

WATER PERMIT NO. 8390-3

Name of Applicant: Mike Rogers

Address: 801 W 1st St, Redfield SD 57469 Phone: 605 460-0493

Amount of Water Claimed: 4.44 cfs Total Acres: 478.3 acres

Source of Water Supply: groundwater (2 wells)

Water to be used for: irrigation County: Hand

Type of Waste Disposal System:

Location: 14 miles north of Miller

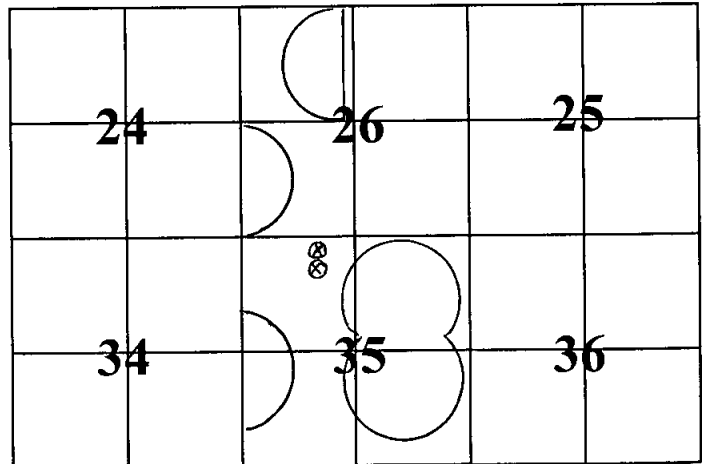
PRIORITY Date Received: 1-8-19 Application/License Fee: \$ 1,550

Corrected Application Received: Period of Annual Use: May 1 – Sept 30

Remarks:

Diversion Point: NE 1/4 NW 1/4 Sec 35-T115N-
R68W

Land to be Irrigated: W 1/2 SW 1/4, NW 1/4 Sec
26, E 1/2, SW 1/4, E 1/2 NW 1/4, SW 1/4 NW 1/4
Sec 35; all in T115N-R68W



Depth of Well: 112 feet deep

Well Driller: Stretch's Well Service

Remarks:

Type of Map: aerial

Prepared by:

Reviewed and the Number Assigned on: 1-10-19

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____

**SOUTH DAKOTA
WATER PERMIT NO. 8390-3**

Date of first receipt of application January 8, 2019.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 8390-3 to Mike Rogers, 801 W 1st St, Redfield SD 57469 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. 8390-3 appropriates 4.44 cubic feet of water per second from up to four wells to be completed into the Tulare:Hand Aquifer (approximately 60 feet deep) located in the NE 1/4 NW 1/4 Section 35 for irrigation of 478.3 acres located in the W 1/2 SW 1/4, NW 1/4 Section 26 and E 1/2, SW 1/4, E 1/2 NW 1/4, SW 1/4 NW 1/4 Section 35; all in T115N-R68W which is approximately 14 miles north of Miller SD.
2. The amount of the appropriation may not exceed 2 acre feet annually for each acre of land to which water is actually and beneficially applied for irrigation. The water is to be used during the following described annual period: May 1 – September 30.
3. The date from which applicant may claim right is January 8, 2019.
4. The date of approval of Permit No. 8390-3 is April 22, 2019.
5. One-fifth of the construction is to be completed on or before October 22, 2021.
6. All construction is to be completed on or before April 22, 2024.
7. Water is to be put to beneficial use on or before April 22, 2029.
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 Permit No. 8390-3 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. 8390-3 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.
4. The wells shall be completed into the Tulare:Hand aquifer which is at a depth of approximately 60 feet. Water Permit No. 8390-3 does not authorize the completion of the wells into the deeper basal outwash at a depth greater than 90 feet.

WATER MANAGEMENT BOARD

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

MAY 09 2019

date



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>8390-3</u> (office use only) Hydrologic Unit <u>10160006</u>
	Basin <u>James River</u>
	Newspaper <u>Miller Press</u> <u>Plainsman</u>

RECEIVED

JAN 08 2019

PAID

JAN 08 2019

Ck# 3423

Application For Permit To Appropriate Water For Irrigation

Type of Application: ☒ New ☐ Vested Right ☐ Amendment/Correction to Permit No. _____
(Use predates Mar 2, 1955)

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

1. Name to Appear on Irrigation Permit Mike Rogers

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

Mailing Address 801 West 1st Street Redfield SD 57469
(Address) (City) (State) (Zip Code)

Phone _____ Mobile 605 460-0493 Email mike@pheasantcountryrepair.net

2. Amount of water claimed 4.44 *CFS or 2000 **GPM _____ ***AF Total Acreage 478.3
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)

3. Source of water supply 1 or two wells - up to 4 wells

4. Location of point of diversion NE 1/4 NW 1/4 Section 35-T115-R68W
(example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W)

County Hand5. County or counties where water will be used Hand6. Annual period during which water is to be used May 1 - September 30

7. List below each forty acre division, or lot, or fraction thereof and show number of acres to be irrigated in each.
(Attach sheet if more space is needed)

Land Description	Acres	Land Description	Acres
see attachment for acreage breakdown			

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

Wells to be drilled for agricultural irrigation.

I, Mike Rogers Mike Rogers, 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.

Mike Roger's Water Permit Application

Breakdown of Acres

SECTION 26-T115N-R68W			
Land Description	Acres	Land Description	Acres
NW ¼ NW ¼	2.7	NE ¼ NW ¼	28.3
SW ¼ NW ¼	3.1	SE ¼ NW ¼	29.5
NW ¼ SW ¼	29.5		
SW ¼ SW ¼	31.1		

SECTION 35-T115N-R68W							
Land Description	Acres	Land Description	Acres	Land Description	Acres	Land Description	Acres
		NE ¼ NW ¼	2.5	NW ¼ NE ¼	35.6	NE ¼ NE ¼	31.6
SW ¼ NW ¼	25.2	SE ¼ NW ¼	5.7	SW ¼ NE ¼	40	SE ¼ NE ¼	37.8
NW ¼ SW ¼	40	NE ¼ SW ¼	11.8	NW ¼ SE ¼	40	NE ¼ SE ¼	33.6
SW ¼ SW ¼	17.3	SE ¼ SW ¼	0.6	SW ¼ SE ¼	20	SE ¼ SE ¼	12.4

Total = 478.3 acres

Supplemental Information

(type or print)

1. Well Information (check one or both as applicable) ☒ Drilling new well(s) ☐ Using existing well(s)a) If new wells, how many 2 Have test holes been drilled ☒ Yes ☐ No Drilled by Stretch's Well Service Inc.
(If yes, please provide copies of logs)b) If existing wells, how many Provide copy of log(s), if available. Drilled by

For either Existing or Proposed Wells:

c) Well Depth (required) Ex E Depth to Top of Water Bearing Material Ex E Depth to Water from Surface Ex E
Down to 112 feet, see Ex Ed) Distance to nearest domestic well on applicant's property Unavailable Property owned by others Unavailable

2. Wastewater Disposal System Information

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

Sanitary System

3. Dugout Information

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

4. Water Storage Dams

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

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

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

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

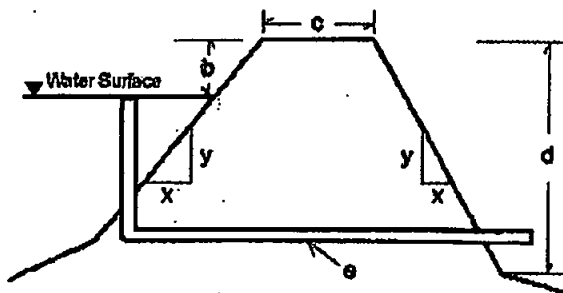
Upstream Downstream h) Surface Area of Impoundment i) Storage Acre Feetj) Drainage Area Above Dam Acres

EXHIBIT F

SD EForm - 1621LD V1

SOUTH DAKOTA WATER WELL COMPLETION REPORT

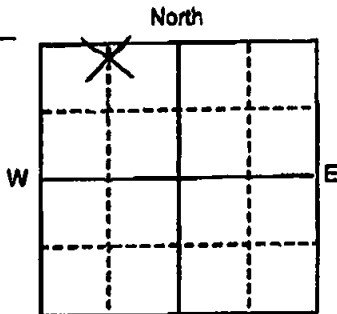
11-02

Location NW 1/4 Sec 35 Twp 115N Rg 68W

Well Owner: Mike Rogers

County Hand

Please mark well location with an "X"



Well Completion Date

6-20-16

1 Mile

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

PROPOSED USE:

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

METHOD OF DRILLING:

Mud Rotary

CASING DATA:

☐ Steel ☒ Plastic ☐ Other

If other describe

PIPEWEIGHT: DIAMETER: FROM: TO: HOLE DIAMETER:
220 LB/FT 4 IN 0 FT 112 FT 6 1/4 IN
10 LB/FT 4 IN 0 FT 112 FT 6 1/4 IN
10 LB/FT 4 IN 0 FT 112 FT 6 1/4 IN

GROUTING DATA:

Grout Type No. of Sacks Grout Weight From To
Portland 10 15 Lb/gal 0 Ft 60 Ft
Lb/gal Ft Ft

Describe grouting procedure

Tremie Pipe

SCREEN:

☐ Perforated pipe ☒ Manufactured

Diameter 4 Inches Length 40 Feet

Material PVC

Slot Size 1025 Set From 72 Feet to 112 Feet

Other Information

WAS A PACKER OR SEAL USED?

☒ Yes ☐ No

If so, what material?

Cement & Enviro Plug

Describe packer(s) and location 8' above screen

DISINFECTION: Was well disinfected upon completion?

☒ Yes, How? Chlorine

☐ No, Why Not?

Lab to which water quality sample sent for analysis

Business Name:

Address:

City, State, Zip:

SD

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
<u>Top Soil</u>	<u>0</u>	<u>1</u>
<u>Yellow Clay</u>	<u>1</u>	<u>11</u>
<u>Blue Clay</u>	<u>11</u>	<u>42</u>
<u>Sand</u>	<u>42</u>	<u>60</u>
<u>Blue Clay</u>	<u>60</u>	<u>90</u>
<u>Sand & Pea Rock</u>	<u>90</u>	<u>112</u>

STATIC WATER LEVEL

If flowing: closed in pressure 5 FEET

GPM flow 75 through 2" P&I

Controlled by ☒ Valve ☐ Reducers ☐ Other

Reduced flow rate 15 GPM

Can well be completely shut in? yes

WELL TEST DATA:

☐ Pumped Describe:
☐ Bailed
☐ Other

Pumping Level Below Land Surface

FL After _____ Hrs. pumped _____ GPM

FL After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: _____ GPM

REMARKS

This well was drilled under license # 722 and this report is true and accurate.

Drilling firm: Stretch's Well Service Inc.

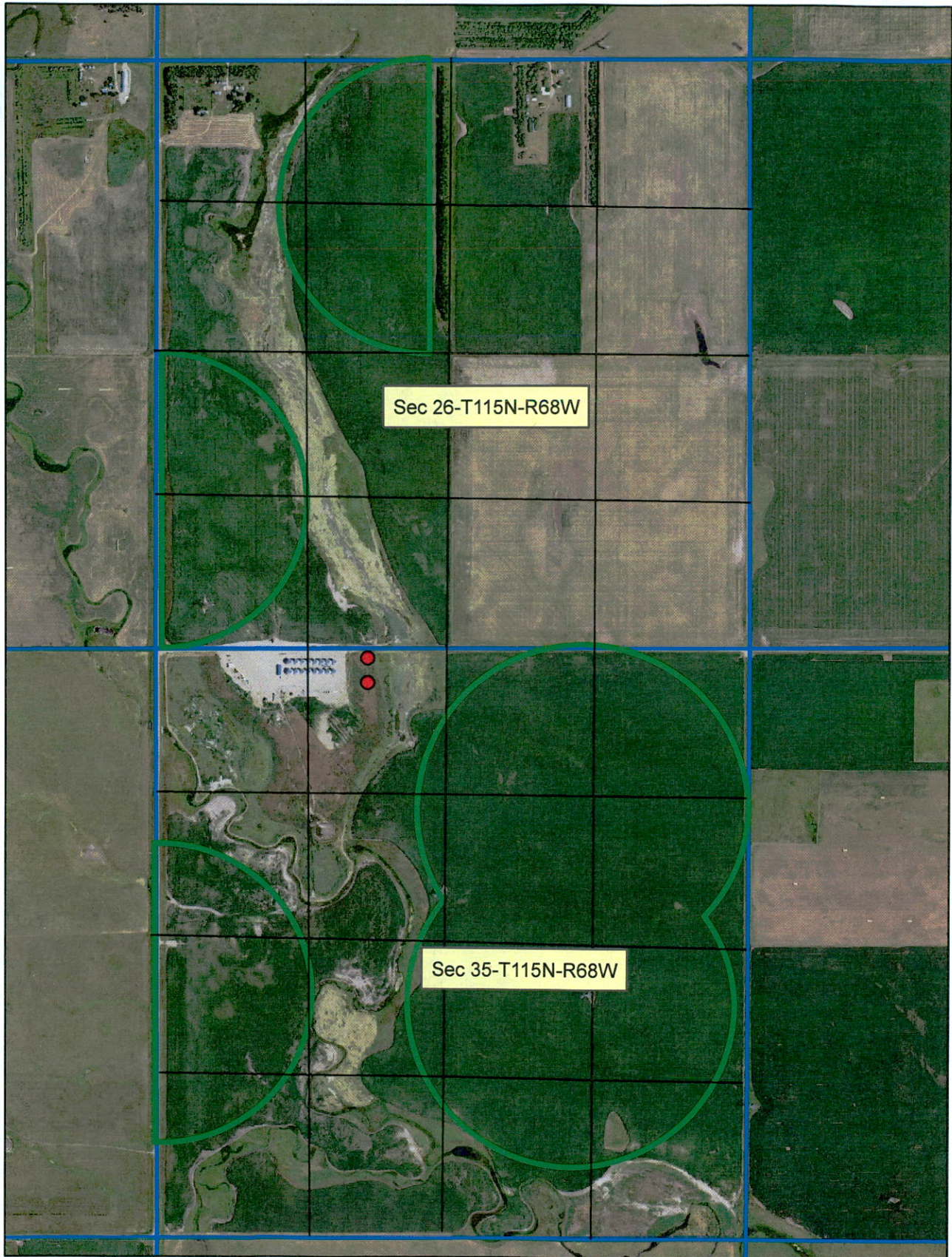
Signature of License Representative:

Tom Rattner

Signature of Well Owner or Equitable Property Holder:

