

WATER PERMIT NO. 8232-3

Name of Applicant: Barry & Robin Vculek

Address: 1109 S 7th St, Oakes ND 58474

Phone: 701 742-3050

Amount of Water Claimed: 2.79 add'l cfs

Total Acres: no add'l

Source of Water Supply: 4 wells (1 add'l)

Water to be used for: irrigation

County: McPherson

Type of Waste Disposal System:

Location: 18 miles northeast of Eureka

PRIORITY Date Received: 6-29-16

Application/License Fee: \$ 500

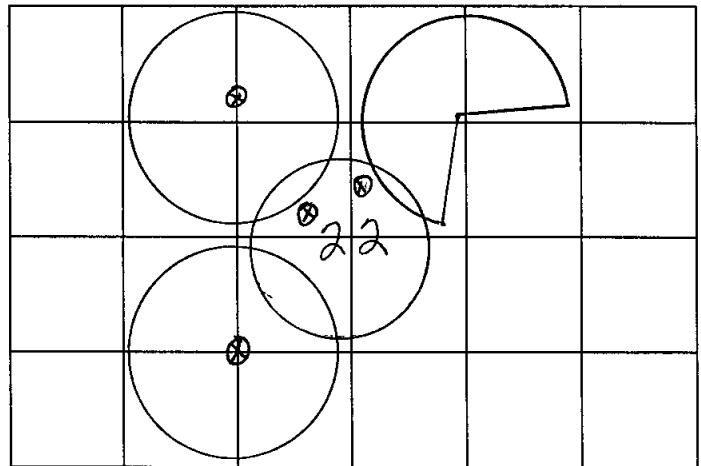
Corrected Application Received:

Period of Annual Use: April 1 – October 31

Remarks: change location of acres, add diversion authority, additional diversion point, and clarifies location of the diversion points

Diversion Point: SE 1/4 NW 1/4, N 1/2 NW 1/4, SW 1/4 NE 1/4 and center SW 1/4 Sec 22-127N-R71W

Land to be Irrigated: W 1/2, NNE 1/4, NW 1/4 SE 1/4 Sec 22-T127N-R71W



Depth of Well: 59 – 94 feet deep

Well Driller:

Remarks:

Type of Map: aerial

Prepared by: Mark Rath

Reviewed and the Number Assigned on: 6-29-16

By: Karen Schlaak

Notice of Hearing - date to intervene: _____

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

Mail to: DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>8232-3</u> (office use only) Hydrologic Unit <u>10130106</u>
	Basin <u>Missouri River</u>
	Newspaper <u>Northwest Blade, Eureka</u> <u>American News, Aberdeen</u>

RECEIVED
JUN 29 2016
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.)

This permit would change location of acres, add diversion authority, an additional diversion point, and clarify the location of diversion points for irrigation covered by Water Right No. 3656-3

1. Name to Appear on Irrigation Permit Barry & Robin Vculek

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

Mailing Address 1109 S 7th St Oakes ND 58474
(Address) (City) (State) (Zip Code)

Phone (701) 742-3050 Mobile _____ Email _____

2. Amount of water claimed 2.79 adl *CFS or _____ **GPM _____ ***AF Total Acreage _____
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)

3. Source of water supply ground water approximately 65 feet to 100 feet deep

4. Location of point of diversion SE 1/4 NW 1/4, N 1/2 NW1/4, SW 1/4 NE 1/4 and the center of the SW 1/4
(example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W)
all in Section 22 T127N-R71W County McPherson

5. County or counties where water will be used McPherson

6. Annual period during which water is to be used April through October

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
All land in Sec 22 T127N-R71W		NW 1/4 SE 1/4	24
NE1/4	80		
NW 1/4	137		
SW 1/4	139	Total acres irrigated	380

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

The original water right authorized the irrigation of 380 acres from three wells with diversion rate of 3.0 cfs. This application seeks to increase the diversion rate by 2.79 cfs to a total of 5.79 cfs(2600 gpm), change the location of some of the acres, and add and change the location of the diversion points. This application also requests authorization of the total diversion rate of more than 1 cfs per 70 acres due to the need to efficiently operate the four center pivot irrigation systems.

I, Barry Vculek, 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.

SOUTH DAKOTA
WATER PERMIT NO. 8232-3 FOR IRRIGATION

Date of first receipt of application June 29, 2016.

The Water Management Board approved Water Permit No. 8232-3 on October 13, 2016 for Barry & Robin Vculek, 1109 S 7th St, Oakes ND 58474 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. 8232-3 authorizes an increase in the diversion authority, adds a diversion point, changes the location of irrigated acres and clarifies the location of the diversion points. Water Right No. 3656-3 appropriates 3.00 cubic feet of water per second (cfs) from three wells to irrigate 380 acres. An investigation of the Water Right found the system capable of diverting an additional 2.79 cfs from four wells completed into the Spring Creek:McPherson Aquifer (59-94 feet deep) located in the SE 1/4 NW 1/4, N 1/2 NW 1/4, SW 1/4 NE 1/4 and the center of the SW 1/4 Section 22 for irrigation of 380 acres located in the W 1/2, NE 1/4, NW 1/4 SE 1/4 Section 22; all in T127N-R71W. This permit and Water Right No. 3656-3 will authorize a total diversion rate of 5.79 cfs for irrigation of 380 acres.
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: April 1 – October 31.
3. The date from which applicant may claim right is June 29, 2016 (additional 2.79 cfs).
4. 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 Water Right No. 3656-3 and Water Permit No. 8232-3 will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under these water rights 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. Pursuant to SDCL 46-5-6 which allows a greater diversion rate if the method of irrigation, time constraints, or type of soils so requires, Water Right No. 3656-3 and Water Permit No. 8232-3, combined, authorize a maximum diversion rate of 5.79 cfs for the irrigation of 380 acres with an annual volume not to exceed 2 acre feet of water per acre per year.
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

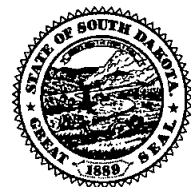
WATER MANAGEMENT BOARD

By: _____

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

JAN 26 2017

date



Permit No. 8232-3 & 3656-3
Missouri River - Water District

Contact Person & Address: **Barry Vculek, 1109 S 7th St, Oakes ND 58474**

Report of Examination of Works

On, 5/27/16, I made a thorough examination of the water use system constructed by **Barry & Robin Vculek** holder of License No. 3656-3 and Permit No. 8232-3, bearing the priority dates of February 15, 1977 authorizing the diversion of 3.00 cu. ft. per second of the waters June 29, 2016 authorizing the diversion of 2.79 cu. ft. per second of the waters of **ground water (Spring Creek-McPherson Aquifer)** for **irrigation** purposes, in **McPherson** County.

The system is in the following condition **good**. The points of diversion are located from the **NW corner of Sec 22 T127N-R71W: Div Pt 1; 1050 ft S & 1320 ft E** with latitude of 45.80743 and a longitude of -99.40204; **Div Pt 2; 1310 ft S & 1320 ft E** with latitude of 45.79963 and a longitude of -99.40208; **Div Pt 3; 2405 ft S & 2340 ft E** with latitude of 45.80366 and a longitude of -99.39802; **Div Pt 4; 1935 ft S & 2640 ft E** with latitude of 45.80496 and a longitude of -99.39680 as determined using **GPS**.

The works are capable of diverting and conveying to the place of use 5.79 cu. ft. per second of water which is to be used for **irrigation**. Water has been put to beneficial use to the maximum extent as follows:

Land is located in **Sec 22 T127N-R71W**:

NW ¼ NW ¼ - 33 ac NE ¼ NW ¼ - 33 ac

SE ¼ NW ¼ - 38 ac SW ¼ NW ¼ - 33 ac

NW ¼ NE ¼ - 35 ac NE ¼ NE ¼ - 16 ac

SW ¼ NE ¼ - 29 ac NW ¼ SE ¼ - 24 ac

NW ¼ SW ¼ - 33 ac NE ¼ SW ¼ - 40 ac

SE ¼ SW ¼ - 33 ac SW ¼ SW ¼ - 33 ac

comprising a total of **380** acres of land and the license should be issued for **5.79** cfs.

Review of Permit Qualifications And Regulations:

- 1) Special qualifications to permit being abided by **yes**
- 2) All structures, wells and lands on map **yes**
- 3) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period **yes**.
- 4) Exceptions to compliance are: **none**

Report On the Specifics of the System

Diversion Point Information:

Well Information: Well No. 1 supplies center pivot in NW ¼ Sec 22 T127N-R71W

- 1) Well Drilling Firm: **M&W Drilling**
- 2) No. of Wells **1**
- 3) Depth(s) **96** feet4)
- Well log is available **yes**

Casing:

- 1) Diameter **12** inches
- 2) Length **70** feet
- 3) Type **pvc**

Screen:

- 1) Type pvc 2) Length 26 feet 3) Static water level 12.9 feet

Pump:

- 1) Make NA 2) Model submersible 3) Size 9 in 4) Capacity 800 GPM

Motor:

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

Center pivot: Located in NW ¼ Sec 22-T127N-R71W

- 1) Make Valley 2) Overall length 1280 feet
3) Number of towers 7 4) End gun yes
5) High or low pressure low 6) Capacity 800 GPM

Diversion Point Information:

Well Information: Well No. 2 supplies center pivot in SW ¼ Sec 22 T127N-R71W

- 1) Well Drilling Firm: unknown 2) No. of Wells 1 3) Depth(s) ? feet 4) Well log is available no

Casing:

- 1) Diameter 12 inches 2) Length NA feet 3) Type pvc

Screen:

- 1) Type NA 2) Length NA feet 3) Static water level NA feet

Pump:

- 1) Make NA 2) Model submersible 3) Size 9 in 4) Capacity 800 GPM

Motor:

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

Center pivot: Located in SW ¼ Sec 22-T127N-R71W

- 1) Make Alumigator 2) Overall length 1280 feet
3) Number of towers 10 4) End gun yes
5) High or low pressure low 6) Capacity 800 GPM

Diversion Point Information:

Well Information: Well No. 3 supplies center pivot in SE ¼ Sec 22 T127N-R71W

- 1) Well Drilling Firm: unknown 2) No. of Wells 1 3) Depth(s) ? feet 4) Well log is available no

Casing:

- 1) Diameter 12 inches 2) Length NA feet 3) Type pvc

Screen:

- 1) Type NA 2) Length NA feet 3) Static water level NA feet

Pump:

- 1) Make NA 2) Model submersible 3) Size 9 in 4) Capacity 400 GPM

Motor:

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

Center pivot: Located in SE ¼ Sec 16-T127N-R71W

- 1) Make Zimmatic 2) Overall length 925 feet
3) Number of towers 6 4) End gun yes

- 5) High or low pressure low 6) Capacity 400 GPM

Diversion Point Information:

Well Information: Well No. 4 supplies center pivot in NE ¼ Sec 22 T127N-R71W

- 1) Well Drilling Firm: M&W Drilling 2) No. of Wells 1 3) Depth(s) 94 feet 4) Well log is available yes

Casing:

- 1) Diameter 12 inches 2) Length 54 feet 3) Type pvc

Screen:

- 1) Type pvc 2) Length 40 feet 3) Static water level 17.3 feet

Pump:

- 1) Make NA 2) Model submersible 3) Size 9 in 4) Capacity 600 GPM

Motor:

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

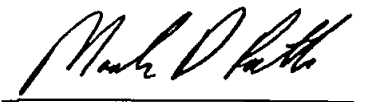
Center pivot: Located in NW ¼ Sec 22-T127N-R71W

- 1) Make Valley 2) Overall length 1280 feet
3) Number of towers 7 4) End gun yes
5) High or low pressure low 6) Capacity 600 GPM

CHEMIGATION EQUIPMENT:

- 1) Does chemigate yes 2) Main line check valve yes
3) Inspection port/air relief yes 4) Low pressure drain yes
5) Discharge is 20' from source no 6) Interlock type electric
7) Injection pump type positive displacement 8) Injection check valve yes
9) Injection line check valve or positive displacement pump yes
10) All chemigation equipment appears to be installed in the proper position and complies with chemigation laws and rules No, I discussed with well owner, Mr. Vculek, the need to install a hose to provide for low pressure drain discharge 20 feet away from the wells. Mr. Vculek said he would have them installed before the irrigation season starts.

