

WATER PERMIT NO. 7453-3

Name of Applicant: Berger Farms

Address: c/o Cheryl Berger, 14633 450th Ave, Ortley SD 57256

Phone: 605 947-4434

Amount of Water Claimed: 2.0 cfs Total Acres: 140

Source of Water Supply: groundwater (two wells)

Water to be used for: irrigation County: Grant

Type of Waste Disposal System:

Location: 28 miles west of Milank

PRIORITY

Date Received: 9-28-2012

Application/License Fee: \$ 1050

Corrected Application Received:

Period of Annual Use: June 1 – Oct 1

Remarks:

Diversion Point: NW 1/4 SE 1/4 Sec 19-T121N-

R52W

Land to be Irrigated: SE 1/4 Sec 19-T121N-R52W

Depth of Well: 55 and 40 feet deep

Well Driller: Lee Well Drilling

Remarks:

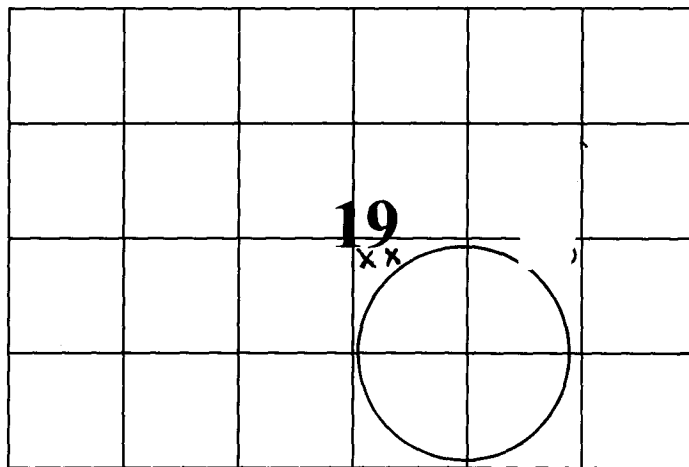
Type of Map: aerial

Prepared by:

Reviewed and the Number Assigned on: 10-5-12

By: Karen Schlaak

Notice of Hearing - date to intervene: _____



SD EForm - 0499LD V3

FORM 2: Application for irrigation in South Dakota
(type or print)

Mail to:
PMB 2020
DENR - Water Rights
523 E Capitol Ave
Pierre, SD 57501-3182
ph. (605) 773-3352

No. 7453-3 (office use only)
Hydrologic Unit 10170202
Basin Loup River 605-432-4516
Newspaper Grant Co. River PO Box 390 Millbank 57252
Public Opinion PO Box 10 Watertown 57201-886-6901

RECEIVED
SEP 28 2012
WATER RIGHTS
PROGRAM

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 of Applicant Berger Farms Cheryl Berger Phone 605-947-4434
(check one) ☒ Owner ☐ Tenant/lessee
Mailing Address 14633 450th Ave Ortley SD 57256
(Address) (City) (State) (Zip Code)
2. Amount of water claimed 2.0 *CFS or 450 **GPM ***AF Total Acreage 140
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)
3. Source of water supply 2-wells
4. Location of point of diversion (example - 3 wells in SW 1/4 NE 1/4 section 12-T104N-R53W) County Grant
2-wells in NW/SE Section 19 T-121-N R-52-W
5. County or counties where water will be used Grant
6. Annual period during which water is to be used 6-1 to 10-1 June 1 - Oct. 1
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 Qrt. Sec 19-121-52</u>	<u>140</u>		

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

System Centered on Quarter

STATE OF SOUTH DAKOTA)

County of Grant)

Cheryl Berger, the applicant, certify that I have read this application, have examined the attached map and that the matters stated are true and that I intend, and am able to complete the necessary construction.

Applicant's signature Cheryl Berger Berger Farms

Subscribed and sworn to before me this _____ day of _____ 20____

Notary Public signature

**SOUTH DAKOTA
WATER PERMIT NO. 7453-3**

Date of first receipt of application September 28, 2012.

Date of return to applicant for corrections, amendments or changes October 1, 2012.

Date of receipt of corrected application October 5, 2012.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 7453-3 to Berger Farms, c/o Cheryl Berger, 14633 450th Ave, Ortleigh SD 57256 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. 7453-3 appropriates 2.0 cubic feet of water per second from two wells completed into the Big Sioux:North Aquifer (55 and 40 feet deep) located in NW 1/4 SE 1/4 Section 19 for irrigation of 140 acres located in the SE 1/4 Section 19; all in T121N-R52W. The wells and acreage are located within the former boundaries of the Sisseton Wahpeton Indian Reservation.
2. The amount of the appropriation may not exceed 2 acre feet annually for each acre of land to which water is actually and beneficially applied for irrigation. The water is to be used during the following described annual period: June 1 – October 1.
3. The date from which applicant may claim right is September 28, 2012.
4. The date of approval of Permit No. 7453-3 is December 31, 2012.
5. One-fifth of the construction is to be completed on or before June 30, 2015.
6. All construction is to be completed on or before December 31, 2017.
7. Water is to be put to beneficial use on or before December 31, 2021.
8. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

1. The wells approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The wells authorized by Permit No. 7453-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

WATER MANAGEMENT BOARD

By: Garland Erbele
Garland Erbele, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

JAN 17 2013

date



Form 2A

(Complete applicable portions only)

Supplemental Information

(type or print in ink)

well #1 - Sarch well

1. Well Information - Proposed Construction

- a) Drill Hole Diameter 15 Depth 55
- b) Casing Type -PVC Diameter 10" Thickness SDR-21
- c) Screen Type Johnson Stainless Steel Diameter 8" Thickness 1/2 slot
- d) Gravel Pack Pearrock Length of Gravel Pack 30'-55'
- e) Depth to Top of Water Bearing Material 35'
- f) Depth to Water (ground surface to water level) 24'
- g) Distance to nearest existing domestic well:

On applicant's property 3500 ftOn property owned by others 3000 ft approx

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

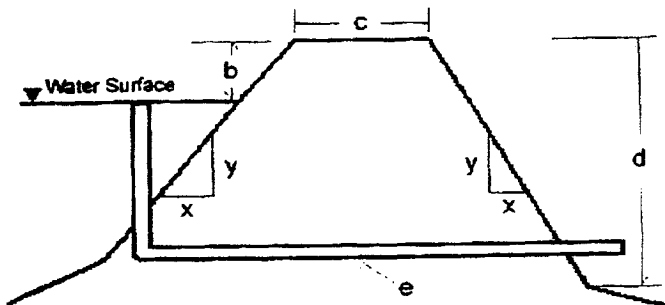
- a) Surface Dimensions _____ Depth _____
- b) Depth to water (ground surface to water level) _____

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



2010-01

Form 2A
(Complete applicable portions only)

Supplemental Information

(type or print in ink)

well #2 - Newhall

1. Well Information - Proposed Construction

- a) Drill Hole Diameter 15 Depth 40
- b) Casing Type PVC Diameter 10" Thickness SPR-21
- c) Screen Type Johnson Sinks Steel Diameter 8" Thickness V-slot
- d) Gravel Pack Pearrock Length of Gravel Pack 20'
- e) Depth to Top of Water Bearing Material 16'
- f) Depth to Water (ground surface to water level) 13'
- g) Distance to nearest existing domestic well:
- On applicant's property 2500 ft approx On property owned by others 3000 ft approx

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

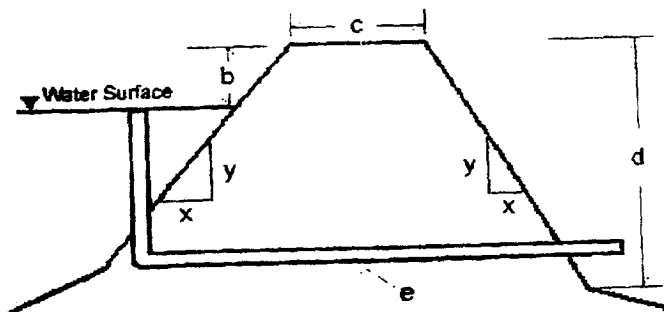
- a) Surface Dimensions _____ Depth _____
- b) Depth to water (ground surface to water level) _____

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.