Date: _____

Mike Rogers' Water Permit Application



Sec 26-T115N-R68W

Sec 35-T115N-R68W



1,400 700 0 1,400 Feet



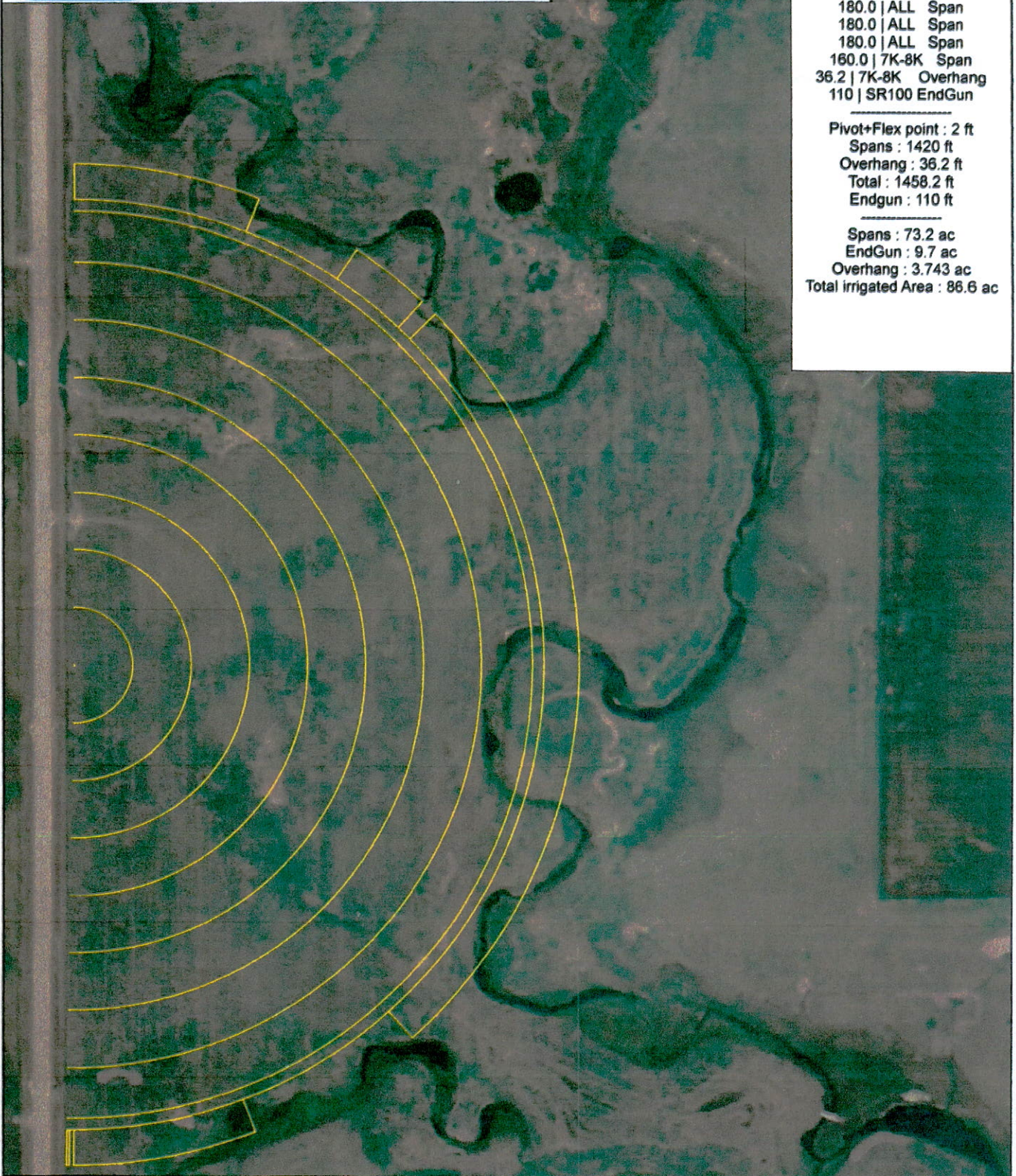
INMAN IRRIGATION

Design : West Part Circle

2 Pivot + Flex Point
 180.0 | ALL Span
 180.0 | ALL Span
 180.0 | ALL Span
 180.0 | ALL Span
 180.0 | ALL Span
 180.0 | ALL Span
 180.0 | ALL Span
 160.0 | 7K-8K Span
 36.2 | 7K-8K Overhang
 110 | SR100 EndGun

Pivot+Flex point : 2 ft
 Spans : 1420 ft
 Overhang : 36.2 ft
 Total : 1458.2 ft
 Endgun : 110 ft

Spans : 73.2 ac
 EndGun : 9.7 ac
 Overhang : 3.743 ac
 Total irrigated Area : 86.6 ac



Data use subject to license.

© DeLorme. XMap® 7.

www.delorme.com



Scale 1 : 5,200



1" = 433.3 ft

Data Zoom 15-3



Design : North PartCircle

2 Pivot + Flex Point
 180.0 | ALL Span
 180.0 | ALL Span
 180.0 | ALL Span
 180.0 | ALL Span
 180.0 | ALL Span
 180.0 | ALL Span
 180.0 | ALL Span
 36.2 | 7K-8K Overhang
 110 | SR100 EndGun

Max Span Length : 1301.8 ft
 Pivot+Flex point : 2 ft
 Spans : 1260 ft
 Overhang : 36.2 ft
 Total : 1298.2 ft
 Endgun : 110 ft

Spans : 51.1 ac
 EndGun : 9.6 ac
 Overhang : 2.941 ac

Total irrigated Area : 63.6 ac

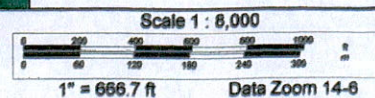
Design : South PartCircle

2 Pivot + Flex Point
 180.0 | ALL Span
 180.0 | ALL Span
 180.0 | ALL Span
 180.0 | ALL Span
 180.0 | ALL Span
 180.0 | ALL Span
 140.0 | 7K-8K Span
 54.8 | 7K-8K Overhang
 110 | SR100 EndGun

Max Span Length : 1292.7 ft
 Pivot+Flex point : 2 ft
 Spans : 1220 ft
 Overhang : 54.8 ft
 Total : 1276.8 ft
 Endgun : 110 ft

Spans : 47.9 ac
 EndGun : 9.3 ac
 Overhang : 4.374 ac

Total irrigated Area : 61.6 ac





INMAN IRRIGATION



Design : Pivot 1

2 Pivot + Flex Point
 160.0 | 7K-8K Span
 160.0 | 7K-8K Span
 160.0 | 7K-8K Span
 180.0 | ALL Span
 160.0 | 7K-8K Span
 180.0 | ALL Span
 184.8 | 7K-8K Span
 184.8 | 7K-8K Span
 36.2 | 7K-8K Overhang
 110 | SR100 EndGun

Pivot+Flex point : 2 ft
 Spans : 1369.6 ft
 Overhang : 36.2 ft
 Total : 1407.8 ft
 Available : 0.8 ft
 Corner : 0 ft
 Endgun : 110 ft

Spans : 142.9 ac
 EndGun : 20.5 ac
 Overhang : 0.095 ac

Total irrigated Area : 163.4 ac

Design : South PartCircle

2 Pivot + Flex Point
 180.0 | ALL Span
 180.0 | ALL Span
 160.0 | 7K-8K Span
 160.0 | 7K-8K Span
 160.0 | 7K-8K Span
 160.0 | 7K-8K Span
 160.0 | 7K-8K Span
 160.0 | 7K-8K Span
 36.2 | 7K-8K Overhang
 110 | SR100 EndGun

36.2 | 7K-8K Overhang
 110 | SR100 EndGun
 Pivot+Flex point : 2 ft
 Spans : 1320 ft
 Overhang : 36.2 ft
 Total : 1358.2 ft
 Endgun : 110 ft

Spans : 86.6 ac
 EndGun : 11.7 ac
 Overhang : 4.797 ac

Total irrigated Area : 103.1 ac

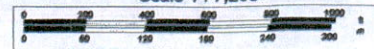
Data use subject to license.

© DeLorme. XMap® 7.

www.delorme.com



Scale 1 : 7,200



1" = 600.0 ft

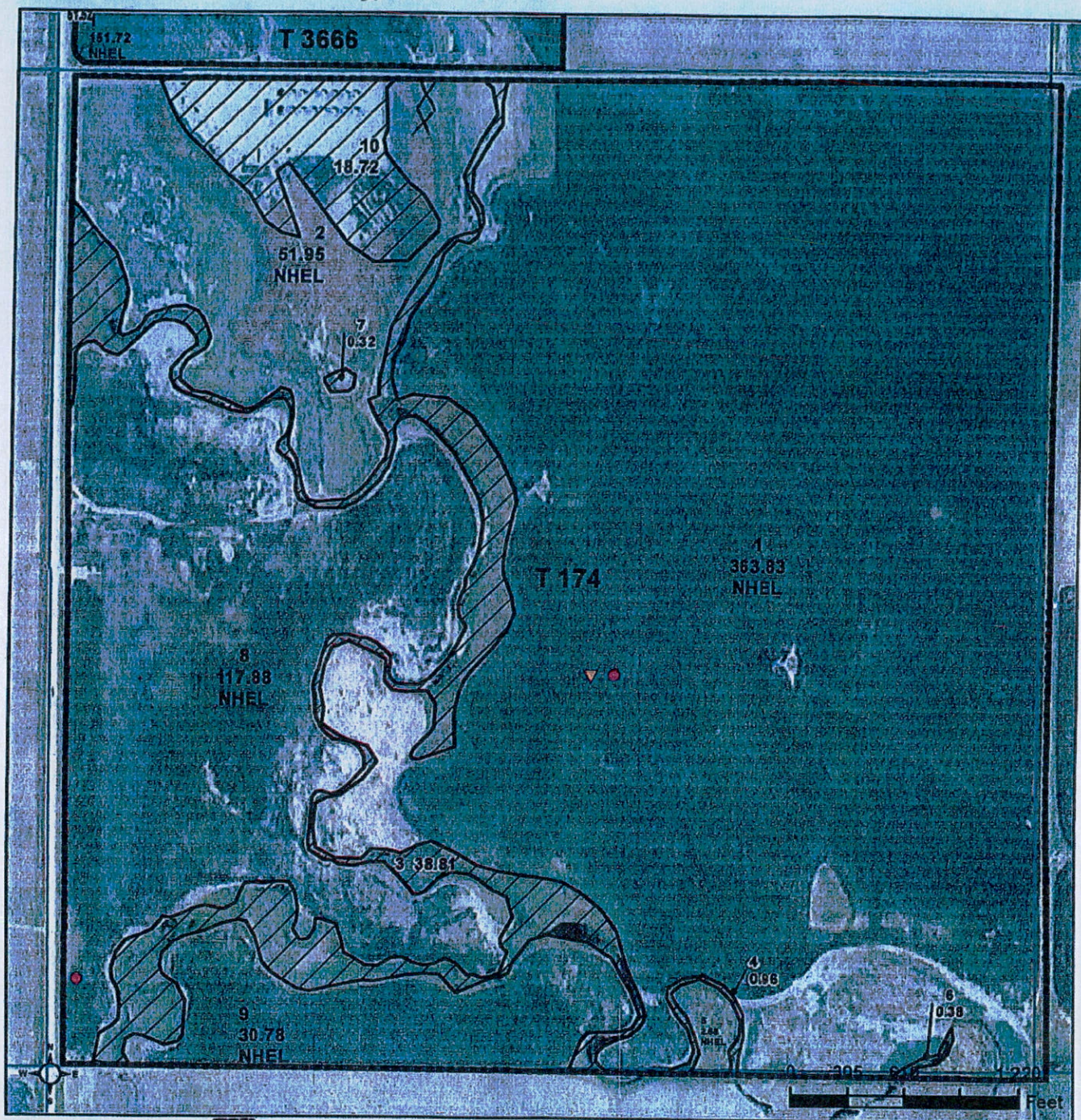
Data Zoom 14-7



United States
Department of
Agriculture

Hand County, South Dakota

EXHIBIT E



Common Land Unit

Non-Cropland	Tract Boundary
Cropland	PLSS

Wetland Determination Identifiers

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

2018 Program Year

Map Created October 10, 2017

Farm 5885

35 -115N -68W

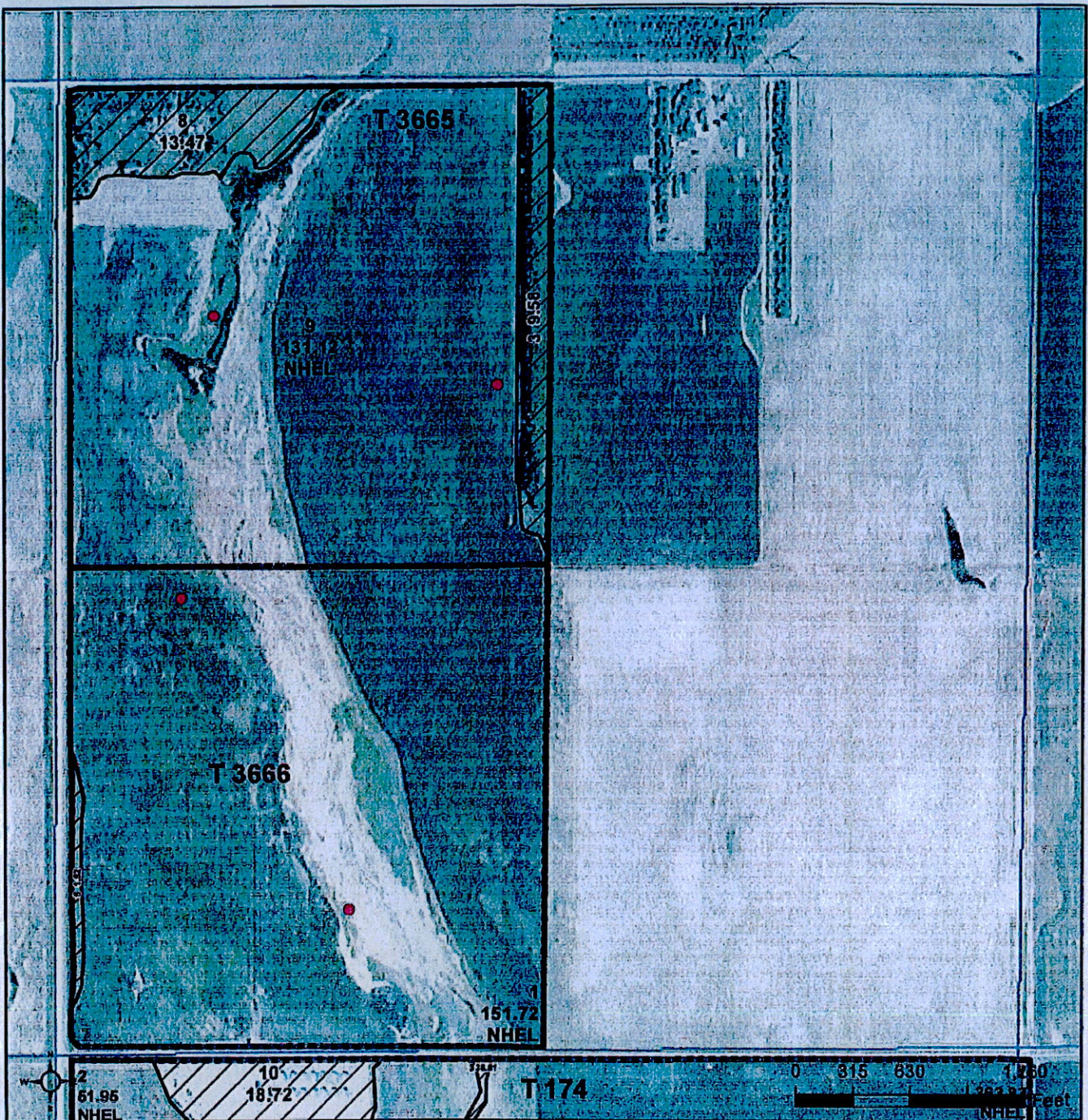
United States Department of Agriculture (USDA) Farm Service Agency (FSA) maps are for FSA Program administration only. This map does not represent a legal survey or reflect actual ownership; rather it depicts the information provided directly from the producer and/or National Agricultural Imagery Program (NAIP) imagery. The producer accepts the data 'as is' and assumes all risks associated with its use. USDA-FSA assumes no responsibility for actual or consequential damage incurred as a result of any user's reliance on this data outside FSA Programs. 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 boundaries and determinations or contact USDA Natural Resources Conservation Service (NRCS).