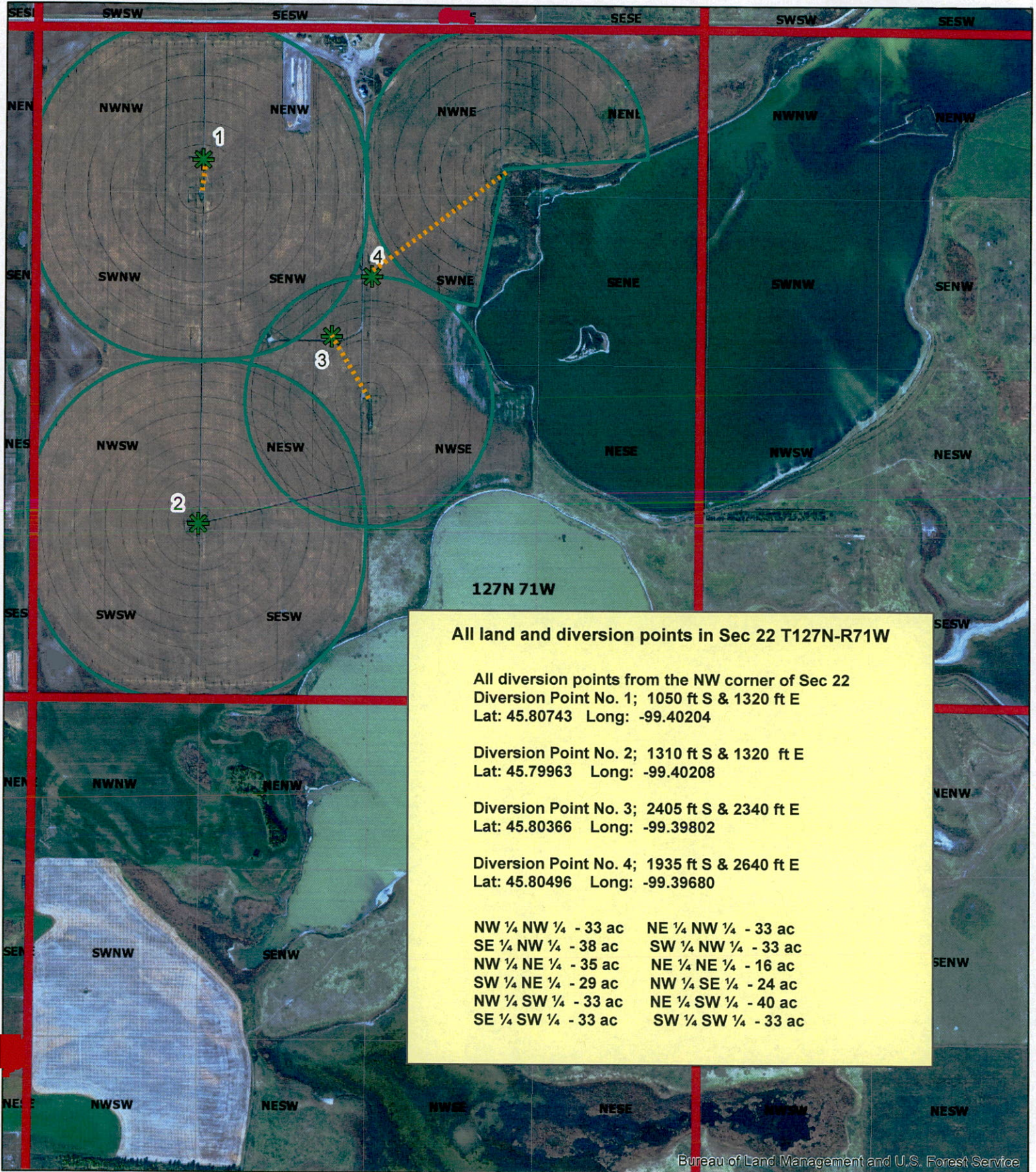
Comments : Based upon a request by Mr. Vculek, and inspection of Water Right No. 3656-3 was made and found an additional well, increased diversion rate and a change in the location of acres. This lead to permit No. 8232-3 being applied for and issued.



Mark D. Rath
Natural Resources Engineer III
DENR, Water Rights Program

October 13, 2016

Date



0 485 970 1,940 2,910 3,880 Feet



Mark D. Rath

Mark D. Rath
 Natural Resources Engineer
 10/13/2016

STATE OF SOUTH DAKOTA

WATER LICENSE NO. 8232-3

(1) Barry & Robin Vculek, 1109 S 7th St, Oakes ND 58474 made Application No. 8232-3, June 29, 2016 for a water permit to divert an additional 2.79 cubic feet of water per second from four wells – Spring Creek:McPherson Aquifer, McPherson County, South Dakota for irrigation purposes. Permit No. 8232-3, with a priority date of June 29, 2016 was approved October 13, 2016 and issued to the applicants for diversion of water with construction of the described water supply system and the application to beneficial use of water completed.

Water Right No. 3656-3, with priority dates of March 8, 1976 and February 15, 1977 authorized 3.0 cfs from three wells to irrigate 380 acres. The applicable portions of No. 3656-3 are incorporated into No. 8232-3.

(2) The water supply system has been completed and water applied to beneficial use in accordance with South Dakota State Law. Pursuant to South Dakota Codified Law 46-5-30.1, the holders and/or owners of Incorporated Water Right No. 8232-3 are issued a license, bearing priority dates of March 8, 1976 (2.0 cfs), February 15, 1977 (1.0 cfs) and June 29, 2016 (2.79 cfs) to appropriate a total of 5.79 cfs from four wells - Spring Creek:McPherson Aquifer to irrigate 380 acres.

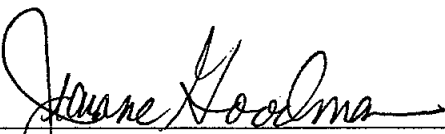
The diversion points are located: Div Pt #1 – 1,050 feet S and 1,320 feet E; Div Pt #2 – 1,310 feet S and 1,320 feet E; Div Pt #3 – 2,405 feet S and 2,340 feet E; and Div Pt #4 – 1,935 feet S and 2,640 feet E; all from the NW corner of Section 22-T127N-R71W. The acres authorized for irrigation are as follows:

Section 22-T127N-R71W

NW 1/4 NW 1/4	33 ac	NW 1/4 NE 1/4	35 ac	NW 1/4 SW 1/4	33 ac
NE 1/4 NW 1/4	33 ac	NE 1/4 NE 1/4	16 ac	NE 1/4 SW 1/4	40 ac
SE 1/4 NW 1/4	38 ac	SW 1/4 NE 1/4	29 ac	SE 1/4 SW 1/4	33 ac
SW 1/4 NW 1/4	33 ac	NW 1/4 SE 1/4	24 ac	SW 1/4 SW 1/4	33 ac
Total 380 acres					

(3) This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Permit No. 8232-3 including the following qualifications:

1. The wells approved under this Water Right No. 3656-3 and Water Permit No. 8232-3 will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under these water rights 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. Pursuant to SDCL 46-5-6 which allows a greater diversion rate if the method of irrigation, time constraints, or type of soils so requires, Water Right No. 3656-3 and Water Permit No. 8232-3, combined, authorize a maximum diversion rate of 5.79 cfs for the irrigation of 380 acres with an annual volume not to exceed 2 acre feet of water per acre per year.
3. 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

JAN 26 2017

date



SOUTH DAKOTA WATER WELL COMPLETION REPORT

No 13

07-92

Location NE $\frac{1}{4}$ SE $\frac{1}{4}$ Sec 22 Twp 126 Rg 71

County McPherson

North

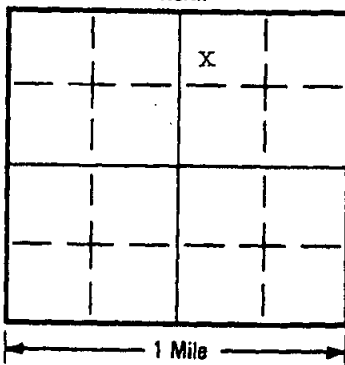
Please mark well location with an "X"

W

E

Well Completion Date

6-14-07



Well Owner: Larry Krause

Business Name: _____

Address: 37584 149 St. Mansfield, S. D.

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
Topsoil	0	2
Br. sand-gravel	2	15
Gr. clay	15	28
Coarse sand- gravel	28	48
Fine sand- coarse gravel	48	
Drilled tighter		51
Med. sand-fine gravel	51	72
Clay	72	78
Sand and gravel	78	94

LOCATION:

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

PROPOSED USE:

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

METHOD OF DRILLING:

Forward rotary

CASING DATA:

☐ Steel ☒ Plastic ☐ Other

If other describe SDR-21

PIPEWEIGHT DIAMETER 12 FROM 54 TO+ 1.5 HOLE DIAMETER
 _____ LB/FT _____ IN _____ FT _____ FT 17.5 IN
 _____ LB/FT _____ IN _____ FT _____ FT _____ IN
 _____ LB/FT _____ IN _____ FT _____ FT _____ IN

GROUTING DATA

Volclay- Hi-Solids
 Grout Type No. 2 Sacks Grout Weight 50 From 53 To 0
 _____ lb./gal _____ ft _____ ft
 _____ lb./gal _____ ft _____ ft
 Describe grouting procedure 1 1/2" tremie pipe- grout
from bottom up.

SCREEN:

☐ Perforated pipe ☒ Manufactured
 Diameter 12" IN Length 40 FEET
 Material PVC- SDR-21
 Slot Size .051 Set From 54 Feet to 94 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: Drill w/ pre-Chlorinated
☒ NO, Why Not? Water

Laboratory sent to for water quality analysis _____

STATIC WATER LEVEL 17.3 (Gr. Lv.) 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
31.35 ft. After 4 Hrs. pumped 460 GPM
 _____ ft. After _____ Hrs. pumped _____ GPM
 If pump installed, pump rate 600 @ 175 TDH GPM

REMARKS

RECEIVED RECEIVED

JUN 26 2007 JUN 26 2007

WATER RIGHTS PROGRAM WATER RIGHTS PROGRAM

This well was drilled under license # 434

And this report is true and accurate.

Drilling firm M & W Drilling

Signature of License Representative: _____

Joe Wucetich

Signature of Well Owner or Equitable Property Holder: _____

[Signature]

Date: 6-17-07

RECEIVED

JUN 29 2016

WATER RIGHTS PROGRAM

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 6/29, 20 16

RECEIVED OF Four Star Ag (B Vculek) 1109 S 7th St Oakes ND 58474

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

Fee for Application for Permit No. <u>8232-3</u> to Appropriate Water, to construct and to put water to beneficial use	500	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. _____		
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	500 00

No. **07870**

By *Jamie Goodman*
Chief Engineer



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

June 21, 2016

Barry Vculek
1109 S 7th St
Oakes ND, 58474

Dear Mr. Vculek:

This letter is in regards to the inspection I made of the water permits you have in McPherson County. As we discussed previously, there have been a number of changes made to the irrigation authorized by Water Right No. 3656-3 requiring you to obtain a new permit to cover those changes.

Enclosed are a partially completed application form, map, available well logs and instructions. Please review, complete, sign and submit along with a \$500 application fee to this office. Once we have a complete application, we will process the application.

If you have any additional questions, please contact me at phone (605) 773-3352.

Sincerely,

Mark D. Rath
Natural Resources Engineer III
Water Rights Program



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

denr.sd.gov

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 8232-3, Barry & Robin Vculek**

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. 8232-3, Barry & Robin Vculek, 1109 S 7th Street, Oakes ND 58474..

The Chief Engineer is recommending APPROVAL of Application No. 8232-3 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 Water Right No. 3656-3 and Water Permit No. 8232-3 will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under these water rights 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. Pursuant to SDCL 46-5-6 which allows a greater diversion rate if the method of irrigation, time constraints, or type of soils so requires, Water Right No. 3656-3 and Water Permit No. 8232-3, combined, authorize a maximum diversion rate of 5.79 cfs for the irrigation of 380 acres with an annual volume not to exceed 2 acre feet of water per acre per year.
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

See report on application for additional information.

