

**WATER PERMIT NO. 7419-3**

Name of Applicant: James R Orris

Address: 41898 US Hwy 212, Clark SD 57225

Phone: 605 233-0150

Amount of Water Claimed: 6.44 cfs

Total Acres: 520

Source of Water Supply: groundwater (four wells)

Water to be used for: irrigation

County: Clark

Type of Waste Disposal System:

Location: 9 miles southwest of Clark

PRIORITY

Date Received: 8-31-12

Application/License Fee: \$ 1650

Corrected Application Received: 9/7/12 Period of Annual Use: June 1 – September 30

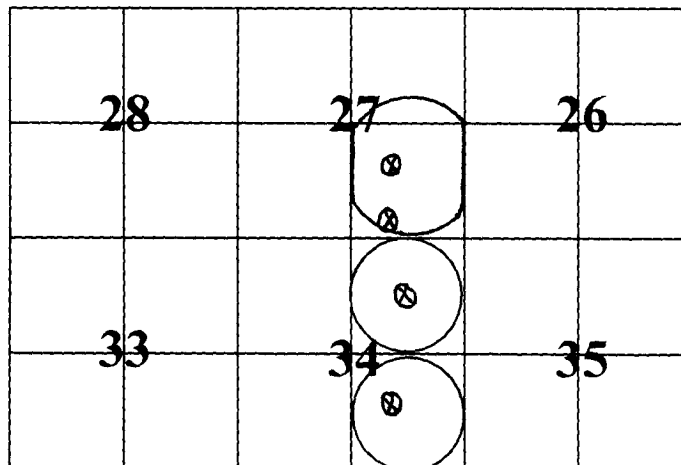
Remarks:

Diversion Point: center NE 1/4, NW 1/4 SE 1/4 Sec

34 and W 1/2 SE 1/4 Sec 27; all in T116N-R59W

Land to be Irrigated: E 1/2 Sec 34 and SE 1/4 S

1/2 NE 1/4 Sec 27; all in T116N-R59W



Depth of Well: 145 feet deep

Well Driller:

Remarks:

Type of Map: aerial

Prepared by: Marty L Bertsch, Clark Co FSA

Reviewed and the Number Assigned on: 9-7-12

By: Karen Schlaak

Notice of Hearing - date to intervene: \_\_\_\_\_

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

|                                                                                                                    |                                                                                                                                                                                                                                                         |
|--------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mail to:<br>Water Rights Program<br>Joe Foss Building<br>523 E. Capitol<br>Pierre, SD 57501-3181<br>(605) 773-3352 | No. <u>7419-3</u> (office use only)<br>Hydrologic Unit <u>10160006</u><br>Basin <u>James River</u> <u>605-532-3654</u><br>Newspaper <u>Clark Co. Courier</u> <u>1191st Ave</u> <u>57225</u><br><u>Public opinion PO Box 10 Watertown 57201-886-6901</u> |
|--------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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## 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.) \_\_\_\_\_

- Name of Applicant James R ORRIS Phone 605-233-0150  
(check one) Owner Tenant/lessee  
Mailing Address 41898 US Hwy 212 CLARK State SD 57225  
(Street, RR, or Box and City) (Zip Code)
- Amount of water claimed 6.46 \*CFS or 1,700 \*\*GPM \*\*\*AF Total Acreage 520  
(\*Cubic Feet per Second) (\*\*Gallons per Minute) (\*\*\*Acre Feet - storage capacity of dam/dugout or annual use if applicable)
- Source of water supply Well
- Location of point of diversion (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W)  
2 wells in section 34-116-59 (NE1/4 NW1/4 SE1/4)  
2 wells in section 27-116-59 (SW1/4 SE1/4) County CLARK
- County or counties where water will be used CLARK NW1/4 SE1/4
- Annual period during which water is to be used June - Sept 30
- 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 |
|-------------------|-------|-------------------------|-------|
| E 1/2 34-116N-59W | 320   |                         |       |
| E 1/2 27-116N-59W | 200   | L 5 E 1/4, S 1/2 NE 1/4 |       |
|                   |       |                         |       |
|                   |       |                         |       |

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

2 center pivots in section 34  
1 corner system in section 27

STATE OF SOUTH DAKOTA)

County of CLARK ) SS

Attachments: Attach Form 2A if diversion is from a well or dugout, or if storage of water is proposed. Attach map and any other technical information. (see instructions)

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

Applicant's signature

James Orris

Subscribed and sworn to before me this 30 day of august 2012

Melissa Mudgett

Notary Public signature

comm expires 11-24-14

**SOUTH DAKOTA  
WATER PERMIT NO. 7419-3**

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Date of first receipt of application August 31, 2012.

Date of return to applicant for corrections, amendments or changes September 4, 2012.

Date of receipt of corrected application September 7, 2012

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 7419-3 to James R Orris, 41898 US Hwy 212, Clark SD 57225 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. 7419-3 appropriates 6.46 cubic feet of water per second from four wells to be completed into the Altamont Aquifer (approximately 100 feet deep) located in the center of NE 1/4, NW 1/4 SE 1/4 Section 34 and NW 1/4 SE 1/4, SW 1/4 SE 1/4 Section 27 for irrigation of 520 acres located in the E 1/2 Section 34 and SE 1/4, S 1/2 NE 1/4 Section 27; all in T116N-R59W.
2. The amount of the appropriation may not exceed 2 acre feet annually for each acre of land to which water is actually and beneficially applied for irrigation. The water is to be used during the following described annual period: June 1 – September 30.
3. The date from which applicant may claim right is August 31, 2012
4. The date of approval of Permit No. 7419-3 is December 3, 2012.
5. One-fifth of the construction is to be completed on or before June 3, 2015.
6. All construction is to be completed on or before December 3, 2017.
7. Water is to be put to beneficial use on or before December 3, 2021.
8. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

**QUALIFICATIONS**

1. The wells approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The wells authorized by Permit No. 7419-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

**WATER MANAGEMENT BOARD**

By: Garland Erbele

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

JAN 07 2013  
date



## Supplemental Information

(type or print in ink)

### 1. Well Information - Proposed Construction

- a) Drill Hole Diameter 18" Depth 145
- b) Casing Type plastic Diameter 12 Thickness sch 40
- c) Screen Type stainless steel Diameter 12 Thickness \_\_\_\_\_
- d) Gravel Pack 1/4 x 1/8 Length of Gravel Pack 40
- e) Depth to Top of Water Bearing Material 100
- f) Depth to Water (ground surface to water level) \_\_\_\_\_
- g) Distance to nearest existing domestic well:

On applicants property \_\_\_\_\_ On property owned by others 3000 ft and more

### 2. Wastewater Disposal System Information

- a) Type of System (i.e. septic tank, drain field) \_\_\_\_\_
- b) System Capacity (gallons) \_\_\_\_\_ Year Constructed \_\_\_\_\_
- c) Connected to the City of \_\_\_\_\_ Sanitary System \_\_\_\_\_

### 3. Dugout Information

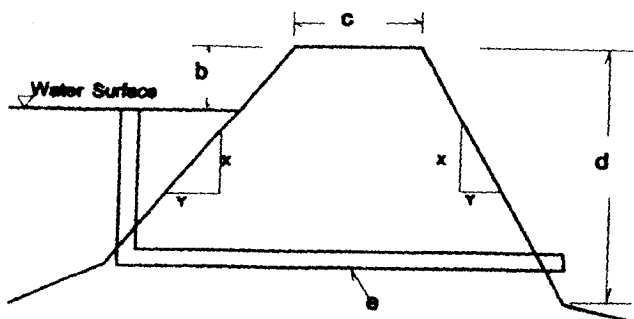
- a) Surface Dimensions \_\_\_\_\_ Depth \_\_\_\_\_
- b) Depth to water (ground surface to water level) \_\_\_\_\_

### 4. Water Storage Dams

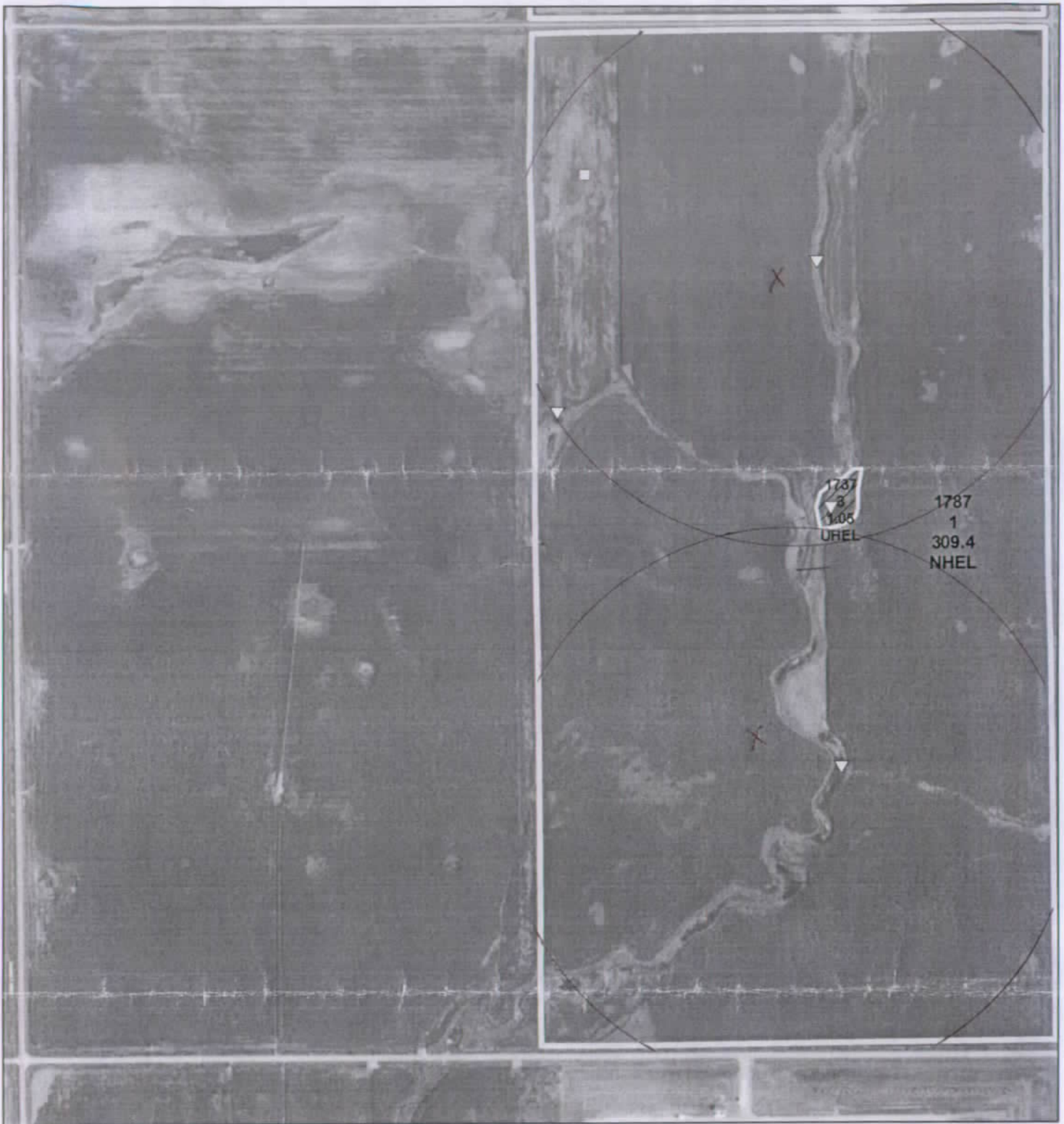
If the proposed water use system contains one or more storage dams, please furnish the information requested below for each dam. The locations of the dams need to be shown on the map submitted with the application.

