaining below their permitted volume limit. This method of estimation accounts for the full volume of water appropriated for them. Non-irrigation water rights/permits only required to report their annual use are assumed to use their average annual reported use. Non-irrigation water rights only limited by an annual volume and not required to report their annual use are assumed to use their entire permitted annual volume.

The rest of the non-irrigation permits and those only required to report their average annual use but have not reported enough years to find an average, are conservatively assumed to pump their maximum pump rate licensed/permitted 60% of the time. Water Permit No. 6637-3, had been estimated by assuming they pumped at their permitted pump rate 60% of the time, yielding an estimated annual use of 56.5 ac-ft/yr. Therefore, the total annual use for non-irrigation water rights/permits currently authorized to withdraw is estimated to be 19,733.4 ac-ft/yr. Table 2 summarizes the estimated annual use calculations for non-irrigation water rights/permits in the Dakota aquifer. Including the annual volume limit indicated in Water Permit Application Nos. 2804-2 and 8410-3, the average annual withdrawal estimate for non-irrigation use increases to 19,814.4 ac-ft/yr.

Table 2: Summary of non-irrigation withdrawal estimates currently authorized in the Dakota aquifer (SD Water Rights, 2019a)

Estimation method	No. Permits	Total pump rate (cfs)	Estimated use (ac-ft/yr)
Annual volume limit	27	N/A	8,625.1
Average reported use	11	N/A	603.2
Pumps 60% of the time	109	24.168	10,505.1
Purchased from other systems	94	0	0
Total	224		19,733.4

Balance of hydrologic budget

There is no certain estimate of the average annual recharge available. Bredehoeft et al. (1983) estimated a recharge rate on the order of 57,500 ac-ft/yr but several confounding factors make it uncertain if that is a high or low estimate. The estimated average annual use by irrigation water rights/permits is 178.2 ac-ft/yr. The estimated average annual use by non-irrigation water rights/permits and pending applications is 19,814.4 ac-ft/yr. The amount of water reserved for future use is 4,287 ac-ft/yr. Therefore, the total estimated withdrawal from the Dakota aquifer is 24,279.6 ac-ft/yr, including the amount reserved for future use. This application seeks to withdraw 43 ac-ft/yr from the Dakota aquifer. The total estimated withdrawal is less than 0.01 percent of the water stored in the Dakota aquifer in South Dakota. Therefore, based on the hydrologic budget, there is reasonable probability unappropriated water is available for this application.

Observation wells

Administrative Rule of South Dakota (ARSD) 74:02:05:07 requires that the Water Management Board must rely upon observation well measurements in addition to other information to determine the availability of unappropriated water for a groundwater use permit. The SD DENR Water Rights Program maintains 46 observation wells completed into the Dakota aquifer (SD Water Rights, 2019b). The nearest Dakota aquifer observation well is AU-89A, located approximately 15 miles east of the wells for this application. The next nearest Dakota aquifer observation well is BL-83A, located approximately 25 miles northwest of the wells for this application (SD Water Rights, 2019b). As shown in Figure 2, Observation Wells AU-89A and BL-83A also show a steady decline in water levels. Most DENR observation wells completed into the Dakota aquifer show a steady decline in water level that appears to level off as time goes on (SD Water Rights, 2019b). Some observation wells in the southeastern part of South Dakota and Observation Well ED-85A in Edmunds County show increases in water levels over the period of record (SD Water Rights, 2019b). In confined aquifers, declining water levels do not indicate a significant loss of water in storage, but a decline in hydraulic head in the aquifer. In the March 2010 hearing on the matter of Water Permit Application No. 7165-3, the Water Management Board determined that DENR observation well data indicated that recharge exceeded withdrawals and that the aquifer was approaching a new equilibrium as withdrawals increased (SD Water Rights, 2019a). General trends for observation well water levels have not changed much since then (SD Water Rights, 2019b). Therefore, based on observation well data, there is reasonable probability unappropriated water is available for this application.