Jeanne Goodman, Chief Engineer

August 16, 2016

**REPORT TO THE CHIEF ENGINEER
ON
WATER PERMIT APPLICATION NO. 8232-3
BARRY & ROBIN VCULEK
AUGUST 8, 2016**

Water Permit Application No 8232-2 proposes to increase the diversion rate authority, add a diversion point, change the location of the acreage authorized for irrigation and clarify the location of the diversion points for an existing irrigation project. Water Right No. 3656-3 authorizes the irrigation of 380 acres, using three wells completed into the McPherson management unit of the Spring Creek aquifer, at a maximum diversion rate of 3.00 cubic feet of water per second (cfs). An inspection of Water Right No. 3656-3, conducted pursuant to SDCL 46-5-3, identified four discrepancies between what the water right authorized and what was developed. The inspection identified: (a) the system was capable of diverting water at a rate of 5.79 cfs, (2.79 cfs greater than the authorized rate); (b) the system was capable of diverting water from four wells (one additional well than was authorized); (c) the wells are in the SE $\frac{1}{4}$ NW $\frac{1}{4}$, N $\frac{1}{2}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$ NE $\frac{1}{4}$ and the center of the SW $\frac{1}{4}$ Section 22, T127N-R71W; (d) the irrigated acreage is located in the W $\frac{1}{2}$, NE $\frac{1}{4}$, NW $\frac{1}{4}$ SE $\frac{1}{4}$ Section 22, T127N-R71W. This application, if approved and Water Right No. 3656-3 will authorize a total diversion rate of 5.79 cfs for irrigation of 380 acres. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

AQUIFER: SPRING CREEK: MCPHERSON (SC:M)

GEOLOGY AND AQUIFER CHARACTERISTICS:

The McPherson management unit of the Spring Creek aquifer consists of sand and gravel deposited as glacial outwash probably "during the last episodes of melting of the continental ice sheet" (Hamilton, 1974). The deposition of the outwash was limited to channels between large blocks of ice and till (Hamilton, 1974). The McPherson management unit of the Spring Creek aquifer underlies approximately 101,200 acres of McPherson County and contains an estimated 307,000 acre-feet of recoverable water in storage in the County (Hedges and others, 1982). The maximum thickness of the Spring Creek aquifer is estimated to be 85 feet. However, the average thickness is about 30 feet (Hamilton, 1982). Completion reports on file for three of the irrigation wells associated with this project identify the top of the aquifer ranging from 28 to 42 feet below grade and 66 feet, 54 feet and 29 feet of saturated thickness, respectively (Water Rights, 2016b and Water Rights 2016c). The aquifer is under confined conditions in the project area with a potentiometric surface less than 20 feet below grade. The transmissivity of the Spring Creek: McPherson was estimated to range from 49,110 to 119,835 gal/day/ft based on the specific capacities of seven irrigation wells completed into the aquifer (Buhler, 2012).

This application does not propose an increase to the acreage authorized for irrigation by Water Right No. 3656-3, therefore the appropriation from the Spring Creek: McPherson aquifer will not increase with approval of this application. Water Permit No. 8232-2, if approved, will authorize the current, as built, irrigation project. A May 7, 2016, inspection of Water Right No. 3656-3 identified an irrigation project consisting of four wells, capable of diverting 5.79 cfs, delivering water through four center pivot irrigations systems (M. Rath, personal communication, August

10, 2016). A July 1, 1980, inspection of Water Right No. 3656-3 identified a project consisting of three wells, capable of diverting 3.00 cfs, delivering water through two towable center pivot irrigation systems (Water Rights, 1980). Although the number of irrigated acres has remained the same (380 acres), the project, as constructed is capable of using more water than could be used in 1980 since all of the acreage can now be irrigated simultaneously.

Water use reported under Water Right No. 3656-3 is shown in Table 1. Based on the reported diversion rate (gpm), annual rate (Ac-ft/yr), and application rate (in/yr), it appears that the diversion rates and application rate increased for the irrigation project between 2001 and 2002. The average annual water use reported under this appropriation was 107.6 ac-ft/yr for 1980-2001, while the average annual water use was 390.5 ac-ft/yr for 2002-2015 (Water Rights, 1980-2016a).

Table 1. Water use reported under Water Right No. 3656-3 (Water Rights, 1980-2016b)

Year	Acres	gpm	days	hours	Ac-ft/yr	in/yr
2015	380	2800	36	24	445.46	14.067
2014	380	2500	21	24	232.01	7.326565
2013	380	2500	41	24	452.97	14.30425
2012 Crop ₁	280	1600	47	24	332.32	14.24244
2012 Crop ₂	100	1200	28	24	148.49	17.81821
2011	380	2600	33	24	379.17	11.9737
2010	380	2400	36	24	381.82	12.05743
2009 Crop ₁	100	600	25	24	66.29	7.954556
2009 Crop ₂	260	1600	15	24	106.06	4.895111
2008 Crop ₁	200	1200	56	24	296.97	17.81821
2008 Crop ₂	115	700	34	24	105.18	10.97498
2008 Crop ₃	65	400	27	24	47.73	8.8112
2007 Crop ₁	264	1600	49	24	346.47	15.74841
2007 Crop ₂	116	600	44	24	116.67	12.06898
2006	NA	NA	NA	NA	NA	NA
2005	330	2250	33	24	328.13	11.93183
2004	342	2200	35	24	340.28	11.93959
2003	342	2200	43	24	418.06	14.66864
2002	337	2000	47	24	415.40	14.79185
2001	326	1350	35	24	208.81	7.686151
2000 Crop ₁	50	450	25	10	20.71	4.971597
2000 Crop ₂	260	800	30	15	66.29	3.059445
1999 Crop ₁	130	600	10	10	11.05	1.019815
1999 Crop ₂	130	600	15	12	19.89	1.835667
1999 Crop ₃	130	600	10	20	22.10	2.03963
1999 Crop ₄	40	450	10	20	16.57	4.971597
1998 Crop ₁	135	750	22	24	72.92	6.48149
1998 Crop ₂	30	450	12	24	23.86	9.545467
1997 Crop ₁	135	700	20	10	25.78	2.291436
1997 Crop ₂	135	700	15	15	29.00	2.577865
1997 Crop ₃	60	450	20	15	24.86	4.971597

SDCL 46-2A-9

Pursuant to SDCL 46-2A-9, a permit to appropriate water may be issued only 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 address water availability and existing rights issues only.

WATER AVAILABILITY:

Approval of Water Permit Application No. 8232-3 will authorize an additional withdrawal from the Spring Creek: McPherson aquifer. The average amount of water reportedly pumped annually by this irrigation project increased by approximately 283 ac-ft/yr since 2001, when it appears the system changes that are to be authorized by this permit were put in place. The probability of 283 acre-feet of unappropriated water available for appropriation can be evaluated by considering SDCL 46-6-3.1 which requires that:

“No application to appropriate groundwater may be approved if, according to the best information reasonably available, it is probable that the quantity of water withdrawn annually from a groundwater source will exceed the quantity of the average estimated annual recharge of water to the groundwater source.”

If the source of the water is older or lower than the Greenhorn formation and a water distribution system has applied for a permit, the Board need not consider the recharge/withdrawal issue. In the case of Application No. 8232-3, the Spring Creek: McPherson aquifer is not older or lower than the Greenhorn formation, and a water distribution system is not involved, therefore recharge versus withdrawals must be considered.

Recharge versus Withdrawals:

Recharge:

Recharge to the Spring Creek: McPherson aquifer which occurs through infiltration of precipitation falling on the aquifer surface has not been quantified. However, the Spring Creek: McPherson aquifer is considered a “non-buried aquifer” in the “surface system” by Hedges and others (1985). Other non-buried aquifers in the surface system in this area include the Bowdle aquifer and the Selby aquifer. Recharge rates determined for these aquifers using observation well analysis is estimated to be 2 inches/year for the Selby aquifer and between 2 and 2.7 in/yr in the Bowdle aquifer (Hedges and others, 1985). Based on recharge rates for these similar aquifers, a recharge rate of 2 inches/year is assumed for the McPherson management unit of the Spring Creek aquifer. The average annual recharge for the Spring Creek: McPherson would be approximately 16,850 acre-feet/yr.

Withdrawals:

There are eight existing water rights/permits appropriating water from the Spring Creek: McPherson, they are shown on Figure 1 and in Table 1 (Water Rights, 2016b).

Table 1. Water Rights/Permits appropriating water from the McPherson management unit of the Spring Creek aquifer (Water Rights, 2016b).

PERMIT NO	NAME	PRIORITY DATE	STATUS	USE	CFS	ACRES
3012-3	MARVIN & MARK MORLOCK	09/13/1976	LC	IRR	2	211
3656-3	BARRY & ROBIN VCULEK	03/08/1976	LC	IRR	3	380
3925A-3	JEFF NEUHARTH	04/27/1977	LC	IRR	2.28	160
5706-3	BORDER CLUB	08/31/1992	LC	COM	0.01	0
6258-3	BARRY & ROBIN VCULEK	04/12/2001	PE	IRR	12	940
7304-3	MICHAEL C NEUHARTH	01/03/2012	LC	IRR	1.78	136
7323-3	BARRY & ROBIN VCULEK	02/15/2012	PE	IRR	3.56	264
7455-3	DAN METTLER	09/26/2012	PE	IRR	1.78	160
8052-3	DENNIS WOLFF	09/24/2014	PE	IRR	2.2	157

Water use from the Spring Creek: McPherson is principally for irrigation. A summary of the reported pumping from the aquifer for irrigation is shown in Table 2.

Table 2. Water use reported for irrigation from the Spring Creek: McPherson aquifer (Water Rights, 1980-2016)

YEAR	NO. PMTS	APPROPRIATION (Acre-feet)	PUMPED (Acre-feet)
2015	8	5567	1357.74
2014	7	5253	811.36
2013	7	5253	1768.36
2012	6	4981	1388.51
2011	4	4133	890.36
2010	4	4133	1004.81
2009	4	4133	606.04
2008	4	4133	1351.83
2007	4	4133	1545.84
2006	5	4739	2770.28
2005	5	4739	1415.5
2004	5	4739	1224.48
2003	5	4739	1904.35
2002	5	4739	2095.91
2001	4	2859	611.4
2000	4	2859	560.3
1999	4	2859	340.49
1998	4	2859	442.37
1997	4	2859	285
1996	4	2859	317
1995	4	2619	120.64
1994	4	2619	317.19
1993	4	2859	21
1992	4	2859	374.8
1991	4	2859	456.1
1990	4	2859	715
1989	4	2859	838
1988	4	2859	1075.2
1987	3	2379	350
1986	3	2379	198
1985	4	2699	410
1984	5	2819	388
1983	3	2379	256.15
1982	3	2379	211.58
1981	6	3779	308
1980	5	3456	566
<i>Minimum</i>	3	2379	21
<i>Maximum</i>	8	5567	2770.28
<i>Average</i>	4.47	3534.14	813.82

Withdrawals from the Spring Creek: McPherson aquifer are expected to be considerably less than the average annual recharge to the aquifer, and there is a reasonable probability that unappropriated water is available from the aquifer for this proposed appropriation.

Observation Well Data:

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

The DENR-Water Rights Program monitors five observation wells completed into the Spring Creek McPherson aquifer. Hydrographs for the observation wells are shown in Figures 1-6.

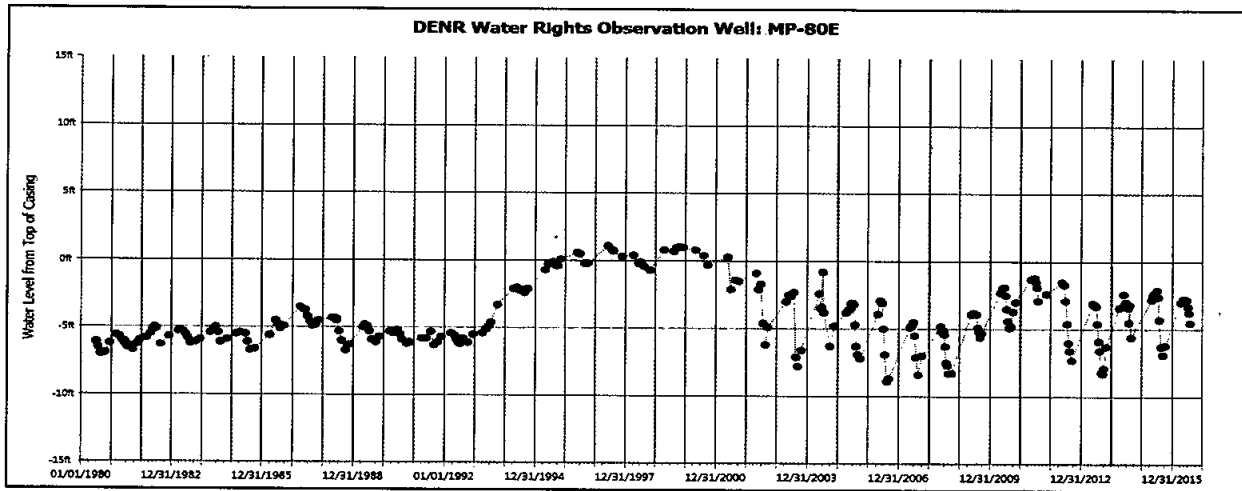


Figure 1. Hydrograph for DENR-Water Rights' observation well completed into the Spring Creek McPherson aquifer within one-half mile (east) of the wells that are to supply this water permit.