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

\_\_\_\_\_  
\_\_\_\_\_



- b) Freeboard \_\_\_\_\_
- c) Crest Width \_\_\_\_\_  
Crest Length \_\_\_\_\_
- d) Height \_\_\_\_\_
- e) Primary Outlet Capacity \_\_\_\_\_  
If pipe, diameter \_\_\_\_\_
- f) Secondary Spillway Capacity \_\_\_\_\_  
Spillway Width \_\_\_\_\_
- g) X & Y Slope \_\_\_\_\_  
Upstream \_\_\_\_\_  
Downstream \_\_\_\_\_
- h) Surface Area of Impoundment \_\_\_\_\_
- i) Storage \_\_\_\_\_ Acre Feet
- j) Drainage Area Above Dam \_\_\_\_\_ Acres



United States Department of Agriculture  
Farm Service Agency

**Clark County, SD**

1:8,233

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PLSS: 34\_116\_59  
Farm: 3687  
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Wetland Determination Identifiers

- Restricted Use
- ▽ Limited Restrictions
- Exempt from Conservation Compliance Provisions

Common Land Units

//// Non Cropland

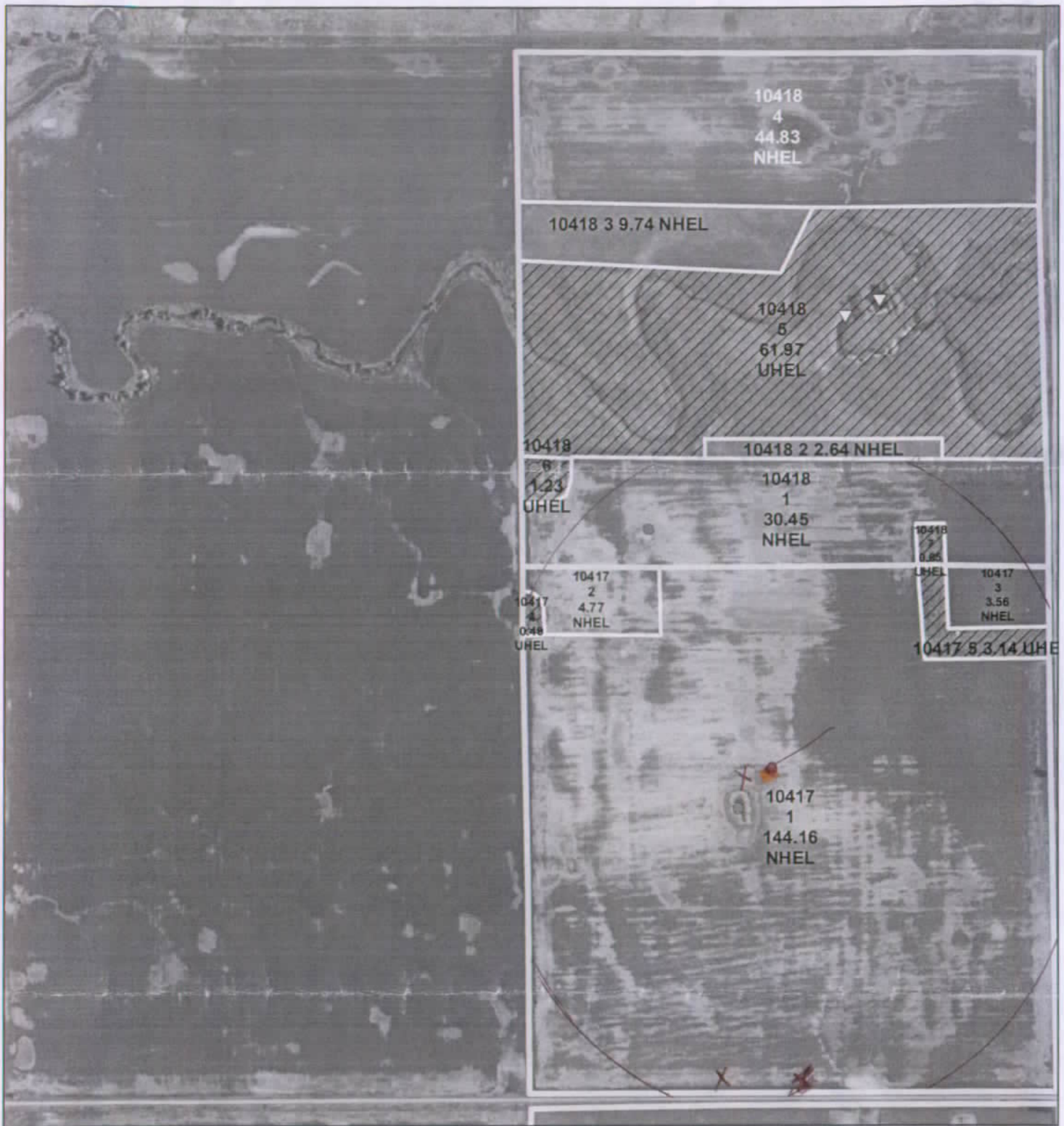
February 09, 2011

Disclaimer: Wetland identifiers do not represent the size, shape or specific determination of the area. Refer to your original determination (CPA-026 and attached maps) for exact wetland boundaries and determinations, or contact NRCS.

2010 Ortho-Photography - Not to Scale

*Marty L. Bertach, Clark County Executive Director*

8-30-12



United States Department of Agriculture  
Farm Service Agency

**Clark County, SD**

1:8,000

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WATER RIGHTS  
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PLSS: 27\_116\_59

Farm: 3687

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SEP - 7 2012

WATER RIGHTS  
PROGRAM

Wetland Determination Identifiers

- Restricted Use
- ▽ Limited Restrictions
- Exempt from Conservation Compliance Program

Common Land Units

//// Non Cropland

February 09, 2011

Disclaimer: Wetland identifiers do not represent the size, shape or specific determination of the area. Refer to your original determination (CPA-026 and attached maps) for exact wetland boundaries and determinations, or contact NRCS.

2010 Ortho-Photography - Not to Scale

*Marty L. Bertsch, Clark County Executive Director*

8-30-12

# RECEIPT

## WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 9/4, 20 12

RECEIVED OF James Orris 41898 US Hwy 212 Clark SD 57225

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

|                                                                                                                        |      |    |
|------------------------------------------------------------------------------------------------------------------------|------|----|
| Fee for Application for Permit No. <u>7419-3</u> to Appropriate Water, to construct and to put water to beneficial use | 1450 | 00 |
| Fee for Application for Permit No. _____ to Appropriate Water for Future use                                           |      |    |
| Fee to retain Future Use Permit No. _____ after period of seven years.                                                 |      |    |
| Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. <u>7419-3</u>            | 200  | 00 |
| Fee for Filing Transfer Form _____                                                                                     |      |    |
| Fee for _____                                                                                                          |      |    |
| Fee for Issuing New Well Driller's License No. _____ for C.Y. _____                                                    |      |    |
| Fee for Renewal of Well Driller's License No. _____ for C.Y. _____                                                     |      |    |
| Fee for Issuing Well Pump Installer's License No. _____ for C.Y. _____                                                 |      |    |
| Fee for Renewal of Well Pump Installer's License No. _____ for C.Y. _____                                              |      |    |
| (Any Other Work Provided by Law)                                                                                       |      |    |
| TOTAL                                                                                                                  | 1650 | 00 |

No. 05558

By

S. E. Erbe  
Chief Engineer



DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES

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

September 4, 2012

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**WATER RIGHTS  
PROGRAM**

James R Orris  
41898 US Hwy 212  
Clark SD 57225

Dear Mr. Orris:

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

- Enclosed are the two aerial photo maps submitted with your application. Please mark each of the four proposed well locations with an "X".

If you have any questions, please contact me.

Sincerely,

*Karen Schlaak*

Karen Schlaak  
Water Rights Program  
605 773-3352  
[karen.schlaak@state.sd.us](mailto:karen.schlaak@state.sd.us)

enclosures

*Thanks Karen!*



**DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES**

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

denr.sd.gov

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT  
APPLICATION NO. 7419-3, James R Orris**

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. 7419-3, James R Orris, 41898 US Hwy 212, Clark SD 57225.

The Chief Engineer is recommending APPROVAL of Application No. 7419-3 because 1) there is reasonable probability that there is unappropriated water available for the applicant's proposed use, 2) the proposed diversion can be developed without unlawful impairment of existing rights, 3) the proposed use is a beneficial use and 4) it is in the public interest with the following qualifications:

1. The wells approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The wells authorized by Permit No. 7419-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

See report on application for additional information.