United States
Department of
Agriculture

Hand County, South Dakota

EXHIBIT D



Common Land Unit

Non-Cropland	Tract Boundary
Cropland	PLSS

Wetland Determination Identifiers

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

United States Department of Agriculture (USDA) Farm Service Agency (FSA) maps are for FSA Program administration only. This map does not represent a legal survey or reflect actual ownership; rather it depicts the information provided directly from the producer and/or National Agricultural Imagery Program (NAIP) Imagery. The producer accepts the data 'as is' and assumes all risks associated with its use. USDA-FSA assumes no responsibility for actual or consequential damage incurred as a result of any user's reliance on this data outside FSA Programs. 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 boundaries and determinations or contact USDA Natural Resources Conservation Service (NRCS).

2018 Program Year

Map Created October 10, 2017

Farm 5885

26 -115N -68W

Water Rights Program - DENR
Conversation File Documentation

NAME OF PERSON OR FILE: Application No. 8390-3, Mike Rogers

ADDRESS: 801 W 1st St. Redfield SD 57469 COUNTY: Hand

DATE: February 26, 2018 TELEPHONE: 605 460-0493

Eric Gronlund and I contacted Mike Rogers regarding his application for two wells located approximately 112 feet below ground surface located in the NE ¼ NW ¼ Section 35-T115-R68W for irrigation of 478.3 acres at an instantaneous diversion rate of 4.44 cfs.

We explained to Mike Rogers based on the depth and location of well logs and lithology logs in Hand county and the submitted well log with the application the wells would be withdrawing from an isolated outwash body and not the Tulare: Hand and that the outwash body would not be able to meet his irrigation needs. The submitted well completion report indicates that the Tulare: Hand is present at that location but is located at 42 to 60 feet below ground surface based on the well log.

Based on this information Mike Rogers decided to amend his current application to be based on the shallower depth indicated in the well log and increase the number of wells from two wells up to four wells.

NAME: Timothy Magstad

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date January 8, 20 19

RECEIVED OF Pheasant County Express 801 W 1st Street Redfield SD 57460

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

Fee for Application for Permit No. <u>8390-3</u> to Appropriate Water, to construct and to put water to beneficial use	1350	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>8390-3</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	1550 00

No. **08933**

By

Jeannie Goodman
Chief Engineer

Gronlund, Eric

From: Gronlund, Eric
Sent: Tuesday, October 30, 2018 9:41 AM
To: 'Tim Bottum'
Cc: Schlaak, Karen
Subject: RE: [EXT] Mike Rogers Irrigation Permit

Tim – Sorry I was out of the office yesterday to attend a funeral and am not good about of enabling the out of office assistant when gone.

Okay – I see the two “X”s as the well locations.

The maps and what acres are to be irrigated still confounds me.

1. Item No. 2 on the application indicates 238.1 acres. The breakdown of acres under Item No. 7 indicates 355 acres. And if you total the irrigated acres coverage from the Exhibit Nos. A, B & C (Inman Irrigation) I get a total of 478.5 acres (163.4+103.1+63.6+61.6+86.6).
2. I presume Exhibit A is intended to represent the irrigation in the E ½ Section 35. Item No. 7 indicates 265 acres in that half section. However, when I total the Inman irrigation coverage from the map, one gets a total of 266.5.
3. Item No. 7 on application indicates the E ½ NW ¼ Section 26 (60 acres) and the E ½ SW ¼ Section 26 (30 acres). Based on what I interpret the map showing on Exhibit B, each center pivot system makes a windshield wipe rotation. I have two questions
 - Should the reference to the E ½ SW ¼ Section 26 actually be the W ½ SW ¼ Section 26?
 - Inman’s breakdown has 63.6 for one pivot and the other 61.6 acres. Why does the breakdown of acres on Item No. 7 of the application have the one pivot coverage at 30 acres?
4. Finally Exhibit C shows a pivot with 86.6 acres of coverage. My best guess from comparing the Exhibit E map is this would be located primarily in the SW ¼ Section 35. Why is this not included on the breakdown of acres on Item No. 7 of the application.

Eric – (direct line 605 773-4062).

From: Tim Bottum [mailto:tbottum@morgantheeler.com]
Sent: Monday, October 29, 2018 4:33 PM
To: Gronlund, Eric
Subject: FW: [EXT] Mike Rogers Irrigation Permit

Eric,

Attached please find the completed Application for Water Permit for Irrigation.

There are 2 “X”s on Exhibit E. Look in the NW ¼. There is a bin site and the 2 “X”s are just to the East of the bin site.

I filled in #7.

Please let me know if you have any other questions/suggestions

From: Tim Bottum
Sent: Monday, October 29, 2018 1:41 PM
To: 'Gronlund, Eric' <Eric.Gronlund@state.sd.us>
Subject: RE: Mike Rogers Irrigation Permit

Eric,

Thank you for your email. I have some additional answers for you. Do you have time for a quick phone conference so I can follow up on some questions?

Timothy G. Bottum
MorganTheeler LLP

PO Box 1025
1718 N Sanborn Blvd.
Mitchell, SD 57301-7025
Phone: (605) 996-5588
Fax: (605) 996-6129
tbottum@morgantheeler.com

Privileged and/or confidential information may be contained in this message. If you are not an intended recipient, or the employee or agent responsible for delivering this message to an intended recipient, be advised that you have received this email in error and that any disclosure, forwarding, copying, printing, or distribution of the contents of this transmission is strictly prohibited. If you have received this email in error, please notify us immediately by calling our firm at 1-800-371-5587. If you or your employer does not consent to Internet email messages of this kind, please advise our firm immediately. The act of sending electronic mail to the sender or the firm of the sender does not by itself create an attorney-client relationship.

From: Gronlund, Eric <Eric.Gronlund@state.sd.us>
Sent: Wednesday, October 03, 2018 4:47 PM
To: Tim Bottum <tbottum@morgantheeler.com>
Subject: RE: Mike Rogers Irrigation Permit

I am still unable to see and "X" marks the spot where the proposed wells are to be located. Maybe I'm just missing it.

I do think an approximate breakdown of acres is necessary. I would tell you the Inman Irrigation maps of coverage come through very dark. While by comparing Exh B & C with the FSA aerials in Exh D & E I am fairly confident in the pivot location and approximate breakdown by quarter-quarter (40 acre parcel) is part of completing the application.

Remember the application/licensing filing fee for 238.1 acres is \$1,150.

Based on the submittal it appears they are looking at developing into the deeper sand deposit. This is not in an area of significant irrigation which will require the engineer assigned to review the application to determine the aquifer and see if we have sufficient information to determine whether unappropriated water is available. The involves a hydrologic budget of the estimated recharge to withdrawal from the water source.

This may take significant review and potential for additional information. What I'm trying to say is this is not a slam dunk.

Eric

From: Tim Bottum [<mailto:tbottum@morgantheeler.com>]
Sent: Wednesday, October 03, 2018 9:44 AM
To: Gronlund, Eric
Subject: [EXT] Mike Rogers Irrigation Permit

Eric,

Round 2. I have added information and more maps. I did not complete item #7 but I was hoping the maps were self-explanatory.

Please let me know your thoughts.

Thank you..

Timothy G. Bottum

MorganTheeler LLP

PO Box 1025

1718 N Sanborn Blvd.

Mitchell, SD 57301-7025

Phone: (605) 996-5588

Fax: (605) 996-6129

tbottum@morgantheeler.com

Privileged and/or confidential information may be contained in this message. If you are not an intended recipient, or the employee or agent responsible for delivering this message to an intended recipient, be advised that you have received this email in error and that any disclosure, forwarding, copying, printing, or distribution of the contents of this transmission is strictly prohibited. If you have received this email in error, please notify us immediately by calling our firm at 1-800-371-5587. If you or your employer does not consent to Internet email messages of this kind, please advise our firm immediately. The act of sending electronic mail to the sender or the firm of the sender does not by itself create an attorney-client relationship.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 8390-3, Mike Rogers**

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. 8390-3, Mike Rogers, 801 West 1st Street, Redfield SD 57469.

The Chief Engineer is recommending APPROVAL of Application No. 8390-3 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 Permit No. 8390-3 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. 8390-3 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.
4. The wells shall be completed into the Tulare:Hand aquifer which is at a depth of approximately 60 feet. Water Permit No. 8390-3 does not authorize the completion of the wells into the deeper basal outwash at a depth greater than 90 feet.

See report on application for additional information.

Jeanne Goodman, Chief Engineer
April 1, 2019

REPORT ON PERMIT APPLICATION NO. 8390-3

Mike Rogers

April 1, 2019

Water Permit Application No. 8390-3 requests the appropriation of 4.44 cubic feet per second (cfs) of water from four wells to be completed into the Hand management unit of the Tulare aquifer with an approximate depth of 60 feet located in the NE $\frac{1}{4}$ NW $\frac{1}{4}$ Section 35 for the irrigation of 478.3 acres located in the W $\frac{1}{2}$ SW $\frac{1}{4}$, NW $\frac{1}{4}$ Section 26 and E $\frac{1}{2}$, SW $\frac{1}{4}$, E $\frac{1}{2}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$ NW $\frac{1}{4}$ Section 35 ; all in T115N-R68W in Hand County approximately 14 miles north of Miller, SD.

Aquifer: Tulare: Hand (T:HA)

Hydrogeology

The Tulare aquifer is the result of glaciation during the Pleistocene Epoch. The aquifer is comprised of glacial till (a heterogeneous mixture of silt, sand, gravel, and boulders in a matrix of clay) and outwash (layers of clayey or silty sand and sandy gravel interbedded with layers of sandy and gravelly silt or clay) (Kuiper, 1984). The Tulare: Hand aquifer is underlain by the Pierre shale. In South Dakota, the areal extent and recoverable water of the Tulare: Hand aquifer was estimated by Hedges, Burch, Iles, Barari, & Schoon (1982) to be 209,300 acres and 940,800 acre-feet respectively. This estimate was based on the best available information at the time. A more recent evaluation of the first occurrence of aquifer materials in Hand County by Rich (2013) provides more detail into the areal extent of the materials that make up the aquifer within the area first mapped by Hedges, Burch, Iles, Barari, & Schoon (1982). Aquifer materials consisting of alluvium, sand, and gravel that are within the area initially mapped by Hedges make up approximately 62,400 acres of Hand County (Figure 1). However, the area mapped by Rich (2013) does not show the extent of the intermediate materials that make up the Tulare: Hand aquifer specifically or the interconnection between glacial deposits and surficial materials. Using lithology data from the SDGS (South Dakota Geological Survey, 2019) and well completion reports that are on file with SD-DENR (Water Rights, 2019b) an approximate intermediate Tulare: Hand aquifer areal extent was determined. The areal extent of the intermediate materials was estimated to be approximately 103,000 acres within the area first mapped by Hedges, Burch, Iles, Barari, & Schoon (1982).

The Tulare: Hand aquifer can be under water table or confined conditions in Hand County. The Tulare: Hand aquifer is expected to be confined in the area of the proposed well location for Application No. 8390-3 (Water Rights, 2019b; Water Rights, 2019c). In the vicinity of this proposed application, the water levels of the Tulare: Hand aquifer are expected to vary between ground surface and 7 feet below grade with a general direction of groundwater movement to the east. Average aquifer thickness is expected to vary between 18 and 38 feet in the area of this application (Koch, 1980; Water Rights, 2019b; Water Rights, 2019c). A submitted test hole completion report indicates clay from 1 to 42 feet, sand from 42 to 60 feet (Tulare: Hand), and clay from 60 to 90 feet below grade. Given the water level variance the expected head pressure would vary between 35 to 42 feet above the top of the aquifer in the area of the proposed application.

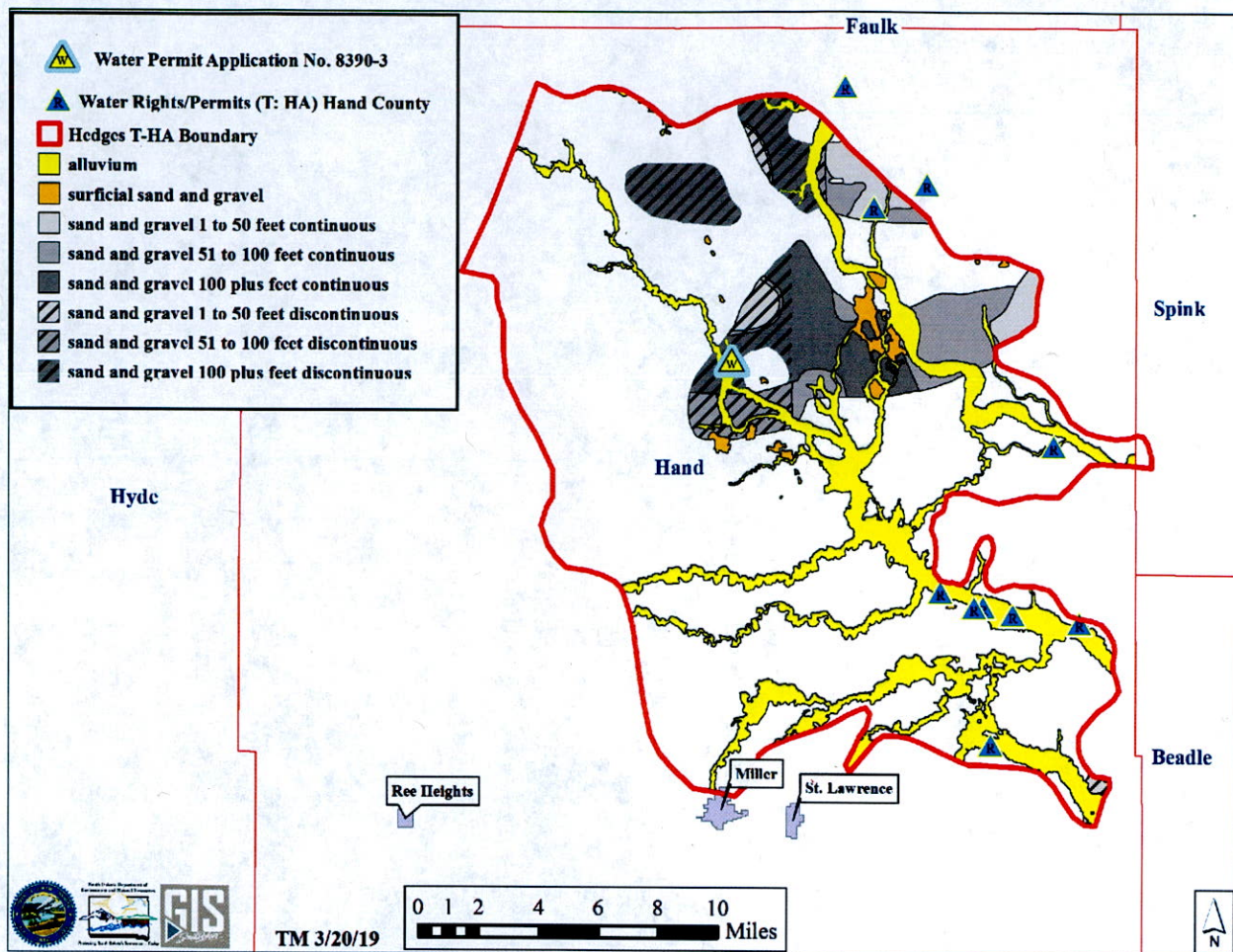


Figure 1. Map showing first occurrence aquifer materials mapped by Rich (2013) within the area defined by Hedges, Burch, Iles, Barari, & Schoon (1982) showing the possible extent of the Tulare: Hand aquifer in Hand County, the proposed diversion point and other water rights/permits currently in the Tulare: Hand aquifer (T:HA) (Water Rights, 2019a).

South Dakota Codified Law 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 the availability of unappropriated water and potential impacts to existing rights within the Tulare: Hand aquifer.

Water Availability

SDCL 46-6-3.1 is considered when evaluating the probability of unappropriated water from an aquifer and states “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. An application may be approved, however, for withdrawals of groundwater from any groundwater formation older than or stratigraphically

lower than the greenhorn formation in excess of the average estimated annual recharge for use by water distribution systems.” The Tulare: Hand aquifer is not older or lower than the Greenhorn Formation, and there is no water distribution system involved. Therefore, recharge and withdrawal rates must be considered.