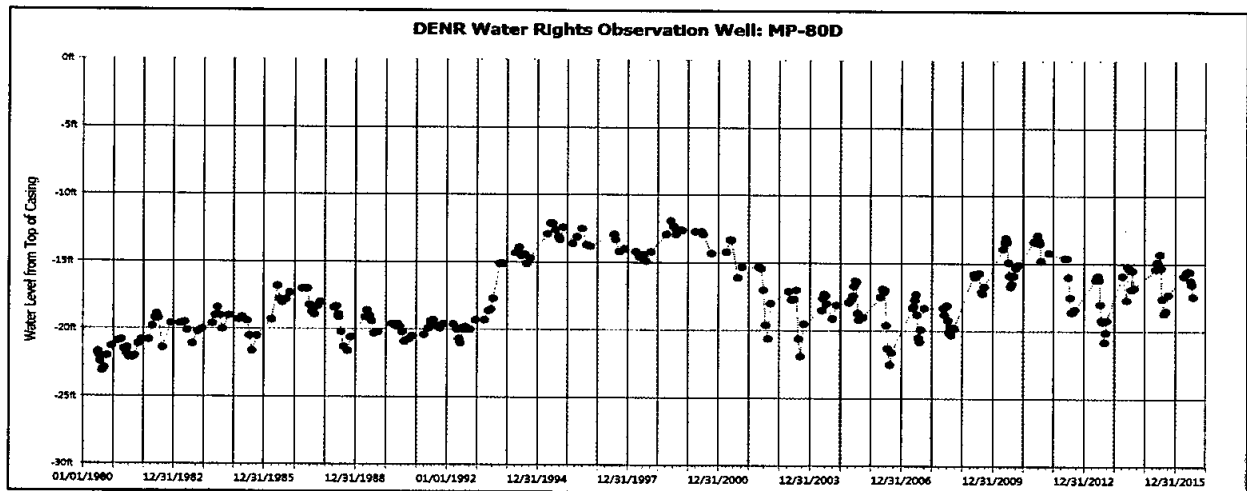


Figure 2. Hydrograph for DENR-Water Rights' observation well completed into the Spring Creek McPherson aquifer approximately one mile west of the wells that are to supply this water permit.

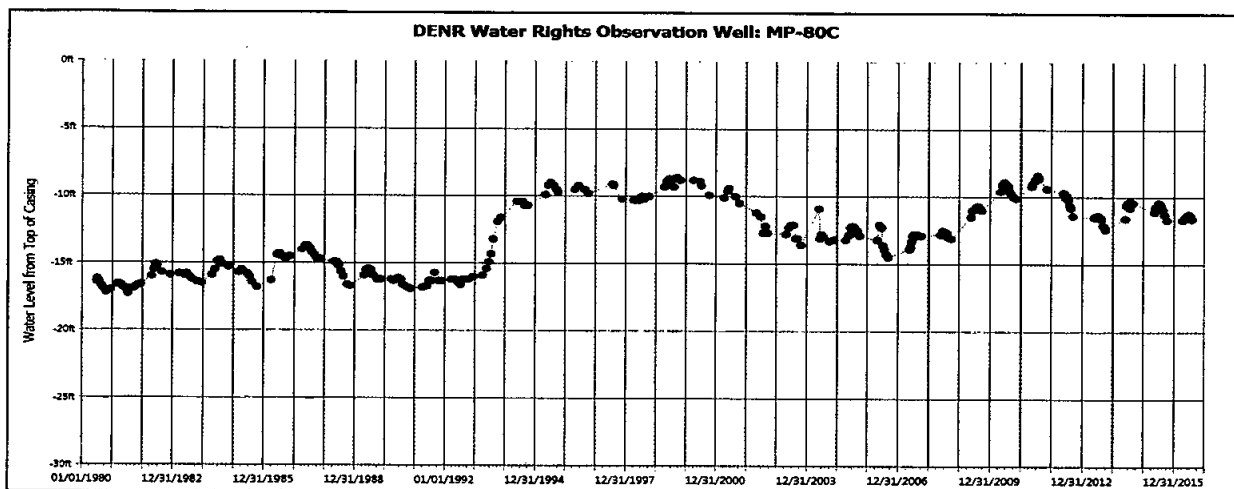


Figure 3. Hydrograph for DENR-Water Rights' observation well completed into the Spring Creek McPherson aquifer approximately three and one-half miles west of the wells that are to supply this water permit.

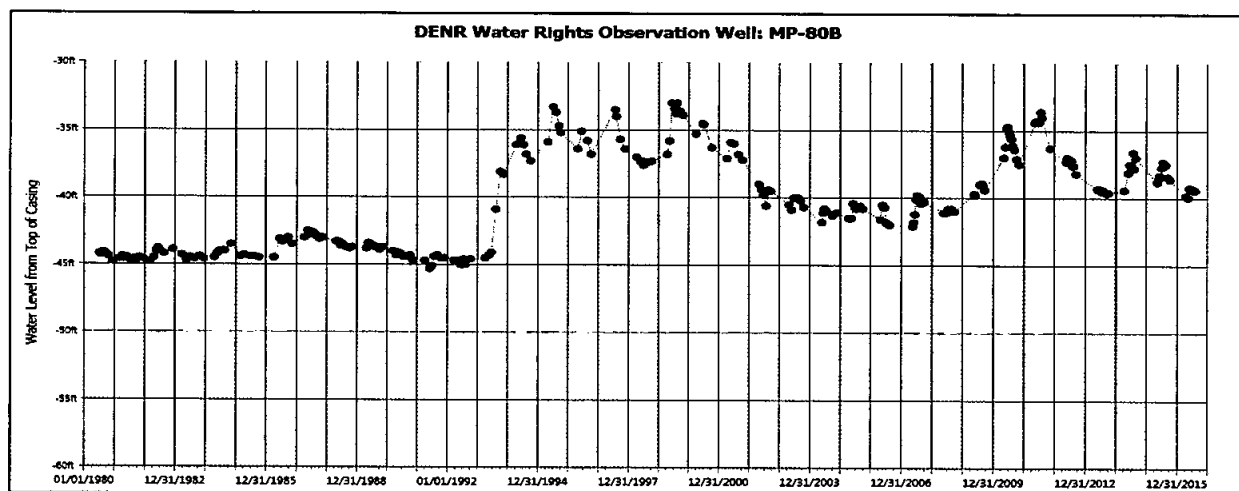


Figure 4. Hydrograph for DENR-Water Rights' observation well completed into the Spring Creek McPherson aquifer approximately six and one-half miles west-northwest of the wells that are to supply this water permit.

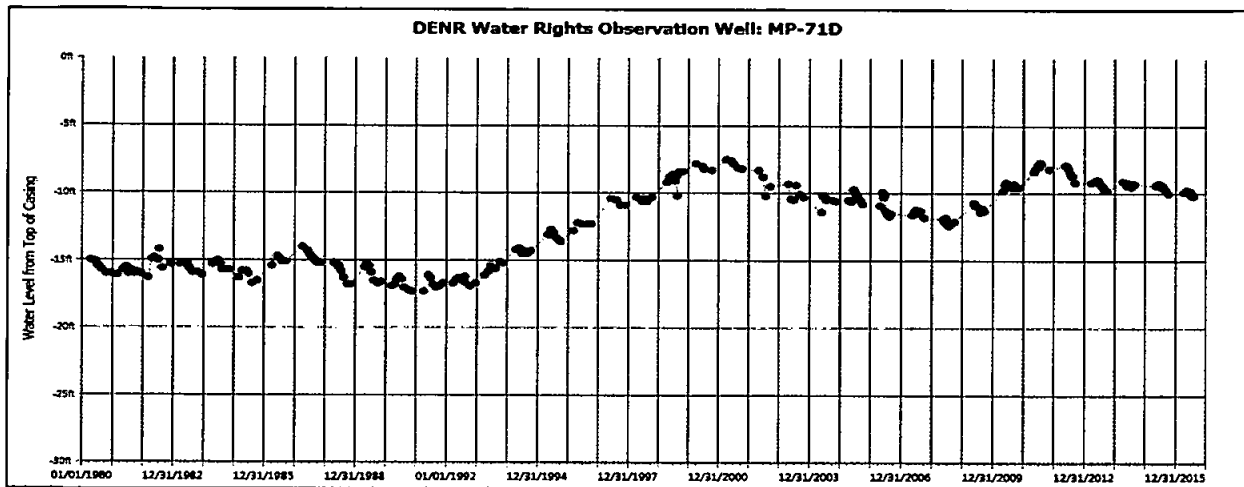


Figure 5. Hydrograph for DENR-Water Rights' observation well completed into the Spring Creek McPherson aquifer approximately 10 and one-half miles northeast of the wells that are to supply this water permit.

In general, the hydrographs show upward trending water levels over the period of record. The hydrographs document that the aquifer responds well to climatic conditions with rising water levels during wet years and declining water levels during dry years. The 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, so water is available for capture before natural discharge. Therefore, unappropriated water is available from the Spring Creek: McPherson aquifer to support the proposed appropriation.

EXISTING WATER RIGHTS:

As stated earlier, this application proposes a permit to authorize an existing irrigation project. Evidence suggests that the project has actually been operating under what would be the constraints of Water Permit No. 8232-3, if it is approved. Observation well data in the immediate vicinity of this irrigation project (see Figure 1.) has recorded seasonal fluctuations of 4-6 feet since 2001 as compared to seasonal fluctuations of one foot or less before 2001 (Water Rights, 2016a). It appears that the artesian pressure in the area has experienced an additional 3-5 feet of drawdown in this area as a result of the alterations to this irrigation project that this application proposes to authorize. Considering the greater than 70 feet of artesian head pressure in this area, 3-5 feet of additional fluctuation should not be considered significant.

Considering that SDCL 46-6-6.1 does not protect artesian head pressure as a means of delivery and the Water Management Board has consistently recognized that to place water to maximum beneficial use a certain amount of drawdown may occur, a nearby adequate well defined by ARSD 74:02:20(7), which states that the pump intake must be set 20 feet below the top of the aquifer or, if the aquifer is less than 20 feet thick, as near to the bottom of the aquifer as is practical, is not expected to be adversely or unlawfully impaired. Therefore, there is a reasonable probability that any well interference from the proposed appropriation will not cause a significant impact and will also not adversely or unlawfully impair existing users.

SDCL 46-5-6

Pursuant to SDCL 46-5-6, the diversion rate for an irrigation appropriation cannot be in excess of one cfs for every 70 acres, or "the equivalent thereof." The statute does provide that the Water Management Board may allow a greater diversion rate if the method of irrigation so requires. Water Permit Application No. 8232-3 indicates "This application also requests authorization of the total diversion rate of more than 1 cfs per 70 acres due to the need to efficiently operate the four center pivot irrigation systems."

CONCLUSIONS:

1. Water Permit Application No. 8232-3 proposes a water permit that will allow an existing irrigation project to maintain status quo.
2. Water Permit Application No 8232-2 proposes to increase the diversion rate authority, add a diversion point, change the location of the acreage authorized for irrigation and clarify the location of the diversion points for an existing irrigation project.
3. Approval of Water Permit No. 8232-3 will not increase the annual appropriation from the Spring Creek: McPherson aquifer.
4. The diversion proposed by this application will not adversely impair existing wells.



Ken Buhler
SD DENR-Water Rights Program

REFERENCES:

- Buhler, K.A., 2012, Report to the Chief Engineer on Water Permit Application No. 7323-3 Barry & Robin Vculek, March 2, 2012: SD DENR-Water Rights Program Water Right File No. 7323-3
- Hamilton, L.J., 1974, Major Aquifers in McPherson, Edmunds and Faulk counties, South Dakota: S.D. Geological Survey Information Pamphlet No. 8, 12 p.
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- Hedges, L.S., Burch, S.L., Iles, D.L., Barari, R.A., 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

Rath, M., Personal Communication, August 10, 2016, Engineer III, DENR-Water Rights Program

Water Rights, 1980, Report of Examination of Works and/or Application of Water To Beneficial Use for Water Permit No. 3656-3, Water Right File No. 3656-3SD DENR-Water Rights Program, Joe Foss Building, Pierre, SD

Water Rights, 1980-2016, Irrigation Questionnaire Summary by Aquifer 1979-2015: SD DENR-Water Rights Program, Joe Foss Building, Pierre, SD

Water Rights, 1980-2016b, Irrigation Questionnaire for Water Right No. 3656-3 for the years 1979-2015: SD DENR-Water Rights Program, Joe Foss Building, Pierre, SD

Water Rights, 2016a, Observation Well Files, SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.

Water Rights, 2016b, Water Right/Permit Files, SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.

Water Rights, 2016c, Well Completion Report Files, SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.



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 NEWSPAPER(S) RIGHT AWAY.**

August 17, 2016

Barry & Robin Vculek
1109 S 7th St
Oakes ND 58474

Dear Sir:

Water Permit Application No. 8232-3 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 Northwest Blade printed at Eureka SD (Ph # 605-284-2631) and the American News printed at Aberdeen SD (Ph # 605-225-4100). 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.

