

WATER PERMIT NO. 7488-3

Name of Applicant: **Bottolfson Bros**

Address: **1834 Constance Dr, Vermillion SD 57069** Phone: **605 624 8249**

Amount of Water Claimed: **1.56 cfs** Total Acres: **210 acre**

Source of Water Supply: **groundwater (one well)**

Water to be used for: **irrigation** County: **Clay**

Type of Waste Disposal System:

Location: **8 miles west of Vermillion**

PRIORITY Date Received: **10-29-12** Application/License Fee: **\$ 1150**

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

Remarks:

Diversion Point: **approximate center of NE 1/4 Sec**
17-T92N-R53W

Land to be Irrigated: **NE 1/4 Sec 17 and W 1/2 NE**
1/4 Sec 16; all in T92N-R53W

Depth of Well: **100 feet deep**

Well Driller:

Remarks:

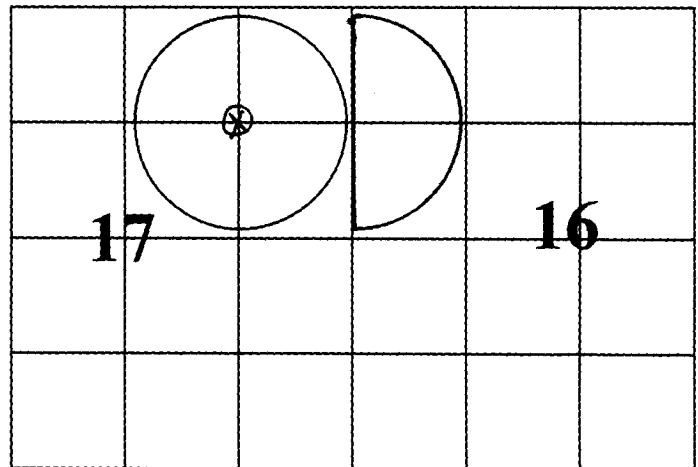
Type of Map: **aerial**

Prepared by:

Reviewed and the Number Assigned on: **10-29-12**

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____



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

Mail to: PMB 2020 DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>7488-3</u> (office use only)
	Hydrologic Unit <u>10170101</u>
	Basin <u>Missouri River</u>
	Newspaper <u>Plain Talk - Vermillion</u>
<u>Press & Dakota Wakarusa</u>	

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OCT 29 2012
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Application For Permit To Appropriate Water For Irrigation

Type of Application: ☐ New ☐ Vested Right ☐ Amendment/Correction to Permit No. _____

(Use predates Mar 2, 1955)

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

1. Name to Appear on Irrigation Permit Bottofson Brothers

(check one) ☐ Owner ☐ Tenant/lessee ☐ Owner's Legal Agent

1834 Constance Dr

(name and complete address if different than above name)

Mailing Address _____ Vermillion SD 57069
(Address) (City) (State) (Zip Code)

Home Phone 605-624-8249 Cell 605-202-0966 Email _____

2. Amount of water claimed 1.56 *CFS or 700 **GPM ***AF Total Acreage 310
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)

3. Source of water supply ground approximate Center NE 1/4

4. Location of point of diversion W 1/2 of NW 1/4 Sect 16 T-92N R-53W & E 1/2 of NE 1/4 Sect 17 T-92N R-53W
(example - 3 wells in SW 1/4 NE 1/4 section 12-T104N-R53W)

County Clay

5. County or counties where water will be used Clay

6. Annual period during which water is to be used May 1 October 31

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

Land Description	Acres	Land Description	Acres
<u>NW 1/4 NE 1/4 Sect 17 T92N R53W</u>	<u>35</u>	<u>NW 1/4 of NW 1/4 sect 16 - T92N - R53W</u>	<u>35</u>
<u>SW 1/4 NE 1/4 Sect 17 T92N R53W</u>	<u>35</u>	<u>SW 1/4 of NW 1/4 sect 16 - T92N - R53W</u>	<u>35</u>
<u>NE 1/4 NE 1/4 Sect 17 T92N R53W</u>	<u>35</u>		
<u>SE 1/4 NE 1/4 Sect 17 T92N R53W</u>	<u>35</u>		

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

irrigating ag land

additional owners - see attached sheet

I, Bottofson Bros by Jay Bottof, the applicant, certify that I have read this application, have examined the attached map, and that the matters stated are true.