Hydrologic Budget

Recharge

Recharge to the Hand management unit of the Tulare aquifer occurs through infiltration of precipitation and snowmelt directly into the aquifer (Koch, 1980). Hedges, Allen, & Holly (1985) used observation wells to estimate the average annual recharge rate to the Hand management unit of the Tulare aquifer in unconfined portions of the aquifer to be 3.4 in/yr. The Tulare: Hand aquifer switches between confined and unconfined, making it difficult to delineate the unconfined portions. Because the connection between the surficial deposits and intermediate materials is unknown in this area, that recharge rate would not be suitable. With an approximate areal extent of the intermediate Tulare: Hand aquifer materials known a more suitable recharge estimate can be used. The Western Spink Hitchcock management unit of the Tulare aquifer is comprised of similar materials, is well researched, and is located nearby in the counties of Spink and Beadle with some of the aquifer extending into Hand County. Kuiper (1984) used computer model analysis to determine the recharge occurring to the Western Spink Hitchcock management unit of the Tulare aquifer to be 0.83 in/yr. With an estimated areal extent of 103,000 acres for the intermediate Tulare: Hand aquifer, the estimated average annual recharge would be 7,124 ac-ft/yr.

Discharge

Discharge from the Tulare: Hand aquifer occurs through evapotranspiration in areas where the aquifer is near land surface, discharge to streams, and well withdrawals (Koch, 1980). Currently, there are a total of ten water rights/permits all of which are authorized to appropriate water from the Tulare: Hand aquifer for irrigation purposes as seen in Table 1 (Water Rights, 2019a). Historical irrigation questionnaire data was analyzed for the period 1979-2017 and is summarized in Figure 2. Using the reported pumping data for the years, 1979-2017 results in an estimated average annual withdrawal for irrigation rights/permits of 784.7 ac-ft/yr. Out of the ten water rights/permits for irrigation, there is one water right that has not consistently submitted irrigation questionnaire data (Water Rights, 2019d). Water Permit No. 4102-3 has not submitted an irrigation questionnaire since 1994, and aerial imagery shows no center pivot. Water Permit No. 8375-3 has not been constructed yet, and as a result, the usage does not show in the submitted irrigation questionnaire data in Figure 2. Assuming full appropriation, Water Permit No. 8375-3 will use 264.64 ac-ft/yr.

Table 1: Water rights/permits currently authorized to appropriate water from the Tulare: Hand aquifer (Water Rights, 2019a)

PERMIT NO	NAME	STATUS	USE	CFS	ACRES
2982A-3	DAVID SIMONS	LC	IRR	0.66	135.5
3190-3	DAELYN R SANGER	LC	IRR	1.55	264
3421-3	JUNE BOTTUM	LC	IRR	1.55	136
3558A-3	MAXON CONKEY	LC	IRR	4.78	352
4102-3	ORVILLE LEVTZOW	LC	IRR	1.09	76
4355-3	KRAIG JACKSON	LC	IRR	1.67	133
5240-3	MAX & BETTY PATRIDGE	LC	IRR	3.78	459
5288-3	MAX & BETTY PATRIDGE	LC	IRR	1.67	283.5
6282-3	ED WATKINS	LC	IRR	2.44	188
8375-3	MAXON CONKEY	PE	IRR	1.78	132.32
LC = License, PE = Permit, IRR = Irrigation					

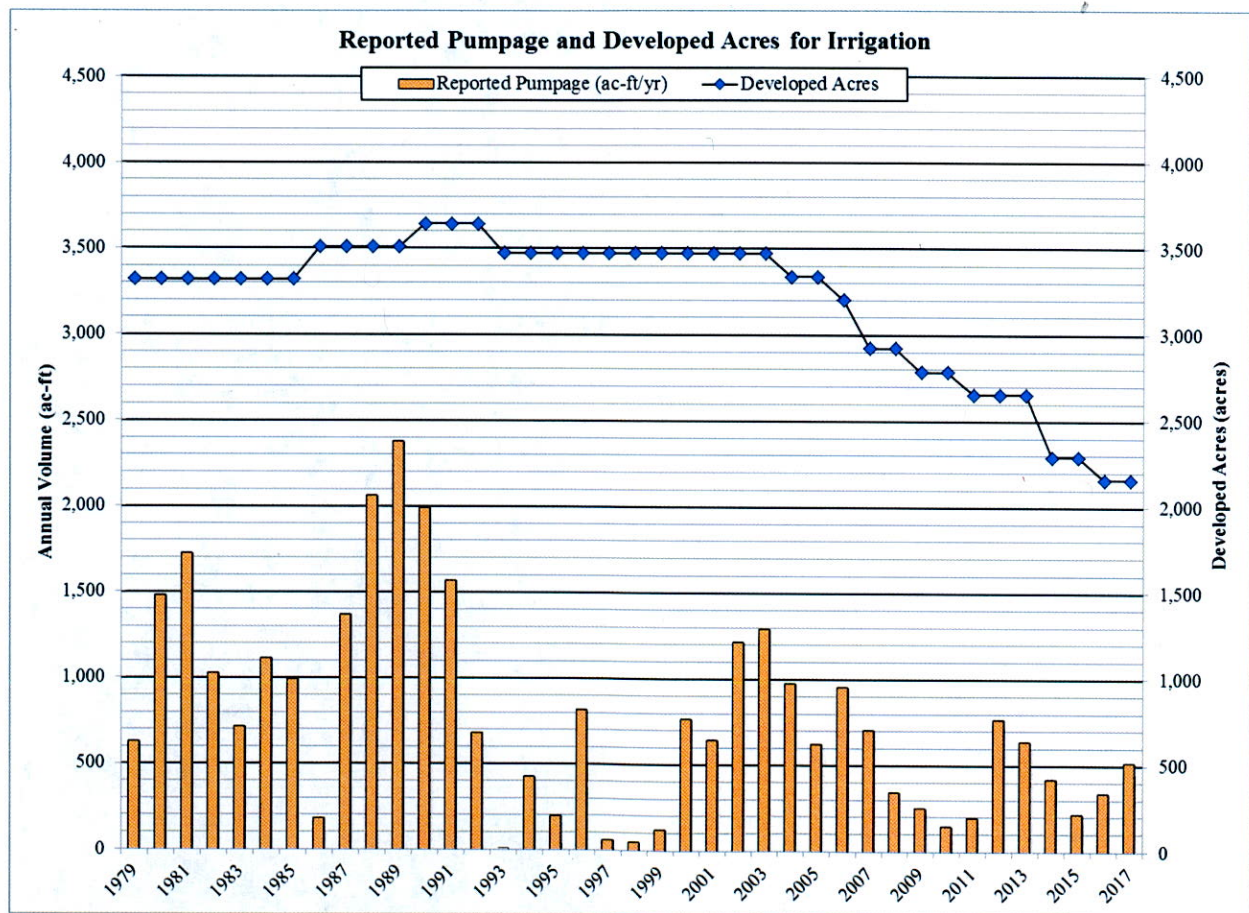


Figure 2: Historical irrigation questionnaire data and developed acres by year for irrigation rights/permits in the Tulare:Hand (T:HA) aquifer (Water Rights, 2019a; Water Rights, 2019d). Developed acres for water rights are calculated by taking the licensed acres and backdating that value to the priority date. Developed acres for permits use the permitted acres starting at the priority date.

There are a number of well completion reports on file with SD DENR- Water Rights Program for domestic wells that appear to be completed into the Tulare: Hand aquifer. However, due to the low population density, and diversion rate their annual withdrawal is not significant to the hydrologic budget for the aquifer (Water Rights, 2019b).

Hydrologic Budget Summary

The average annual recharge rate to the Tulare: Hand aquifer in South Dakota was estimated to be 7,124 ac-ft/yr using the recharge estimate for the Western Spink Hitchcock management unit of the Tulare aquifer which is comprised of similar materials and is located nearby in the counties of Spink and Beadle with some of the aquifer extending into Hand County. The estimated average annual withdrawal from the Tulare: Hand aquifer is estimated to be 1,049.3 ac-ft/yr. If approved this application will use an estimated 956.6 ac-ft/yr assuming full appropriation. Including Permit Application No. 8390-3, the total estimated average annual withdrawal from the Tulare: Hand aquifer is 2,006 ac-ft/yr. Subtracting the estimated average annual withdrawal from the estimated average annual recharge (7,124 ac-ft/yr) for the Tulare: Hand aquifer results in an estimated 5,118 ac-ft/yr of unappropriated water. Therefore, there is reasonable probability unappropriated water is available.

Observation Well Data

In determining the availability of unappropriated water for a permit application, Administrative Rule of South Dakota (ARSD) 74:02:05:07 requires the Water Management Board to rely on the record of observation well measurements, in addition to other data, to determine that the quantity of water withdrawn annually from the aquifer does not exceed the estimated average annual recharge to the aquifer.

The DENR-Water Rights Program monitors 30 observation wells completed into the Tulare: Hand aquifer (Water Rights, 2019c). The location of this proposed application is within a reasonable distance of several observation wells. These observation wells provide data on how the aquifer reacts to regional climatic conditions and local pumping. Three nearby observation wells that can be used for analysis of Application No. 8390-3 are HD-73B (0.33 miles west, surface elevation 1450 feet), HD-73C (3.37 miles southeast, surface elevation 1410 feet) and HD-73K (4.35 miles northwest, surface elevation 1448 feet) as seen in Figure 3.

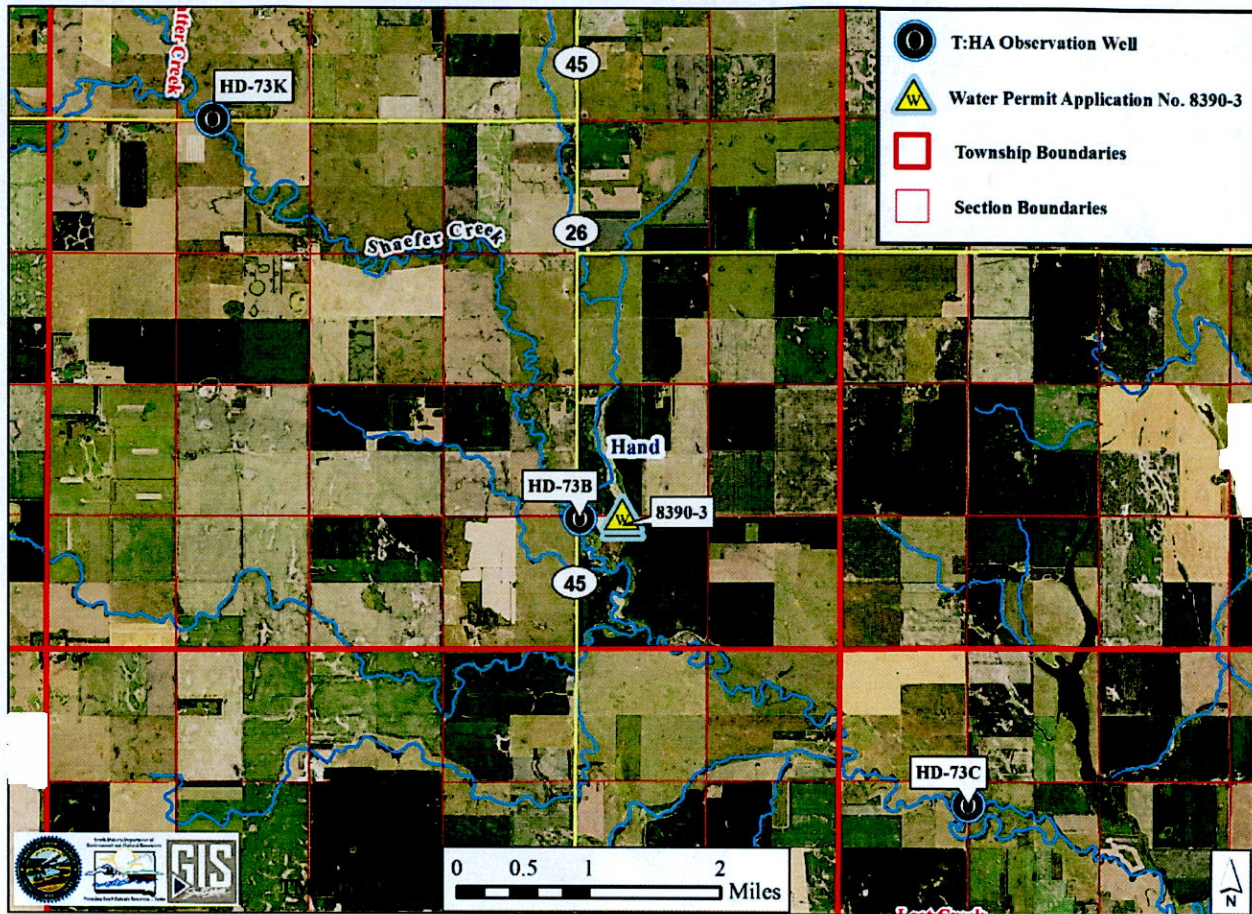


Figure 3: Map showing the location of observation wells used for analysis and the proposed diversion points (Water Rights, 2019a; Water Rights, 2019c)

The hydrographs for HD-73B, HD-73C, and HD-73K are shown in Figure 4. Observation well HD-73B was destroyed May 6, 2002, for impending road construction, and observation well HD-73K was plugged May 2017 for a construction project. Both of these observation wells were functioning until the time they were no longer being measured and as such the recorded data can still be used for analysis. These observation well hydrographs are representative of the Tulare: Hand aquifer and show that the aquifer responds well to hydrologic conditions, recharging during wetter periods and declining during drier periods.

The water levels in the observation wells show that the amount of recharge to and natural discharge from the aquifer greatly exceeds pumping with the aquifer returning to pre-pumping condition between irrigation seasons. Therefore, recharge to, and natural discharge from the Tulare: Hand aquifer can be captured for pumping, and the hydrographs document that unappropriated water is available for this proposed appropriation.