NOTICE OF APPLICATION NO. 8232-3 to Appropriate Water

Notice is given that Barry & Robin Vculek, 1109 S 7th St, Oakes ND 58474 has filed an application for a water permit to increase the diversion authority, add a diversion point, change the location of irrigated acres and clarify the location of the diversion points. Water Right No. 3656-3 appropriates 3.00 cubic feet of water per second (cfs) from three wells to irrigate 380 acres. An investigation of the Water Right found the system capable of diverting an additional 2.79 cfs from four wells completed into the Spring Creek:McPherson Aquifer (59-94 feet deep) located in the SE 1/4 NW 1/4, N 1/2 NW 1/4, SW 1/4 NE 1/4 and the center of the SW 1/4 Section 22 for irrigation of 380 acres located in the W 1/2, NE 1/4, NW 1/4 SE 1/4 Section 22; all in T127N-R71W. This application, if approved, and Water Right No. 3656-3 will authorize a total diversion rate of 5.79 cfs for irrigation of 380 acres. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8232-3 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 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 September 6, 2016.

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.

Steven M. Pirner, Secretary, Department of Environment and Natural Resources. Published once at the total approximate cost of _____.

Schlaak, Karen

From: Schlaak, Karen
Sent: Wednesday, August 17, 2016 8:54 AM
To: Nancy Zantow (nzantow@aberdeennews.com)
Subject: 8232-3, Barry & Robin Vculek
Attachments: 8232-3publicnov2015.short1.docx; FORM8.FRM.doc

Attached is a notice to be published on August 25, 2016.

Barry & Robin Vculek, 1109 S 7th St, Oakes ND 58474 (701 742-3050) 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.

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

Karen Schlaak
Water Rights Program
523 E Capitol Ave
Pierre SD 57501
Phone: 605 773-3352

Schlaak, Karen

From: Schlaak, Karen
Sent: Wednesday, August 17, 2016 8:53 AM
To: nwblade@valleytel.net
Subject: 8232-3, Barry & Robin Vculek
Attachments: 8232-3publicnov2015.short1.docx; FORM8.FRM.doc

Attached is a notice to be published on August 25, 2016.

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Karen Schlaak

Water Rights Program
523 E Capitol Ave
Pierre SD 57501
Phone: 605 773-3352

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WATER RIGHTS
PROGRAM

The Northwest Blade
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605-284-2631

STATE OF South Dakota: COUNTY OF McPherson

I, Linda Bergman, am authorized by the publisher as agent to make this affidavit of publication.
Under oath, I state that the following is true and correct.

The Northwest Blade is a newspaper which is published weekly and is of general circulation and is in compliance with South Dakota Newspaper Association legalized Statutes.

The notice has been published in the newspaper listed above.

DATE(S) OF PUBLICATION

8-25-16 Notice of Application No. 8232-3 to Appropriate Water for Barry + Robin Vculek

NAME OF THE CORPORATION/GOVERNMENT OFFICE: Dept. of Environment + Natural Resources

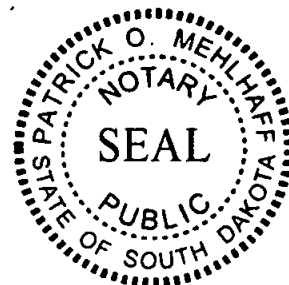
TYPE OF DOCUMENT: Legal

AUTHORIZED SIGNATURE: Linda Bergman

SUBSCRIBED AND SWORN TO BEFORE ME ON THE

30 DAY OF August, 2016.

NOTARY SIGNATURE: [Signature]
Exp: 5-29-21



**NOTICE OF
APPLICATION NO. 8232-
3 to Appropriate Water**

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Steven M. Pirner, Secretary,
Department of Environment and
Natural Resources.

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WATER RIGHTS
PROGRAM

Form 8

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County of Brown) SS

I, Mary Best

certify that the attached printed Notice was taken

from the Aberdeen News

printed and published in Aberdeen

County of Brown and

state of South Dakota. The notice was published

in the newspaper on the following date:

August 25, 2016

Cost of Printing \$ 53.59

Mary Best
(Signature)

Adv. Betting Spens
(Title)

August 26
(Date Signed)

(No. 106018)
(August 25, 2016 - 17)

NOTICE OF APPLICATION
NO. 8232-3 to Appropriate Water

Notice is given that Barry & Robin Vculek, 1109 S 7th St, Oakes ND 58474 has filed an application for a water permit to increase the diversion authority, add a diversion point, change the location of irrigated acres and clarify the location of the diversion points. Water Right No. 3656-3 appropriates 3.00 cubic feet of water per second (cfs) from three wells to irrigate 380 acres. An investigation of the Water Right found the system capable of diverting an additional 2.79 cfs from four wells completed into the Spring Creek-McPherson Aquifer (59-94 feet deep) located in the SE 1/4 NW 1/4, N 1/2 NW 1/4, SW 1/4 NE 1/4 and the center of the SW 1/4 Section 22 for irrigation of 380 acres located in the W 1/2, NE 1/4, NW 1/4 SE 1/4 Section 22; all in T127N-R71W. This application, if approved, and Water Right No. 3656-3 will authorize a total diversion rate of 5.79 cfs for irrigation of 380 acres. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8232-3 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 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 September 6, 2016.

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.

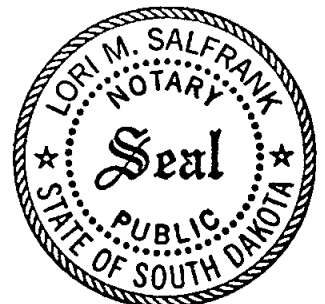
If the applicant does not contest the recommendation of the Chief Engineer and no petition to oppose the application is received, the Chief Engineer shall act on the application pursuant to the recommendation with no hearing held before the Water Management Board. If a petition opposing the application 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.

Steven M. Pirner, Secretary, Department of Environment and Natural Resources. Published once at the total approximate cost of \$53.59.

RECEIVED

SEP 01 2016

Dept. of Environment &
Natural Resources
GROUND WATER QUALITY



RECEIVED
SEP - 6 2016
WATER RIGHTS
PROGRAM

Sirs,

I have a domestic well for cattle located in the SW quarter of Section 16, of 127N & 71W, McPherson County. The well has been productive in spring and summer, unfortunately not productive in the fall and winter months. I have been in contact with Jim Goodman and now Ken Buhler with the SD DENR regarding this perplexing problem. The well is more than adequate at spring time pumping 5 gal/min for five hours in 2012, yet is dry in the fall and winter. The well is not rejuvenating after the irrigation has stopped and not reflecting the same status as the monitor well MP 80 D. This past season it became necessary to haul water beginning August 19th to the 32 head of yearling heifers. This is a well that in the recent past supplied a larger herd for the entire season. We do not have an exact understanding of ground waters. That is why I am concerned the increased pumping rate will deplete the wells water source even earlier in the season. I am requesting the SD DENR send staff to pump the well the spring of 2017 temporarily placing the request for increased cubic feet of water on hold until completion of the spring pumping. I believe this can be the most expeditious method of solving this problem thus avoiding a long wasteful process.

Thank you for your consideration.

Dan Mettler 8/31/16

Dan Mettler

11220 338th Ave

Eureka, SD 57437

605-577-6240



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

September 7, 2016

denr.sd.gov

NOTICE OF HEARING

TO: Barry and Robin Vculek
1109 S 7th Street
Oakes ND 58474

Dan Mettler
11220 338th Avenue
Eureka SD 57437

FROM: Jeanne Goodman, Chief Engineer
Water Rights Program

SUBJECT: Notice of Hearing on Water Permit Application No. 8232-3, Barry and Robin Vculek

A petition to Water Permit Application No. 8232-3 was filed by Dan Mettler in response to the Notice of Application published in the Northwest Blade and Aberdeen American News. This notice schedules a hearing on Application No. 8232-3 before the South Dakota Water Management Board.

Water Permit Application No. 8232-3 proposes to increase the diversion authority, add a diversion point, change the location of irrigated acres and clarify the location of the diversion points. Water Right No. 3656-3 appropriates 3.00 cubic feet of water per second (cfs) from three wells to irrigate 380 acres. An investigation of the Water Right found the system capable of diverting an additional 2.79 cfs from four wells completed into the Spring Creek:McPherson Aquifer (59-94 feet deep) located in the SE 1/4 NW 1/4, N 1/2 NW 1/4, SW 1/4 NE 1/4 and the center of the SW 1/4 Section 22 for irrigation of 380 acres located in the W 1/2, NE 1/4, NW 1/4 SE 1/4 Section 22; all in T127N-R71W. This application, if approved, and Water Right No. 3656-3 will authorize a total diversion rate of 5.79 cfs for irrigation of 380 acres. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8232-3 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 Water Management Board will consider Application No. 8232-3 at 9:30 AM (Central Time) on Thursday, October 13, 2016, in the Floyd Matthew Training Center, Joe Foss Building, 523 E Capitol Avenue, Pierre SD. The agenda time is an estimate. Parties will be provided written notice if there is a change to the hearing time or date.

The Chief Engineer's recommendation is not final or binding upon the Board. The Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny the application after it reaches a conclusion based on the facts presented at the public hearing.

The October 13, 2016, hearing date will be automatically delayed for at least 20 days upon written request to the Chief Engineer from the applicant or any person who has filed a petition to oppose or support the application. The request for an automatic delay must be filed by September 30, 2016. If an

automatic delay is requested, the hearing will be rescheduled for a future Board meeting and personal notice will be provided to parties regarding the time, date and location.

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

Contact Eric Gronlund at the above Chief Engineer's address to request the staff report, recommendation, application or any other information. Notice is given to individuals with disabilities that this hearing is being held in a physically accessible place. Please notify the Department of Environment and Natural Resources at least 48 hours before the hearing if you have a disability for which special arrangements must be made at the hearing. The telephone number for making arrangements is (605) 773-3352.

Enclosed is the report, recommendation, affidavits of publication and the petition filed in the matter of Water Permit Application No. 8232-3. State law directs the Chief Engineer to provide Water Management Board members with a copy of all pleadings including petitions for each proceeding. The information being provided to you is also being sent to the Board members in advance of the hearing. In addition, enclosed are two documents intended to acquaint parties with the hearing process entitled "Procedure for Hearings before the Water Management Board" and "Summary of South Dakota Water Laws and Rules." You are encouraged to review these documents prior to the hearing.

Under SDCL 1-26-17(7) notices must state that "if the amount in controversy exceeds \$2,500.00 or if a property right may be terminated, any party to the contested case may require the agency to use the Office of Hearing Examiners by giving notice of the request to the agency no later than ten days after service of a notice of hearing issued pursuant to SDCL 1-26-17." This is a Notice of Hearing, service is being provided by direct mail to you, and the applicable date to give notice to the Chief Engineer is September 17, 2016. However, since this particular matter is a water permit application and not a monetary controversy in excess of \$2,500.00 or termination of a property right, the Chief Engineer disputes the applicability of this provision and maintains that the hearing must be conducted by the Board.

As applicable, the following provides the legal authority and jurisdiction under which the hearing will be held and the particular statutes and rules pertaining to this application: SDCL 1-26-16 thru 1-26-28; SDCL 46-1-1 thru 46-1-9, 46-1-13 thru 46-1-16; 46-2-3.1, 46-2-9, 46-2-11, 46-2-17; 46-2A-1 thru 46-2A-12, 46-2A-14, 46-2A-15, 46-2A-20, 46-2A-21, 46-2A-23; 46-5-1.1, 46-5-2 thru 46-5-26, 46-5-30.2 thru 46-5-30.4, 46-5-31 46-5-32 thru 46-5-34.1, 46-5-38 thru 46-5-39, 46-5-46, 46-5-47, 46-5-49; 46-6-1 thru 46-6-3.1, 46-6-6.1, 46-6-10, 46-6-13, 46-6-14, 46-6-21, 46-6-26; Board Rules ARSD 74:02:01:01 thru 74:02:01:24.02 and ARSD Chapter 74:02:04.