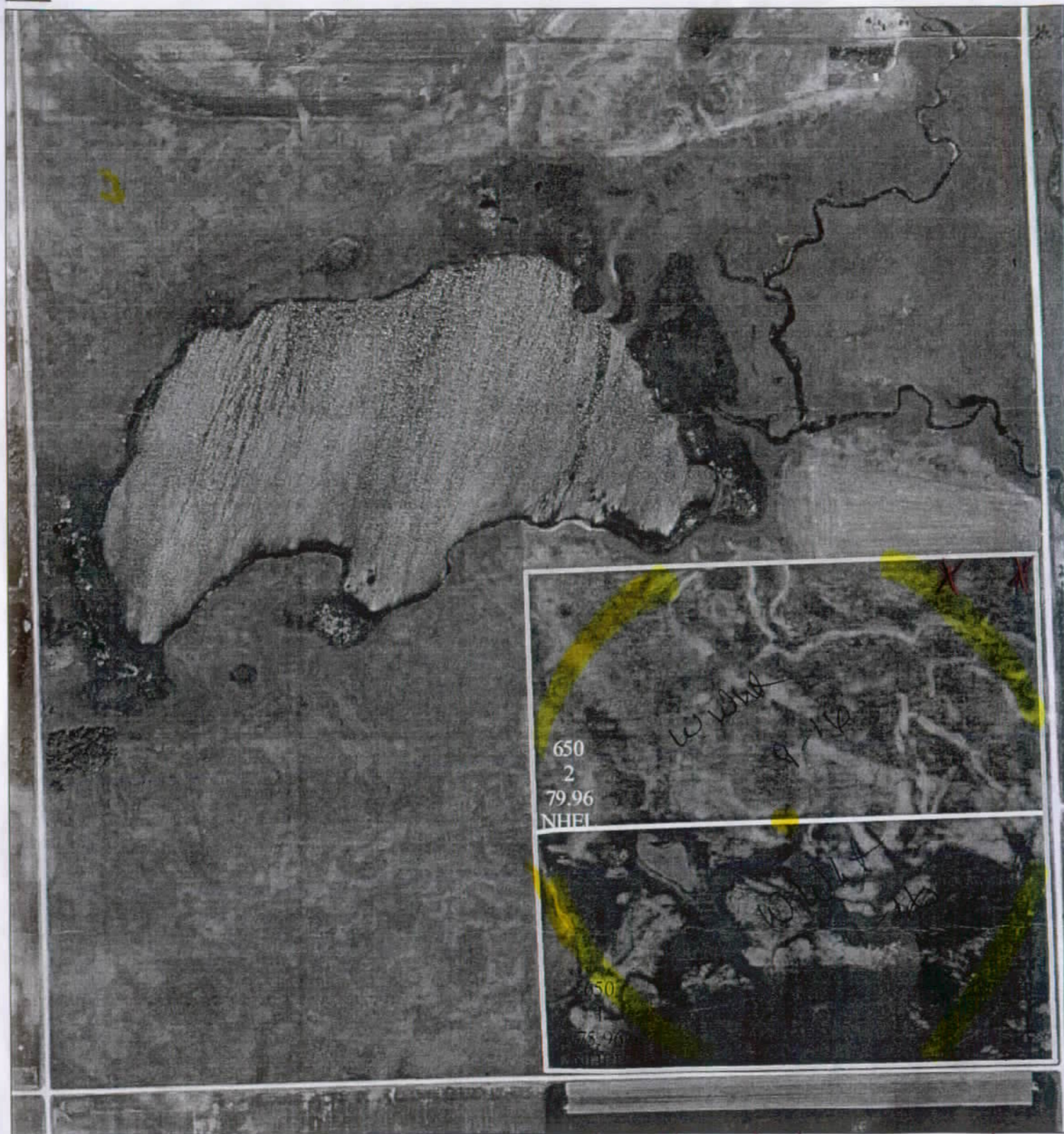
- a) If a private engineering firm or government agency was involved in the design of this dam, please give their name and address:

- 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





United States Department of Agriculture Farm Service Agency



South Dakota
Grant County

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Farm Number
2720

Township-Range-Section
121N52W19

- Legend
- Restricted Use
 - ▽ Limited Restrictions
 - Exempt from Conservation Compliance Provisions
 - CLU Field Boundary
 - Tract Boundary



1:8,140

USDA FSA maps are for FSA Program administration only. This map does not represent a legal survey or reflect actual ownership, rather it depicts the information provided directly from the producer and/or the 2006 orthorectified imagery for South Dakota. The producer accepts the data "as is" and assumes all risks associated with its use. The USDA Farm Service Agency assumes no responsibility for actual or consequential damage incurred as a result of any user's reliance on this data outside of FSA Programs. Wetland identifications do not represent the size, shape or specific determination of the area. Refer to your original determination (CPA 426 and attached maps) for exact wetland boundaries and determinations, or contact NRCS.

Mar 26, 2009

SOUTH DAKOTA WATER WELL COMPLETION REPORT

07-92

Location NW 1/4 SE 1/4 Sec 19 Twp 121-N Rg 52-W
County Grant

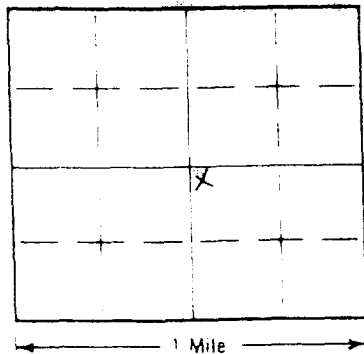
Please mark well location with an 'X'

Well #2

Archie well

Well Completion Date

9/21/12



Well Owner Sheryl Berger
Business Name Berger Tractor & Cattle Farms
Address 14633 450 E Ave
Ortley SD 57256

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
<u>topsoil</u>	<u>0</u>	<u>3</u>
<u>Sand</u>	<u>3</u>	<u>13</u>
<u>clay</u>	<u>13</u>	<u>16</u>
<u>Sand</u>	<u>16</u>	<u>40</u>
<u>clay</u>	<u>40</u>	
<u>Blue</u>		

LOCATION:

Distance from nearest potential pollution source (septic tank, abandoned well, feed lot, etc.) None within 3000 ft (Identify source)

PROPOSED USE:

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

METHOD OF DRILLING:

Forward Rotary

CASING DATA:

☐ Steel ☒ Plastic ☐ Other

If other describe

WEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
<u>AR-21 LB/FT</u>	<u>10 IN</u>	<u>0 FT</u>	<u>30 FT</u>	<u>15 IN</u>

GROUTING DATA

Grout Type Portland No. of Sacks 15 Grout Weight 15 lb gal 0 ft 20 ft

Describe grouting procedure pressure Grout w/ tremie pipe

SCREEN:

☐ Perforated pipe ☒ Manufactured
Diameter 8" IN Length 10 FEET
Material Stainless Steel
Slot Size 50 Set From 30 Feet to 40 Feet
Other information

WAS A PACKER OR SEAL USED?

If so, what material?

Describe packer(s) and location?

DISINFECTION: Was well disinfected upon completion?

☒ YES How

Chlorine

☐ NO Why Not?

Solution

Laboratory sent to for water quality analysis

None / Bergrum well

STATIC WATER LEVEL

13

Feet

If flowing, closed in pressure

PSI

GPM flow through

inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other

Reduced Flowrate

GPM

Can well be completely shut in?

WELL TEST DATA

☒ Pumped

Describe

☐ Bailed

☐ Other

Pumping Level Below Land Surface

30 ft After 3 Hrs pumped 2000 GPM

ft After Hrs pumped GPM

If pump installed, pump rate GPM

REMARKS

RECEIVED
SEP 28 2012
WATER RIGHTS PROGRAM

This well was drilled under license # 63

And this report is true and accurate

Drilling firm Lee Well Drilling Inc

Signature of License Representative

[Signature]

Signature of Well Owner or Equitable Property Holder

Sheryl Berger

Date 9-27-12

SOUTH DAKOTA WATER WELL COMPLETION REPORT

07-92

Location NW 1/4 SE 1/4 Sec 19 Twp 121N Rg 52W
County Grant

Please mark well location with an 'X'

well # 1 - South well

Well Completion Date 9/20/12

LOCATION

Distance from nearest potential pollution source (septic tank, abandoned well, feed lot, etc.) None within 2,000 feet (Identify source)

PROPOSED USE:

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

METHOD OF DRILLING

Forward Rotary

CASING DATA: ☐ Steel ☒ Plastic ☐ Other

If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
<u>DR-24 LB/FT</u>	<u>10 IN</u>	<u>0 FT</u>	<u>40 FT</u>	<u>15 IN</u>
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN

GROUTING DATA

Grout Type	No. of Sacks	Grout Weight	From	To
<u>Neat Cement</u>	_____	<u>15 lb/gal</u>	<u>0 ft</u>	<u>30 ft</u>
_____	_____	_____ lb/gal	_____ ft	_____ ft

Describe grouting procedure pressure Grout w/ tremie

None

SCREEN: ☐ Perforated pipe ☒ Manufactured

Diameter 8 IN Length 15 FEET

Material Stainless Steel Hi-Q 1/4 slot

Slot Size 20 Ser. From 40 Feet to 55 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 Chlorine

☐ NO, Why Not? Not needed

Laboratory sent to for water quality analysis None/Irrigation well

Well Owner Cheryl Berger

Business Name Berger Landscaping & Farm

Address 14633 450th Ave
Orndorff SD 57056

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
<u>topsoil</u>	<u>0</u>	<u>1</u>
<u>clay yellow</u>	<u>1</u>	<u>5</u>
<u>Sand & Gravel</u>	<u>5</u>	<u>25</u>
<u>clay</u>	<u>25</u>	<u>29</u>
<u>Sand</u>	<u>29</u>	<u>32</u>
<u>clay</u>	<u>32</u>	<u>35</u>
<u>Sand coarse</u>	<u>35</u>	<u>55</u>
<u>clay Blue</u>	<u>55</u>	

STATIC WATER LEVEL 24 Feet

If flowing, closed in pressure _____ PS

GPM flow _____ through _____ inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other _____

Reduced flowrate _____ GPM

Can well be completely shut in? _____

WELL TEST DATA

☒ Pumped Describe _____

☐ Bailed _____

☐ Other _____

Pumping Level Below Land Surface

40 ft After 3 Hrs pumped 200 GPM

_____ ft After _____ Hrs pumped _____ GPM

If pump installed, pump rate _____ GPM

REMARKS

RECEIVED
SEP 28 2012
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This well was drilled under license # 63

And this report is true and accurate

Drilling firm Lee Well Drilling Inc.