**SOUTH DAKOTA
WATER PERMIT NO. 7488-3**

Date of first receipt of application October 29, 2012.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 7488-3 to Bottolfson Brothers, c/o Jay Bottolfson, 1834 Constance Dr., Vermillion SD 57069 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. 7488-3 appropriates 1.56 cubic feet of water per second from one well to be completed into the Missouri:Elk Point Aquifer (100 feet deep) located in the approximate center of the NE 1/4 Section 17 to irrigate 210 acres located in the NE 1/4 Section 17 and W 1/2 NW 1/4 Section 16; all in T92N-R53W.
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 – October 31.
3. The date from which applicant may claim right is October 29, 2012.
4. The date of approval of Permit No. 7488-3 is January 28, 2013.
5. One-fifth of the construction is to be completed on or before July 28, 2015.
6. All construction is to be completed on or before January 28, 2018.
7. Water is to be put to beneficial use on or before January 28, 2022.
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 well approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The well authorized by Permit No. 7488-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

WATER MANAGEMENT BOARD

By: Garland Erbele

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

FEB 19 2013

date



Supplemental Information

(type or print)

1. Well Information

(check one or both as applicable) ☒ Drilling new well(s) ☐ Using existing well(s)

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

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

c) Well Depth 100 Depth to Top of Water Bearing Material 51 Depth to Water from Surface 18

d) Distance to nearest existing domestic well:

On applicant's property On property owned by others 73000 ft

2. Wastewater Disposal System Information

a) Type of System (i.e. septic tank, drain field)

b) System Capacity (gallons) Year Constructed

c) Connected to the City of Sanitary System

3. Dugout Information

a) Surface Dimensions Depth

b) Depth to water (ground surface to water level)