Questions regarding the hearing process may be directed to Eric Gronlund, Water Rights Program at (605) 773-3352 or eric.gronlund@state.sd.us.

enclosures

c: Ann Mines-Bailey, Assistant Attorney General

CERTIFICATION

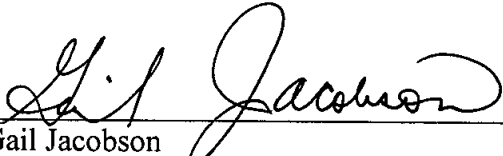
I hereby certify that on September 7, 2016, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice of Hearing dated September 7, 2016, regarding notice of hearing for Water Permit Application No. 8232-3, as addressed below:

Barry and Robin Vculek
1109 S 7th Street
Oakes ND 58474

Dan Mettler
11220 338th Avenue
Eureka SD 57437

Sent Inter-office to:

Ann Mines-Bailey, Assistant Attorney General
1302 East Highway 14, Suite 1
Pierre SD 57501-8501



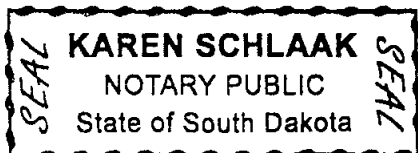
Gail Jacobson
Water Rights Program, DENR

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 7th day of September, 2016



Karen Schlaak
Notary Public
My Commission expires April 1, 2019



**REPORT TO THE CHIEF ENGINEER
ON
WATER PERMIT APPLICATION NO. 8232-3
BARRY & ROBIN VCULEK
AUGUST 8, 2016**

Water Permit Application No 8232-2 proposes to increase the diversion rate authority, add a diversion point, change the location of the acreage authorized for irrigation and clarify the location of the diversion points for an existing irrigation project. Water Right No. 3656-3 authorizes the irrigation of 380 acres, using three wells completed into the McPherson management unit of the Spring Creek aquifer, at a maximum diversion rate of 3.00 cubic feet of water per second (cfs). An inspection of Water Right No. 3656-3, conducted pursuant to SDCL 46-5-3, identified four discrepancies between what the water right authorized and what was developed. The inspection identified: (a) the system was capable of diverting water at a rate of 5.79 cfs, (2.79 cfs greater than the authorized rate); (b) the system was capable of diverting water from four wells (one additional well than was authorized); (c) the wells are in the SE $\frac{1}{4}$ NW $\frac{1}{4}$, N $\frac{1}{2}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$ NE $\frac{1}{4}$ and the center of the SW $\frac{1}{4}$ Section 22, T127N-R71W; (d) the irrigated acreage is located in the W $\frac{1}{2}$, NE $\frac{1}{4}$, NW $\frac{1}{4}$ SE $\frac{1}{4}$ Section 22, T127N-R71W. This application, if approved and Water Right No. 3656-3 will authorize a total diversion rate of 5.79 cfs for irrigation of 380 acres. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

AQUIFER: SPRING CREEK: MCPHERSON (SC:M)

GEOLOGY AND AQUIFER CHARACTERISTICS:

The McPherson management unit of the Spring Creek aquifer consists of sand and gravel deposited as glacial outwash probably "during the last episodes of melting of the continental ice sheet" (Hamilton, 1974). The deposition of the outwash was limited to channels between large blocks of ice and till (Hamilton, 1974). The McPherson management unit of the Spring Creek aquifer underlies approximately 101,200 acres of McPherson County and contains an estimated 307,000 acre-feet of recoverable water in storage in the County (Hedges and others, 1982). The maximum thickness of the Spring Creek aquifer is estimated to be 85 feet. However, the average thickness is about 30 feet (Hamilton, 1982). Completion reports on file for three of the irrigation wells associated with this project identify the top of the aquifer ranging from 28 to 42 feet below grade and 66 feet, 54 feet and 29 feet of saturated thickness, respectively (Water Rights, 2016b and Water Rights 2016c). The aquifer is under confined conditions in the project area with a potentiometric surface less than 20 feet below grade. The transmissivity of the Spring Creek: McPherson was estimated to range from 49,110 to 119,835 gal/day/ft based on the specific capacities of seven irrigation wells completed into the aquifer (Buhler, 2012).

This application does not propose an increase to the acreage authorized for irrigation by Water Right No. 3656-3, therefore the appropriation from the Spring Creek: McPherson aquifer will not increase with approval of this application. Water Permit No. 8232-2, if approved, will authorize the current, as built, irrigation project. A May 7, 2016, inspection of Water Right No. 3656-3 identified an irrigation project consisting of four wells, capable of diverting 5.79 cfs, delivering water through four center pivot irrigations systems (M. Rath, personal communication, August

10, 2016). A July 1, 1980, inspection of Water Right No. 3656-3 identified a project consisting of three wells, capable of diverting 3.00 cfs, delivering water through two towable center pivot irrigation systems (Water Rights, 1980). Although the number of irrigated acres has remained the same (380 acres), the project, as constructed is capable of using more water than could be used in 1980 since all of the acreage can now be irrigated simultaneously.

Water use reported under Water Right No. 3656-3 is shown in Table 1. Based on the reported diversion rate (gpm), annual rate (Ac-ft/yr), and application rate (in/yr), it appears that the diversion rates and application rate increased for the irrigation project between 2001 and 2002. The average annual water use reported under this appropriation was 107.6 ac-ft/yr for 1980-2001, while the average annual water use was 390.5 ac-ft/yr for 2002-2015 (Water Rights, 1980-2016a).

Table 1. Water use reported under Water Right No. 3656-3 (Water Rights, 1980-2016b)

Year	Acres	gpm	days	hours	Ac-ft/yr	in/yr
2015	380	2800	36	24	445.46	14.067
2014	380	2500	21	24	232.01	7.326565
2013	380	2500	41	24	452.97	14.30425
2012 Crop ₁	280	1600	47	24	332.32	14.24244
2012 Crop ₂	100	1200	28	24	148.49	17.81821
2011	380	2600	33	24	379.17	11.9737
2010	380	2400	36	24	381.82	12.05743
2009 Crop ₁	100	600	25	24	66.29	7.954556
2009 Crop ₂	260	1600	15	24	106.06	4.895111
2008 Crop ₁	200	1200	56	24	296.97	17.81821
2008 Crop ₂	115	700	34	24	105.18	10.97498
2008 Crop ₃	65	400	27	24	47.73	8.8112
2007 Crop ₁	264	1600	49	24	346.47	15.74841
2007 Crop ₂	116	600	44	24	116.67	12.06898
2006	NA	NA	NA	NA	NA	NA
2005	330	2250	33	24	328.13	11.93183
2004	342	2200	35	24	340.28	11.93959
2003	342	2200	43	24	418.06	14.66864
2002	337	2000	47	24	415.40	14.79185
2001	326	1350	35	24	208.81	7.686151
2000 Crop ₁	50	450	25	10	20.71	4.971597
2000 Crop ₂	260	800	30	15	66.29	3.059445
1999 Crop ₁	130	600	10	10	11.05	1.019815
1999 Crop ₂	130	600	15	12	19.89	1.835667
1999 Crop ₃	130	600	10	20	22.10	2.03963
1999 Crop ₄	40	450	10	20	16.57	4.971597
1998 Crop ₁	135	750	22	24	72.92	6.48149
1998 Crop ₂	30	450	12	24	23.86	9.545467
1997 Crop ₁	135	700	20	10	25.78	2.291436
1997 Crop ₂	135	700	15	15	29.00	2.577865
1997 Crop ₃	60	450	20	15	24.86	4.971597

SDCL 46-2A-9

Pursuant to SDCL 46-2A-9, a permit to appropriate water may be issued only 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 address water availability and existing rights issues only.

WATER AVAILABILITY:

Approval of Water Permit Application No. 8232-3 will authorize an additional withdrawal from the Spring Creek: McPherson aquifer. The average amount of water reportedly pumped annually by this irrigation project increased by approximately 283 ac-ft/yr since 2001, when it appears the system changes that are to be authorized by this permit were put in place. The probability of 283 acre-feet of unappropriated water available for appropriation can be evaluated by considering SDCL 46-6-3.1 which requires that:

“No application to appropriate groundwater may be approved if, according to the best information reasonably available, it is probable that the quantity of water withdrawn annually from a groundwater source will exceed the quantity of the average estimated annual recharge of water to the groundwater source.”

If the source of the water is older or lower than the Greenhorn formation and a water distribution system has applied for a permit, the Board need not consider the recharge/withdrawal issue. In the case of Application No. 8232-3, the Spring Creek: McPherson aquifer is not older or lower than the Greenhorn formation, and a water distribution system is not involved, therefore recharge versus withdrawals must be considered.

Recharge versus Withdrawals:

Recharge:

Recharge to the Spring Creek: McPherson aquifer which occurs through infiltration of precipitation falling on the aquifer surface has not been quantified. However, the Spring Creek: McPherson aquifer is considered a “non-buried aquifer” in the “surface system” by Hedges and others (1985). Other non-buried aquifers in the surface system in this area include the Bowdle aquifer and the Selby aquifer. Recharge rates determined for these aquifers using observation well analysis is estimated to be 2 inches/year for the Selby aquifer and between 2 and 2.7 in/yr in the Bowdle aquifer (Hedges and others, 1985). Based on recharge rates for these similar aquifers, a recharge rate of 2 inches/year is assumed for the McPherson management unit of the Spring Creek aquifer. The average annual recharge for the Spring Creek: McPherson would be approximately 16,850 acre-feet/yr.

Withdrawals:

There are eight existing water rights/permits appropriating water from the Spring Creek: McPherson, they are shown on Figure 1 and in Table 1 (Water Rights, 2016b).

Table 1. Water Rights/Permits appropriating water from the McPherson management unit of the Spring Creek aquifer (Water Rights, 2016b).

PERMIT NO	NAME	PRIORITY DATE	STATUS	USE	CFS	ACRES
3012-3	MARVIN & MARK MORLOCK	09/13/1976	LC	IRR	2	211
3656-3	BARRY & ROBIN VCULEK	03/08/1976	LC	IRR	3	380
3925A-3	JEFF NEUHARTH	04/27/1977	LC	IRR	2.28	160
5706-3	BORDER CLUB	08/31/1992	LC	COM	0.01	0
6258-3	BARRY & ROBIN VCULEK	04/12/2001	PE	IRR	12	940
7304-3	MICHAEL C NEUHARTH	01/03/2012	LC	IRR	1.78	136
7323-3	BARRY & ROBIN VCULEK	02/15/2012	PE	IRR	3.56	264
7455-3	DAN METTLER	09/26/2012	PE	IRR	1.78	160
8052-3	DENNIS WOLFF	09/24/2014	PE	IRR	2.2	157

Water use from the Spring Creek: McPherson is principally for irrigation. A summary of the reported pumping from the aquifer for irrigation is shown in Table 2.

Table 2. Water use reported for irrigation from the Spring Creek: McPherson aquifer (Water Rights, 1980-2016)

YEAR	NO. PMTS	APPROPRIATION (Acre-feet)	PUMPED (Acre-feet)
2015	8	5567	1357.74
2014	7	5253	811.36
2013	7	5253	1768.36
2012	6	4981	1388.51
2011	4	4133	890.36
2010	4	4133	1004.81
2009	4	4133	606.04
2008	4	4133	1351.83
2007	4	4133	1545.84
2006	5	4739	2770.28
2005	5	4739	1415.5
2004	5	4739	1224.48
2003	5	4739	1904.35
2002	5	4739	2095.91
2001	4	2859	611.4
2000	4	2859	560.3
1999	4	2859	340.49
1998	4	2859	442.37
1997	4	2859	285
1996	4	2859	317
1995	4	2619	120.64
1994	4	2619	317.19
1993	4	2859	21
1992	4	2859	374.8
1991	4	2859	456.1
1990	4	2859	715
1989	4	2859	838
1988	4	2859	1075.2
1987	3	2379	350
1986	3	2379	198
1985	4	2699	410
1984	5	2819	388
1983	3	2379	256.15
1982	3	2379	211.58
1981	6	3779	308
1980	5	3456	566
<i>Minimum</i>	3	2379	21
<i>Maximum</i>	8	5567	2770.28
<i>Average</i>	4.47	3534.14	813.82

Withdrawals from the Spring Creek: McPherson aquifer are expected to be considerably less than the average annual recharge to the aquifer, and there is a reasonable probability that unappropriated water is available from the aquifer for this proposed appropriation.

Observation Well Data:

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

The DENR-Water Rights Program monitors five observation wells completed into the Spring Creek McPherson aquifer. Hydrographs for the observation wells are shown in Figures 1-6.

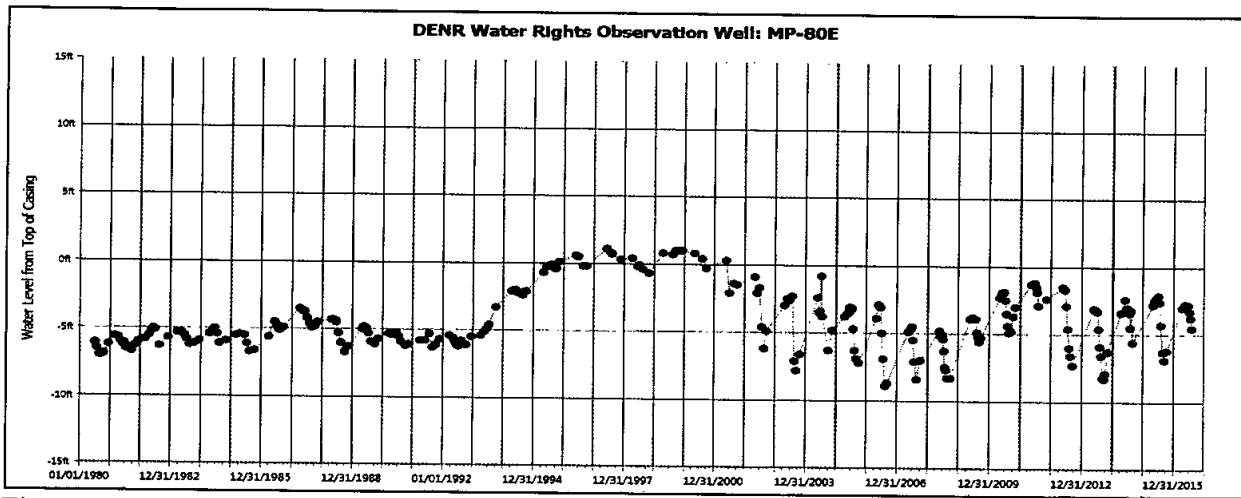


Figure 1. Hydrograph for DENR-Water Rights' observation well completed into the Spring Creek McPherson aquifer within one-half mile (east) of the wells that are to supply this water permit.