Signature of License Representative [Signature]

Signature of Well Owner or Equitable Property Holder Cheryl Berger 9-27-12

Date _____

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 10/1, 20 12

RECEIVED OF Cheryl Berger 14633 450th Ave Ortley SD 57256

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

Fee for Application for Permit No. <u>7453-3</u> to Appropriate Water, to construct and to put water to beneficial use	850	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>7453-3</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	1050 00

No. 05598

By

David E. De J.
Chief Engineer



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

October 1, 2012

RECEIVED

OCT - 5 2012

**WATER RIGHTS
PROGRAM**

Berger Farms
c/o Cheryl Berger
14633 450th Ave
Ortley SD 57256

Dear Ms. Berger:

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

- Enclosed is the aerial photo map submitted with the application. Please mark each well location with an "X".
- Please complete item No. 2, Amount of water claimed. State Statutes limit diversions to 1 cubic feet of water per second (cfs) for each 70 acres irrigated. This would mean that you are allowed approximately 2 cfs or 900 gpm to irrigate the total 140 acres.

If you have any questions, please contact me.

Sincerely,

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

enclosures

7453-3

Water Rights Program - DENR
Conversation File Documentation

NAME OF PERSON OR FILE: Water Permit Application No. 7453-3, Berger Farms

ADDRESS: 14633 450th Avenue, Ortleby SD COUNTY: Grant County

DATE: October 9, 2012 TELEPHONE: 605 947-4434

RE: Location of wells

I contacted Berger Farms and talked with Dan Berger. I informed that the application stated the two wells being located in the NW ¼ SE ¼ Section 19, T121N, R52W and this conflicted with the map submitted which marked the wells in the NE ¼ SE ¼ of this section. Mr. Berger indicated the two wells are located near the center of the Section 19. They are about 250 apart in the area of the pivot in the NW ¼ SE ¼ that is not within the pivot's coverage. He indicated there must have been some confusion on their part when the "X" marking the spot of the wells on the map occurred.

NAME: Eric Trumbull



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 7453-3, Berger Farms**

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. 7453-3, Berger Farms, c/o Cheryl Berger, 14633 450th Avenue, Ortleigh SD 57256.

The Chief Engineer is recommending APPROVAL of Application No. 7453-3 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 wells approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The wells authorized by Permit No. 7453-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

See report on application for additional information.

Garland Erbele, Chief Engineer
December 11, 2012

REPORT TO THE CHIEF ENGINEER
ON
WATER PERMIT APPLICATION NO. 7453-3
BERGER FARMS
DECEMBER 3, 2012

Water Permit Application No. 7453-3 proposes to appropriate 280 acre-feet per year (ac-ft/yr) at a maximum diversion rate of 2.00 cubic feet of water per second (cfs) from two wells to be completed into the North management unit of the Big Sioux aquifer. The wells are expected to be approximately 40 and 55 feet deep. The wells are to be located in the NW¼ SE¼ of Section 19, T121N-R52W. This permit application proposes to irrigate 140 acres located in the SE¼ Section 19, T121N-R52W in Grant County. The wells and acreage proposed by this application are located within the former boundaries of the Sisseton Wahpeton Indian Reservation.

AQUIFER: North management unit of the Big Sioux aquifer (BS: N)

GEOLOGY AND AQUIFER CHARACTERISTICS:

The Big Sioux: North is generally a surficial outwash that is unconfined in the area of the proposed well sites. In total, the Big Sioux: North aquifer is estimated to underlie 83,500 acres and contain 187,880 acre-feet (ac-ft) of recoverable water in storage. The aquifer extends north into Roberts County and south into Codington and Hamlin Counties. In Grant and Roberts Counties combined, the aquifer is estimated to underlie 10,000 acres and contain 22,500 ac-ft of recoverable water in storage (Hedges and others, 1982). The aquifer is hydraulically connected to the Big Sioux River and water in the aquifer generally moves from north to south and locally towards the Big Sioux River.

In the area of the proposed well sites, the top of the Big Sioux: North aquifer can be encountered between 10 and 30 feet below ground surface and the aquifer thickness is approximately 20 to 30 feet (Hansen, 1990; Stach and others, 1981). The well completion report submitted for the south well documents layers of sand and clay from ground surface to 35 feet below ground surface, coarse sand from 35 to 55 feet below ground surface, and a static water level of 24 feet below ground surface. The well completion report submitted for the north well documents layers of sand and clay from ground surface to 16 feet below ground surface, sand from 16 to 40 feet below ground surface, and a static water level of 13 feet below ground surface.

SDCL 46-2A-9

Pursuant to SDCL 46-2A-9, a permit to appropriate water may be issued only if there is a reasonable probability that there is unappropriated water available for the applicant's proposed use, that the 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 address the availability of unappropriated water and existing rights from the aquifer and pertinent to this application.

WATER AVAILABILITY:

This application proposes to appropriate 280 ac-ft/yr from the Big Sioux: North aquifer. If this application is approved, the actual water use will be less than the appropriation. The probability

of unappropriated water 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 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.”

WATER BALANCE:

Recharge:

Recharge to the Big Sioux: North aquifer occurs due to infiltration of precipitation in areas where the aquifer is near land surface and inflow from the Big Sioux River during wet years (Hansen, 1990). Hedges and others (1985) estimated recharge to the aquifer to be 1.0 to 6.9 inches per year (in/yr). Putnam and Thompson (1996) estimated recharge to the aquifer to be 2.9 to 5.8 in/yr with conservative estimate of recharge of 5.53 in/yr when under steady state conditions. Using this steady state recharge rate and the area of the aquifer in Grant and Roberts Counties, the estimated average recharge is 4,608 ac-ft/yr for the portion of the Big Sioux: North aquifer underlying Grant and Roberts Counties.

Discharge:

Discharge from the aquifer may occur due to evapotranspiration in areas where the aquifer is near land surface, outflow to the the Big Sioux River during dry years, and well withdrawals (Hansen, 1990). There are a total of 17 water rights/permits appropriating water from the Big Sioux: North aquifer in Grant and Roberts Counties, all of which are for irrigation use (Water Rights, 2012b).

Figure 1 shows the historic irrigation data for the Big Sioux: North aquifer in Grant and Roberts Counties. The development of this aquifer for irrigation use increased sharply in 1998 but has remained steady since then. In 2011, water appropriated from the Big Sioux: North aquifer in Grant and Roberts Counties for irrigation totaled 4,614 ac-ft/yr. Annual withdrawal from this aquifer fluctuates, probably mostly due to yearly climatic conditions. The average pumpage reported over the entire period of record equals 610.5 ac-ft/yr. The maximum pumpage reported over the entire period of record was in 2006 for 1,659 ac-ft/yr. Since the increase in development of the aquifer, there has also been an increase in pumpage. The average pumpage reported from 1998 to 2011 equals 1,035.5 ac-ft/yr. (Water Rights, 1979-2011).

In addition, there are many domestic wells on file with the SD DENR-Water Rights Program in Grant and Roberts Counties that appear to be completed into the Big Sioux: North aquifer (Water Rights, 2012c). The annual withdrawal due to domestic use is not significant to the hydrologic budget of the aquifer.

Hydrologic Budget:

For the Big Sioux: North aquifer in Grant and Roberts Counties, the estimated average recharge greatly exceeds the average annual withdrawal over the entire period of record, the average annual withdrawal since the increase in development, and also the maximum annual withdrawal over the entire period of record. Therefore, there is a reasonable probability that unappropriated water is available from the Big Sioux: North aquifer for the proposed appropriation of 280 ac-ft/yr.