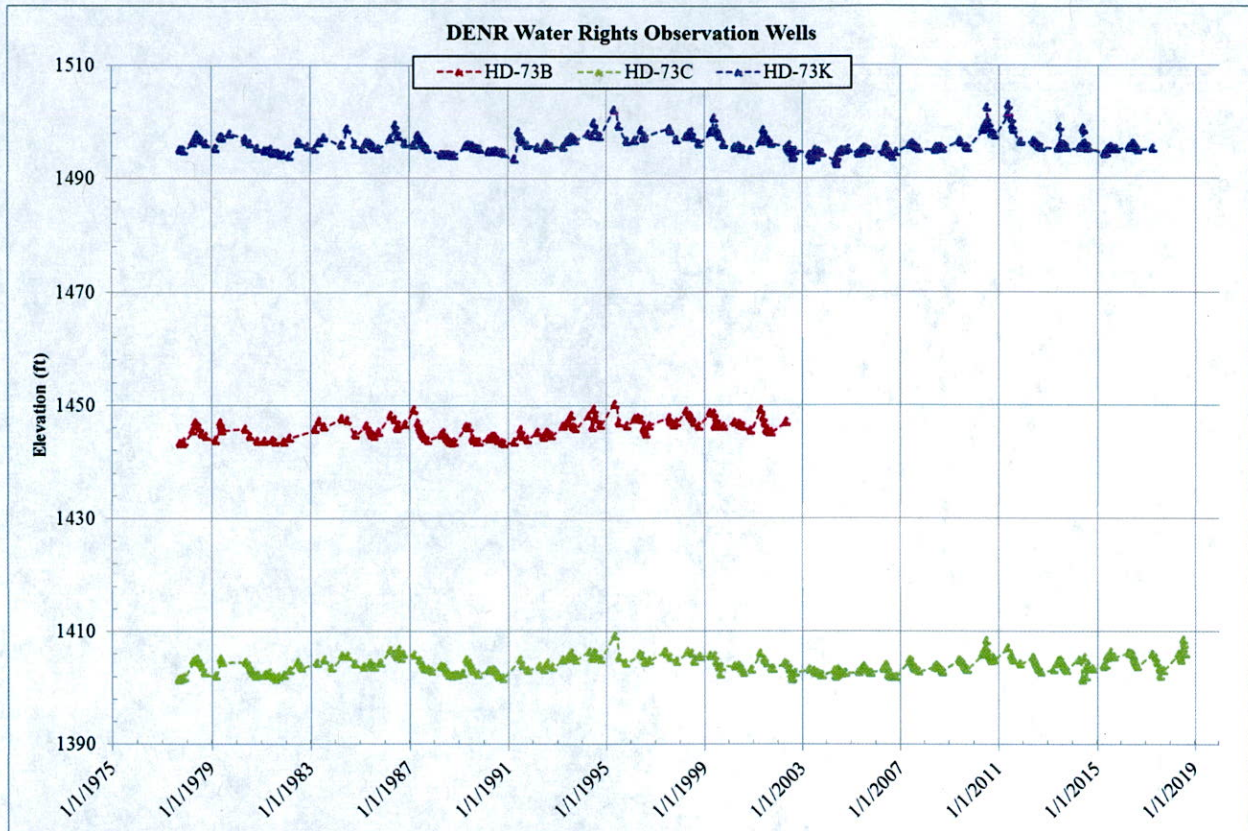


Figure 4: Hydrograph for Observation Wells HD-73B, HD-73C and HD-73K (Water Rights, 2019c).

Existing Water Rights

Currently, there are ten water rights/permits appropriating water from the Tulare: Hand aquifer (Table 1) (Water Rights, 2019a). The nearest water right/permit to the applicant's proposed diversion points is approximately 7 miles to the northeast. There are a number of domestic wells on file with the SD DENR-Water Rights Program within approximately 3 miles of the proposed well site that appear to be completed into the Tulare: Hand aquifer (Water Rights, 2019b).

The Tulare: Hand aquifer is expected to be confined in this area, so drawdown from pumping could extend a significant distance from the proposed well site. Observation well data can provide insight into how the aquifer reacts to local pumping. Over the period of record, the water levels shown in the hydrograph for observation well HD-73B (Surface elevation 1450 feet) (Figure 4) shows water levels varying between ground surface and 7 feet below grade in the area of Permit Application No. 8390-3. The thickness of the Tulare: Hand aquifer in the area of this application is expected to vary between 18 to 38 feet. This would allow sufficient thickness for a pump to be placed 20 feet below the top of the aquifer. Nearby adequate wells should not be adversely impacted by pumping at this proposed diversion rate.

An adequate well as defined in ARSD 74:02:04:20(6):

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

SDCL 46-6-6.1 does not necessarily protect artesian head pressure as a means of delivery, and in the past, the Water Management Board has recognized that to place water to maximum beneficial use, a certain amount of drawdown may occur (Water Rights, 1995). Given the artesian head pressure (35 to 42 feet) at the well site, the lack of well interference complaints in the area, the thickness of the Tulare: Hand aquifer in the area and the nearest water right/permit being approximately 7 miles to the northeast well interference from this proposed diversion is not expected to cause an adverse impact. Therefore, there is a reasonable probability that any interference created by pumping for this proposed appropriation will not be adverse.

Conclusions

1. Water Permit Application No. 8390-3 proposes to irrigate 478.3 acres with a maximum diversion rate of 4.44 cfs from four wells (60 feet deep) completed into the Tulare: Hand aquifer in Hand County, SD.
2. Based on observation well data and the hydrologic budget, there is a reasonable probability that unappropriated water is available from the Tulare: Hand aquifer.
3. There is a reasonable probability that the diversion proposed by this application will not adversely impact adequate wells for existing water rights and domestic use.

Timothy Magstadt

Timothy Magstadt

Natural Resources Engineer I

SD DENR – Water Rights Program

References

- Hedges, L. S., Allen, J., & Holly, D. E. (1985). *Evaluation of Ground-Water Resources Eastern South Dakota and Upper Big Sioux River South Dakota and Iowa Task 7*. Vermillion: Department of Water and Natural Resources.
- 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 Tasks 1-4*. Department of Water and Natural Resources, Office of Geological Survey.
- Koch, N. C. (1980). *Geology and Water Resources of Hand and Hyde Counties, South Dakota Part II: Water Resources; Bulletin 28*. Vermillion: South Dakota Geological Survey.
- Kuiper, L. K. (1984). *Appraisal of the Water Resources of the Eastern Part of the Tulare Aquifer, Beadle, Hand, and Spink Counties, South Dakota; Water-Resources Investigations Report 84-4078*. Huron: U.S. Geological Survey.
- Rich, T. (2013). *First Occurrence of Aquifer Materials in Hand County, South Dakota; Aquifer Materials Map 35 scale 1:100,000*. Department of Environment and Natural Resources.
- South Dakota Geological Survey. (2019). *Lithologic Logs Database*. Akeley-Lawrence Science Center, Vermillion, SD. SD DENR-Geological Survey.
- Water Rights. (1995). *Findings of Fact, Conclusions of Law, and Final Decision in the Matter of Water Permit Application No. 2313-2, Coca-Cola Bottling Company of the Black Hills*. SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.
- Water Rights. (2019a). *Water Right/Permit Files*. Joe Foss Bldg., Pierre, South Dakota.: SD DENR-Water Rights Program.
- Water Rights. (2019b). *Well Completion Report Files*. Joe Foss Bldg., Pierre, South Dakota.: SD DENR-Water Rights Program.
- Water Rights. (2019c). *Observation Well Database*. Joe Foss Bldg., Pierre, South Dakota.: SD DENR-Water Rights Program.
- Water Rights. (2019d). *Irrigation Questionnaire database*. Joe Foss Bldg., Pierre, South Dakota.: SD DENR-Water Rights Program.

Schlaak, Karen

From: Schlaak, Karen
Sent: Monday, April 01, 2019 3:17 PM
To: 'mike@pheasantcountryrepair.net'
Subject: Water Permit Application No. 8390-3
Attachments: 8390-3.pdf

Mike Rogers,

Enclosed is a copy of the report, recommendation and public notice information regarding your Water Permit Application No. 8390-3. As stated in our letter, please contact the 2 papers ASAP to authorize publication and arrange for payment. The papers will not publish until they hear from you.

Karen Schlaak

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



PRINTER'S AFFIDAVIT

STATE OF SOUTH DAKOTA,
COUNTY OF BEADLE: ss

RECEIVED

MAY 06 2019

WATER RIGHTS
PROGRAM

I, MCKENDZIE CASTILLO, being duly sworn on oath say that the PLAINSMAN is a daily paper published at Huron, Beadle County, South Dakota, and that said newspaper has a bona fide circulation of at least 250 copies daily; that said newspaper has been published within said county for fifty-two consecutive weeks immediately prior to this date, that said newspaper is printed in whole or in part, in an office maintained at said place of publication; that I am Legal Advertising Coordinator of said newspaper and know the facts herein state. The annexed notice headed:

MIKE ROGERS- #4196 ROGERS- WATER RIGHTS

was published for one day, in said newspaper, and not in any supplement of the said newspaper, the publication was of the 10TH Day APRIL 2019. That the full amount of the fee charged for publishing THIRY-SIX & 04/100 dollars insures to the benefit of the publisher of said newspaper; that no agreement or understanding for the division thereof has been made with any other person, and that no part thereof has been agreed to be paid to any person whom so ever.

Subscribed and sworn to me before this 2ND Day
of MAY 2019.



Notary Public, South Dakota

My term expires 03/11/2022
Legal #4196

F. P. 04-10-19

**NOTICE OF
APPLICATION
NO. 8390-3 to**

Appropriate Water

Notice is given that Mike Rogers, 801 West 1st St, Redfield SD 57469 has filed an application for a water permit to appropriate 4.44 cubic feet of water per second from up to four wells to be completed into the Tulare:Hand Aquifer (approximately 60 feet deep) located in the NE 1/4 NW 1/4 Section 35 for irrigation of 478.3 acres located in the W 1/2 SW 1/4, NW 1/4 Section 26 and E 1/2, SW 1/4, E 1/2 NW 1/4, SW 1/4 NW 1/4 Section 35; all in T115N-R68W which is approximately 14 miles north of Miller SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8390-3 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 April 22, 2019.

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.
No. 4196 (adv.)
Published once at the
total approximate cost of
\$36.04.

**WATER RIGHTS
PROGRAM**

Janet L. Kittelson, Notary Public
My Commission expires: 6-26-19

Schlaak, Karen

From: Schlaak, Karen
Sent: Monday, April 01, 2019 3:00 PM
To: rcrandall@plainsman.com
Subject: 8390-3, Mike Rogers
Attachments: 8390-3public.short.docx; FORM8.FRM.doc

Attached is a notice to be published on April 10, 2019.

Mike Rogers, 801 West 1st St, Redfield SD 57469 (605 460-0493) has been notified to contact you to authorize publication and arrange for payment.

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

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

Karen Schlaak

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



Schlaak, Karen

From: Schlaak, Karen
Sent: Monday, April 01, 2019 2:59 PM
To: news@themillerpress.com
Subject: 8390-3, Mike Rogers
Attachments: 8390-3public.short.docx; FORM8.FRM.doc

Attached is a notice to be published on April 10, 2019.

Mike Rogers, 801 West 1st St, Redfield SD 57469 (605 460-0493) has been notified to contact you to authorize publication and arrange for payment.

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

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

Karen Schlaak

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





DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

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

April 1, 2019

Mike Rogers
801 West 1st St
Redfield SD 57469

Dear Mr. Rogers:

Water Permit Application No. 8390-3 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 Miller Press printed at Miller SD (Ph # 605 853-3575) and the Plainsman printed at Huron SD (Ph # 605 353-7414). You will need to contact the newspapers and authorize publication of this notice. For your information, a copy of the notice, the recommendation of the Chief Engineer and report on the application are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

Be sure to contact the above newspapers to authorize publication of your Notice and to arrange for payment. Early contact with the papers can eliminate delays. Upon receiving authorization from you, the 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. 8390-3 to Appropriate Water

Notice is given that Mike Rogers, 801 West 1st St, Redfield SD 57469 has filed an application for a water permit to appropriate 4.44 cubic feet of water per second from up to four wells to be completed into the Tulare:Hand Aquifer (approximately 60 feet deep) located in the NE 1/4 NW 1/4 Section 35 for irrigation of 478.3 acres located in the W 1/2 SW 1/4, NW 1/4 Section 26 and E 1/2, SW 1/4, E 1/2 NW 1/4, SW 1/4 NW 1/4 Section 35; all in T115N-R68W which is approximately 14 miles north of Miller SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8390-3 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 April 22, 2019.

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_____.



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

MAY 09 2019

Mike Rogers
801 W 1st St
Redfield SD 57469

Dear Mr. Rogers:

Enclosed is Water Permit No. 8390-3 authorizing construction of the water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

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

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

Sincerely,

A handwritten signature in cursive script that reads "Jeanne Goodman".

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

enclosures

RECEIVED

MAY 22 2019

WATER RIGHTS
PROGRAM

May 22, 2019

Chief Engineer:

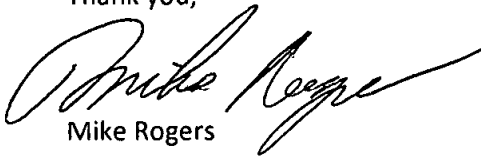
I hold Water Permit No. 8390-3 appropriating 4.44 cfs from up to four well completed into the Tulare:Hand aquifer for irrigation of 478.3 acres. The wells were to be located in the NE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 35-T115N-R68W.

Upon obtaining the permit, test drilling did not produce sufficient quantity of water to supply the irrigation systems. Therefore, I looked at other locations to obtain water from the Tulare:Hand aquifer.

The driller found suitable test holes in the SW $\frac{1}{4}$ SE $\frac{1}{4}$ and SE $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 35-T115N-R68W as well as we conducted a pump test on an existing gravel pit located in the SE $\frac{1}{4}$ NW $\frac{1}{4}$ that we believe incises the Tulare:Hand aquifer.

Pursuant to SDCL 46-5-13.1, I request the Water Rights Program consider changing the point of diversions authorized by Water Permit No. 8390-3. In making the request, we believe this to be the same source, no additional water is requested and we are not requesting an increase in the number of acres authorized for irrigation.

Thank you,



Mike Rogers



May 13, 2019

Mr. Jeremy Rathjen
Stretch's Well Service, Inc.
309 Clarke Street
Hitchcock, SD 57348

RE: Mike Rogers, Hand County, South Dakota: Aquifer Test Proposal; Test Implementation, Data Compilation, Interpretation, and Report Development

Dear Jeremy:

Northwest AqwaTek Solutions (NWATS - Wadena, Minnesota) appreciates the opportunity to provide this proposal for professional services pertaining to the implementation of an aquifer test for Mr. Mike Rogers, Hand County, South Dakota. It is our understanding that Mr. Rogers intends to install a multi-well, multi-pivot irrigation system on his property that is located approximately 16 miles north of Miller, South Dakota. The test will be conducted utilizing some of the existing irrigation/test wells that were recently installed at the property.

A minimum of five observation wells are proposed for monitoring the water level changes that occur during pumping of the production well. Three of the wells are to be screened in the Tulare aquifer (production aquifer) and two are to be completed in an overlying sand lens/aquifer. The Tulare aquifer occurs under artesian (mainly non-flowing) conditions in vicinity of the property. However, flowing artesian conditions occur at one of the wells that was recently drilled adjacent to Shaefer Creek.

A hydrogeologic report of Hand and Hyde counties by the USGS reveals that the stratigraphy of the area represents glaciofluvial deposition. The Tulare aquifer varies in thickness and interconnectivity which is indicative of braided paleochannels. Therefore, the presence of flow boundaries and leakage between aquifers is likely. The layout of the observation well network will address the presence, extent and magnitude of these hydrogeologic conditions.

The purpose of the aquifer test is to:

- Determine the hydrologic characteristics of the Tulare Aquifer in vicinity of the property, and
- Estimate the long-term sustainability of the aquifer for meeting the irrigation related groundwater supply demands of crop production at the property.

The objectives of the test are to:

- 1) Conduct seven days of background monitoring to ascertain natural changes in water levels that occur in the aquifer due to seasonal, anthropogenic, and barometric variations;
- 2) Conduct a seven-day, single-pumping well, constant rate aquifer test utilizing an irrigation well and record the water level/hydrostatic pressure changes that occur in the respective observation wells;
- 3) Conduct several days of water level recovery monitoring of the wells to assess the time of recovery to pre-pumping static water levels;

- 4) Perform a hydrogeologic analysis of the resulting data to acquire the quantitative characteristics of the aquifer and evaluate the resulting effects from aquifer boundary and leakage conditions.
- 5) Develop a report detailing the findings and conclusions of the aquifer test.

Qualifications:

Both principals of NWATS are registered Professional Geologists (P.G.) in the state of Minnesota and have over 37 years of combined experience in aquifer characterization and water resources evaluations. Registration as a P.G. in Minnesota is reciprocal to conducting professional hydrogeologic work in South Dakota. Over the past 4 years, NWATS has conducted 17 aquifer tests for both family-based and corporate-based farming operations. Fourteen of these tests were conducted for the sole purpose of evaluating the sustainability of the aquifer for long-term irrigated crop production. Three of the aquifer tests entailed quantifying the hydrogeologic characteristics of flowing artesian aquifer systems.