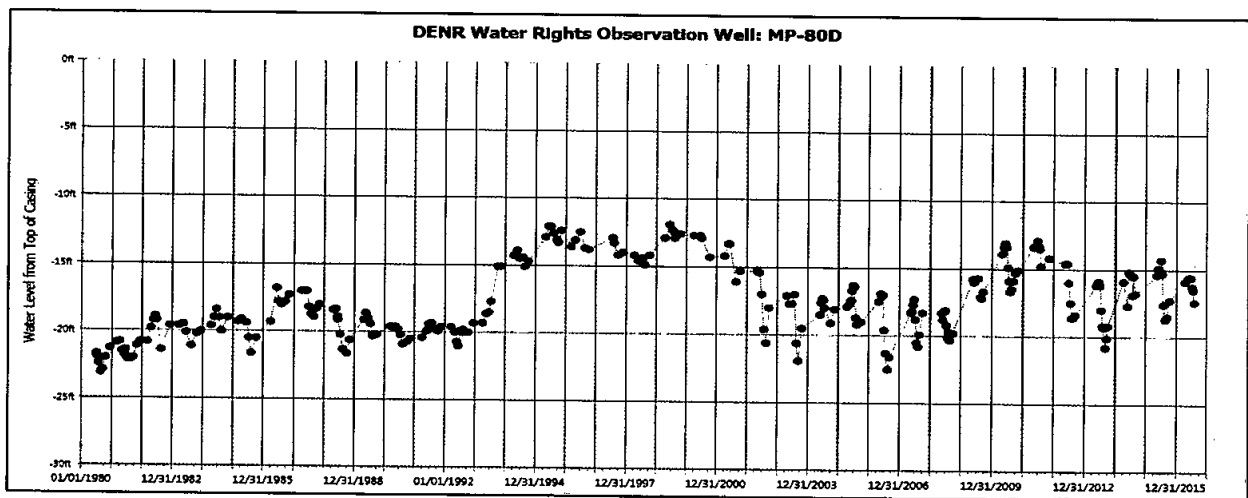


Figure 2. Hydrograph for DENR-Water Rights' observation well completed into the Spring Creek McPherson aquifer approximately one mile west of the wells that are to supply this water permit.

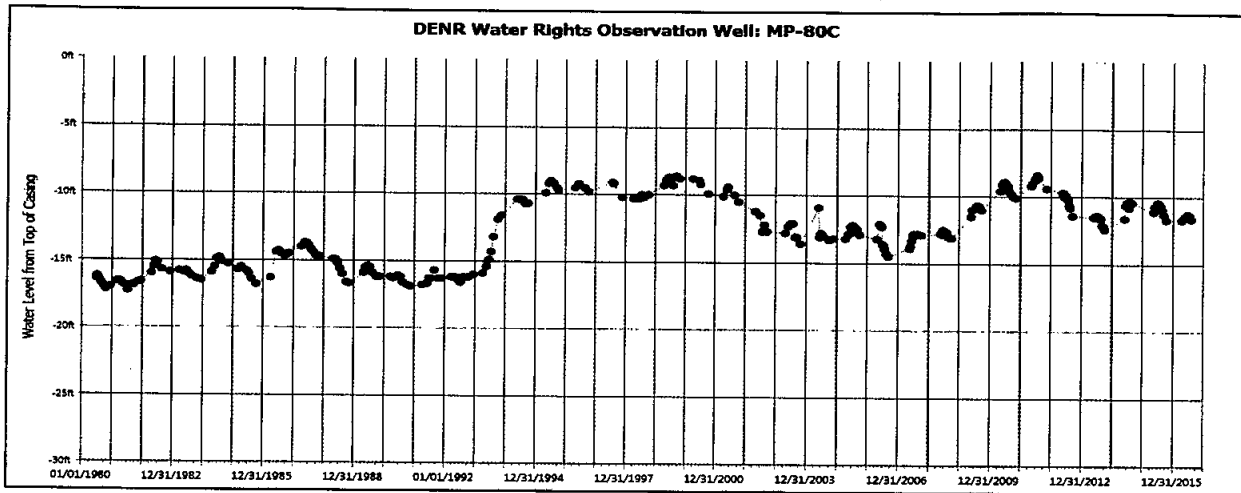


Figure 3. Hydrograph for DENR-Water Rights' observation well completed into the Spring Creek McPherson aquifer approximately three and one-half miles west of the wells that are to supply this water permit.

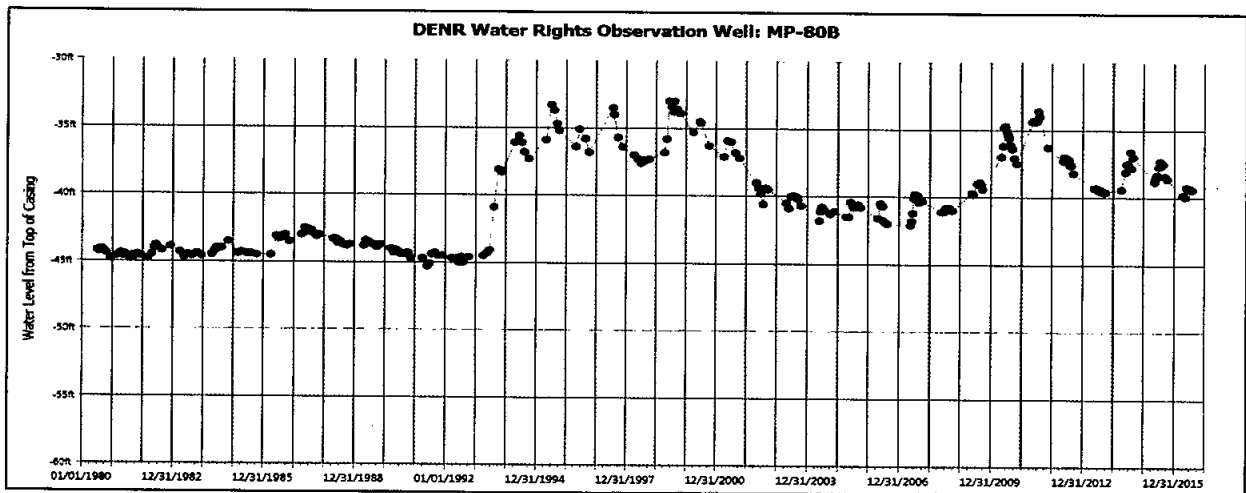


Figure 4. Hydrograph for DENR-Water Rights' observation well completed into the Spring Creek McPherson aquifer approximately six and one-half miles west-northwest of the wells that are to supply this water permit.

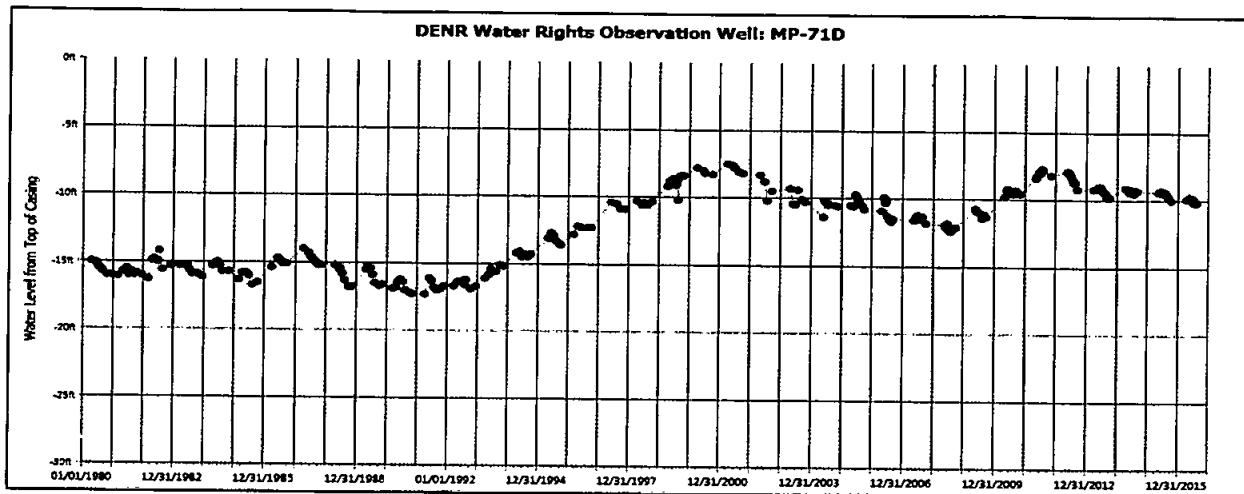


Figure 5. Hydrograph for DENR-Water Rights' observation well completed into the Spring Creek McPherson aquifer approximately 10 and one-half miles northeast of the wells that are to supply this water permit.

In general, the hydrographs show upward trending water levels over the period of record. The hydrographs document that the aquifer responds well to climatic conditions with rising water levels during wet years and declining water levels during dry years. The 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, so water is available for capture before natural discharge. Therefore, unappropriated water is available from the Spring Creek: McPherson aquifer to support the proposed appropriation.

EXISTING WATER RIGHTS:

As stated earlier, this application proposes a permit to authorize an existing irrigation project. Evidence suggests that the project has actually been operating under what would be the constraints of Water Permit No. 8232-3, if it is approved. Observation well data in the immediate vicinity of this irrigation project (see Figure 1.) has recorded seasonal fluctuations of 4-6 feet since 2001 as compared to seasonal fluctuations of one foot or less before 2001 (Water Rights, 2016a). It appears that the artesian pressure in the area has experienced an additional 3-5 feet of drawdown in this area as a result of the alterations to this irrigation project that this application proposes to authorize. Considering the greater than 70 feet of artesian head pressure in this area, 3-5 feet of additional fluctuation should not be considered significant.

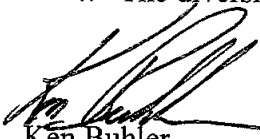
Considering that SDCL 46-6-6.1 does not protect artesian head pressure as a means of delivery and the Water Management Board has consistently recognized that to place water to maximum beneficial use a certain amount of drawdown may occur, a nearby adequate well defined by ARSD 74:02:20(7), which states that the pump intake must be set 20 feet below the top of the aquifer or, if the aquifer is less than 20 feet thick, as near to the bottom of the aquifer as is practical, is not expected to be adversely or unlawfully impaired. Therefore, there is a reasonable probability that any well interference from the proposed appropriation will not cause a significant impact and will also not adversely or unlawfully impair existing users.

SDCL 46-5-6

Pursuant to SDCL 46-5-6, the diversion rate for an irrigation appropriation cannot be in excess of one cfs for every 70 acres, or "the equivalent thereof." The statute does provide that the Water Management Board may allow a greater diversion rate if the method of irrigation so requires. Water Permit Application No. 8232-3 indicates "This application also requests authorization of the total diversion rate of more than 1 cfs per 70 acres due to the need to efficiently operate the four center pivot irrigation systems."

CONCLUSIONS:

1. Water Permit Application No. 8232-3 proposes a water permit that will allow an existing irrigation project to maintain status quo.
2. Water Permit Application No 8232-2 proposes to increase the diversion rate authority, add a diversion point, change the location of the acreage authorized for irrigation and clarify the location of the diversion points for an existing irrigation project.
3. Approval of Water Permit No. 8232-3 will not increase the annual appropriation from the Spring Creek: McPherson aquifer.
4. The diversion proposed by this application will not adversely impair existing wells.