Garland Erbele, Chief Engineer  
November 13, 2012

REPORT TO THE CHIEF ENGINEER  
ON  
WATER PERMIT APPLICATION NO. 7419-3  
JAMES R. ORRIS  
OCTOBER 21, 2012

Water Permit Application No. 7419-3 proposes to appropriate up to 1,040 acre-feet annually (ac-ft/yr) at a maximum diversion rate of 6.46 cubic feet of water per second (cfs) from four wells completed into the Altamont aquifer. One well is to be located in the center of the NE¼ of Section 34, a well is to be located in the NW¼ SE¼ of Section 34, a well is to be located in SW¼ SE¼ of Section 27 and a well is to be located in the NW¼ SE¼ of Section 27; all in T116N-R59W. Water is to be used to irrigate 520 acres located in the E½ of Section 34, the SE¼ of Section 27 and the S½ NE¼ Section 27, T116N-R59W.

**AQUIFER: Altamont (A)**

**GEOLOGY AND AQUIFER CHARACTERISTICS:**

Test hole information was not submitted with this permit application. However, sufficient data is available through well completion reports (Water Rights, 2012c), Water Right/Permit files (Water Rights, 2012b), observation well records (Water Rights, 2012a) and SD Geological Survey Test hole logs ("Lithologic Logs data base") to evaluate this application. Hamilton (1986) described six major glacial aquifers in Clark County (i.e. the Prairie Coteau 1, 2 and 3, and the Altamont 1, 2 and 3 aquifers). Of the aquifers identified in the county, only the Altamont Aquifer 2 was mapped in the area of the well sites proposed by this application (Hamilton, 1986). The Altamont Aquifer 2 occurred at an elevation of 1402.4-1376.4 feet above mean sea level elevation in a DENR-Water Rights Program observation well located within one mile of the proposed well sites (Water Rights, 2012a). Therefore the top of the Altamont Aquifer 2 is expected to be within 90-100 feet below grade at the well sites. The Altamont Aquifer 2 is a buried glacial outwash consisting of unconsolidated fine to very coarse sand and gravel and sandy silt. The aquifer underlies approximately 630 square miles and contains an estimated 3.23 million acre-feet of water in storage in Clark County (Hamilton, 1986). Wells completed into the Altamont Aquifer 2 yield up to 2,000 gallons per minute and the aquifer transmissivity was estimated from two aquifer tests to be 28,000 gallons per day per foot and 15,000 gallons per day per foot respectively (Hamilton, 1986). The Altamont Aquifer 2 is hydraulically connected with the Altamont Aquifer 1 near the center of Clark County, and the Altamont Aquifer 2 and Altamont Aquifer 3 are hydraulically connected near the western part of the county (Hamilton, 1986). In the past, the DENR-Water Rights Program has not differentiated between units and considered all of the deeper outwash deposits in Clark County the Altamont aquifer. When considering the Altamont a single aquifer, it underlies approximately 537,200 acres of Clark County and contains an estimated 3,326,400 acre-feet of recoverable water in storage in the county (Hedges and others, 1982). The Altamont is generally under confined conditions and in this area groundwater movement is toward the west (Hamilton, 1986).

**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, the proposed diversion can be developed without unlawful impairment of existing rights and the proposed use is a beneficial use and in the public interest. This report will primarily address the water availability and existing rights issues pertinent to this application.

**WATER AVAILABILITY:**

This application proposes to appropriate 1,040 ac-ft/yr from the Altamont aquifer, although the actual water use if this application is approved will be less than 1,040 acre-feet/year. The probability of unappropriated water available from an aquifer can be evaluated by considering SDCL 46-6-3.1 which requires "No application to appropriate groundwater may be approved if, according to the best information reasonably available, it is probable 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."

**Recharge versus Discharge:****Recharge:**

Recharge to the Altamont aquifer is by infiltration of precipitation and lateral inflow. The average annual recharge from precipitation to the portion of the Altamont described as Altamont Aquifer 2 alone is estimated to be 54,000 acre-feet (Hamilton, 1986).

**Discharge:**

Discharge from the Altamont aquifer from Clark County is by well withdrawals and by groundwater underflow out of the county. A considerable quantity of water "probably moves westward annually from the county where it discharges by evapotranspiration and streamflow in large areas of Spink County" (Hamilton, 1986).

There are a number of completion reports on file with the DENR-Water Rights Program for domestic wells completed into the Altamont aquifer in this area (Water Rights, 2012c). The annual withdrawal for domestic use is not significant to the hydrologic budget for the aquifer. In addition, there are 49 water rights/permits in Clark County appropriating water from the aquifer. Appropriative rights are for commercial use (including three large confinement operations and one other), industrial use (two water rights), municipal use (two for Garden City and one for Clark which is now on rural water (Buhler, 2012)), and for irrigation use.

The principal use of the Altamont aquifer is for irrigation. A summary of irrigation from the Altamont aquifer from Clark County is shown in table 1.

| YEAR           | NO. PMTS | APPRPRIATIONS<br>(ac-ft/yr) | PUMPAGE<br>(ac-ft/yr) |
|----------------|----------|-----------------------------|-----------------------|
| 2011           | 36       | 17299.8                     | 981.08                |
| 2010           | 36       | 17299.8                     | 887.92                |
| 2009           | 36       | 17299.8                     | 735.49                |
| 2008           | 36       | 17075.5                     | 1660.16               |
| 2007           | 33       | 16299.5                     | 2143.63               |
| 2006           | 31       | 14899.5                     | 3336.34               |
| 2005           | 30       | 14547.5                     | 2190.13               |
| 2004           | 30       | 14547.5                     | 1766.3                |
| 2003           | 26       | 13402.3                     | 2286.11               |
| 2002           | 25       | 13102.3                     | 2695.04               |
| 2001           | 25       | 13102.3                     | 1615.69               |
| 2000           | 26       | 13603.3                     | 1995.52               |
| 1999           | 24       | 12691.3                     | 1170.95               |
| 1998           | 23       | 12637.3                     | 826.28                |
| 1997           | 25       | 12637.3                     | 357                   |
| 1996           | 25       | 12637.3                     | 1320.61               |
| 1995           | 25       | 12429.3                     | 260.8                 |
| 1994           | 25       | 12429.3                     | 579.68                |
| 1993           | 25       | 14283.3                     | 42                    |
| 1992           | 24       | 13963.3                     | 585                   |
| 1991           | 25       | 16516.3                     | 1622.2                |
| 1990           | 24       | 18851.5                     | 2023                  |
| 1989           | 24       | 18852.3                     | 3321.8                |
| 1988           | 24       | 18852.3                     | 3123.6                |
| 1987           | 25       | 19401.6                     | 2463                  |
| 1986           | 27       | 19754.3                     | 1436                  |
| 1985           | 27       | 19823.5                     | 1917                  |
| 1984           | 27       | 19823.5                     | 2470                  |
| 1983           | 26       | 20210.3                     | 2665.18               |
| 1982           | 24       | 19488.5                     | 1226.1                |
| 1981           | 27       | 22651                       | 2689.99               |
| 1980           | 25       | 21001                       | 2329.09               |
| 1979           | 24       | 20527                       | 1472.71               |
| <i>Maximum</i> |          | <i>22651</i>                | <i>3336.34</i>        |
| <i>Minimum</i> |          | <i>12429.3</i>              | <i>42</i>             |
| <i>Average</i> |          | <i>16422.4</i>              | <i>1702.9</i>         |

Table 1. Irrigation use from the Altamont aquifer from Clark County (Water Rights, 2012b)

#### Observation Well Data:

The analysis of the DENR-Water Rights Program observation well data provides a qualitative means of assessing the aquifer and provides the best information reasonably available to evaluate the hydrologic budget for the Altamont aquifer. In addition, Administrative Rule of South Dakota Section 74:02:05:07 requires that “the Water Management Board shall rely upon the record of observation well measurements to determine that the quantity of water withdrawn annually from the aquifer does not exceed the estimated average annual recharge to the aquifer.”

The DENR-Water Rights Program monitors a total of 31 observation wells completed into the Altamont aquifer with 22 of these wells located in Clark County (Water Rights, 2012a).

Hydrographs for three nearby observation wells completed into the Altamont aquifer are shown in figures 1-3.

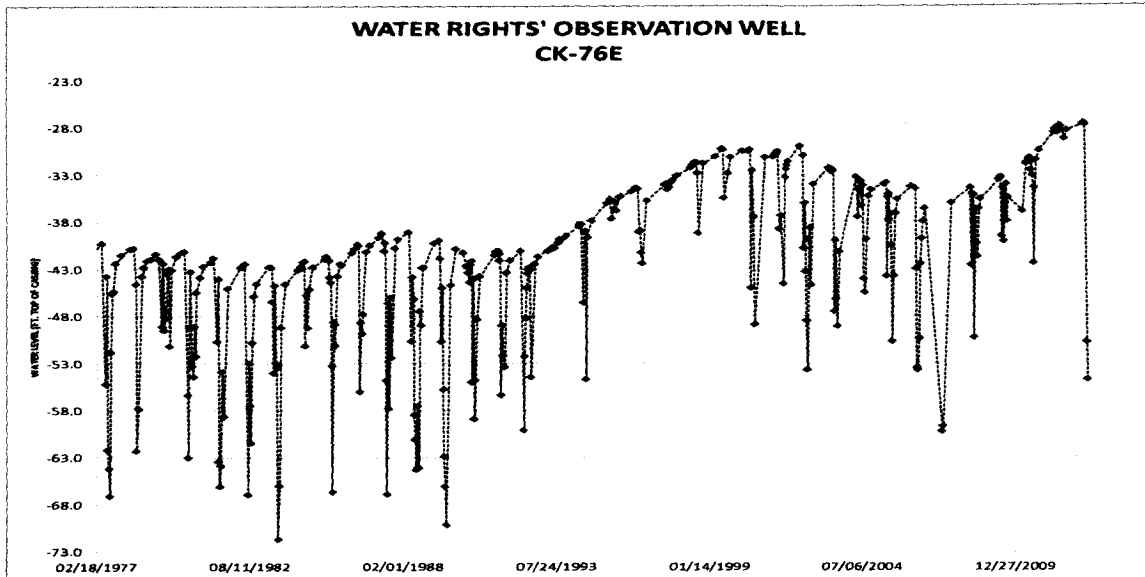


Figure 1. Hydrograph for an Altamont aquifer observation well located within one mile of the well sites proposed by Application No. 7419-3