Cost Estimate:

The following cost estimate is based on time, materials and equipment using our standard rate schedule for field and office personnel. We assume others will provide the pump, flow meter and discharge piping respective of the irrigation well.

An estimated cost for each task based on the objectives outlined above is provided. If changes to the project scope, field and/or testing conditions occur outside of the projected and anticipated work tasks necessary to complete the work, then a Change Order may be written depending on the magnitude of the changes. However, no out-of-scope work will be conducted without prior verbal and/or written approval.

Task A. – Aquifer Test: Setup and Background

Subtask	Task Description	Cost
1. Equipment and Materials: procurement and rental: 21 days.	Pressure transducers, water level indicators, and well equipment adapter supplies.	\$9,450
2. Planning, Field Installation and Equipment Setup: 3 days	Test design, well selection, project scheduling, in-field setup, and in-field equipment startup.	\$8,865
3. Background water level monitoring - multiple wells: 7 days.	Manual water level measurements, electronic cross-check verification, data download and background response evaluation.	\$11,640
Subtotal Task A:		\$29,955

Task B. – Aquifer Test: Start-up and Recovery:

Subtask	Task Description	Cost
1. Aquifer test startup, data collection, electronic equipment cross-checks: 7 days	Start-up of aquifer test: water level monitoring of pumping well and respective observations wells, data download and aquifer response evaluation.	\$15,960
2. Shutdown and recovery phase: 7 days.	Pump shut-down and collection of water level recovery data.	\$12,725
3. Equipment demobilization: 2 days	Equipment shut-down, data download, equipment dismantling, off-site shipping	\$8,125
Subtotal Task B:		\$36,810

Task C. – Hydrogeologic Analysis and Report Completion:

Subtask	Task Description	Cost
1. Data reduction and compilation	Data download, compilation, tabulation, plotting/graphing, analysis, interpretation and evaluation.	\$11,150
2. Final Report	Report development and finalization: methods, analysis, findings, and conclusions.	\$6,800
Subtotal Task C:		\$17,950

Total Costs: \$84,715

If you have any questions or need additional information, please contact me at (218) 248-0502. The in-field setup services can begin as early as June 3, 2019. Subsequently, all field related tasks can be completed by the week of June 24th. Thank you.

Cordially,



Daniel Whitney, P.G.
Principal Hydrogeologist
Northwest AqwaTek Solutions
Wadena, Minnesota

Stretch's Well Service Inc. Work Order

Employee: Jeremy Kethin

Date: 5/8/19 - 5/9/19

Customer Name Mike Rogers Phone #	Address Red River Terminal Miller S.D.
Mileage Hours @ Job	
Materials Used: Pumped @ 1200 GPM	
5/7/19	
Start 1:45 0	10:30 28 1/4"
2:00 PM 1 1/2"	11:00 30 1/4"
2:15 1 1/2"	11:30 PM 32 1/4"
2:30 1 3/4"	5/8/19 Pond 2 Recovered 2 1/2"
2:45 2 1/4"	11:20 AM 29 3/4"
3:00 3"	1:00 PM 35 3/4"
3:15 3 1/2"	2:00 PM 38 1/4"
3:30 4 1/8"	3:00 PM 40 3/4"
3:45 4 1/2"	4:00 PM 43 1/4"
4:45 7"	
6:30 12 1/2"	5/9/19
7:00 14 1/4"	Pond 2 Recovered 8"
7:30 16"	5/13/19
8:00 19"	Recovered 2"
8:30 20 1/2"	
9:00 22 1/4"	
9:30 23 3/4"	
10:00 26 3/4"	

Account No. : 62264

Water Analysis Report

STRETCH'S WELL SERVICE INC
PO BOX 36
HITCHCOCK SD 57348

Invoice No. : 1288979
Date Received : 05/15/2019
Date Reported : 05/16/2019

Lab Number : 4529

Results For : STRETCH'S WELL SERVICE INC

Location :
Sample ID : GRAVEL PIT

pH	8.3	
Sodium Adsorption Ratio (SAR)	18.7	
Adjusted SAR	21.6	
Total Dissolved Solids (TDS) Est, ppm	1291	
Electrical Conductivity, mmho/cm	2.15	
Cations / Anions, me/L	20.3 / 22.2	
	ppm	lbs / Acre 9 inch
Sodium, Na	419	838
Potassium, K	9	18
Calcium, Ca	22	44
Magnesium, Mg	9	18
Total Hardness, CaCO ₃	93	186
Nitrate, NO ₃ -N	0.1	0.2
Sulfate, SO ₄ -S	163	326
Chloride, Cl	214	428
Carbonate, CO ₃	4.1	8
Bicarbonate, HCO ₃	350	700
Total Alkalinity, CaCO ₃	292	586
Boron, B	2.68	5.36

This water is not suitable for irrigation. Ray

Account No. : 62264

Water Analysis Report

STRETCH'S WELL SERVICE INC
PO BOX 36
HITCHCOCK SD 57348

Invoice No. : 1288979
Date Received : 05/15/2019
Date Reported : 05/16/2019

Lab Number : 4528

Results For : STRETCH'S WELL SERVICE INC

Location :

Sample ID : SOUTHWELL

pH	7.8
Sodium Adsorption Ratio (SAR)	8.0
Adjusted SAR	11.3
Total Dissolved Solids (TDS) Est, ppm	1375
Electrical Conductivity, mmho/cm	2.29
Cations / Anions, me/L	25.0 / 25.5

	ppm	lbs / Acre 9 inch
Sodium, Na	376	752
Potassium, K	14	28
Calcium, Ca	115	230
Magnesium, Mg	31	62
Total Hardness, CaCO ₃	417	834
Nitrate, NO ₃ -N	0.1	< 0.2
Sulfate, SO ₄ -S	151	302
Chloride, Cl	217	434
Carbonate, CO ₃ ⁻	< 1.0	< 2
Bicarbonate, HCO ₃	601	1202
Total Alkalinity, CaCO ₃	495	986
Boron, B	0.73	1.46

"<" - Not Detected / Below Detection Limit

This water is not suitable for irrigation. Ray Ward

Reviewed By : Raymond Ward

5/17/2019

Copy : 1

Page 1 of 2

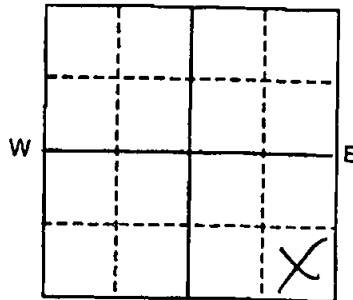
Bus: 308-234-2418
 Fax: 308-234-1940

web site
www.wardlab.com

4007 Cherry Ave., P.O. Box 788
 Kearney, Nebraska 68848-0788

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location SE 1/4 SE 1/4 Sec 35 Twp 115 Rg 68County HandPlease mark well
location with an "X"

Well Completion Date

5-3-19

1 Mile

Distance to nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)?
NONE ft. from _____ (identify source)

PROPOSED USE:

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

METHOD OF DRILLING:

Mud Rotary

CASING DATA:

☐ Steel ☐ Plastic ☐ Other

If other describe _____

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

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
<u>#20</u>	<u>6</u>	Lb/gal	<u>0</u> Ft	<u>68</u> Ft
		Lb/gal	Ft	Ft

Describe grouting procedure

Tremie Pipe

SCREEN:

☐ Perforated pipe ☐ Manufactured

Diameter _____ Inches Length _____ Feet

Material _____

Slot Size _____ Set From _____ Feet to _____ Feet

Other information _____

WAS A PACKER OR SEAL USED?

☐ Yes ☐ No

If so, what material? _____

Describe packer(s) and location _____

DISINFECTION: Was well disinfected upon completion?

☐ Yes, How? _____

☐ No, Why Not? _____
 Lab to which water quality sample sent for analysis _____
Well Owner: Mike Rogers

Business Name: _____

Address: _____

City, State, Zip: _____

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
<u>Top Soil</u>	<u>0</u>	<u>1</u>
<u>yellow Clay</u>	<u>1</u>	<u>9</u>
<u>Sand</u>	<u>9</u>	<u>16</u>
<u>Blue Clay</u>	<u>16</u>	<u>35</u>
<u>Sand</u>	<u>35</u>	<u>45</u>
<u>Clay & streaks</u>	<u>45</u>	<u>62</u>
<u>Course But Shale</u>	<u>62</u>	<u>68</u>

STATIC WATER LEVEL

FEET

If flowing: closed in pressure _____

PSI

GPM flow _____ through _____

Inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other _____

Reduced flow rate _____ GPM

Can well be completely shut in? _____

WELL TEST DATA:

☐ Pumped Describe: _____☐ Bailed☐ Other _____

Pumping Level Below Land Surface

_____ Ft. After _____ Hrs. pumped _____ GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: _____ GPM

REMARKS

Dry Hole GroutedThis well was drilled under license # 722 and this report is true and accurate.Drilling firm: Stretch's Well Service Inc

Signature of License Representative:

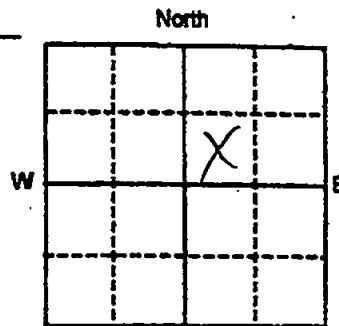
Tom Glatzer

Signature of Well Owner or Equitable Property Holder:

Date: _____

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location SE 1/4 NE 1/4 Sec 35 Twp 115 Rg 68County HANDPlease mark well
location with an "X"

Well Completion Date

5-1-19

1 Mile

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

None ft. from (identify source)

PROPOSED USE:

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

METHOD OF DRILLING:

Mud Rotary

CASING DATA:

If other describe ☐ Steel ☒ Plastic ☐ Other

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
<u>240</u> LB/FT	<u>4</u> IN	<u>0</u> FT	<u>120</u> FT	<u>6 3/4</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>#20</u>	<u>5</u>	Lb/gal	<u>0</u> Ft	<u>90</u> Ft
		Lb/gal	Ft	Ft

Describe grouting procedure

Tremie

SCREEN:

☐ Perforated pipe
 ☒ Manufactured
 Diameter 4 inches Length 25 Feet
Material PVCSlot Size 1/25 Set From 95 Feet to 120 Feet

Other information

WAS A PACKER OR SEAL USED? ☒ Yes ☐ NoIf so, what material? Ewing PlugDescribe packer(s) and location above screen

DISINFECTION: Was well disinfected upon completion?

☒ Yes, How? Chlorine☐ No, Why Not?Lab to which water
quality sample sent for analysisWell Owner: [Redacted]Business Name: [Redacted]Address: [Redacted]City, State, Zip: [Redacted]

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
<u>Top Soil</u>	<u>0</u>	<u>1</u>
<u>Yellow Clay</u>	<u>1</u>	<u>31</u>
<u>Sand</u>	<u>31</u>	<u>35</u>
<u>Blue Clay</u>	<u>35</u>	<u>45</u>
<u>Sand</u>	<u>45</u>	<u>70</u>
<u>Blue Clay + streaks</u>	<u>70</u>	<u>95</u>
<u>Sand</u>	<u>95</u>	<u>121</u>
<u>Clay</u>		

STATIC WATER LEVEL

17

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
☐ Bailed
☐ Other

Pumping Level Below Land Surface

45 Ft. After 4 Hrs. pumped 30 GPM

Ft. After Hrs. pumped GPM

If pump installed, pump rate: GPM

REMARKS

This well was drilled under license # 722 and this report is true and accurate.Drilling firm: Stretch's Well Service Inc.

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

Date:

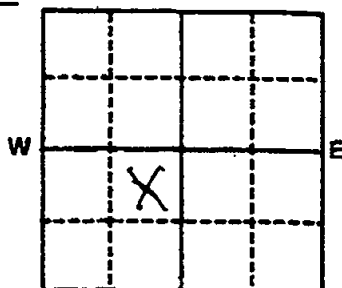
Date:

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location NE 1/4 SW 1/4 Sec 26 Twp 115 Rg 68County Hand

North

Please mark well
location with an "X"

Well Completion Date

4-24-19

1 Mile

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

None ft. from

(Identify source)

PROPOSED USE:

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

METHOD OF DRILLING:

Mud Rotary

CASING DATA:

If other describe

☐ Steel
 ☐ Plastic
 ☐ Other

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

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
<u>#20</u>	<u>4</u>	Lb/gal	<u>0</u> Ft	<u>60</u> Ft
		Lb/gal	Ft	Ft

Describe grouting procedure

Tremie Pipe

SCREEN:

☐ Perforated pipe
 ☐ Manufactured

Diameter _____ Inches Length _____ Feet

Material _____

Slot Size _____ Set From _____ Feet to _____ Feet

Other information _____

WAS A PACKER OR SEAL USED? ☐ Yes ☐ No

If so, what material?

Describe packer(s) and location

DISINFECTION: Was well disinfected upon completion?

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

Well Owner: _____

Business Name: _____

Address: _____

City, State, Zip: _____

WELL LOG:

DEPTH

FORMATION	FROM	TO
<u>Top Soil</u>	<u>0</u>	<u>1</u>
<u>Yellow Clay</u>	<u>1</u>	<u>15</u>
<u>Blue Clay</u>	<u>15</u>	<u>60</u>
<u>Small streaks</u>		

STATIC WATER LEVEL

FEET

If flowing: closed in pressure

PSI

GPM flow _____ through _____ inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other

Reduced flow rate _____ GPM

Can well be completely shut in?

WELL TEST DATA:

☐ Pumped Describe: _____
☐ Bailed
☐ Other

Pumping Level Below Land Surface

_____ Ft. After _____ Hrs. pumped _____ GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate _____ GPM

REMARKS

3-Dry Holes Grouted
Same Depth @ 2' gals

This well was drilled under license # 722 and this report is true and accurate.Drilling firm: Stretch's Well Service Inc.

Signature of License Representative:

Tom Brothies

Signature of Well Owner or Equitable Property Holder:

Mark Key

Date: _____

Date:

Location SE 1/4 NW 1/4 Sec 35 Twp 115 Rg 68

North

A 4x4 grid with a handwritten 'X' in the second row, second column. The grid is labeled 'W' on the left and 'E' on the right.

4-26-19

1 Mile

None ft. from _____ (Identify source)

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

Mud Rotary

If other describe ☐ Other ☐ Plastic ☐ Other

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

Grout Type	No. of Sacks	Grout Weight	From	To
#20	4	Lb/gal	0	60
		Lb/gal		

Describe grouting procedure

Tremmie Pipe

SCREEN: ☐ Perforated pipe ☐ Manufactured

Diameter _____ Inches Length _____ Feet

Material _____

Slot Size Set From Feet to Feet

Other information

If so, what material?

Describe packer(s) and location

☐ Yes, How?

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

City, State, Zip:

WELL LOG:	DEPTH	
	FROM	TO
FORMATION		
Top Soil	0	1
Yellow Clay	1	13
Blue Clay	13	60
Small streaks		

If flowing: closed in pressure _____ PSI
 GPM flow _____ through _____ Inch pipe
 Controlled by ☐ Valve ☐ Reducers ☐ Other _____
 Reduced flow rate _____ GPM

Can well be completely shut in?

☐ Pumped **Describe:**
☐ Bailed
☐ Other

Pumping Level Below Land Surface

_____ Ft. After _____	Hrs. pumped _____	_____ GPM
_____ Ft. After _____	Hrs. pumped _____	_____ GPM
If pump installed, pump rate:		_____ GPM

REMARKS

Dry Hole Grouted

This well was drilled under license # 722 and this report is true and accurate.

Drilling firm: Stretch's Well Service Inc.