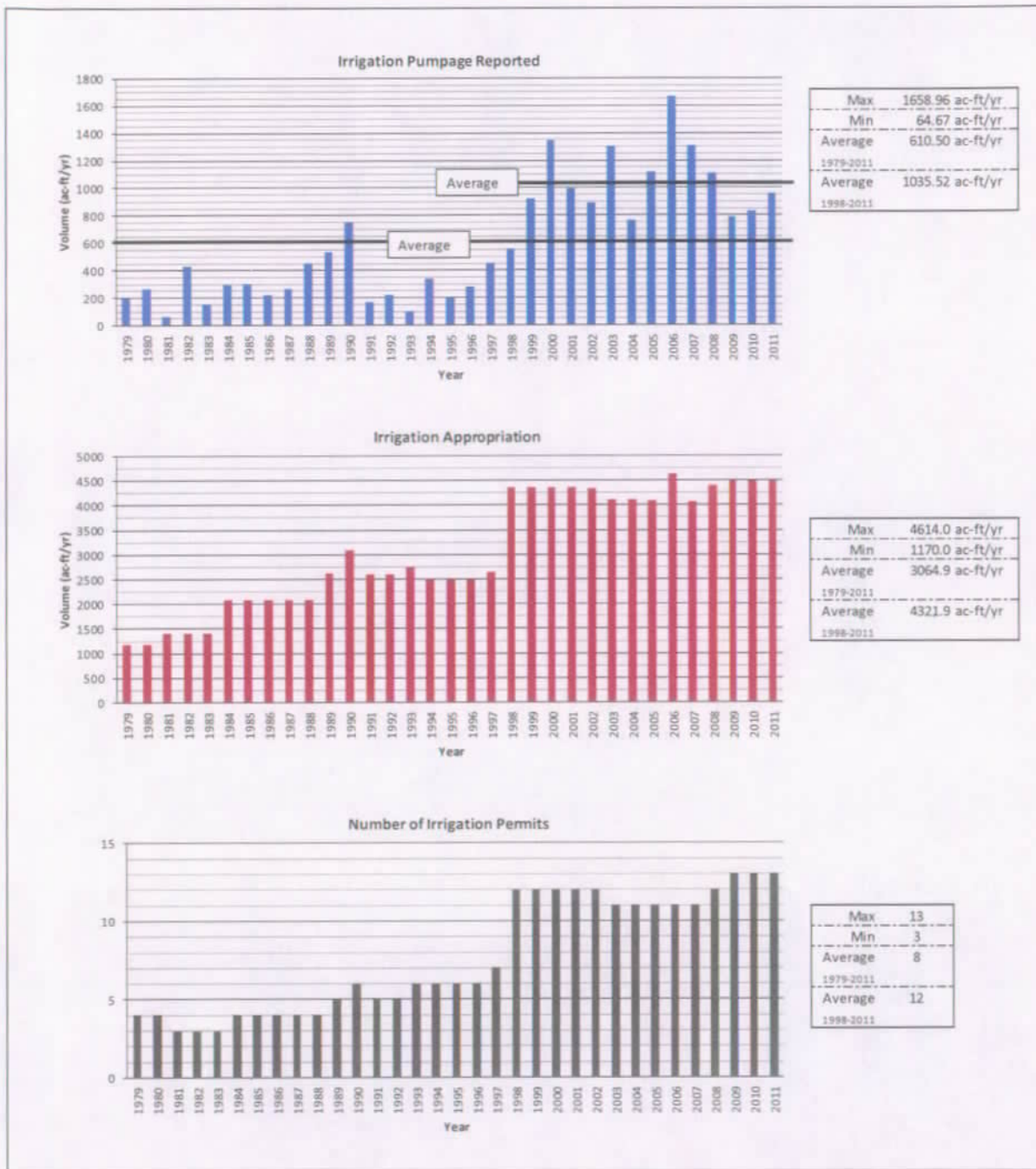


Figure 1: Historic irrigation water use from the Big Sioux: North aquifer in Grant and Roberts Counties (Water Rights, 1979-2011)

OBSERVATION WELL DATA:

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

The DENR-Water Rights Program monitors 27 observation wells completed into the Big Sioux: North aquifer (Water Rights, 2012a). The nearest of these wells, GT-77B and GT-77D, are located approximately one and three quarters miles northeast and one and one third miles southeast of the proposed well sites, respectively. The hydrograph of these observation wells are shown in Figures 2 and 3.

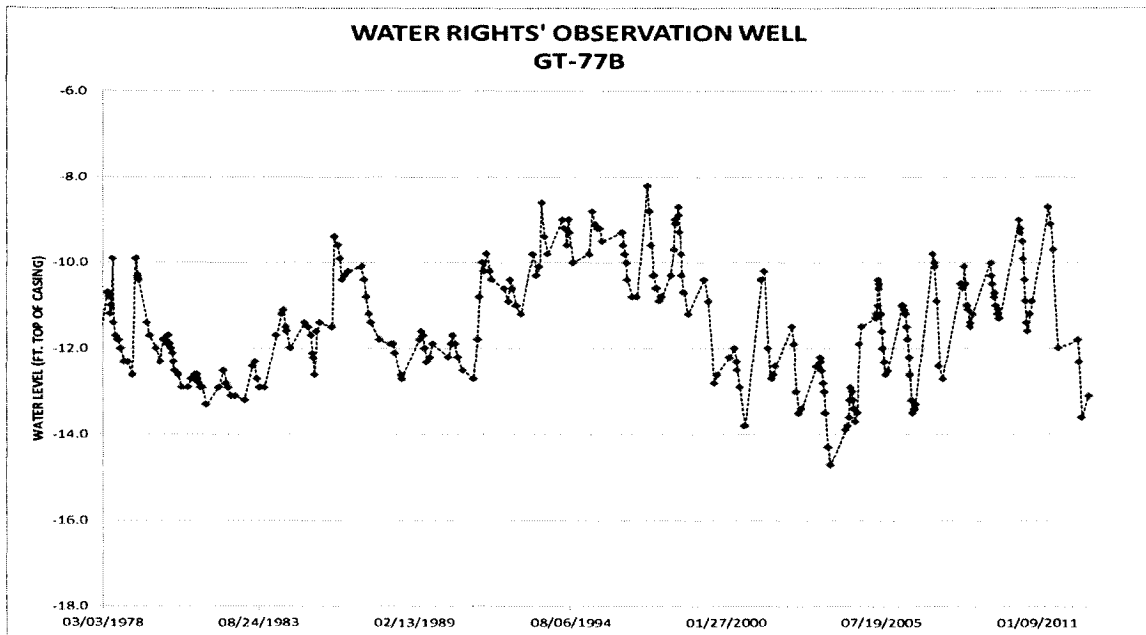


Figure 2: Hydrograph for DENR-Water Rights' observation well GT-77B (Water Rights, 2012a)

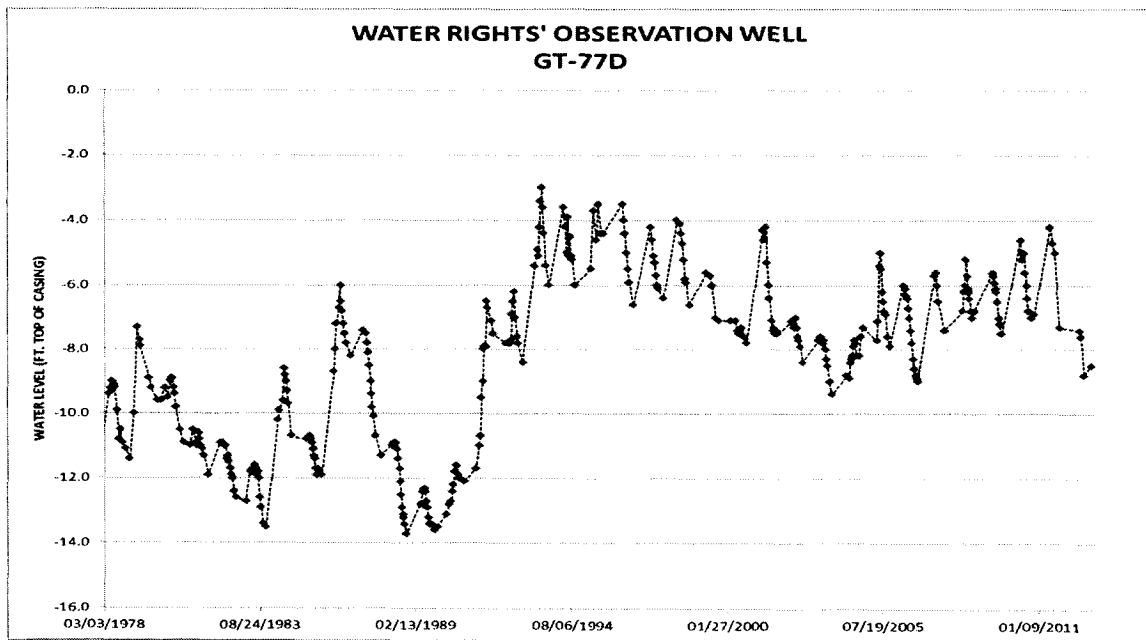


Figure 3: Hydrograph for DENR-Water Rights' observation well GT-77D (Water Rights, 2012a)

The observation well data documents cyclic conditions of water levels, recharging during wet years and declining during dry years. The hydrographs also show the effects of nearby pumping on the aquifer. This data documents that, at the current level of development, temporal well withdrawal is masked by climatic conditions. Therefore, recharge to and natural discharge from the aquifer greatly exceeds well withdrawal. These hydrographs indicate that unappropriated water is available from this area of the Big Sioux: North aquifer to support the proposed appropriation of 280 ac-ft/yr at the proposed well sites.

EXISTING WATER RIGHTS:

There are 17 water rights/permits appropriating water from the Big Sioux: North aquifer in Grant and Roberts Counties. There are three water rights/permits withdrawing from the Big Sioux: North aquifer within two miles, but further than one mile, of the proposed well sites (Water Rights, 2012b). There are two domestic wells on record with the SD DENR-Water Rights Program within two miles of the proposed well sites that appear to be completed into the Big Sioux: North aquifer (Water Rights, 2012c). These are shown in Table 1. Due to the distances between the proposed wells and the wells of existing water right/permits and domestic users, drawdown is not expected to be significant. Interference is not expected to be a concern to surrounding wells due to the addition of the proposed wells.

It should be noted that a small portion of the Big Sioux: North aquifer is considered fully appropriated due to its isolated condition. The proposed well sites are not located within or near the boundaries of the fully appropriated area.