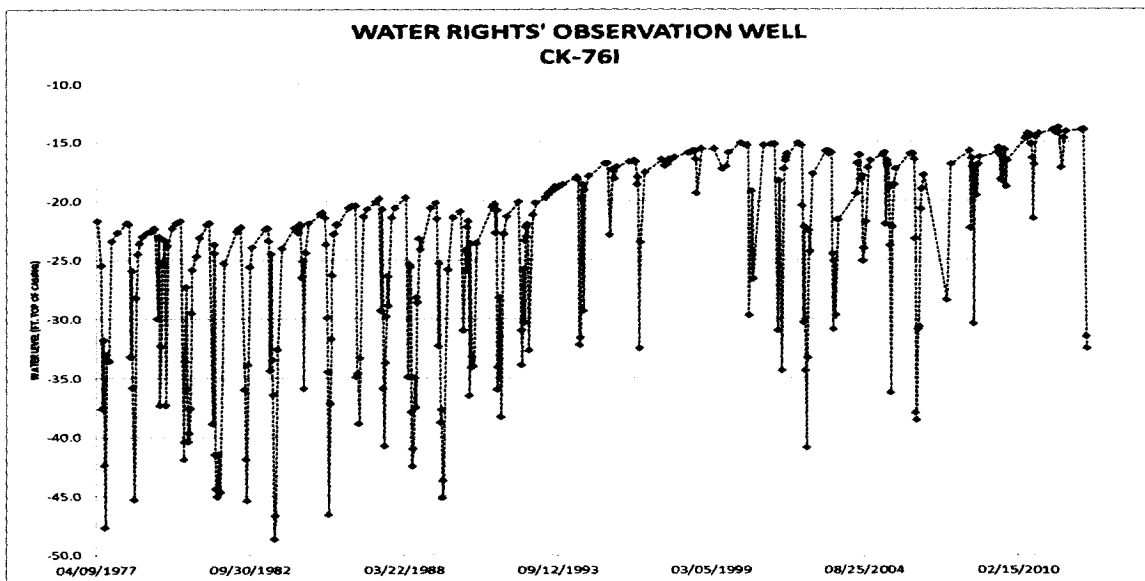


Figure 2. Hydrograph for an Altamont aquifer observation well located within three miles of the well sites proposed by Application No. 7419-3

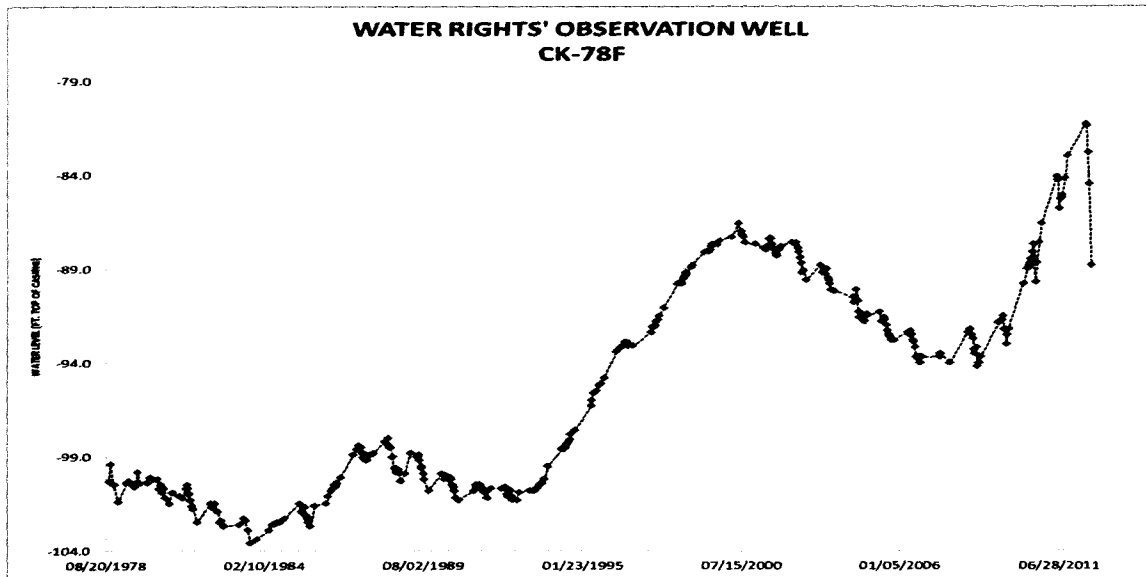


Figure 3. Hydrograph for an Altamont aquifer observation well located within five and one-half miles of the well sites proposed by Application No. 7419-3

The hydrographs show that although the potentiometric surface (head pressure) in the Altamont aquifer varies with the climate, except for the drawdown that occurred during the 2012 irrigation season, the amount of water in the aquifer is generally greater now than it has been over the entire period of record. Most importantly, the observation well data shows that at the current level of development, climatic conditions greatly mask the temporal effects of well withdrawals. Therefore, recharge to and natural discharge from the Altamont aquifer significantly exceeds pumping. Recognizing that natural discharge from the aquifer can be captured for pumping. The hydrographs document that there is unappropriated water available from the aquifer to support this appropriation.

#### **EXISTING WATER RIGHTS:**

Existing water rights/permits appropriating water from the Altamont aquifer in the vicinity of the well sites proposed by this application are shown in Figure 4 and Table 2.

In addition to appropriative rights, there are a number of completion reports on file with the DENR-Water Rights Program for domestic wells completed into the Altamont aquifer in this area (Water Rights, 2012c).



| PERMIT NO                                                                                                                   | NAME               | PRIORITY DATE | STATUS | USE       | CFS  | ACRES |
|-----------------------------------------------------------------------------------------------------------------------------|--------------------|---------------|--------|-----------|------|-------|
| 1776-3                                                                                                                      | RIVERVIEW LLP      | 09/28/1970    | LC     | IRR       | 1.93 | 135   |
| 2489-3                                                                                                                      | CLARK FARMERS COOP | 10/06/1975    | LC     | IRR       | 1.78 | 264   |
| 2741-3                                                                                                                      | CLARK FARMERS COOP | 05/05/1976    | IL     | IRR       |      |       |
| 3059-3                                                                                                                      | ROBERT A MEYER     | 09/22/1976    | LC     | IRR       | 2.01 | 269   |
| 4399-3                                                                                                                      | FORDHAM HTRN BRTH  | 03/09/1979    | LC     | IRR       | 1.78 | 270   |
| 4783-3                                                                                                                      | RUSS HURLBERT      | 06/15/1981    | IL     | IRR       |      |       |
| 5812-3                                                                                                                      | CLARK FARMERS COOP | 05/05/1976    | LC     | IRR       | 1.78 | 262   |
| 6501-3                                                                                                                      | RUSS HURLBERT      | 06/15/1981    | LC     | IRR       | 1    | 112   |
| 6774-3                                                                                                                      | R & R FARMS        | 11/20/2006    | PE     | IRR       | 3.89 | 272   |
| 6883-3                                                                                                                      | RIVERVIEW LLP      | 08/23/2007    | PE     | IRR       | 1.88 | 132   |
| 6990-3                                                                                                                      | JAMES R ORRIS      | 02/29/2008    | PE     | IRR       | 3.56 | 280   |
| 6992-3                                                                                                                      | R & R FARMS        | 03/03/2008    | PE     | IRR       | 2    | 136   |
| 6998-3                                                                                                                      | RIVERVIEW LLP      | 03/06/2008    | PE     | COM (LCO) | 0.89 | 0     |
| 7097-3                                                                                                                      | JAMES ORRIS        | 02/05/2009    | PE     | IRR       | 0.22 | 150   |
| 7105-3                                                                                                                      | RIVERVIEW LLP      | 03/16/2009    | PE     | IRR       | 0    | 364   |
| LC= Water Right, IL= Incorporated, PE= Water Permit, IRR= Irrigation, COM= Commercial, LCO= Livestock confinement operation |                    |               |        |           |      |       |

Table 2. Water Rights/Permits shown in Figure 4

As shown in the observation well hydrographs, drawdown can be significant in the Altamont aquifer. The Water Management Board has consistently recognized that to place water to maximum beneficial use a certain amount of drawdown may occur. Although SDCL 46-6-6.1 does not protect artesian head pressure as a means of delivery, reasonable domestic use must be assured before irrigation is allowed. To balance interests between irrigation use and delivery of water by artesian pressure the Water Management Board has defined an "adversely impacted domestic well" in ARSD 74:02:04:20(7) as:

"a well in which the pump intake was set at least 20 feet below the top of the aquifer at the time of construction or, if the aquifer is less than 20 feet thick, is as near to the bottom of the aquifer as is practical and the water level of the aquifer has declined to a level that the pump will no longer deliver sufficient water for the well owner's needs"

In reality, the assurance of reasonable domestic use provided by SDCL 46-6-6.1 and ARSD 74:02:04:20(7) ensures not only that interference will not be adverse to domestic well users but also in existing appropriative rights. Depending on the characteristics of the Altamont aquifer at the well site proposed by this application, some existing well owners may need to lower their pumps to accommodate for deeper water levels. However, when considering the statute and rule, well interference from this proposed application is not likely to be significant and there is a reasonable probability that any interference will not be adverse.

#### History:

There have been a number of controversies regarding water rights/permits appropriating water from the Altamont aquifer in Clark County. Many of these controversies involved springs. Figure 5 shows the location of past controversies in relation to the well sites proposed by this permit application, and a brief description of the controversies follows.