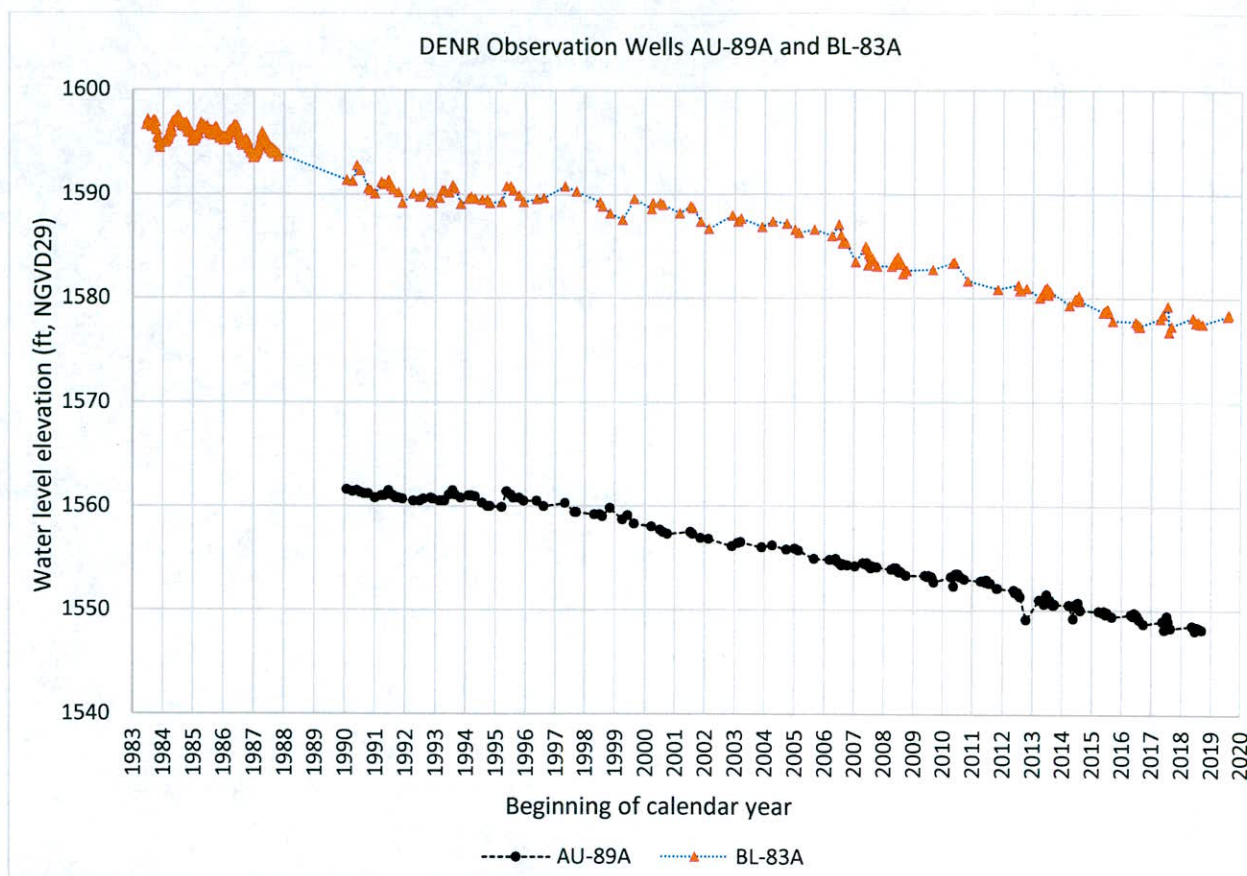


Figure 2: Hydrograph of DENR Observation Wells AU-89A and BL-83A (SD Water Rights, 2019b)

Existing users

Figure 3 shows Dakota aquifer water rights/permits (SD Water Rights, 2019a) and observation wells in the area of the application (SD Water Rights, 2019b). The nearest domestic well on file with the DENR Water Rights Program that is likely to be completed into the Dakota aquifer is located in Section 2-T107N-R67W. The well was completed in 1975 and the location information given was only as precise as the square mile section, so the distance between that well and the wells for this application is not precisely known. The casing information provided with that well completion report says the well has 81 feet of 5-inch casing and 3-inch casing for the rest of the depth, which was perforated to make the screen for the well. Since the Dakota Formation is significantly deeper than 81 feet below grade at the location of the nearest domestic well, that well does not meet the ARSD 74:02:04:20(6) definition of an adequate well, shown here:

“a well constructed or rehabilitated to allow various withdrawal methods to be used, to allow the inlet to the pump to be placed not less than 20 feet into the saturated aquifer or formation material when the well is constructed, or to allow the pump to be placed as near to the bottom of the aquifer as is practical if the aquifer thickness is less than 20 feet.”