Table 1: Water rights/permits and domestic wells within two miles of the proposed well sites completed into the Big Sioux: North aquifer (Water Rights, 2012b; Water Rights, 2012c)

Permit No.	Name	Status	Type	CFS	Acres
2717-3A	Brink Bros Inc	LC	IRR	1.66	231
6030-3	Endres Family Trust	LC	IRR	2.12	132
6099-3	Endres Family Trust	LC	IRR	2.11	132
	Tom J. Lee		DOM		
	Art Berger		DOM		
LC = Water right, IRR = Irrigation, DOM = Domestic					

CONCLUSIONS:

1. The application proposes to appropriate 280 ac-ft/yr for irrigation from two wells.
2. From observation well data and the estimated hydrologic budget, there is a reasonable probability that unappropriated water is available from the Big Sioux: North aquifer in Grant and Roberts Counties to supply the proposed appropriation.
3. There is a reasonable probability that this proposed well will not adversely impair existing nearby wells.



Joseph R Stonesifer
SD DENR-Water Rights Program

REFERENCES:

- Buhler, K. 2012. Report of Water Permit Application No. 7329-3 for Michael Barrett. SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, SD.
- Hansen, D.S. 1990. Water Resources of Codington and Grant Counties, South Dakota: U.S. Geological Survey Water-Resources Investigations Report 89-4147, 47 p.
- 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. South Dakota DENR-Geological Survey, Vermillion, SD.
- Putnam, L.D., and Thompson, R.C. 1996. Appraisal of the Water Resources of the Big Sioux Aquifer, Codington and Grant Counties, South Dakota: U.S. Geological Survey Water Resources Investigation No. 96-425, 34 p.
- Stach, R.L., Mika, J., Tomhave, D.W., and Wittenhagen, D. 1981. Task 1 – Completion Report Big Sioux Aquifer Study, Eastern South Dakota: South Dakota DENR-Geological Survey, Vermillion, SD.
- Water Rights. 1979-2011. “Annual Irrigation Summary by Aquifer”: SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, SD.
- Water Rights. 2012a. Observation Well Files, SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, SD.
- Water Rights. 2012b. Water Right/Permit Files, SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, SD.
- Water Rights. 2012c. Water Well Completion Reports, SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, SD.

Printer's Affidavit of Publication

RECEIVED

STATE OF SOUTH DAKOTA
COUNTY OF GRANT

} ss.

DEC 20 2012

WATER RIGHTS
PROGRAM

Ann Tuchscherer

of said County and State, being first duly sworn, on oath says that the Grant County Review is a legal weekly newspaper of general circulation, printed and published in Milbank, in said County of Grant and State of South Dakota, by Phyllis Justice, and has been such newspaper during the times hereinafter mentioned; that said newspaper is a legal newspaper; and that it has a bona fide circulation of more than two hundred copies weekly, and has been published within said County of Grant in the English language and has been admitted to the United States mail under second class mailing privilege, for at least one year next prior to the publication of the Notice herein mentioned, and has been printed wholly in an office maintained at the said place of publication, that I, the undersigned, Bookkeeper of said newspaper, in

charge of the advertising department thereof, have personal knowledge of all the facts stated in this affidavit; that the advertisement headed Notice of

Application No. 7453-3 to Appropriate
Water

a printed copy of which, taken from the paper in which the same was published, is attached to this sheet and is made a part of this Affidavit, was published in said newspaper at least once each week for one successive weeks, on the day of each week on which the said newspaper was regularly published, to-wit:

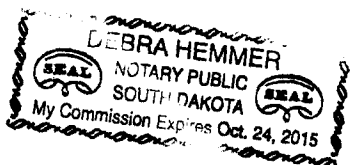
<u>December 19</u>	<u>2012</u>	<u>20</u>
<u>20</u>		<u>20</u>
<u>20</u>		<u>20</u>

That \$ 24.58, being the full amount of the fee charged for the publication of said Notice, inures to the benefit of the publisher of the Grant County Review; that no agreement or understanding for the division thereof has been made with any person, and that no part has been agreed to be paid to any person whomsoever.

Ann Tuchscherer

Subscribed and sworn to before me this 19th day of Dec 2012

Debra Hemmer
Notary Public, Grant County, South Dakota



NOTICE OF APPLICATION

NO. 7453-3 to Appropriate Water

Notice is given that Berger Farms, c/o Cheryl Berger, 14633 450th Ave, Ortley, SD 57256 has filed an application for a water permit to appropriate 2.0 cubic feet of water per second from two wells completed into the Big Sioux: North Aquifer (55 and 40 feet deep) located in NW 1/4 SE 1/4 Section 19 for irrigation of 140 acres located in the SE 1/4 Section 19; all in T121N-R52W. The wells and acreage proposed by this application are located within the former boundaries of the Sisseton Wahpeton Indian Reservation.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 7453-3 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. In accordance with SDCL 46-2A-23, the Chief Engineer will act on this application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. 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.

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 E 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 December 31, 2012.

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. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application. Steven M. Pirner, Secretary Department of Environment and Natural Resources

Published once at the total approximate cost of \$24.58.

Publication Fee	\$ <u>24.58</u>
Notarial Fee	\$ <u> </u>
Total	\$ <u>24.58</u>

Form 8

RECEIVED

DEC 27 2012

WATER RIGHTS
PROGRAM

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
) SS
County of Codington)

I, Monica K. Saathoff

certify that the attached printed Notice was
taken

from the Watertown Public Opinion

printed and published in Watertown

County of Codington and

state of South Dakota. The notice was
published

in the newspaper on the following date:

December 19th, 2012

Cost of Printing 54.68

Monica K. Saathoff
(Signature)

Bookkeeper

(Title)

December 19th, 2012

(Date Signed)

use of water, and 4) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on this application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. If a petition opposing 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.

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 E 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 December 31, 2012.

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. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application. Steven M Pirner, Secretary Department of Environment and Natural Resources.

Published once at the approximate cost of \$55.25. (December 19, 2012)

All legal notices in the Public Opinion and other South Dakota newspapers can be found at
www.sdpublishnotices.com

DEPARTMENT OF ENVIRON- MENT AND NATURAL RESOURCES

NOTICE OF APPLICATION NO. 7453-3

To Appropriate Water

Notice is given that Berger Farms, c/o Cheryl Berger, 14633 450th Ave, Ortleigh SD 57256 has filed an application for a water permit to appropriate 2.0 cubic feet of water per second from two wells completed into the Big Sioux North Aquifer (55' and 40' deep) located in NW 1/4 SE 1/4 Section 19 for irrigation of 140 acres located in the SE 1/4 Section 19; all in T121N-R52W. The wells and acreage proposed by this application are located within the former boundaries of the Sisseton Wahpeton Indian Reservation.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 7453-3 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

December 11, 2012

Grant County Review
PO Box 390
Milbank SD 57252

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 7453-3 to Appropriate Water. Please publish the notice once on December 19, 2012. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352.

The applicant must verify to you that the notice is to be published and arrange for payment. **Please BILL the APPLICANT for the cost of publication.** The APPLICANT is Berger Farms, c/o Cheryl Berger, 14633 450th Ave., Ortle SD 57256 (Ph # 605-947-4434).

Please send the Water Rights Program an affidavit or the enclosed Proof of Publication form immediately.

The applicant pays the cost of publication, but the Water Rights Program records require an affidavit or Proof of Publication. Delays in receiving the affidavit can be costly to the applicant.

Sincerely,

Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

December 11, 2012

Public Opinion
PO Box 10
Watertown SD 57201

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 7453-3 to Appropriate Water. Please publish the notice once on December 19, 2012. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352.

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The applicant pays the cost of publication, but the Water Rights Program records require an affidavit or Proof of Publication. Delays in receiving the affidavit can be costly to the applicant.

Sincerely,

Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

NOTE: TO BE SURE OF PUBLICATION ON
THE CORRECT DATE, CONTACT
THE NEWSPAPER(S) RIGHT AWAY.

December 11, 2012

Berger Farms
Cheryl Berger
14633 450th Ave
Ortley SD 57256

Dear Ms. Berger:

Water Permit Application No. 7453-3 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 Grant County Review printed at Milbank SD (Ph # 605-432-4516) and the Public Opinion printed at Watertown SD (Ph # 605-886-6901). You will need to contact the newspaper(s) 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 newspaper(s) to authorize publication of your Notice and to arrange for payment. Early contact with the paper(s) 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.

Instruction to Newspaper - Publish the Notice on December 19, 2012. The applicant is responsible for payment. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352 or email: Karen.schlaak@state.sd.us.

NOTICE OF APPLICATION NO. 7453-3 to Appropriate Water

Notice is given that Berger Farms, c/o Cheryl Berger, 14633 450th Ave, Ortleigh SD 57256 has filed an application for a water permit to appropriate 2.0 cubic feet of water per second from two wells completed into the Big Sioux:North Aquifer (55 and 40 feet deep) located in NW 1/4 SE 1/4 Section 19 for irrigation of 140 acres located in the SE 1/4 Section 19; all in T121N-R52W. The wells and acreage proposed by this application are located within the former boundaries of the Sisseton Wahpeton Indian Reservation.