4. Water Storage Dams

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

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

b) Freeboard

c) Crest Width

Crest Length

d) Height

e) Primary Outlet Capacity

If pipe, diameter

f) Secondary Spillway Capacity

Spillway Width

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

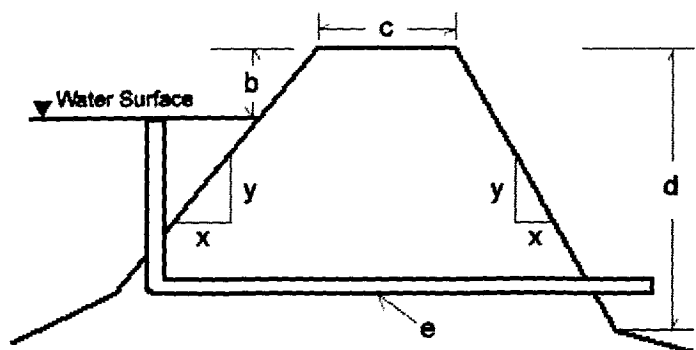
Upstream

Downstream

h) Surface Area of Impoundment

i) Storage Acre Feet

j) Drainage Area Above Dam Acres



Dubna Eilus, Clay Co PT

8/31/12



USDA United States Department of Agriculture
Farm Service Agency

PLSS: 17_92_53
Farm: 4068

Clay County, SD

1:8,322

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

April 14, 2010

Wetland Determination Identifiers

- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance

Common Land Units

2008 Ortho-Photography - Not to Scale



USDA United States Department of Agriculture
Farm Service Agency

PLSS: 16_92_53
Farm: 4068

Clay County, SD

1:8,309

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April 14, 2010

Wetland Determination Identifiers

- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance

Common Land Units

2008 Ortho-Photography - Not to Scale

JOINS MECKLING TWP

Overview of project

LAND OWNER AND RURAL RESIDENT MAPS

R 53 & 52 W



JOINS SPIRIT MOUND TWP

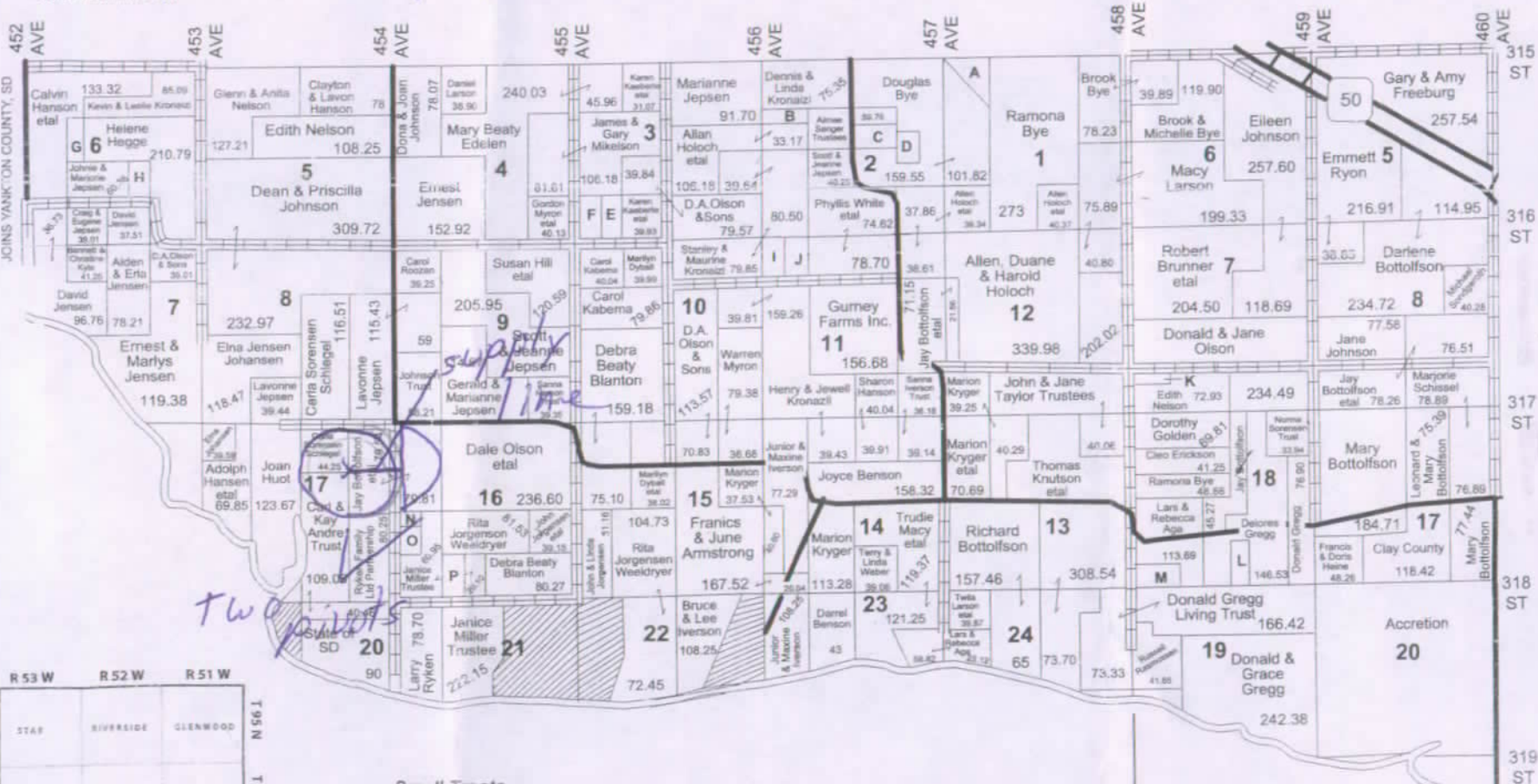
JOINS VERMILLION TWP

LAND OWNER

NORWAY TWP

319
ST

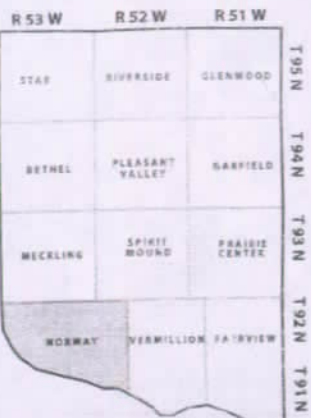
JOINS CEDAR COUNTY, NE



Small Tracts

Section 1	A Douglas & Ramona Bye - 12.87
Section 2	B Marianne Jepsen - 7.56
	C Merlin Kaerberle - 19.16
	D Roberta Iverson - 30.99
Section 3	E Glenn & Anita Nelson - 19.10
	F Allan Holoch et al - 20.95
Section 6W	G Calvin & Mary Hanson - 7.55
	H Alden & Erla Jensen - 17.22