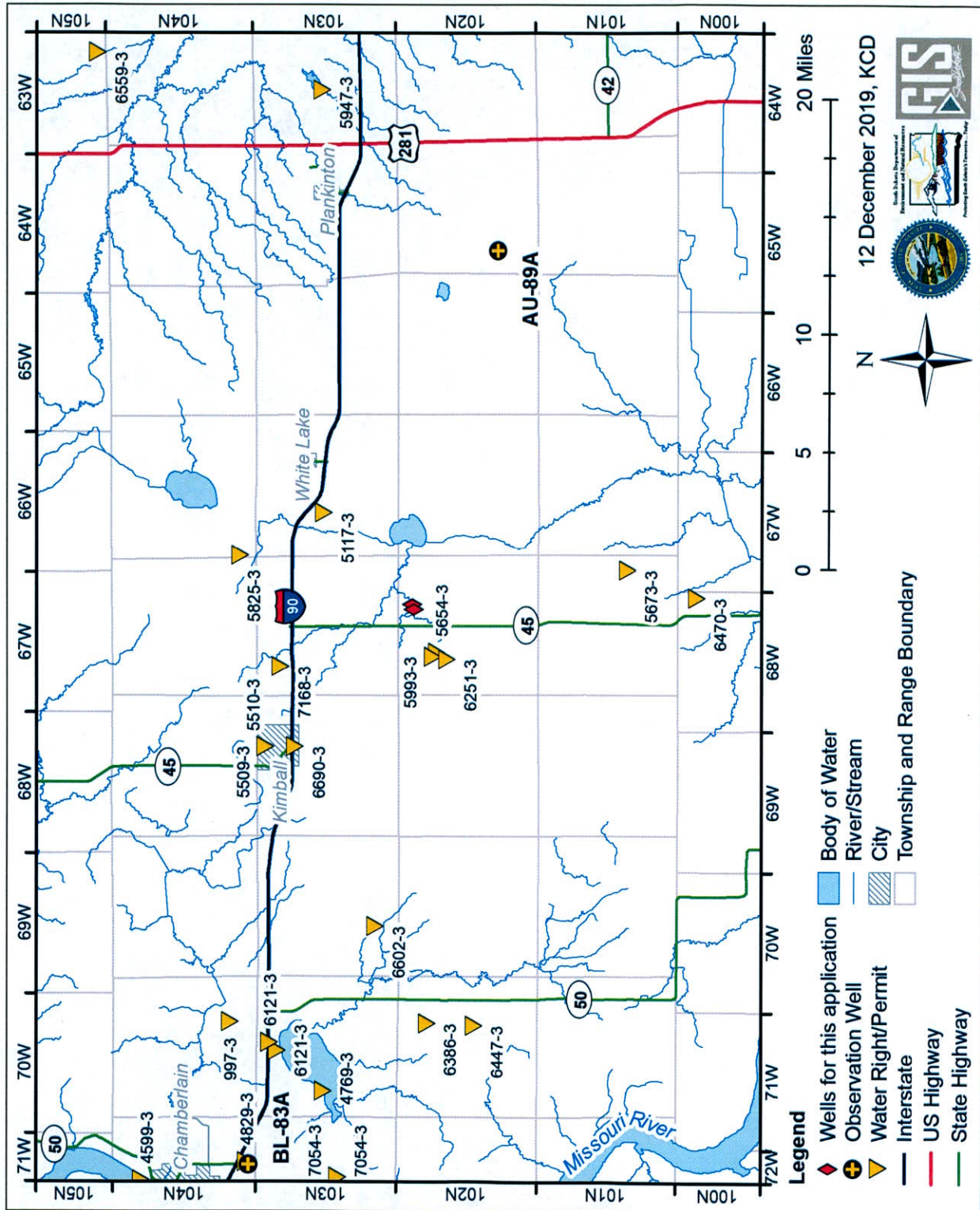


Figure 3: Dakota aquifer water rights/permits (SD Water Rights, 2019a), DENR observation wells (SD Water Rights, 2019b), and wells for this application.