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Published once at the total approximate cost of _____.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

JAN 17 2013

Berger Farms
Cheryl Berger
14633 450th Ave
Ortley SD 57256

Dear Ms. Berger:

Enclosed is Water Permit No. 7453-3 authorizing construction of your 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,

Garland Erbele, Chief Engineer
Water Rights Program
(605) 773-3352

enclosures

SOUTH DAKOTA WATER WELL COMPLETION REPORT

07-92

7453-3

Location NW 1/4 SE 1/4 Sec 19 Twp 121-N Rg 52-W

County Grant

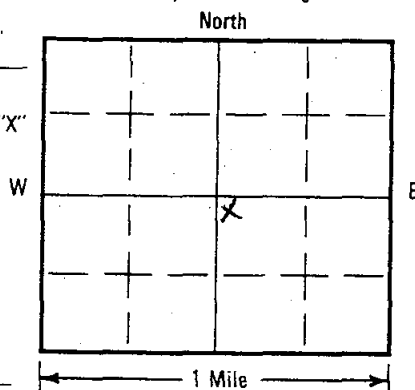
Please mark well location with an "X"

Well #2

Marsh well

Well Completion Date

9/21/12



LOCATION:

Distance from nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)? None within 3000 ft (identify source)

PROPOSED USE:

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

METHOD OF DRILLING:

Forward Rotary

CASING DATA: ☐ Steel ☒ Plastic ☐ Other

If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
<u>SDR-21 LB/FT</u>	<u>10 IN</u>	<u>0 FT</u>	<u>30 FT</u>	<u>15 IN</u>
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN

GROUTING DATA

Grout Type	No. of Sacks	Grout Weight	From	To
<u>Neat Cement</u>	_____	<u>15 lb./gal</u>	<u>0 ft</u>	<u>20 ft</u>
_____	_____	_____ lb./gal	_____ ft	_____ ft

Describe grouting procedure pressure Grout w/ tremie pipe

SCREEN: ☐ Perforated pipe ☒ Manufactured

Diameter 8" IN Length 10 FEET

Material Stainless Steel

Slot Size 50 Set From 30 Feet to 40 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: Chlorine

_____ NO, Why Not? Solution

Laboratory sent to for water quality analysis

None / Irrigation well

Well Owner: _____

Business Name: Berger Trucking & Grain

Address: 14633 450th Ave

Ortley, SD 57256

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
<u>topsoil</u>	<u>0</u>	<u>3</u>
<u>Sand</u>	<u>3</u>	<u>13</u>
<u>clay</u>	<u>13</u>	<u>16</u>
<u>Sand</u>	<u>16</u>	<u>40</u>
<u>clay</u> <u>Blue</u>	<u>40</u>	

STATIC WATER LEVEL 13 Feet

If flowing: closed in pressure _____ PSI

GPM flow _____ through _____ inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other _____

Reduced Flowrate _____ GPM

Can well be completely shut in? _____

WELL TEST DATA:

- ☒ Pumped Describe: _____
☐ Bailed _____
☐ Other _____

Pumping Level Below Land Surface

30 ft. After 3 Hrs. pumped 200 GPM

_____ ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate _____ GPM

REMARKS

RECEIVED

SEP 26 2012

WATER RIGHTS PROGRAM

This well was drilled under license # 63

And this report is true and accurate.

Drilling firm Lee Well Drilling Inc

Signature of License Representative: _____

Signature of Well Owner or Equitable Property Holder: _____

Date: _____

SOUTH DAKOTA WATER WELL COMPLETION REPORT

07-92

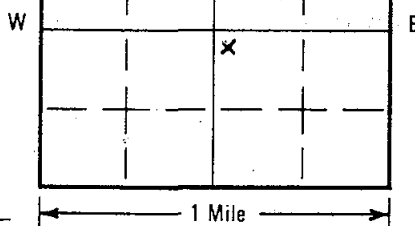
Location NW 1/4 SE 1/4 Sec 19 Twp 121-N Rg 52-W
 County Grant

Please mark well location with an "X"

well # 2 -
South well

Well Completion Date

9/20/12



LOCATION:

Distance from nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)? None within 3,000 feet (identify source)

PROPOSED USE:

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

METHOD OF DRILLING:

Forward Rotary

CASING DATA: ☐ Steel ☒ Plastic ☐ Other

If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
<u>SDR-21 LB/FT</u>	<u>10 IN</u>	<u>0 FT</u>	<u>40 FT</u>	<u>15 IN</u>
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN

GROUTING DATA

Grout Type	No. of Sacks	Grout Weight	From	To
<u>Neat Cement</u>	_____	<u>15 lb./gal</u>	<u>0 ft</u>	<u>30 ft</u>
_____	_____	_____ lb./gal	_____ ft	_____ ft

Describe grouting procedure pressure Grout w/ tremie pipe

SCREEN: ☐ Perforated pipe ☒ Manufactured

Diameter 8 IN Length 15 FEET

Material Stainless Steel Hi-Q 11-slot

Slot Size 70 Set From 40 Feet to 55 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: Chloride

☐ NO, Why Not? Solution

Laboratory sent to for water quality analysis

None/Irrigation Well

Well Owner: _____

Business Name: Berger Trucking & Gravel

Address: 14633 45th Ave
Ortley SD 57256

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
<u>topsoil</u>	<u>0</u>	<u>1</u>
<u>clay yellow</u>	<u>1</u>	<u>5</u>
<u>Sand & Gravel</u>	<u>5</u>	<u>25</u>
<u>clay</u>	<u>25</u>	<u>29</u>
<u>Sand</u>	<u>29</u>	<u>32</u>
<u>clay</u>	<u>32</u>	<u>35</u>
<u>Sand coarse</u>	<u>35</u>	<u>55</u>
<u>clay Blue</u>	<u>55</u>	

STATIC WATER LEVEL 24 Feet

If flowing: closed in pressure _____ PSI

GPM flow _____ through _____ inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other _____

Reduced Flowrate _____ GPM

Can well be completely shut in? _____

WELL TEST DATA:

☒ Pumped Describe: _____

☐ Bailed _____

☐ Other _____

Pumping Level Below Land Surface

40 ft. After 3 Hrs. pumped 250 GPM

_____ ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate _____ GPM

REMARKS

SEP 26 2012

WATER RIGHTS PROGRAM

This well was drilled under license # 63

And this report is true and accurate.

Drilling firm Lee Well Drilling Inc

Signature of License Representative: [Signature]

Signature of Well Owner or Equitable Property Holder: _____

Date: _____



7453-3
DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

February 3, 2017

Berger Farms
c/o Cheryl Berger
14633 450th Ave
Ortley SD 57256

Dear Ms. Berger:

A well driller's report filed by Kaiser Well Drilling Inc. shows that they completed a new well for you in July located in the NW 1/4 SE 1/4 Section 19-T121N-R52W.

A review of our files indicates Water Permit No. 7453-3 was issued for 900 gallons per minute (gpm) from two wells to irrigate 140 acres located in the SE 1/4 Section 19-T121N-R52W. Our records indicate that two wells were drilled for irrigation in this location in September, 2012.

Was this new well drilled as a replacement well or an additional well which does not increase the total appropriation of 900 gpm? If the authorized diversion rate is increased, a new water permit will need to be obtained. Once we know this information, we can determine what additional action, if any, needs to be taken to ensure the water right accurately reflects your use of water.

Please contact Eric Gronlund or me regarding the status of this well or if you have any questions.

Sincerely,

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

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02 7453-3

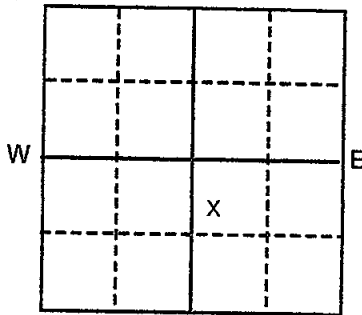
Location NW ¼ SE ¼ Sec 19 Twp 121N Rg 52W

County GRANT

North

R KB

Please mark well location with an "X"



Well Completion Date

07-18-16

1 Mile

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

PROPOSED USE:

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

CASING DATA:

☐ Steel ☒ Plastic ☐ Other

If other describe

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
40.0 LB/FT	10.00 IN	0.0 FT	48.0 FT	14.00 IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
GRTWELDF	30	54.0 Lb/gal	0.0 Ft	45.0 Ft
		Lb/gal	Ft	Ft

Describe grouting procedure
TREMIE LINE

SCREEN:

☐ Perforated pipe ☒ Manufactured

Diameter 10.00 Inches Length 10.0 Feet

Material STAINLESS STEEL

Slot Size .080 Set From 48.0 Feet to 58.0 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? HTH

☐ No, Why Not?

Lab to which water quality sample sent for analysis

Well Owner: BERGER FARMS

Business Name:

Address: 14633 450TH AVE

City, State, Zip: ORTLEY SD 57256

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
TOP SOIL	0	2
SANDY YELLOW CLAY	2	4
YELLOW CLAY	4	20
YELLOW SAND	20	30
BLUE CLAY	30	45
YELLOW MEDIUM	45	58

STATIC WATER LEVEL 18.0 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: SUB PUMP
☐ Bailed
☐ Other

Pumping Level Below Land Surface

40.0 Ft. After 12.0 Hrs. pumped 250.0 GPM

Ft. After Hrs. pumped GPM

If pump installed, pump rate: GPM

REMARKS

RECEIVED

FEB - 1 2017

WATER RIGHTS PROGRAM

Big Sioux: North? KB

This well was drilled under license # 689 and this report is true and accurate.