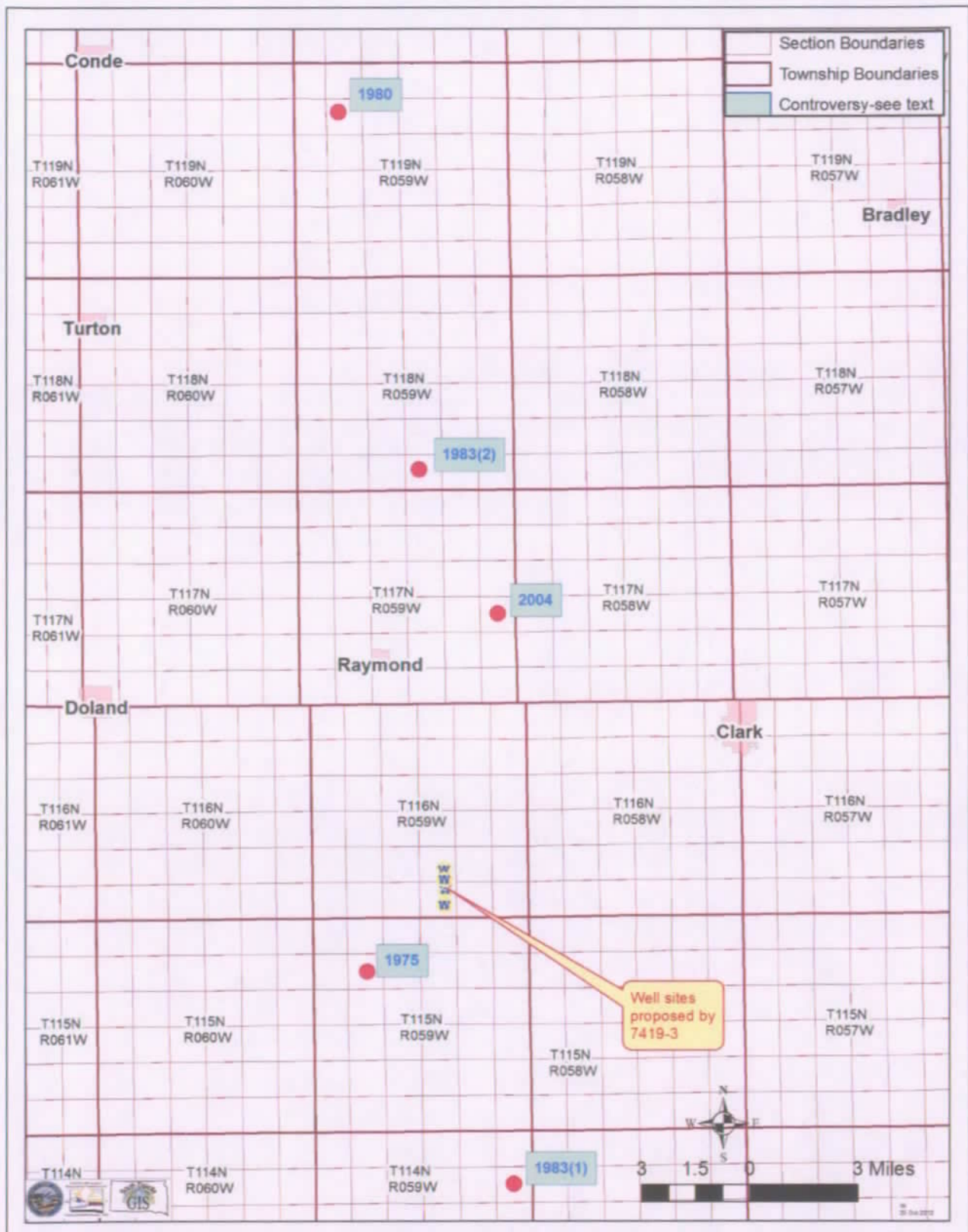


Figure 5. Location of past controversies involving the Altamont aquifer in this area and the well sites proposed by this application

## **1975**

The Water Rights Commission Staff received a complaint August 12, 1975 stating that pumping from an unpermitted irrigation well was lowering the water level in a nearby spring feed dugout. As a result of the staff investigation, Water Permit Application No. 2489-3 was submitted on October 6, 1975, proposing use of the well which was completed into the Altamont aquifer. The Commission Staff conducted a 72 hour pump test on the well October 28-31, 1975. Staff concluded that withdrawals from the well did interfere with the flow of the springs and reduced spring discharge could interfere with livestock watering from the dugout. Staff concluded that if livestock watering was impaired, supplemental water would have to be provided. Commission Staff also concluded that the complainer's proposed irrigation well (authorized by Water Permit No. 2231-3) would also interfere with the springs and there would be interference between the two wells (i.e. the one authorized by Water Permit No. 2231-3 and the one proposed to be used by Application no. 2489-3). The Commission Staff concluded that: "Since both wells will be to the bottom of the water bearing formation, neither well pumping should (adversely) [sic] affect the other." The staff ultimately recommended approval of Water Permit No. 2489-3 and the permit was approved on January 30, 1976, with only the "standard" "domestic well qualification" (Hatch, 1976). There are no records on file with the DENR-Water Rights Program of any controversy regarding interference with these springs or wells since the initial complaint.

## **1980**

A complaint was filed August 12, 1980 concerning problems with an irrigation well, alleging well interference and impairment caused by a well completed into the Altamont aquifer that was authorized by Water Permit No. 4292-3. Water Rights staff concluded that "there is no definite indication that Mr. Schulz' irrigation well pumping is adversely affecting your irrigation well. Therefore, we are not in a position to limit the pumping in the Schulz well." (Goodman, 1980) There are no records on file with the DENR-Water Rights Program of any controversy regarding well interference involving this well since the initial complaint.

## **1983(1)**

In 1983, the SD Department of Water and Natural Resources Water Rights Division staff investigated a well interference complaint regarding Water Right No. 4658-3. The complaint alleged that two wells quit pumping when the irrigation well authorized by Water Right No. 4658-3 was pumped "more than 12 hours." Drawdown data was obtained from the irrigation well and it was determined that the water level could not be drawn down to a level that would impair the wells (Smith, 1983). There are no records on file with the DENR-Water Rights Program of any controversy regarding well interference involving this well since the initial complaint.

## **1983(2)**

An area landowner testified that water levels in dugouts and spring flows had declined since irrigation was developed in the area and on July 20, 1983, the Water Management Board directed the Water Rights Division staff to investigate "Altamont Water Management unit" irrigation practices and water level fluctuations. An investigation was conducted July 26-28, 1983, examining reports that a) dugouts lost water, b) springs quit flowing, and c) shallow wells were affected. Staff concluded that the dugouts in question did not penetrate the Altamont aquifer so they could not be affected by pumping from the Altamont aquifer. Staff also concluded that

“water is available to supply wells constructed to allow pump inlets to be located at least 20 feet into the aquifer or bottom third of thinner aquifers.” As a result of the investigation, the Water Rights Division Staff recommended “That there is no reason to restrict or shut off existing water rights in the area” (Smith, 1983). The Chief Engineer’s policy on the topic of groundwater use in the area was summarized in a letter to the landowner that testified about the water levels in dugouts and spring flows declining stating “...we have concluded that use of water for irrigation from the Altamont Aquifer in northwestern Clark county has not depleted the supply of water available for domestic use.” The Chief Engineer stressed that SD Water Law protects the water source, and not the well or means of diversion (Hatch, 1983). There are no records on file with the DENR-Water Rights Program of any controversy regarding well interference involving this well since the initial complaint.

## **2004**

During the Water Management Board Hearing for Water Permit Application No. 6560-3, interveners expressed concern over the possible impacts the proposed irrigation withdrawal would have on their domestic water supplies which were dependent on discharge from a fen or springs. The DENR-Water Rights Staff documented the fen or spring discharge and the Board added the following qualification to Water Permit No. 6560-3:

“The well approved under this Permit will be located near a fen. The well owner under this Permit shall control his withdrawals so that his withdrawals do not cause significant reduction in the flow of water of the fen. By determining that that permit holder is to control his withdrawals so that they do not cause a significant reduction in the flow of water of the fen, the Board holds that such reduction in pumping would be merited upon a showing by the complainant that the reduction in flows were actually caused by the pumping.”

There are no records on file with the DENR-Water Rights Program of any controversy regarding well interference involving this well since the hearing.

## **PUBLIC INTEREST:**

The well sites proposed by this application are located in the steeply-sloping terrain along the border between the Coteau des Prairies and the James Basin. Geographically, the area is similar to the areas where there have been concerns/complaints about springs in the past and there may be springs in this area. In recent years, the Water Management Board has had a number of discussions centered on whether approval of a water permit could be in the public interest if spring flows would be affected. Most of the Board’s focus was on “artesian springs” in the Black Hills area that contributed base flow to streams that supplied water for appropriative rights and domestic users. The Board has accepted that SD Water Law does not protect artesian head pressure as a means of diversion and determined that well interference resulting in decreased discharge from these “artesian” springs likely could not be considered an adverse impact. The Board concluded that “The only protection South Dakota law provides when considering an application for an underground water permit for flow from an artesian spring is under the public interest criteria” (Water Management Board Findings dated 19 March 2007 (Paragraph 11)). The springs on the edge of the Coteau are likely not “artesian springs” but rather springs that originate simply because a ravine or draw has cut down locally to the aquifer’s water table. The use of the water from these springs is typically very localized, domestic use. It is possible that

small fluctuations in the water table may cause changes in the discharge of this type of spring. The 10-15 feet of fluctuation of the potentiometric surface caused by climatic conditions documented by observation wells may impact spring discharge but there is no documentation of decreased spring discharge during drier years compared wetter years. As noted earlier, the fluctuation of the water level of the Altamont aquifer masks the effects of cumulative well withdrawals from the aquifer. Therefore, the appropriation and consequent annual volume withdrawn is not likely to have a measurable impact on spring discharges. If springs are to be impacted by well withdrawals from the Altamont aquifer, it would be because the spring is in the cone of influence of the well.

At this time, with the exception of the 1975 complaint, the complaints and concerns about pumping from the Altamont aquifer interfering with area springs have been unsubstantiated. In the case of the 1975 complaint, the affected spring was located within the cone of depression of the irrigation well (i.e. approximately 800 feet from the well).

If it is determined that approval of this application should be conditioned to provide protection to spring discharge, recognizing that impairment would be the result of well interference, Water Rights Observation well CK-76E is ideally situated to document excessive drawdown from pumping the proposed wells.