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

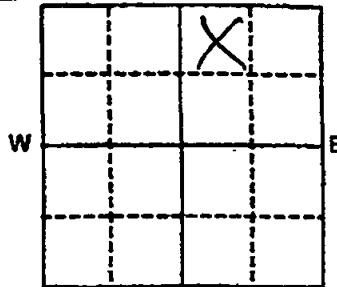
Dater

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location NW 1/4 NE 1/4 Sec 35 Twp 115 Rg 68County Hand

North

Please mark well
location with an "X"

Well Completion Date

4-25-19

1 Mile

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

None ft. from (Identify source)

PROPOSED USE:

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

METHOD OF DRILLING:

Mud Rotary

CASING DATA:

If other describe ☐ Steel ☒ Plastic ☐ Other

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
<u>240</u> LB/FT	<u>4</u> IN	<u>0</u> FT	<u>57</u> FT	<u>6 3/4</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>#20</u>	<u>3</u>	Lb/gal	<u>0</u> FT	<u>35</u> FT
		Lb/gal	FT	FT

Describe grouting procedure

Tremie Pipe

SCREEN:

☐ Perforated pipe ☒ Manufactured
 Diameter 4 Inches Length 20 Feet
Material PVCSlot Size 1025 Set From 37 Feet to 57 Feet

Other Information

WAS A PACKER OR SEAL USED? ☒ Yes ☐ NoIf so, what material? Enviro PlugDescribe packer(s) and location above screen

DISINFECTION: Was well disinfected upon completion?

☒ Yes, How? ChlorineLab to which water
quality sample sent for analysisWell Owner: Mark K. Kuyper

Business Name:

Address:

City, State, Zip: SD

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
<u>Top Soil</u>	<u>0</u>	<u>1</u>
<u>Yellow Clay</u>	<u>1</u>	<u>16</u>
<u>Blue Clay</u>	<u>16</u>	<u>38</u>
<u>Fine Sand</u>	<u>38</u>	<u>53</u>
<u>Blue Clay</u>	<u>53</u>	<u>57</u>

STATIC WATER LEVEL 10 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
☐ Bailed
☐ Other

Pumping Level Below Land Surface

50 Ft. After 1 Hrs. pumped 4 GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: _____ GPM

REMARKS

No Good Could Not
Pull CasingThis well was drilled under license # 722 and this
report is true and accurate.Drilling firm: Stretch's Well Service Inc.

Signature of License Representative:

Tom Probst

Signature of Well Owner or Equitable Property Holder:

Mark Kuyper

Date: _____

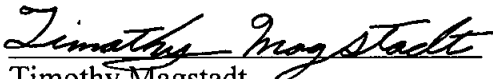
Water Rights Program - DENR
Conversation File Documentation

NAME OF PERSON OR FILE: Application No. 8390-3, Mike Rogers

ADDRESS: 801 W 1st St. Redfield SD 57469 COUNTY: Hand

DATE: June 10, 2019 TELEPHONE: 605 460-0493

I contacted Mike Rogers today regarding his request for a change in location of diversion points. He informed me that he had measured the depth of the gravel pit he intends to withdraw from in the SE ¼ NW ¼ of Section 35-T115N-R68W to be 22 feet deep.


Timothy Magstadt

Natural Resources Engineer I

SD DENR – Water Rights Program

Approval for Location Change of Diversion Points

NAME: Application No. 8390-3, Mike Rogers

ADDRESS: 801 W 1st St. Redfield SD 57469

DATE: June 17, 2019 **COUNTY:** Hand **TELEPHONE:** 605 460-0493

BACKGROUND:

Water Permit No. 8390-3 appropriates 4.44 cubic feet per second (cfs) of water from four wells to be completed into the Hand management unit of the Tulare aquifer with an approximate depth of 60 feet located in the NE ¼ NW ¼ Section 35 for the irrigation of 478.3 acres located in the W ½ SW ¼, NW ¼ Section 26 and E ½, SW ¼, E ½ NW ¼, SW ¼ NW ¼ Section 35; all in T115N-R68W in Hand County approximately 14 miles north of Miller, SD.

After obtaining the permit, test drilling indicated that the wells would not produce a sufficient quantity of water to supply the irrigation systems. After drilling, suitable test holes were found in the SW ¼ SE ¼ and SE ¼ SW ¼ of Section 35-T115N-R68W and an existing gravel pit (22 feet deep) located in the SE ¼ NW ¼ of Section 35-T115N-R68W. The gravel pit diversion point would not be considered an adequate well as defined in ARSD 74:02:04:20(6) and therefore will not be afforded protection under water rights law should fluctuation in the water levels occur.

AUTHORITY:

Pursuant to South Dakota Codified Law 46-5-13.1:

“Change of location of diversion point. The location of a point of diversion may be changed or additional points of diversion may be approved if the new or additional point of diversion is from the same source of water, no additional water is appropriated, and, if the water use is for irrigation, no new land is to be irrigated. The change in location of diversion points may be allowed without application or publication pursuant to § 46-2A-4, if the chief engineer is contacted and makes a finding that the change does not increase the potential for interference with existing diversions.”

Developed water source is the same as permitted and no additional water appropriated.

Based on a nearby observation well log, test hole data and pumping information submitted, the gravel pit located in the SE ¼ NW ¼ is incised into the Tulare: Hand aquifer. Therefore the change in location of the diversion points is from the same source (T:HA), no additional water is being appropriated (4.44 cfs), the water use is for irrigation, and there is no new land to be irrigated (478.3 acres).

No additional water is requested above the permitted amount of 4.44 cfs.

Review of Existing Diversions

The water rights and well completion report databases were reviewed for the nearest water rights/permits and domestic wells on file. The nearest water right/permit to the proposed diversion points is approximately 7 miles to the northeast. There are a number of domestic wells on file with the SD DENR-Water Rights Program within approximately 3 miles of the proposed well site that appear to be completed into the Tulare: Hand aquifer.

Observation Well Data

The DENR-Water Rights Program monitors 30 observation wells completed into the Tulare: Hand aquifer. The location of this proposed application is within a reasonable distance of one of these observation wells. These observation wells provide data on how the aquifer reacts to regional climatic conditions and local pumping. A nearby observation well that can be used for analysis is HD-73B (0.33 miles west). Observation well HD-73B was destroyed May 6, 2002, for impending road construction. The observation well was functioning until the time it was no longer being measured, and as such, the recorded data can still be used for analysis. Readings from observation well HD-73B showed the water levels of the Tulare: Hand aquifer to vary between ground surface and 7 feet below grade. The observation well shows that the aquifer responds well to hydrologic conditions, recharging during wetter periods, and declining during drier periods. The water levels in the observation well show that the amount of recharge to and natural discharge from the aquifer greatly exceeds pumping with the aquifer returning to pre-pumping condition.

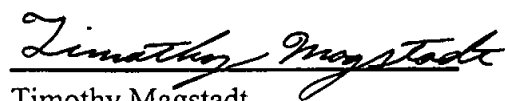
Based on the observation well, the change in location of the diversion points should not increase the potential for adverse impacts to existing diversions.

CONCLUSION

1. The change in location of the diversion points does not propose to appropriate additional water.
2. The water source continues to be the Tulare: Hand aquifer.
3. Unlawful impairment of existing water rights/permits and domestic wells is not expected to occur.

RECOMMENDED ACTION

Based on the above criteria, it is recommended that the change in diversion point locations under Water Permit No. 8390-3 should be approved.



Timothy Magstadt

Natural Resources Engineer I

SD DENR – Water Rights Program

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

The change in diversion point locations does not increase the potential for adverse effects to existing diversions.

A handwritten signature in black ink, appearing to read "Jeanne Goodman", written over a horizontal line.

Jeanne Goodman

Chief Engineer

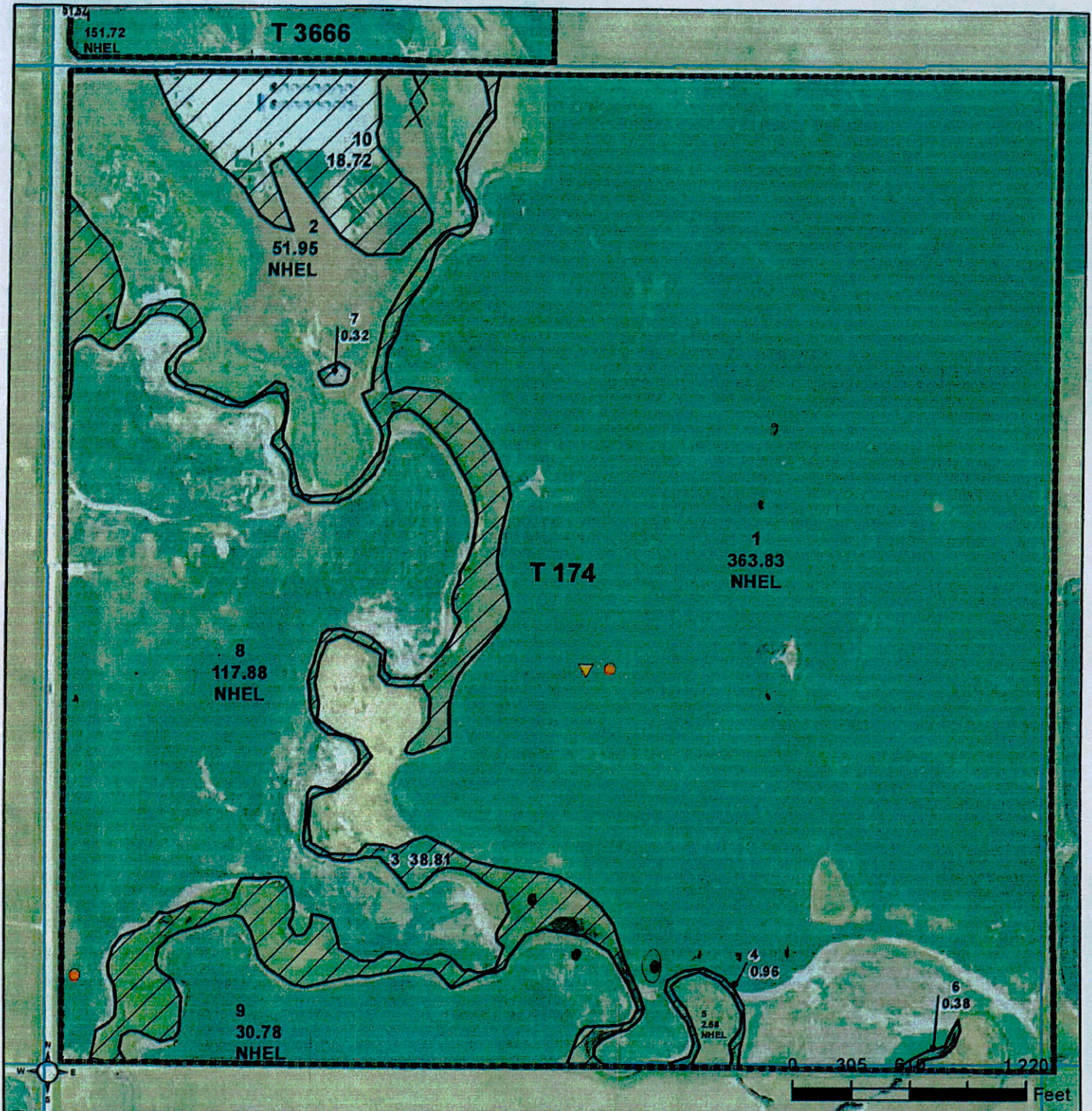
SD DENR – Water Rights Program



United States
Department of
Agriculture

Hand County, South Dakota

EXHIBIT E



Common Land Unit

Non-Cropland
Cropland

Tract Boundary
PLSS

Wetland Determination Identifiers

Restricted Use
Limited Restrictions
Exempt from Conservation
Compliance Provisions

2018 Program Year

Map Created October 10, 2017

Farm 5885

35 -115N -68W

United States Department of Agriculture (USDA) Farm Service Agency (FSA) maps are for FSA Program administration only. This map does not represent a legal survey or reflect actual ownership; rather it depicts the information provided directly from the producer and/or National Agricultural Imagery Program (NAIP) Imagery. The producer accepts the data 'as is' and assumes all risks associated with its use. USDA-FSA assumes no responsibility for actual or consequential damage incurred as a result of any user's reliance on this data outside FSA Programs. 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 boundaries and determinations or contact USDA Natural Resources Conservation Service (NRCS).



8390-3

**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

denr.sd.gov

June 17, 2019

Mike Rogers
801 W 1st St.
Redfield SD 57469

Dear Mike Rogers:

Water Permit No. 8390-3 appropriates 4.44 cubic feet per second (cfs) of water from four wells to be completed into the Hand management unit of the Tulare aquifer with an approximate depth of 60 feet located in the NE $\frac{1}{4}$ NW $\frac{1}{4}$ Section 35 for the irrigation of 478.3 acres located in the W $\frac{1}{2}$ SW $\frac{1}{4}$, NW $\frac{1}{4}$ Section 26 and E $\frac{1}{2}$, SW $\frac{1}{4}$, E $\frac{1}{2}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$ NW $\frac{1}{4}$ Section 35; all in T115N-R68W in Hand County approximately 14 miles north of Miller, SD.

You have filed a request for authorization for a change in location of the diversion points for Water Permit No. 8390-3. The request is due to test drilling not producing a sufficient quantity of water to supply the irrigation systems at the original intended well locations. Upon review of the request and pursuant to SDCL 46-5-13.1, the change in diversion point locations is authorized without application or publication of a notice of hearing pursuant to SDCL 46-2A-4. In granting this request, the new diversion points for Permit No. 8390-3 will be located in SW $\frac{1}{4}$ SE $\frac{1}{4}$ and SE $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 35-T115N-R68W and an existing gravel pit (22 feet deep) located in the SE $\frac{1}{4}$ NW $\frac{1}{4}$. The gravel pit which is incised into the Tulare: Hand aquifer is not considered an adequate well according to ARSD 74:02:04:20(6) and therefore will not be afforded protection under water rights law should fluctuation in the water levels occur.

If any of the wells are abandoned, they must be plugged in accordance with South Dakota well construction standards.

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

Sincerely,

Jeanne Goodman, Chief Engineer
Water Rights Program



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

October 27, 2022

8390-3

Mike Rogers
803 W 5th St
Redfield SD 57469

Dear Mr. Rogers:

Enclosed is a "Notice" dated October 21, 2022 concerning the 2022 irrigation questionnaire.

I have changed our records with your new address. Future correspondence will reflect the change.

If you have any questions, please contact me.

Sincerely,

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

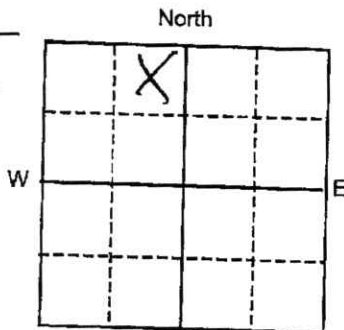
enclosures

8390-3

SD EForm - 1621LD V1

11-02

SOUTH DAKOTA WATER WELL COMPLETION REPORT

Location NE 1/4 NW 1/4 Sec 73 Twp 115 Rg 68County HandPlease mark well
location with an "X"

Well Completion Date

11-26-21

1 Mile

Distance to nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)?
NONE ft. from (Identify source)

PROPOSED USE:

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

METHOD OF DRILLING:

Reverse Circulation

CASING DATA:

☐ Steel ☒ Plastic ☒ Other
 If other describe Stainless Steel

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
<u>16.0</u> LB/FT	<u>16</u> IN	<u>0</u> FT	<u>44</u> FT	<u>26</u> IN
<u>5.5</u> LB/FT	<u>16</u> IN	<u>44</u> FT	<u>74</u> FT	<u>26</u> IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
<u>#20</u>	<u>20</u>	Lb/gal	<u>0</u> Ft	<u>40</u> Ft
		Lb/gal		

Describe grouting procedure

Tremie Pipe

SCREEN:

☐ Perforated pipe ☒ Manufactured
 Diameter 16 Inches Length 30 Feet
 Material Stainless Steel
 Slot Size 1050 Set From 44 Feet to 74 Feet
 Other information

WAS A PACKER OR SEAL USED?