Section 11 I Stanley Kronaizl - 19.90
J Scott & Jeannie Jepsen - 19.57
Section 7E K Stanley & Miriam Larson - 7
Section 18 L Curtis Gregg - 19.89
M Delores Gregg - 19.71
Section 16 N Jon Moser & Allyson Huntley - 5.03
O Darwin Statler - 14.65
P Thomas & Chris Davies - 20.13



additional owners:

NW $\frac{1}{4}$ NE $\frac{1}{4}$ of sect 17 - T92N-R53W

owned by

Carla Sorensen Schegel

c/o Kirk Sorensen

46113 Timber Rd

Vermillion SD 57069

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SW $\frac{1}{4}$ NE $\frac{1}{4}$ sect 17 - T92N - ~~R53~~ R53W

owned by

Kay Andre, Odell Myron Trust

c/o Scott Jepsen

31675 455th Ave

Meckling SD 57069

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WATER RIGHTS *Perm. # 2826-3*
PROGRAM

NOTICE OF WELL CONSTRUCTION

Clay County

#4

(1) WELL CONSTRUCTION

Location of well *W 1/4 Sec 4, 1/4 SE 1/4 Section 16* Township *T92N* Range *53*
 Well owner *Joe & Helen & Arlo Paulsen Vermillion*
 (Name) (Address)
 Date well drilling completed *7-28-76* Purpose of well *irrigation*
 (domestic, irrigation, municipal, industrial, other)

WELL LOG

Layers, top to top in feet	Description of layer	Depth to top of water producing aquifer _____ ft.
0'-14'	top soil and sand	Depth to static water level <i>13</i> ft.
14'-23'	fine brown sand	Name of producing aquifer (if known) _____
23'-36'	fine to med. sand	Total depth of drill hole <i>110</i> ft.
36'-45'	streaks of clay med. to coarse sand	Depth to bottom of casing <i>109</i> ft.
45'-56'	some clay coarse sand gravel	Casing information: In the space below show kind, size, weight, lengths per diameter, etc., for production casing and surface casing, if used.
56'-59'	coarse sand & gravel	
59'-62'	coarse to med. sand	<i>91' of transite casing</i>
62'-66'	coarse sand & clay	
66'-71'	fine black sand	
71'-75'	gray clay rock & fine sand	Screen information: In the space below show length of screen below bottom of casing, diameter and kind of screen or casing perforations.
75'-91'	coarse sand, gravel, rock, some clay	
91'-95'	fine sand, gravel, rock	<i>18' of transite slotted screen</i>
95'-100'	coarse sand & gravel	
100'-103'	fine river sand	
103'-109'	coarse gravel - sand & rock	If a flowing well, flow of completed well _____ G.P.M.

Attach sheet if more space is needed

Name of Drilling Contractor

(2) PUMP INSTALLATION

Company name and size of pump *5 Stage Western Land Roller* HP *50*
 Type of pump *10-C* Capacity of installed pump *800* G.P.M.
 Depth of pump placement _____ ft., Date of pump installation *7-30-76*

(3) WATER SURFACE MEASURING TUBE

On some wells an air-tight water surface measuring tube is required: See Section 46.408 of Chapter 46.4, MINIMUM WELL CONSTRUCTION STANDARDS.

Show exact vertical length of water surface measuring tube, when installed *40'* ft., tube diameter *1 1/4"*
 tube material *Plastic*

Name of Pump Installation Contractor

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WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 10/29, 20 12

RECEIVED OF Botollfson Bros 1834 Constance Dr Vermillion SD 57069

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

Fee for Application for Permit No. <u>7488-3</u> to Appropriate Water, to construct and to put water to beneficial use	950	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>7488-3</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	1150 00

No. **05658**

By Larry Erdene
Chief Engineer



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

denr.sd.gov

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 7488-3, Bottolfson Brothers**

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. 7488-3, Bottolfson Brothers, c/o Jay Bottolfson Brothers, 1834 Constance Drive, Vermillion SD 57069.