The nearest Dakota water right/permits to this application are Water Right Nos. 5654-3 and 5993-3, and 6251-3, all held by Grass Ranch Colony, located approximately 2.2 miles southwest

of the wells for this application. All of the wells for those water rights are not adequate as defined by ARSD 74:02:04:20(6) either, but the portion of casing that is wide enough to accommodate a pump goes to different depths for each well. The nearest Dakota aquifer water right/permit with an adequate well is Water Right No. 7168-3, located approximately 6 miles north of the wells for this application (SD Water Rights, 2019a). The exact drawdown behavior of the well cannot be known without an aquifer pumping test. In order to put the waters of the state to maximum beneficial use, SDCL 46-6-6.1 does not protect hydraulic head and well owners may be required to lower their pumps. In order to protect domestic well users, ARSD 74:02:04:20(7) defines 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"

There are no complaints on file with the DENR Water Rights Program regarding well interference in Brule County (SD Water Rights, 2019f). Given the lack of complaints and the distance between the wells for this application and the nearest adequate well, there is reasonable probability this application can be developed without unlawful impairment of senior water rights/permits or domestic users.

Special considerations

Both wells for this application do not meet the ARSD 74:02:04:20(6) definition of an adequate well. The wells do meet alternative construction requirements for domestic and noncommercial livestock watering wells as described in ARSD 74:02:04:35. However, this application is for a commercial livestock operation.

Conclusions

1. Water Permit No. 8411-3 proposes to withdraw 43 ac-ft/yr from two wells completed into the Dakota aquifer, located in N ½ SE ¼ Section 3-T102N-R67W, with combined maximum pump rate of 0.098 cfs.
2. Based on a hydrologic budget and observation well analysis, there is reasonable probability unappropriated water is available for this application.
3. There is reasonable probability this application can be developed without unlawful impairment of senior water rights/permits or existing domestic wells.

Kimberly C. Drennon /ks

Kimberly C. Drennon
Natural Resources Engineer

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DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3182
<http://denr.sd.gov>

FEB 06 2020

Jed Chelmo
25661 368th Ave
Kimball SD 57355

Dear Mr. Chelmo:

Enclosed is Water Permit No. 8411-3 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,

Jeanne Goodman, Chief Engineer
Water Rights Program
(605) 773-3352

enclosures

Note: The well completed in July 2019 was constructed using an alternative method in the well construction standards that is allowed only for private and reasonable domestic use wells for noncommercial livestock watering wells. Due to the fact the quantity of water requested is greater than reasonable domestic use, this application is a commercial use of water. Therefore, the 2019 well does not meet the South Dakota Well Construction Standards and cannot be authorized for use under this water permit. This permit affords the permit holder within the time to complete construction to plug the 2019 well and drill a replacement well that meets the well construction standards or rehabilitate the well to bring it into compliance with the standards. The 2019 well may be used for domestic use at a home residence.

8411-3

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

Date 3-27-2020

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

RECEIVED

MAR 30 2020

WATER RIGHTS
PROGRAM

FROM:

Jed Chelmo

(name)

25661 368th Ave

(address)

Kimball, SD 57355

(city, state, zip)

605-252-1099

(phone)

I have completed the construction of the water use system and I have put the water to beneficial use to the maximum extent it is going to be used.

Water Permit No. 8411-3 states that the water use system is to be constructed by

1-27-2025

(date)

, and water is to be put to beneficial use by 1-27-2029

(date)

The water use system was completed on 7-12-2019

(date)

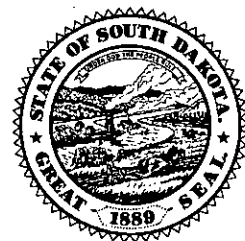
Applying the water to beneficial use was completed on 1-27-2029

(date)

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

Jed Chelmo

(signature)





DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3182
<http://denr.sd.gov>

April 8, 2020

8411-3

Jed Chelmo
25661 368th Ave
Kimball SD 57355

Dear Chelmo:

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

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

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

Sincerely,

Genny McMath
Water Rights Program
(605) 773-3352
email: genny.mcmath@state.sd.us