☒ Yes ☐ No
 If so, what material? Expanded Poly
 Describe packer(s) and location above Screen

DISINFECTION: Was well disinfected upon completion?

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

Well Owner:

Mike Rogers

Business Name:

Pheasant Country Express

Address:

801 W 1st St

City, State, Zip:

Redfield SD 57469

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
<u>Top Soil</u>	<u>0</u>	<u>2</u>
<u>Yellow Clay</u>	<u>2</u>	<u>10</u>
<u>Blue Clay</u>	<u>10</u>	<u>41</u>
<u>Coarse Sand</u>	<u>41</u>	<u>74</u>

STATIC WATER LEVEL

7

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
☐ Bailed
☐ Other

Pumping Level Below Land Surface

50 Ft. After4 Hrs. pumped750 GPM

Ft. After

Hrs. pumped

GPM

If pump installed, pump rate:

GPM

REMARKS

RECEIVED

AUG 29 2024

OFFICE OF
WATERThis well was drilled under license # 722 and this report is true and accurate.

Drilling firm:

Stretch's Well Service Inc.

Signature of License Representative:

Tom Gutfen

Signature of Well Owner or Equitable Property Holder:

Date:

Report of Examination of Works and/or Application of Water to Beneficial Use For Permit No. 8390-3

I have this day, August 6, 2024, made a thorough examination of the water use system constructed by Mike Rogers of 801 W 1st St, Redfield SD 57469 holder of Permit No. 8390-3, bearing the priority of January 8, 2019 authorizing the diversion of 4.44 cu. ft. per second of the waters of groundwater Tulare: Hand Aquifer for irrigation use purposes, in Hand County.

Inspection contact & relationship Mike Rogers, owner

A. Works used to divert the water:

Well Information: Well #1 – North Well

- 1) Well Drilling Firm: Stretch's Well Service Inc
- 2) No. of Wells 1
- 3) Depth(s) 74 feet
- 4) Well log is available Y If no, explain in comments Comments: none

Casing:

- 1) Diameter 16 inches
- 2) Length 44 feet
- 3) Type plastic

Screen:

- 1) Type stainless steel
- 2) Length 30 feet
- 3) Static water level 7 feet

Pump:

- 1) Make Grundfos
- 2) Model submersible
- 3) Capacity 800 GPM

Motor:

- 1) Make Grundfos
- 2) Model No. submersible
- 3) Horsepower rating 25 hp

Well Information: Well #2 – South Well

- 5) Well Drilling Firm: Stretch's Well Service Inc
- 6) No. of Wells 1
- 7) Depth(s) 40 feet
- 8) Well log is available Y If no, explain in comments Comments: none

Casing:

- 4) Diameter 16 inches
- 5) Length 20 feet
- 6) Type plastic

Gravel Pit Information:

- 1) Depth 22 feet
- 2) Surface Area 2 ac
- 3) Approx. storage 18 ac-ft

Pump:

- 7) Make unknown
- 8) Model NA
- 9) Capacity 1800 GPM

Motor:

- 7) Make unknown
- 8) Model No. NA
- 9) Horsepower rating 100 hp

Screen:

- 4) Type stainless steel
- 5) Length 20 feet
- 6) Static water level 11 feet

Pump:

- 4) Make Grundfos
- 5) Model submersible
- 6) Capacity 400 GPM

Motor:

- 4) Make Grundfos
- 5) Model No. submersible
- 6) Horsepower rating 10 hp

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

- 1) Type PVC
- 2) Size 8 inches
- 3) Length 5680 feet

Comments: Wells pump to the gravel pit & water is pumped from the gravel pit to the pivots.

C. Works used to apply water to beneficial use:

Center pivot: North

- 1) Make T-L
- 2) Overall length 1450 feet
- 3) Number of towers 8
- 4) End gun Y
- 5) Capacity 740 GPM

Center pivot: South

- 6) Make T-L
- 7) Overall length 900 feet
- 8) Number of towers 8
- 9) End gun Y/N
- 10) Capacity 900 GPM

Chemigation Equipment:

- 1) Does chemigate Y
- 2) Main line check valve Y
- 3) Inspection port/air relief Y
- 4) Low pressure drain Y
- 5) Discharge is 20' from source Y
- 6) Interlock type electrical
- 7) Injection pump type piston
- 8) Injection check valve Y
- 9) Injection line check valve or positive displacement pump Y

Comments: none

D. Compliance with Permit Requirements:

- 1) Permit qualifications being abided by Y
If no, describe: none
- 2) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period Y
List any extended period of nonuse: none
- 3) Exceptions to compliance are: none

E. Condition and Location:

1. The system is in good condition with the point(s) of diversion located as follows: from the NW corner of Sec 35 T115N-R68W: Well #1- 2040 ft E and 700 ft S, latitude 44.73218 and longitude -98.98251 (NE 1/4 NW 1/4); Well #2- 1805 ft E and 1040 ft S, latitude 44.73324 and longitude of -98.98104 (NE 1/4 NW 1/4); Gravel Pit- 1440 ft E and 1425 ft S, latitude 44.73218 and longitude -98.98251 (SE 1/4 NW 1/4).
2. The works are capable of diverting and conveying to the place of use 4.01 cu. ft. per second of water which is to be used for irrigation use. Water has been put to beneficial use to the maximum extent as follows: All land is located in Sec 35 T115N-R68W

NW1/4 NE 1/4 - 36 ac NE 1/4 NE 1/4 - 32 ac SE1/4 NE 1/4 - 38 ac SW1/4 NE 1/4 - 40 ac
NW1/4 SE 1/4 - 40 ac NE 1/4 SE 1/4 - 39 ac SE1/4 SE 1/4 - 12 ac SW1/4 SE 1/4 - 16 ac
NE 1/4 SW 1/4 - 7 ac SE1/4 SW 1/4 - 0.5 ac NE 1/4 NW 1/4 - 4 ac SE1/4 NW 1/4 - 6 ac
comprising a total of 270.5 acres of land and the license should be issued for 3.86 cfs.
3. All structures, wells and lands on map Y
4. If no, describe: none

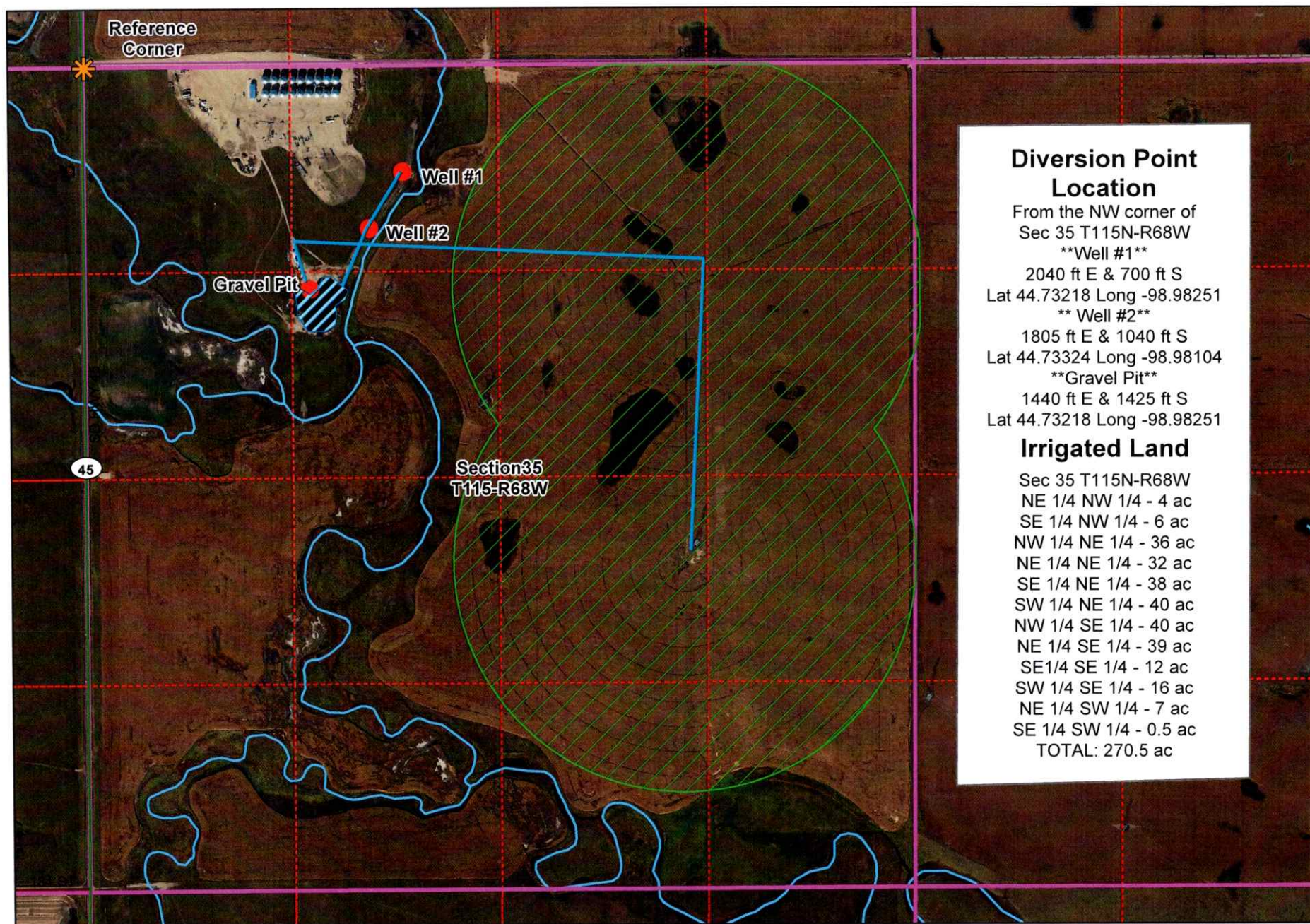
F. Comments or other permit(s) associated with the project:

A request to add an additional diversion point was made and granted in 2019 to add diversion from the gravel pit.



Mark D Rath
Water Right Inspector
DANR, Water Rights Program

Date report completed: 08/29/2024



Diversion Point Location

From the NW corner of
Sec 35 T115N-R68W

****Well #1****

2040 ft E & 700 ft S
Lat 44.73218 Long -98.98251

****Well #2****

1805 ft E & 1040 ft S
Lat 44.73324 Long -98.98104

****Gravel Pit****

1440 ft E & 1425 ft S
Lat 44.73218 Long -98.98251

Irrigated Land

Sec 35 T115N-R68W
NE 1/4 NW 1/4 - 4 ac
SE 1/4 NW 1/4 - 6 ac
NW 1/4 NE 1/4 - 36 ac
NE 1/4 NE 1/4 - 32 ac
SE 1/4 NE 1/4 - 38 ac
SW 1/4 NE 1/4 - 40 ac
NW 1/4 SE 1/4 - 40 ac
NE 1/4 SE 1/4 - 39 ac
SE 1/4 SE 1/4 - 12 ac
SW 1/4 SE 1/4 - 16 ac
NE 1/4 SW 1/4 - 7 ac
SE 1/4 SW 1/4 - 0.5 ac
TOTAL: 270.5 ac



0.5 0.25 0 0.5 Miles



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

SEP 26 2024

8390-3

Mike Rogers
803 W 5th St
Redfield SD 57469

Dear Mr. Rogers:

Enclosed is Water License No. 8390-3. 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.

So 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

NOTE: The investigation found your irrigation system is capable of diverting 4.01 cubic feet of water per second (cfs) which is equivalent to approximately 1,800 gallons per minute. The statutory limit for 270.5 acres is 3.86 cfs (approximately 1,735 gpm). Diversion of water under this water license is limited to 3.86 cfs.

enclosures

**STATE OF SOUTH DAKOTA
WATER LICENSE NO. 8390-3**

(1) Mike Rogers, 803 W 5th St, Redfield SD 57469, made Application No. 8390-3, January 8, 2019, for a water permit to divert 4.44 cubic feet of water per second from groundwater, (Tulare: Hand Aquifer), Hand County, South Dakota for irrigation purposes. Permit No. 8390-3, with a priority date of January 8, 2019, was approved April 22, 2019, and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before April 22, 2024, and for the application to beneficial use of water on or before April 22, 2029.

In June 2019, the permit holder requested use of groundwater accumulating in a nearby gravel pit as a new diversion point location. The determination was made that the source was the same (Tulare: Hand Aquifer), and the request was approved with no increase to the number of irrigated acres or rate of diversion.

(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 3.86 cubic feet of water per second for beneficial use. The locations of the diversion points are:

- Well #1: 2,040 ft E & 700 ft S of the NW corner Section 35, T115N, R68W (NE $\frac{1}{4}$ NW $\frac{1}{4}$) (Latitude 44.73218 & Longitude -98.98251)
- Well #2: 1,805 ft E & 1,040 ft S of the NW corner Section 35, T115N, R68W (NE $\frac{1}{4}$ NW $\frac{1}{4}$) (Latitude 44.73324 & Longitude -98.98104)
- Gravel Pit: 1,440 ft E & 1,425 ft S of the NW corner Section 35, T115N, R68W (SE $\frac{1}{4}$ NW $\frac{1}{4}$) (Latitude 44.73218 & Longitude -98.98251)

(3) The amount of appropriation may not exceed 2 acre-feet annually for each acre of land to which water is actually and beneficially applied for irrigation. The water is to be used during the following described annual period: May 1 – September 30.

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

Section 35, T115N, R68W			
NE $\frac{1}{4}$ NE $\frac{1}{4}$	32 acres	NE $\frac{1}{4}$ SW $\frac{1}{4}$	7 acres
NW $\frac{1}{4}$ NE $\frac{1}{4}$	36 acres	SE $\frac{1}{4}$ SW $\frac{1}{4}$	0.5 acres
SW $\frac{1}{4}$ NE $\frac{1}{4}$	40 acres	NE $\frac{1}{4}$ SE $\frac{1}{4}$	39 acres
SE $\frac{1}{4}$ NE $\frac{1}{4}$	38 acres	NW $\frac{1}{4}$ SE $\frac{1}{4}$	40 acres
NE $\frac{1}{4}$ NW $\frac{1}{4}$	4 acres	SW $\frac{1}{4}$ SE $\frac{1}{4}$	16 acres
SE $\frac{1}{4}$ NW $\frac{1}{4}$	6 acres	SE $\frac{1}{4}$ SE $\frac{1}{4}$	12 acres
TOTAL: 270.5 acres			

(5) Pursuant to South Dakota Water Law 46-5-30.1 Mike Rogers, the holder and/or owner of Water Right No. 8390-3 is issued a license to appropriate water, the right to use 3.86 cubic feet of water per second from groundwater (Tulare: Hand Aquifer), with a priority date of January 8, 2019, from the locations specified in (2) of this license for irrigation purposes.

continued

This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Right No. 8390-3 and subject to the following qualifications:

1. The wells approved under Permit No. 8390-3 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. 8390-3 shall be constructed by a licensed well driller and construction of the wells and installation of the pumps shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the wells casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28. *(The wells were drilled in 2021 by Stretch's Well Service Inc. Copies of the well completion reports are on file with the Water Rights Program.)*
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.
4. The wells shall be completed into the Tulare: Hands Aquifer which is at a depth of approximately 60 feet. Water Permit No. 8390-3 does not authorize the completion of the wells into a deeper basal outwash at a depth greater than 90 feet.


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

SEP 26 2024

date