#### **CONCLUSIONS:**

1. This application proposes to appropriate up to 1,040 acre-feet annually for irrigation but the amount of water that actually will be used is expected to be considerably less.
2. There is a reasonable probability that unappropriated water is available from the Altamont aquifer to supply this proposed diversion.
3. There is a reasonable probability that the diversion requested by this application can be made without adversely effecting existing water rights.



Ken Buhler  
SD DENR-Water Rights Program

#### **REFERENCES:**

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Water Rights, 2012b, Water Right/Permit Files, SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.

Water Rights, 2012c, Well Completion Report Files, SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.

**NOTICE OF APPLICATION  
NO. 7419-3 to Appropriate Water**

Notice is given that James R. Orris, 41898 US Hwy 212, Clark SD 57225 has filed an application for a water permit to appropriate 6.46 cubic feet of water per second from four wells to be completed into the Altamont Aquifer (approximately 100 feet deep) located in the center of NE 1/4, NW 1/4 SE 1/4 Section 34 and NW 1/4 SE 1/4, SW 1/4 SE 1/4 Section 27 for irrigation of 520 acres located in the E 1/2 Section 34 and SE 1/4, S 1/2 NE 1/4 Section 27; all in T116N-R59W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 7419-3 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on this application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider this application. Notice of the hearing will be given to the applicant and any person filing a petition.

Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by December 3, 2012.

The petition may be informal, but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application.

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

Published once at the total approximate cost of \$25.60.

11-21-1t

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NOV 26 2012

**Affidavit of Publication**  
State of South Dakota

WATER RIGHTS  
PROGRAM

§

County of Clark

William J. Krikac of said county, being first duly sworn, on oath says that he is the publisher of the **Clark County Courier**, a weekly newspaper printed and published in Clark in said County of Clark and has a full and personal knowledge of all the facts therein stated; that said newspaper is a legal newspaper and has a bona-fide circulation of at least two hundred copies weekly, and has been published within said County for fifty-two successive weeks next prior to the publication of the notice herein mentioned, and was and is printed wholly or in part in an office maintained at said place of publication; that the

**WATER RIGHTS PROGRAM  
JAMES ORRIS**

a printed copy of which taken from the paper in which same was published, is attached to this sheet, and is made a part of this Affidavit, was published in said newspaper at least once in each week for

**ONE**

successive weeks, on the day of each week on which said newspaper was regularly published, to wit:

**NOVEMBER 21, 2012**

that the full amount of the fees for the publication of the annexed notice is

**25.60**

*William J. Krikac*

Subscribed and sworn to before me this

**21ST DAY OF NOVEMBER, 2012**

*Grant Helke*

Notary Public  
Clark County, South Dakota

**My Commission expires: 06/04/2013**

RECEIVED

NOV 28 2012

Form 8

WATER RIGHTS  
PROGRAM

**DEPARTMENT  
OF ENVIRON-  
MENT AND  
NATURAL  
RESOURCES**

**NOTICE OF APPLICATION**

**NO. 7419-3 to  
Appropriate Water**

Notice is given that James R. Orris, 41898 US Hwy 212, Clark SD 57225 has filed an application for a water permit to appropriate 6.46 cubic feet of water per second from four wells to be completed into the Altamont Aquifer (approximately 100 feet deep) located in the center of NE 1/4, NW 1/4 SE 1/4 Section 34 and NW 1/4 SE 1/4, SW 1/4 SE 1/4 Section 27 for irrigation of 520 acres located in the E 1/2 Section 34 and SE 1/4, S 1/2 NE 1/4 Section 27; all in T116N-R50W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 7419-3 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. In accor-

dance with SDCL 46-2A-23, the Chief Engineer will act on this application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider this application. Notice of the hearing will be given to the applicant and any person filing a petition.

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The petition may be informal, but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application. Steven M. Pirner, Secretary, Department of Environment and Natural Resources.

Published once at the approximate cost of \$53.75. (November 21, 2012)

All legal notices in the Public Opinion and other South Dakota newspapers can be found at  
[www.sdpublicnotices.com](http://www.sdpublicnotices.com)

**PROOF OF PUBLICATION**

STATE OF SOUTH DAKOTA )  
 ) SS  
County of Codington )

I, Monica K. Saathoff

certify that the attached printed Notice was  
taken

from the Watertown Public Opinion

printed and published in Watertown

County of Codington and

state of South Dakota. The notice was  
published

in the newspaper on the following date:

November 21st, 2012

Cost of Printing 53.37

Monica K. Saathoff  
(Signature)

Bookkeeper

(Title)

November 21, 2012

(Date Signed)



DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES

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

[denr.sd.gov](http://denr.sd.gov)

November 13, 2012

Clark County Courier  
119 1<sup>st</sup> Ave  
Clark SD 57225

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 7419-3 to Appropriate Water. Please publish the notice once on November 21, 2012. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352.

The applicant must verify to you that the notice is to be published and arrange for payment. **Please BILL the APPLICANT for the cost of publication.** The APPLICANT is James R Orris, 41898 US Hwy 212, Clark SD 57225 (Ph # 605-233-0150).

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

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

Sincerely,

Eric Gronlund  
Natural Resources Engineer  
605 773-3352

enclosures



DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES

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

denr.sd.gov

JAN 07 2013

James R Orris  
41898 US Hwy 212  
Clark SD 57225

Dear Mr. Orris:

Enclosed is Water Permit No. 7419-3 authorizing construction of your water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

Form 10, *Notice of Completion of Works and Application of Water to Beneficial Use*, is enclosed. Please return this completed form after you have finished the system and have put the water to beneficial use. An investigation can then be scheduled so the water license may be issued, thus completing the acquisition of a water right.

An informational sheet *Common Water Right Questions?* is also enclosed. This sheet is intended to answer some of the questions associated with obtaining and keeping a water right.

Sincerely,

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

enclosures

7419-3

## SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

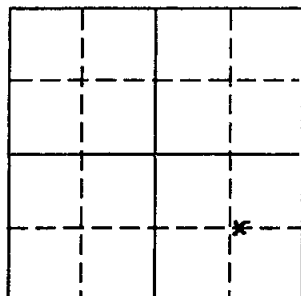
Location Center 1/4 SE 1/4 Sec 27 Twp 116N Rg 59W

County Clark

Please mark well location with an "X"

Well completion Date 4-30-13

Distance from nearest potential pollution source (Septic tank, abandoned well, feed lot, etc.)  
? 4000 ft. from Feed lot (identify source)



PROPOSED USE:

☐ Domestic/Stock ☐ Municipal ☐ Business ☐ Test Holes

☒ Irrigation ☐ Industrial ☐ Institutional ☐ Monitoring well

## METHOD OF DRILLING:

Forward Rotary

## CASING DATA:

☐ Steel ☒ Plastic ☐ Other

If other describe

| PIPEWEIGHT         | DIAMETER     | FROM        | TO            | HOLE DIAMETER    |
|--------------------|--------------|-------------|---------------|------------------|
| <u>SDR21</u> LB/FT | <u>12</u> IN | <u>2</u> FT | <u>102</u> FT | <u>12 1/2</u> IN |
| LB/FT              | IN           | FT          | FT            | IN               |
| LB/FT              | IN           | FT          | FT            | IN               |

## GROUTING DATA:

| Grout Type                   | No. of Sacks | Grout Weight      | From         | To           |
|------------------------------|--------------|-------------------|--------------|--------------|
| <u>Bottom to High Solids</u> | <u>16</u>    | <u>9.5</u> Lb/gal | <u>5'</u> Ft | <u>78</u> Ft |
|                              |              | Lb/gal            | Ft           | Ft           |

Describe grouting procedure Tremie line Grout from Bottom to 5' then 5' to surface cement Grout

## SCREEN:

☐ Perforated pipe ☒ ManufacturedDiameter 12 Inches Length 20 FeetMaterial stainless steelSlot Size 1050 Set From 102 Feet to 122 Feet

Other information

## WAS A PACKER OR SEAL USED?

☐ Yes ☒ No

If so, what material?

Describe packer(s) and location

## DISINFECTION: Was well disinfected upon completion?

☒ Yes, How? chlorine

Lab sample sent to for water quality analysis ☐ No, Why Not?

Well Owner: James Orris

Business Name:

Address1: 41898 US Hwy 212

Address2:

City, State, Zip: Clark, SD 57225

WELL LOG:

| FORMATION                    | DEPTH        |              |
|------------------------------|--------------|--------------|
|                              | FROM         | TO           |
| <u>Top Soil</u>              | <u>0</u>     | <u>1</u>     |
| <u>yellow clay</u>           | <u>1</u>     | <u>28</u>    |
| <u>Blue clay</u>             | <u>28</u>    | <u>75</u>    |
| <u>Fine sand</u>             | <u>75</u>    | <u>86</u>    |
| <u>Fine To Medium Sand</u>   | <u>86</u>    | <u>98</u>    |
| <u>Medium To Coarse Sand</u> | <u>98</u>    | <u>116</u>   |
| <u>Coarse Sand</u>           | <u>116</u>   | <u>121.5</u> |
| <u>clay</u>                  | <u>121.5</u> |              |

## STATIC WATER LEVEL

32 FEET

If flowing: closed in pressure

PSI

GPM flow

through

Inch pipe

Controlled by

☐ Valve☐ Reducers☐ Other

Reduced flow rate

GPM

Can well be completely shut in?

## WELL TEST DATA:

☒ Pumped

Describe:

Submersible Pump☐ Bailed☐ Other

Pumping Level Below Land Surface

39 Ft. After4 Hrs. pumped500 GPM

Ft. After

Hrs. pumped

GPM

If pump installed, pump rate:

GPM

## REMARKS

well #1 North Pivot

This well was drilled under license #

285

And this report is true and accurate.

Drilling firm:

Manikowski Well Drilling, Inc.

Signature of License Representative:

Rayon M. M. L.