The Chief Engineer is recommending APPROVAL of Application No. 7488-3 because 1) there is reasonable probability that there is unappropriated water available for the applicant's proposed use, 2) the proposed diversion can be developed without unlawful impairment of existing rights, 3) the proposed use is a beneficial use and 4) it is in the public interest with the following qualifications:

1. The well approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The well authorized by Permit No. 7488-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

See report on application for additional information.

Garland Erbele, Chief Engineer
January 4, 2013

REPORT TO THE CHIEF ENGINEER
ON
WATER PERMIT APPLICATION NO. 7488-3
BOTTOLFSON BROTHERS
c/o JAY BOTTOLFSON
JANUARY 2, 2013

Water Permit Application No. 7488-3 proposes to appropriate up to 420 acre-feet per year (ac-ft/yr) at a maximum diversion rate of 1.56 cubic feet of water per second (cfs) from one well to be completed into the Missouri: Elk Point aquifer. The well is expected to be approximately 100 feet deep and is to be located in the approximate center of the NE¼ of Section 17 to irrigate 210 acres located in the W½ NW¼ of Section 17, all in T92N-R53W in Yankton County.

AQUIFER: Elk Point management unit of the Missouri aquifer (M: EP)

GEOLOGY AND AQUIFER CHARACTERISTICS:

The Missouri: Elk Point is an alluvium mantled outwash consisting of clay and silt with sand and gravel (Jenson, 2000). In total, the Missouri: Elk Point aquifer is estimated to underlie 219,100 acres and contain 3,287,100 acre-feet (ac-ft) of recoverable water in storage. The Missouri: Elk Point aquifer extends from Clay County east into Union County and West into Yankton County. The proposed well site is located in southwestern Clay County, approximately two miles from the Clay and Yankton County line and one half mile north of the Missouri River. For Clay and Yankton Counties combined, the aquifer is estimated to underlie 119,500 acres and contain 1,792,000 ac-ft of recoverable water in storage (Hedges and others, 1982). The aquifer connects to the Lower Vermillion-Missouri aquifer to the north, overlies the Dakota aquifer in portions of Clay County, and is hydraulically connected to the Vermillion River to the east and Missouri River to the south. Water in the aquifer generally moves from the northwest to the southeast and towards the Missouri River (Stephens, 1967).

A test hole log submitted with this application, which was previously submitted for Water Right No. 2826-3 for a well located in Section 16, T92N-R53W, documents sand and gravel from ground surface to 109 feet below ground surface with some clay layers at 45 to 56 feet, 62 to 66 feet, 71 to 75 feet below ground surface.

SDCL 46-2A-9

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

WATER AVAILABILITY:

This application proposes to appropriate 420 ac-ft/yr from the Missouri: Elk Point aquifer. If this application is approved, the actual water use will likely be less than the appropriation. The probability of unappropriated water available from an aquifer can be evaluated by considering

SDCL 46-6-3.1, which requires “No application to appropriate groundwater may be approved if, according to the best information reasonably available, it is probable the quantity of water withdrawn annually from a groundwater source will exceed the quantity of the average estimated annual recharge of water to the groundwater source.”

HYDROLOGIC BUDGET:

Recharge:

Recharge to the Missouri: Elk Point aquifer is due to infiltration of precipitation in areas where the aquifer is near land surface, inflow from the Lower Vermillion-Missouri aquifer at the Missouri: Elk Point aquifer’s northern boundary, inflow from the Missouri and Vermillion Rivers during periods of high flow, inflow from the aquifer in surrounding counties, and leakage from the underlying Dakota aquifer.

Hedges and others (1985) estimated recharge, based on observation well data, of the Missouri: Elk Point aquifer to be 3.8 inches per year. Using this recharge rate and the area of the aquifer, a conservative estimate of recharge for the Missouri: Elk Point aquifer in Clay and Yankton Counties equals 37,800 ac-ft/yr. Stephens (1967) indicated that additional discharge by wells would induce additional recharge from the Missouri River.