Ken Buhler
SD DENR-Water Rights Program

REFERENCES:

- Buhler, K.A., 2012, Report to the Chief Engineer on Water Permit Application No. 7323-3 Barry & Robin Vculek, March 2, 2012: SD DENR-Water Rights Program Water Right File No. 7323-3
- Hamilton, L.J., 1974, Major Aquifers in McPherson, Edmunds and Faulk counties, South Dakota: S.D. Geological Survey Information Pamphlet No. 8, 12 p.
- Hamilton, L.J., 1982, Geology and Water Resources of McPherson, Edmunds, and Faulk Counties, South Dakota: Part II: Water Resources: S.D. Geological Survey Bulletin 26, 60 p.
- Hedges, L.S., Burch, S.L., Iles, D.L., Barari, R.A., 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

Rath, M., Personal Communication, August 10, 2016, Engineer III, DENR-Water Rights Program

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Water Rights, 1980-2016, Irrigation Questionnaire Summary by Aquifer 1979-2015: SD DENR-Water Rights Program, Joe Foss Building, Pierre, SD

Water Rights, 1980-2016b, Irrigation Questionnaire for Water Right No. 3656-3 for the years 1979-2015: SD DENR-Water Rights Program, Joe Foss Building, Pierre, SD

Water Rights, 2016a, Observation Well Files, SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.

Water Rights, 2016b, Water Right/Permit Files, SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.

Water Rights, 2016c, Well Completion Report Files, SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

denr.sd.gov

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 8232-3, Barry & Robin Vculek**

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. 8232-3, Barry & Robin Vculek, 1109 S 7th Street, Oakes ND 58474..

The Chief Engineer is recommending APPROVAL of Application No. 8232-3 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 Water Right No. 3656-3 and Water Permit No. 8232-3 will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under these water rights 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. Pursuant to SDCL 46-5-6 which allows a greater diversion rate if the method of irrigation, time constraints, or type of soils so requires, Water Right No. 3656-3 and Water Permit No. 8232-3, combined, authorize a maximum diversion rate of 5.79 cfs for the irrigation of 380 acres with an annual volume not to exceed 2 acre feet of water per acre per year.
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

See report on application for additional information.

Jeanne Goodman, Chief Engineer
August 16, 2016

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SEP - 1 2016

WATER RIGHTS
PROGRAM

Form 8

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County of Brown) SS

I, Mary Best

certify that the attached printed Notice was taken

from the Aberdeen News

printed and published in Aberdeen

County of Brown and

state of South Dakota. The notice was published

in the newspaper on the following date:

August 25, 2016

Cost of Printing \$ 53.59

Mary Best
(Signature)

Adv. Betty Spens
(Title)

August 26
(Date Signed)

(No. 106016)
(August 25, 2016 - 17)

NOTICE OF APPLICATION
NO. 8232-3 to Appropriate Water

Notice is given that Barry & Robin Vculek, 1109 S 7th St, Oakes ND 58474 has filed an application for a water permit to increase the diversion authority, add a diversion point, change the location of irrigated acres and clarify the location of the diversion points. Water Right No. 3656-3 appropriates 3.00 cubic feet of water per second (cfs) from three wells to irrigate 380 acres. An investigation of the Water Right found the system capable of diverting an additional 2.79 cfs from four wells completed into the Spring Creek-McPherson Aquifer (59-94 feet deep) located in the SE 1/4 NW 1/4, N 1/2 NW 1/4, SW 1/4 NE 1/4 and the center of the SW 1/4 Section 22 for irrigation of 380 acres located in the W 1/2, NE 1/4, NW 1/4 SE 1/4 Section 22; all in T127N-R71W. This application, if approved, and Water Right No. 3656-3 will authorize a total diversion rate of 5.79 cfs for irrigation of 380 acres. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8232-3 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 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 September 6, 2016.

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.

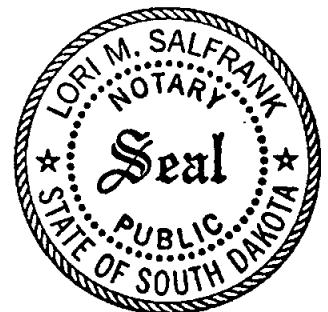
If the applicant does not contest the recommendation of the Chief Engineer and no petition to oppose the application is received, the Chief Engineer shall act on the application pursuant to the recommendation with no hearing held before the Water Management Board. If a petition opposing the application 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.

Steven M. Pirner, Secretary, Department of Environment and Natural Resources. Published once at the total approximate cost of \$53.59.

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Dept. of Environment &
Natural Resources
GROUND WATER QUALITY



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WATER RIGHTS
PROGRAM

The Northwest Blade

P.O. Box 797; Eureka, SD 57437
605-284-2631

STATE OF South Dakota: COUNTY OF McPherson

I, Linda Bergman, am authorized by the publisher as agent to make this affidavit of publication. Under oath, I state that the following is true and correct.

The Northwest Blade is a newspaper which is published weekly and is of general circulation and is in compliance with South Dakota Newspaper Association legalized Statutes.

The notice has been published in the newspaper listed above.

DATE(S) OF PUBLICATION

8-25-16 Notice of Application No. 8232-3 to Appropriate Water for Barry + Robin
Vculek

NAME OF THE CORPORATION/GOVERNMENT OFFICE: Dept. of Environment + Natural Resources

TYPE OF DOCUMENT: Legal

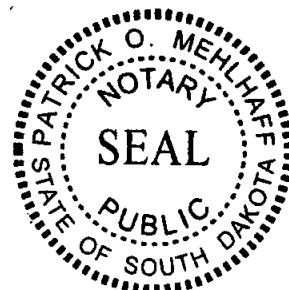
AUTHORIZED SIGNATURE: Linda Bergman

SUBSCRIBED AND SWORN TO BEFORE ME ON THE

30 DAY OF August, 2016.

NOTARY SIGNATURE: [Signature]

Exp: 5-29-21



**NOTICE OF
APPLICATION NO. 8232-
3 to Appropriate Water**

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Steven M. Pirner, Secretary,
Department of Environment and
Natural Resources.

*Published once at a total
approximate cost of \$27.82 at .01
cents per reader.*

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WATER RIGHTS
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Sirs,

I have a domestic well for cattle located in the SW quarter of Section 16, of 127N & 71W, McPherson County. The well has been productive in spring and summer, unfortunately not productive in the fall and winter months. I have been in contact with Jim Goodman and now Ken Buhler with the SD DENR regarding this perplexing problem. The well is more than adequate at spring time pumping 5 gal/min for five hours in 2012, yet is dry in the fall and winter. The well is not rejuvenating after the irrigation has stopped and not reflecting the same status as the monitor well MP 80 D. This past season it became necessary to haul water beginning August 19th to the 32 head of yearling heifers. This is a well that in the recent past supplied a larger herd for the entire season. We do not have an exact understanding of ground waters. That is why I am concerned the increased pumping rate will deplete the wells water source even earlier in the season. I am requesting the SD DENR send staff to pump the well the spring of 2017 temporarily placing the request for increased cubic feet of water on hold until completion of the spring pumping. I believe this can be the most expeditious method of solving this problem thus avoiding a long wasteful process.

Thank you for your consideration.

Dan Mettler 8/31/16

Dan Mettler

11220 338th Ave

Eureka, SD 57437

605-577-6240



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

September 29, 2016

NOTICE

TO: Barry and Robin Vculek
1109 S 7th Street
Oakes ND 58474

Dan Mettler
11220 338th Avenue
Eureka SD 57437

FROM: *for* Jeanne Goodman, Chief Engineer *Eric Gronlund*
Water Rights Program

SUBJECT: Notice Time Change for Hearing in the matter of Water Permit Application No. 8232-3,
Barry and Robin Vculek

In response to a petition filed to Water Permit Application No. 8232-3, a notice of hearing dated September 7, 2016 was sent to parties scheduling a hearing before the Water Management Board at 9:30 AM on October 13, 2016 in Pierre. Due to changes in the agenda for this meeting, the hearing time is changed to 1:00 PM.

The Water Management Board will consider Application No. 8232-3 at 1:00 PM (Central Time) on Thursday, October 13, 2016, in the Floyd Matthew Training Center, Joe Foss Building, 523 E Capitol Avenue, Pierre SD. The agenda time is an estimate and may be delayed due to prior agenda items.

Applicable provisions of the notice of application published in the Northwest Blade and Aberdeen American News and the notice of hearing sent to parties on September 7, 2016 will still apply at the hearing.

Questions regarding the hearing process may be directed to Eric Gronlund, Water Rights Program at (605) 773-3352 or eric.gronlund@state.sd.us.

c: Ann Mines-Bailey, Assistant Attorney General

CERTIFICATION

I hereby certify that on September 29, 2016, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated September 29, 2016, regarding notice of hearing for Water Permit Application No. 8232-3, as addressed below:

Barry and Robin Vculek
1109 S 7th Street
Oakes ND 58474

Dan Mettler
11220 338th Avenue
Eureka SD 57437

Sent Inter-office to:

Ann Mines-Bailey, Assistant Attorney General
1302 East Highway 14, Suite 1
Pierre SD 57501-8501



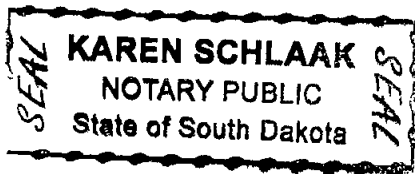
Gail Jacobson
Water Rights Program, DENR

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 29th day of September, 2016



Karen Schlaak
Notary Public
My Commission expires April 1, 2019





8232-3

DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

8232-3
3656-3

JAN 26 2017

Barry & Robin Vculek
1109 S 7th St
Oakes ND 58474

Dear Mr. & Mrs. Vculek:

Enclosed are Water Permit and License No. 8232-3. These are the final water right documents completing your process of obtaining a Water Right. Also, included with the license is a map prepared by the staff engineer who conducted the investigation.

For your information SDCL 46-6-27 requires that if the owner of an existing well, such as the well authorized by Water Right No. 8232-3, 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.

In regard to the equipment used for applying chemicals and/or fertilizer through your irrigation system, the staff engineer found the system did not have a hose to allow for discharge at least 20 feet from the water source. Prior to applying chemicals or fertilizer through the systems, you must ensure a hose is properly installed.

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

Note: The applicable portions of No. 3656-3 are incorporated into Water License No. 8232-3.

enclosures

NOTICE OF TRANSFER OF OWNERSHIP

For assistance call (605) 773-3352

RECEIVED

FEB 09 2018

WATER RIGHTS
PROGRAM

Mail to: PMB 2020
DENR - Water Rights Program
523 E Capitol Ave
Pierre, SD 57501-3182

Water Right/Permit No. 8232-3Date: February 7, 2018

I/We request that Water Right/Permit No. 8232-3 formerly owned by:
Barry & Robin Vculek be transferred to:

New Owner Name: Sharon Braun Family Farms LPAddress: PO BOX 108City, State, Zip Warner SD 57479 Telephone No. 605 380-0166

Title to the following described land(s)/property has been transferred as described above:

SW1/4NE1/4 & N1/2NE1/4 & NW1/4 & SW1/4 & NW1/4SE1/4 & Lot 1 Neuharth's Addition in NW1/4
Section 22-127N-71W

☒ I understand that the validity of Water Right/Permit No. 8232-3 has not been determined by this transfer action. If I have any questions on validity, I understand that only the Water Management Board has the authority to determine if a water right/permit is valid (see note below.)

You are requested to file this "Notice of Transfer" in the appropriate file with the Water Rights Program, as evidence of the change of ownership.

A fee of Fifty Dollars (\$50.00) is included to cover the filing fee as required by SDCL 46-2-13.

I, Sharon Braun, the new owner, certify that the above information is true and correct.


(signed by new owner)

NOTE: Water permits may be cancelled for nonconstruction after the five year construction period has expired. Once a water permit is developed and the water used, the permit becomes a right. A water right may be lost for three reasons:

1. Abandonment - no intent to use water and use is abandoned.
2. Forfeiture - no use of water for three year period without legal excuse.
3. For a third violation of a condition of a water permit/right.

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date February 9, 20 18

RECEIVED OF Sam Braun PO Box 361 Warner, SD 57479

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

Fee for Application for Permit No. _____ to Appropriate Water, to construct and to put water to beneficial use		
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. _____		
Fee for Filing Transfer Form <u>8232-3</u>	50	00
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	50 00

No. **08593**

By

Jeanne Goodman
Chief Engineer

Wm



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

March 14, 2018

8232-3

Sharon Braun Family Farms LP
PO Box 108
Warner SD 57479-0108

Dear Ms. Braun:

I am writing to acknowledge receipt of the transfer form and filing fee submitted for transferring Water Right No. 8232-3.

The ownership change has been processed. Water Right No. 8232-3 formerly held by Barry & Robin Vculek is now listed as Sharon Braun Family Farms LP.

I have included a copy of the water right, map and inspection report for your records. The receipt for the filing fee is being forwarded with a copy of this letter to Sam Braun. If you have any questions, please contact me.

Sincerely,

A handwritten signature in cursive script that reads "Genny McMath".

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

enclosure

c: Sam Braun, PO Box 361, Warner SD 57479