Signature of Well Owner or Equitable Property Holder:

Date:

RECEIVED

Please return White Copy to DENR Water Rights

523 E. Capitol Ave., Pierre SD 57501

APR 18 2013

WATER RIGHTS PROGRAM

# SOUTH DAKOTA WATER WELL COMPLETION REPORT

7419-3

11-02

Location NW 1/4 NE 1/4 Sec 34 Twp 116N Rg 59W

County Clark

Please mark well location with an "X"

Well completion Date 4-30-13

Distance from nearest potential pollution source (Septic tank, abandoned well, feed lot, etc.)  
6000 ft. from Feed Lot (identify source)

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

**METHOD OF DRILLING:**  
Forward Rotary

**CASING DATA:** ☐ Steel ☐ Plastic ☐ Other  
 If other describe \_\_\_\_\_

| PIPEWEIGHT  | DIAMETER | FROM  | TO     | HOLE DIAMETER |
|-------------|----------|-------|--------|---------------|
| SDR21 LB/FT | 12 IN    | 11 FT | 107 FT | 17.5 IN       |
| LB/FT       | IN       | FT    | FT     | IN            |
| LB/FT       | IN       | FT    | FT     | IN            |

**GROUTING DATA:**  
 Grout Type Hydroseals No. of Sacks 16 Grout Weight 9.5 Lb/gal From 5 Ft To 80 Ft  
Barb's Lb/gal Ft Ft  
 Describe grouting procedure Tremie line from Bottom To Top, Thr 5' cement 5' To Surface

**SCREEN:** ☐ Perforated pipe ☐ Manufactured  
 Diameter 12 Inches Length 20 Feet  
 Material stainless steel  
 Slot Size .080 Set From 107 Feet to 127 Feet  
 Other information \_\_\_\_\_

**WAS A PACKER OR SEAL USED?** ☐ Yes ☒ No  
 If so, what material? \_\_\_\_\_  
 Describe packer(s) and location \_\_\_\_\_

**DISINFECTION:** Was well disinfected upon completion?  
☒ Yes, How? Chlorine  
☐ No, Why Not? \_\_\_\_\_  
 Lab sample sent to for water quality analysis \_\_\_\_\_

Well Owner: James Orris

Business Name: \_\_\_\_\_

Address1: 41898 US Hwy 212

Address2: \_\_\_\_\_

City, State, Zip: Clark, SD 57225

**WELL LOG:**

| FORMATION            | DEPTH |     |
|----------------------|-------|-----|
|                      | FROM  | TO  |
| Top Soil             | 0     | 1   |
| Yellow Clay          | 1     | 27  |
| Blue Clay            | 27    | 81  |
| Fine Sand            | 81    | 98  |
| Coarse Sand & Gravel | 98    | 127 |
| Shale                | 127   |     |

**STATIC WATER LEVEL** 30 FEET  
 If flowing: closed in pressure \_\_\_\_\_ PSI  
 GPM flow \_\_\_\_\_ through \_\_\_\_\_ Inch pipe  
 Controlled by ☐ Valve ☐ Reducers ☐ Other \_\_\_\_\_  
 Reduced flow rate \_\_\_\_\_ GPM  
 Can well be completely shut in? \_\_\_\_\_

**WELL TEST DATA:**  
☒ Pumped Describe: Submersible Pump  
☐ Bailed  
☐ Other \_\_\_\_\_

Pumping Level Below Land Surface  
35 Ft. After 4 Hrs. pumped 500 GPM  
 \_\_\_\_\_ Ft. After \_\_\_\_\_ Hrs. pumped \_\_\_\_\_ GPM  
 If pump installed, pump rate: \_\_\_\_\_ GPM

**REMARKS**  
well #2 for center Pivot

This well was drilled under license # 285  
 And this report is true and accurate.  
 Drilling firm: Manikowski Well Drilling, Inc.  
 Signature of License Representative: [Signature]  
 Signature of Well Owner or Equitable Property Holder: \_\_\_\_\_

Date: \_\_\_\_\_

Please return White Copy to DENR Water Rights

523 E. Capitol Ave., Pierre SD 57501

RECEIVED  
 APR 18 2013  
 WATER RIGHTS  
 PROGRAM

7419-3

## SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

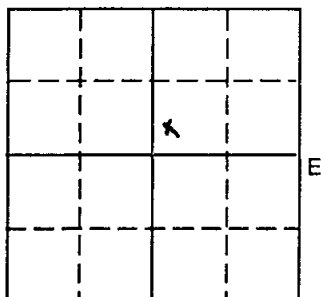
Location 50  $\frac{1}{4}$  NE  $\frac{1}{4}$  Sec 34 Twp 116N Rg 59W

County

Clark

North

Please mark well location with an "X"



Well completion Date

4-30-13

Distance from nearest potential pollution source (Septic tank, abandoned well, feed lot, etc.)

3500 ft. from Feed lot (identify source)

## PROPOSED USE:

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

## METHOD OF DRILLING:

Forward Rotary

## CASING DATA:

☐ Steel ☒ Plastic ☐ Other

If other describe

| PIPEWEIGHT         | DIAMETER     | FROM         | TO            | HOLE DIAMETER  |
|--------------------|--------------|--------------|---------------|----------------|
| <u>50.21</u> LB/FT | <u>12</u> IN | <u>+2</u> FT | <u>101</u> FT | <u>17.5</u> IN |
| LB/FT              | IN           | FT           | FT            | IN             |
| LB/FT              | IN           | FT           | FT            | IN             |

## GROUTING DATA:

| Grout Type              | No. of Sacks | Grout Weight      | From        | To           |
|-------------------------|--------------|-------------------|-------------|--------------|
| <u>Expendable Grout</u> | <u>16</u>    | <u>9.5</u> Lb/gal | <u>5</u> Ft | <u>80</u> Ft |
|                         |              | Lb/gal            | Ft          | Ft           |

Describe grouting procedure Inject line Grout from Bottom 80' to 5' then 5' to Surface  
Concrete Grout

## SCREEN:

☐ Perforated pipe ☒ Manufactured
Diameter 12 Inches Length 20 FeetMaterial stainless steelSlot Size 1060 Set From 101 Feet to 121 Feet

Other information

## WAS A PACKER OR SEAL USED?

☐ Yes ☒ No

If so, what material?

Describe packer(s) and location

## DISINFECTION: Was well disinfected upon completion?

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

Well Owner:

James Orris

Business Name:

Address1:

41898 US Hwy 212

Address2:

City, State, Zip:

Clark, SD 57225

## WELL LOG:

## DEPTH

| FORMATION                             | FROM      | TO         |
|---------------------------------------|-----------|------------|
| <u>Top Soil</u>                       | <u>0</u>  | <u>1</u>   |
| <u>yellow clay</u>                    | <u>1</u>  | <u>29</u>  |
| <u>Blue clay</u>                      | <u>29</u> | <u>79</u>  |
| <u>Fine Sand</u>                      | <u>79</u> | <u>86</u>  |
| <u>medium sand</u>                    | <u>86</u> | <u>98</u>  |
| <u>Coarse clean Sand &amp; Gravel</u> | <u>98</u> | <u>121</u> |
|                                       |           |            |
|                                       |           |            |
|                                       |           |            |

## STATIC WATER LEVEL

29

FEET

If flowing: closed in pressure

PSI

GPM flow

through

Inch pipe

Controlled by

☐ Valve☐ Reducers☐ Other

Reduced flow rate

GPM

Can well be completely shut in?

## WELL TEST DATA:

☒ Pumped

Describe:

submersible pump☐ Bailed☐ Other

Pumping Level Below Land Surface

35

Ft. After

4

Hrs. pumped

500

GPM

Ft. After

Hrs. pumped

GPM

If pump installed, pump rate:

GPM

## REMARKS

Well #3 for South Pivot

This well was drilled under license #

285

And this report is true and accurate.

Drilling firm:

Manikowski Well Drilling, Inc.

Signature of License Representative:

[Signature]

Signature of Well Owner or Equitable Property Holder:

Date:

Please return White Copy to DENR Water Rights

523 E. Capitol Ave., Pierre SD 57501

RECEIVED

APR 18 2013

WATER RIGHTS PROGRAM

# SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

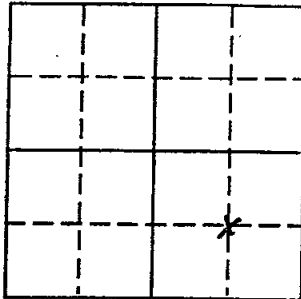
7419-3

Location Corb  $\frac{1}{4}$  SE  $\frac{1}{4}$  Sec 27 Twp 116N Rg 59W

County

Clark

North



Please mark well location with an "X"

Well completion Date

3-15-13

1 Mile

Distance from nearest potential pollution source (Septic tank, abandoned well, feed lot, etc.)

? 4000 ft. from Feed Lot (identify source)

## PROPOSED USE:

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

## METHOD OF DRILLING:

Forward Rotary

## CASING DATA:

- ☐ Steel    ☒ Plastic    ☐ Other

If other describe

| PIPEWEIGHT          | DIAMETER    | FROM        | TO            | HOLE DIAMETER |
|---------------------|-------------|-------------|---------------|---------------|
| <u>508 21 LB/FT</u> | <u>4 IN</u> | <u>1 FT</u> | <u>120 FT</u> | <u>7 IN</u>   |
| LB/FT               | IN          | FT          | FT            | IN            |
| LB/FT               | IN          | FT          | FT            | IN            |

## GROUTING DATA:

Grout Type Portland No. of Sacks 4 Grout Weight 1.5 Lb/gal From 0 Ft To 7.5 Ft  
 Describe grouting procedure Traverse line from 7.5' to surface

## SCREEN:

- ☐ Perforated pipe    ☒ Manufactured

Diameter 4 Inches Length 20 Feet

Material PVC

Slot Size #40 Set From 100 Feet to 120 Feet

Other information Red Flint #40 slot sand pack

## WAS A PACKER OR SEAL USED?

- ☐ Yes    ☒ No

If so, what material?

Describe packer(s) and location

## DISINFECTION: Was well disinfected upon completion?

- ☒ Yes, How? chlorine

- ☐ No, Why Not?