Drilling firm: KAISER WELL DRILLING INC

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

Date:

Schlaak, Karen

From: Gronlund, Eric
Sent: Tuesday, February 07, 2017 1:25 PM
To: Schlaak, Karen
Subject: Berger

Received a call from Brian Berger. Believe it was in response to a well completion report you received. He said the new well is a helper well to his existing permitted well. He will be sending in a request for authorization for the additional well.

Berger Farms

14633 450th Ave Ortley, SD 57256
(605)947-4434



RECEIVED

FEB 13 2017

WATER RIGHTS
PROGRAM

February 8, 2017

Karen Schlaak
Department of Environment and Natural Resources
Joe Foss Building
523 East Capitol
Pierre, SD 57501

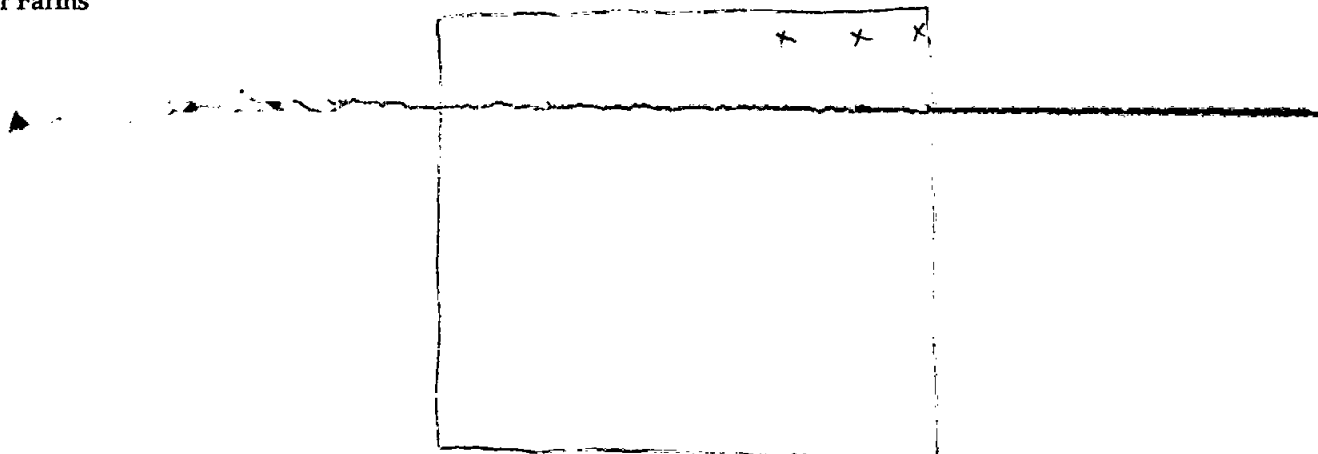
Dear Karen Schlaak,

I am writing in response to a letter sent in regards to well driller's report filed by Kaiser Well Drilling Inc. which shows they completed a new well for Berger Farms in July located in the NW ¼ SE ¼ Section 19-T121N-R52W.

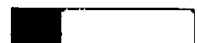
This well was drilled as an additional well which does not increase the total appropriation of 900gpm.

Sincerely,

Berger Farms



x = wells



Request for Additional Diversion Point

NAME: Berger Farms c/o Cheryl Berger

ADDRESS: 14633 450th Ave, Ortleby SD 57256

DATE: February 22, 2017

COUNTY: Grant

TELEPHONE: 605-947-4434

BACKGROUND:

Water Permit No. 7453-3 appropriates 2.0 cubic feet of water per second (cfs) from two wells completed into the Big Sioux: North aquifer (55 and 40 feet deep) located in NW ¼ SE ¼ Section 19 for irrigation of 140 acres in the SE ¼ Section 19; all in T121N R52W. Well completion reports are on file showing that these two wells were completed in September 2012 with 8" diameter screens.

Mr. Berger submitted a letter to the South Dakota DENR Water Rights Program requesting the addition of a well to Water Permit No. 7453-3. This well would be used in addition to the two existing wells. The additional well has a well completion report on file as being completed in July 2016 and being located just to the south of the existing wells, with a depth of 58 feet and diameter of 10".

AUTHORITY:

Pursuant to SDCL 46-5-13.1, the location of a diversion point may be changed or additional diversion points may be licensed provided the following conditions are met and the potential for interference with other existing diversions is not increased:

- **Developed water source same as permitted source and no additional water appropriated**

The water source authorized by Water Permit No. 7453-3 is the Big Sioux: North aquifer. The well completion reports show that the additional well is placed in sand unit at a depth similar to the original diversions. The sand unit does vary in elevation between the three wells; however it appears to be laterally continuous as the elevations of the sand unit do overlap with an upward trend towards the north.

No additional appropriation of water is requested. This request is to add an additional diversion point. Water Permit No. 7453-3 appropriates 2.0 cfs (900 gpm) for irrigation from two wells.

- **No new land for irrigation**

The request did not request to increase the acres under irrigation. The water permit states that the water will be used to irrigate 140 acres. No new land is being irrigated.

Review of Existing Diversions

The well completion report and water rights databases were reviewed for the nearest domestic wells and water rights/permits on file. The nearest domestic well on file and completed into this aquifer is approximately 0.8 miles southeast of the diversion. The nearest water right/permit completed into this aquifer is located approximately 0.7 miles to the west of the diversion. Based upon the small change in distance from other users in the Big Sioux: North aquifer, interference is not expected to be a concern.

Observation Well Data

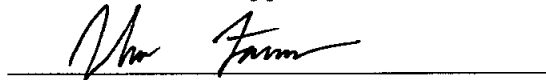
The Water Rights Program has twenty eight observation wells completed into the Big Sioux: North aquifer. The nearest observation well completed into this aquifer (GT-77D) is located approximately 1.3 miles south of the well sites. This well has been in place since 1977 and shows static water level fluctuations of 3 to 16 feet below the top of the casing. Historic water levels in GT-77D show that the aquifer is predominately controlled by climatic conditions. In recent years GT-77D may be showing drawdown as the result of a commercial water permit in the immediate vicinity, and does not reflect general aquifer conditions. The next nearest observation well completed into the Big Sioux: North aquifer is GT-77B, which is 1.9 miles to the northeast. GT-77B also shows that the aquifer is predominately controlled by climatic conditions, and does not show the recent drawdown that GT-77D exhibits.

CONCLUSION

- The additional diversion point does not propose to appropriate additional water.
- No additional acres are requested to be irrigated.
- The water source continues to be the Big Sioux: North aquifer.
- Unlawful impairment of existing water rights/permits and domestic wells is not expected to occur.

RECOMMENDED ACTION

Based on the above criteria, it is recommended that the additional diversion point under Water Permit No. 7453-3 should be approved.



John Farmer
Water Rights Program

The Chief Engineer makes a finding pursuant SDCL 46-5-13.1 and ARSD 74:02:01:14.01 that:

The additional diversion point location does not increase the potential for adverse effects to existing diversions.



Jeanne Goodman, Chief Engineer
Water Rights Program

Water Rights Program – DENR
Conversation File Documentation

NAME: Berger Farms c/o Cheryl Berger

ADDRESS: 14633 450th Ave, Ortleby SD 57256

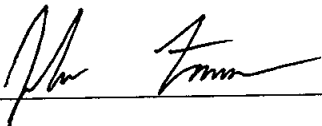
DATE: February 28, 2017

COUNTY: Grant

TELEPHONE: 605-947-4434

Re: Location of additional well

I contacted Berger Farms and presumably spoke with Dan Berger. I told him that we needed clarification of the additional well location for his additional diversion location. He stated that the well is next to his other wells in the section [Section 19, T121N, R52W]. The diagram that was included with the additional diversion request indicated that the 3 wells are in a line, so I asked if the additional well was just to the south of the original 2 wells and he said it is.

NAME: 



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

February 28, 2017

Berger Farms
c/o Cheryl Berger
14633 450th Avenue
Ortley SD 57256

Dear Berger Farms:

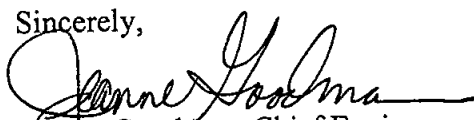
Water Permit No. 7453-3 appropriates 2.0 cubic feet of water per second (cfs) from two wells completed in the Big Sioux: North aquifer in the NW $\frac{1}{4}$ SE $\frac{1}{4}$ for the irrigation of 140 acres in the SE $\frac{1}{4}$, all in Sec 19, T121N, R52W within the former boundaries of the Sisseton-Wahpeton Reservation.

You filed a request for authorization for an additional well to Water Permit No. 7453-3. The additional well is being used to increase production up to the permitted amount, which was not achievable with two wells. The additional well is completed in the Big Sioux: North aquifer and is located just to the south of the existing wells, all in the NW $\frac{1}{4}$ SE $\frac{1}{4}$ of Sec 19, T121N, R52W within the former boundaries of the Sisseton-Wahpeton Reservation.