Lab sample sent to for water quality analysis

Brookings, SD

Please return White Copy to DENR Water Rights

Well Owner:

James Ounis

Business Name:

Address1:

41898 US Hwy 212

Address2:

City, State, Zip:

Clark, SD 57225

## WELL LOG:

DEPTH

| FORMATION                    | FROM       | TO         |
|------------------------------|------------|------------|
| <u>Top soil</u>              | <u>0</u>   | <u>1</u>   |
| <u>yellow clay</u>           | <u>1</u>   | <u>28</u>  |
| <u>blue clay</u>             | <u>28</u>  | <u>75</u>  |
| <u>fine sand</u>             | <u>75</u>  | <u>86</u>  |
| <u>medium sand</u>           | <u>86</u>  | <u>98</u>  |
| <u>medium to coarse sand</u> | <u>98</u>  | <u>116</u> |
| <u>coarse</u>                | <u>116</u> | <u>122</u> |

## STATIC WATER LEVEL

32

FEET

If flowing: closed in pressure

PSI

GPM flow

through

inch pipe

Controlled by

- ☐ Valve    ☐ Reducers    ☐ Other

Reduced flow rate

GPM

Can well be completely shut in?

## WELL TEST DATA:

- ☒ Pumped    Describe: Submersible Pump

- ☐ Bailed

- ☐ Other

Pumping Level Below Land Surface

37 Ft. After

5 Hrs. pumped

103 GPM

Ft. After

Hrs. pumped

GPM

If pump installed, pump rate:

GPM

## REMARKS

RECEIVED

APR 18 2013

WATER RIGHTS PROGRAM

This well was drilled under license # 285

And this report is true and accurate.

Drilling firm:

Manikowski Well Drilling, Inc.

Signature of License Representative:

[Signature]

Signature of Well Owner or Equitable Property Holder:

Date:

523 E. Capitol Ave., Pierre SD 57501



7419-3

**DEPARTMENT of AGRICULTURE  
and NATURAL RESOURCES**  
JOE FOSS BUILDING  
523 E. CAPITOL AVE  
PIERRE SD 57501-3182  
danr.sd.gov

JUN 08 2023

James R Orris  
41898 US Hwy 212  
Clark SD 57225

7419-3

Dear Mr. Orris:

Enclosed is Water License No. 7419-3. This is the final water right document completing your process of obtaining a Water Right. Included with your license is a map prepared by the staff engineer who conducted the field investigation.

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

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

Sincerely,

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

*enclosures*

# STATE OF SOUTH DAKOTA

## WATER LICENSE NO. 7419-3

(1) James R Orris; 41898 US Hwy 212, Clark, SD 57225, made Application No. 7419-3, August 31, 2012 for a water permit to divert 6.46 cubic feet of water per second from groundwater, four wells (Altamont Aquifer), Clark County, South Dakota for irrigation purposes. Permit No. 7419-3, with a priority date of August 31, 2012 was approved December 3, 2012 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before December 3, 2017 and for the application to beneficial use of water on or before December 3, 2021.

(2) It is certified that the permit holder has complied with the provisions of South Dakota State Law relating to completion of the construction of the water supply system and is entitled to divert 5.56 cubic feet of water per second for beneficial use. The locations of the diversion points are:

- Well #1: 1,640 ft N & 1,315 ft W of the NE corner of Section 34, T116N, R 59W (NE  $\frac{1}{4}$  SE  $\frac{1}{4}$ ) (Latitude 44.82418 Longitude -97.90202)
- Well #2: 50 ft S & 1,310 ft W of the NE corner of Section 34, T116N, R 59W (NE  $\frac{1}{4}$  NE  $\frac{1}{4}$ ) (Latitude 44.81950 Longitude -97.90192)
- Well #3: 1,325 ft S & 2,185 ft W of the NE corner of Section 34, T116N, R 59W (SW  $\frac{1}{4}$  NE  $\frac{1}{4}$ ) (Latitude 44.81614 Longitude -97.90542)

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

| <u>Section 27, T116N, R59W</u>    |            | <u>Section 34, T116N, R59W</u>    |            | <u>TOTAL</u> |
|-----------------------------------|------------|-----------------------------------|------------|--------------|
| SW $\frac{1}{4}$ NE $\frac{1}{4}$ | 13.5 acres | NW $\frac{1}{4}$ NE $\frac{1}{4}$ | 35.7 acres | 436.2 acres  |
| SE $\frac{1}{4}$ NE $\frac{1}{4}$ | 11.4 acres | NE $\frac{1}{4}$ NE $\frac{1}{4}$ | 31.9 acres |              |
| NW $\frac{1}{4}$ SE $\frac{1}{4}$ | 40.0 acres | SW $\frac{1}{4}$ NE $\frac{1}{4}$ | 33.5 acres |              |
| NE $\frac{1}{4}$ SE $\frac{1}{4}$ | 39.0 acres | SE $\frac{1}{4}$ NE $\frac{1}{4}$ | 32.1 acres |              |
| SW $\frac{1}{4}$ SE $\frac{1}{4}$ | 33.8 acres | NW $\frac{1}{4}$ SE $\frac{1}{4}$ | 35.2 acres |              |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ | 30.1 acres | NE $\frac{1}{4}$ SE $\frac{1}{4}$ | 33.0 acres |              |
|                                   |            | SW $\frac{1}{4}$ SE $\frac{1}{4}$ | 34.6 acres |              |
|                                   |            | SE $\frac{1}{4}$ SE $\frac{1}{4}$ | 32.4 acres |              |

(4) Pursuant to South Dakota Water Law 46-5-30.1 James R Orris, the holder and/or owner of Water Right No. 7419-3 is issued a license to appropriate water, the right to use 5.56 cubic feet of water per second from groundwater, three wells (Altamont Aquifer), with a priority date of August 31, 2012 from the location specified in (2) of this license for irrigation purposes.

This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Right No. 7419-3 and subject to the following qualifications:

*continued*

Qualifications

1. The wells approved under this water right will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this water right shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The wells authorized by Permit No. 7419-3 shall be constructed by a licensed well driller and construction of the wells and installation of the pumps shall comply with the Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28. *(The wells were drilled by Manikowski Well Drilling Inc in 2013. A copy of each well completion report is on file with the Water Rights Program)*
3. This Water Right is approved subject to the irrigation water use questionnaire being submitted each year.

*Eric Gronlund*

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

JUN 08 2023

date



## Report of Examination of Works and/or Application of Water to Beneficial Use For Permit No. 7419-3

I have this day, May 24, 2023, made a thorough examination of the water use system constructed by James R Orris; 41898 US Hwy 212, Clark, SD 57225 of Permit No. 7419-3, bearing the priority of August 31, 2012 authorizing the diversion of 6.46 cu. ft. per second of the waters of the Altamont Aquifer for irrigation purposes, in Clark County.

### A. Works used to divert the water:

#### Well Information:

- 1) Well Drilling Firm: Manikowski Well Drilling
- 2) No. of Wells 3
- 3) Depth(s) 122, 127, 121 feet
- 4) Well log is available Y

#### Casing:

- 1) Diameter 12, 12, 12 inches
- 2) Length 102, 107, 101 feet
- 3) Type Plastic - all

#### Screen:

- 1) Type Stainless steel - all
- 2) Length 20 - all feet
- 3) Static water level 32, 30, 29 feet

#### Pump:

- 1) Make Submersibles
- 2) Model Unknown
- 3) Size Unknown
- 4) Capacity 900, 800, 800 GPM

#### Motor:

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

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

- 1) Type Steel & Buried PVC
- 2) Size 8 inches
- 3) Length #1 - 15, #2 - 1300, #3 - 2800 feet

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

- 1) Make 3 - Valleys
- 2) Overall length 1300 feet
- 3) Number of towers 7, 7, 6 plus corner arm
- 4) End gun Y
- 5) Capacity 900, 800, 800 GPM

**Chemigation Equipment:**

- 1) Does chemigate N

**D. Compliance with Permit Requirements:**

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

**E. Condition and Location:**

1. The system is in good condition with the point(s) of diversion located as follows: **WELL LOCATIONS**  
**From the NE corner Sec 34 T116N R59W WELL #1: 1,640 ft N & 1,315 ft W, Lat 44.82418 Long - 97.90202 (NE ¼ SE ¼) WELL #2: 50 ft S & 1,310 ft W, Lat 44.81950 Long -97.90192 (NE ¼ NE ¼) WELL #3: 1,325 ft S & 2,185 ft W, Lat 44.81614 Long -97.90542 (SW ¼ NE ¼).**
2. The works are capable of diverting and conveying to the place of use 5.56 cu. ft. per second of water which is to be used for irrigation. Water has been put to beneficial use to the maximum extent as follows:

**legal description/acreage**  
**Land in Sec 27 T116N R59W**  
SW ¼ NE ¼ - 13.5 acres  
SE ¼ NE ¼ - 11.4 acres  
NW ¼ SE ¼ - 40.0 acres  
NE ¼ SE ¼ - 39.0 acres  
SW ¼ SE ¼ - 33.8 acres  
SE ¼ SE ¼ - 30.1 acres

**legal description/acreage**  
**Land in Sec 34 T116N R59W**  
NW ¼ NE ¼ - 35.7 acres  
NE ¼ NE ¼ - 31.9 acres  
SW ¼ NE ¼ - 33.5 acres  
SE ¼ NE ¼ - 32.1 acres  
NW ¼ SE ¼ - 35.2 acres  
NE ¼ SE ¼ - 33.0 acres  
SW ¼ SE ¼ - 34.6 acres  
SE ¼ SE ¼ - 32.4 acres

comprising a total of 436.2 acres of land and the license should be issued for 5.56 cfs

3. All structures, wells and lands on map Y

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

The irrigated acreage was determined with the aid of FSA imagery and ArcMAPS software.

The pump rate reported in a recent Irrigation Questionnaire was used to establish the system flow capacity.

The mailing address in the permit materials is current. A new contact phone number is 605/233-0150.

I talked to Mr. Orris on the phone in conjunction with the field inspection visit.



Darrell W DeBoer  
Water Rights Inspector  
DANR, Water Rights Program

Date report completed: June 2, 2023

On June 6, 2023 Eric Gronlund spoke with  
James Orris on the phone and confirmed  
that there were only 3 wells developed.  
4<sup>th</sup> "well" was just a test hole.