Upon review of the request and pursuant to SDCL 46-5-13.1, the additional diversion location for No. 7453-3 is authorized without application or publication of a notice of hearing pursuant to SDCL 46-2A-4. No increase in the authorized diversion rates or the number of irrigated acres has been requested or approved. If the diversion rate or the number of acres irrigated increases, a new water permit will need to be obtained from the SD DENR Water Rights Program. If any of the wells are abandoned they must be plugged in accordance with South Dakota well construction standards. If an existing well is removed from service and not permanently abandoned it may be temporarily abandoned by sealing the top with a watertight cap.

If you have any questions, please contact John Farmer at (605) 773-3352.

Sincerely,


Jeanne Goodman, Chief Engineer
Water Rights Program

Report of Examination of Works and/or Application of Water to Beneficial Use For Permit No. 7453-3

I have this day, September 5, 2018, made a thorough examination of the water use system constructed by Berger Farms of 14633 450th Ave Ortley SD 57256 holder of Permit No. 7453-3, bearing the priority of September 28, 2012 authorizing the diversion of 2.00 cu. ft. per second of the waters of ground water Big Sioux :North Aquifer for irrigation use purposes, in Grant County.

Inspection contact & relationship Brian Berger - owner

A. Works used to divert the water:

Well Information: North Well

- 1) Well Drilling Firm: Lee Well Drilling Inc
- 2) No. of Wells 1
- 3) Depth(s) 40 feet
- 4) Well log is available Y If no, explain in comments

Comments: none

Casing:

- 1) Diameter 10 inches
- 2) Length 30 feet
- 3) Type plastic

Screen:

- 1) Type stainless steel
- 2) Length 10 feet
- 3) Static water level 13 feet

Pump:

- 1) Make NA
- 2) Model submersible
- 3) Size NA
- 4) Capacity 250 GPM

Motor:

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

Well Information: Middle Well

- 5) Well Drilling Firm: Kaiser Well Drilling Inc
- 6) No. of Wells 1
- 7) Depth(s) 58 feet
- 8) Well log is available Y If no, explain in comments

Comments: none

Casing:

- 4) Diameter 10 inches
- 5) Length 45 feet
- 6) Type plastic

Screen:

- 4) Type stainless steel
- 5) Length 10 feet
- 6) Static water level 18 feet

Pump:

- 5) Make NA
- 6) Model submersible
- 7) Size NA
- 8) Capacity 50 GPM

Motor:

- 4) Make NA
- 5) Model No. submersible
- 6) Horsepower rating NA hp

Well Information: SouthWell

- 9) Well Drilling Firm: Lee Well Drilling Inc
- 10) No. of Wells 1
- 11) Depth(s) 55 feet
- 12) Well log is available Y If no, explain in comments

Comments: none

Casing:

- 7) Diameter 10 inches
- 8) Length 40 feet
- 9) Type plastic

Screen:

- 7) Type stainless steel
- 8) Length 15 feet
- 9) Static water level 24 feet

Pump:

- 9) Make NA
- 10) Model submersible
- 11) Size NA
- 12) Capacity 200 GPM

Motor:

- 7) Make NA
- 8) Model No. submersible
- 9) Horsepower rating NA hp

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

- 1) Type PVC 2) Size 8 inches 3) Length 2400 feet
- Comments: none

C. Works used to apply water to beneficial use:

Center pivot:

- 1) Make Zimmatic
- 2) Overall length 1240 feet
- 3) Number of towers 8
- 4) End gun Y
- 5) Capacity 450 GPM

Chemigation Equipment:

- 1) Does chemigate N

D. Compliance with Permit Requirements:

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

E. Condition and Location:

1. The system is in poor, good, etc condition with the point(s) of diversion located as follows: North Well- from SE corner of Sec 19 T121N-R52W (res) 2630 ft W & 2815 ft N, latitude of 45.24687 and longitude of -97.21601, (SW ¼ NE 1/4). Middle Well- from SE corner of Sec 19 T121N-R52W (res) 2620 ft W & 2600 ft N, latitude of 45.24630 and longitude of -97.21603, (NW ¼ SE 1/4). South Well- from SE corner of Sec 19 T121N-R52W (res) 2630 ft W & 2310 ft N, latitude of 45.245507 and longitude of -97.21602, (NW ¼ SE 1/4).
2. The works are capable of diverting and conveying to the place of use 1.00 cu. ft. per second of water which is to be used for irrigation use. Water has been put to beneficial use to the maximum extent as follows: All land is located in Sec 19 T121N-R52W (res)

NW ¼ SE ¼ - 32.5 ac NE ¼ SE ¼ - 32.5 ac SE ¼ SE ¼ - 32.5 ac SW ¼ SE ¼ - 32.5 ac

comprising a total of 130 acres of land and the license should be issued for 1.00 cfs.

3. All structures, wells and lands on map Y

If no, describe: none



Mark D Rath
Natural Resources Engineer
DENR, Water Rights Program

Date report completed: 01/07/2019

Diversion Points
From the SE corner of
Sec 19 T121N-R52W (res)

Well (North)
2630 ft W & 2815 ft N
Latitude 45.24687
Longitude -97.21601

Well (Middle)
2620 ft W & 2600 ft N
Latitude 45.24630
Longitude -97.21603

Well (South)
2630 ft W & 2310 ft N
Latitude 45.245507
Longitude -97.21602
Irrigated acres all in
Sec 19 T121N-R52W (res)

NW 1/4 SE 1/4 - 32.5 ac
NE 1/4 SE 1/4 - 32.5 ac
SE 1/4 SE 1/4 - 32.5 ac
SW 1/4 SE 1/4 - 32.5 ac

**North
Well**

**Middle
Well**

**South
Well**

Sec 19 T121N R52W (res)



0 0.125 0.25 0.5 Miles

Mark D Rath
Natural Resources Engineer
January 4, 2019



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

MAR 19 2019

7453-3

Brian Berger
Berger Farms
14633 450th Ave
Ortley SD 57256

Dear Mr. Berger:

Enclosed is Water License No. 7453-3. This is the final water right document completing your process of obtaining a Water Right. Included with your license is a map prepared by the staff engineer who conducted the field investigation.

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

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

Sincerely,

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

enclosures

STATE OF SOUTH DAKOTA

WATER LICENSE NO. 7453-3

(1) Berger Farms, 14633 450th Ave., Ortley SD 57256 made Application No. 7453-3, September 28, 2012 for a water permit to divert 2.00 cubic feet of water per second from ground water, two wells (Big Sioux North Aquifer), Grant County, South Dakota for irrigation purposes. Permit No. 7453-3, with a priority date of September 28, 2012 was approved December 31, 2012 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before December 31, 2017 and the application to beneficial use of water on or before December 31, 2021.

On February 28, 2017, pursuant to SDCL 46-5-13.1 and ARSD 74:02:01:14.01 an additional diversion point was authorized to bring the production capability up to the permitted amount. The Chief Engineer made a finding that the additional diversion point did not increase the potential for adverse effects to existing diversions.

(2) It is certified that the permit holder has complied with the provisions of South Dakota State Law relating to completion of the construction of the water supply system and is entitled to divert 1.00 cubic feet of water per second for beneficial use. The location of the diversion points are:

North Well: 2,630'W & 2,815'N of the SE corner of Section 19, T121N, R52W (SW ¼ NE ¼)
Latitude 45.24687, Longitude -97.21601

Middle Well: 2,620'W & 2,600'N of the SE corner of Section 19, T121N, R52W, (NW ¼ SE ¼)
Latitude 45.24630, Longitude -97.21603

South Well: 2630'W & 2,310'N of the SE corner of Section 19, T121N, R52W (NW ¼ SE ¼)
Latitude of 45.245507, Longitude -97.21602

The above wells are located within the former boundaries of the Sisseton Wahpeton Indian Reservation.

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

Section 19, T121N, R52W	NW ¼ SE ¼	32.5 acres
	NE ¼ SE ¼	32.5 acres
	SE ¼ SE ¼	32.5 acres
	SW ¼ SE ¼	32.5 acres
Total		130.0 acres

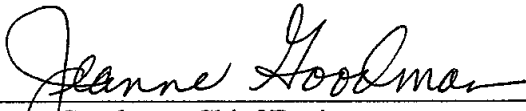
The above acres are located within the former boundaries of the Sisseton Wahpeton Indian Reservation.

(4) Pursuant to South Dakota Water Law 46-5-30.1 Berger Farms, 14633 450th Ave., Ortley SD 57256 the holder and/or owner of Water Right No. 7453-3 is issued a license to appropriate water, the right to use 1.00 cubic feet of water per second from ground water, three wells (Big Sioux North Aquifer) with a priority date of September 28, 2012 from the location specified in (2) of this license for irrigation purposes.

continued

This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Right No. 7453-3 and subject to the following qualifications:

- The wells approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
- The wells authorized by Permit No. 7453-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with the Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28. *The north and south wells were drilled in September, 2012 by Lee Well Drilling. The middle well was drilled in July, 2016 by Kaiser Well Drilling Inc. Copies of the well completion reports are on file with the Water Rights Program.*
- This Permit is approved subject to the irrigation water use questionnaire being submitted each year.



Jeanne Goodman, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

MAR 19 2019

date