Discharge:

Discharge from the Missouri: Elk Point aquifer occurs due to evapotranspiration in areas where the aquifer is near land surface, outflow to the Missouri and Vermillion Rivers during periods of low flow, outflow to the aquifer in surrounding counties, and well withdrawals from commercial use, industrial use, fish and wildlife propagation, municipal use, recreational use, rural water systems, suburban housing development, and irrigation. Currently there are a total of 197 water rights/permits appropriating water from the Missouri: Elk Point aquifer in Clay and Yankton Counties (Water Rights, 2012b). There are also several water permits for the Missouri: Elk Point aquifer that are pending authorization.

Figure 1 shows the Missouri: Elk Point aquifer’s historic irrigation data for Clay and Yankton Counties combined. The development of this aquifer has been steadily increasing over the last decade. The number of permits and the amount of appropriations for irrigation in Clay and Yankton Counties has approximately doubled in this time period. The annual withdrawal due to irrigation use fluctuates greatly, which seems to be more dependent on growing season climatic conditions than on the development of the aquifer. The average pumpage reported equals 5,145 ac-ft/yr. The maximum pumpage reported was in 2007 for 11,665 ac-ft/yr (Water Rights, 1979-2012).

In addition, there are many completion reports on file with the SD DENR-Water Rights Program in Clay and Yankton Counties for domestic wells that appear to be completed into the Missouri: Elk Point aquifer (Water Rights, 2012c). The annual withdrawal due to domestic use is not significant to the hydrologic budget of the aquifer.



Figure 1: Historic irrigation water use from the Missouri: Elk Point aquifer in Clay and Yankton Counties (Water Rights, 1979-2011)

From the Missouri: Elk Point aquifer in Clay and Yankton Counties, water rights/permits for non-irrigation use that are limited only by diversion rate currently appropriate a total of 16.476 cfs. Water rights/permits for non-irrigation use that are limited by an annual volume currently appropriate a total of 33,351 ac-ft/yr. Future use permits reserve a total of 14,900 ac-ft/yr (Water Rights, 2012b).

The amount of water than can be expected to be withdrawn by the non-irrigation use water rights/permits at the current appropriation amount can be estimated by assuming: 1) water rights/permits limited by an annual volume will pump the entire volume appropriated annually, 2) water rights/permits limited only by diversion rate will pump at the maximum permitted diversion rate at 60 percent of the time, and 3) future use permits can be fully developed.

Therefore, the total annual withdrawal from the Missouri: Elk Point aquifer in Clay and Yankton Counties by non-irrigation use is currently expected to total at maximum 55,408 ac-ft/yr (Water Rights, 2012b).

Lewis and Clark RWS's expected water use is a significant portion of the annual volume of water anticipated to be used under current appropriations. Lewis and Clark RWS currently has two permits appropriating a total of 32,165 ac-ft/yr and four future use permits reserving a total of 13,000 ac-ft/yr, all from the Missouri: Elk Point aquifer (Water Rights, 2012b). Recognizing that due to the proximity of the wells to the Missouri River and the design of the wells, most of the water that will be withdrawn from the Lewis and Clark RWS wells will be induced from the Missouri River.

Hydrologic Budget:

Recognizing that the Lewis and Clark RWS withdraws water from the Missouri: Elk Point aquifer that is induced from the Missouri River and considering the remaining hydrologic budget, there is a reasonable probability that unappropriated groundwater is available from the Missouri: Elk Point aquifer for the proposed appropriation of 420 ac-ft/yr.

OBSERVATION WELL DATA:

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

The DENR-Water Rights Program monitors 12 observation wells completed into the Missouri: Elk Point aquifer in Clay and Yankton Counties (Water Rights, 2012a). The nearest of these wells, CL-80B and YA-80KA, are located approximately one and one quarter miles east and four miles northwest of the proposed well site, respectively. Hydrographs of these observation wells are shown in Figures 2 and 3.

The observation well data documents cyclic conditions of water levels, recharging during wet years and declining during dry years. Water levels may also be influenced by the aquifer's connection to the Missouri River. For example, high flows in the Missouri River during the summer of 2011 and the current drought conditions are evident in the hydrographs, which are both located approximately one and a half miles from the Missouri River. These hydrographs show a slight decline of the Missouri: Elk Point aquifer's water table, as indicated by the trend line. This gradual decline has been attributed to entrenching the Missouri River (Goodman, 2007) or controlling the flow of the Missouri River by the Gavins Point Dam, which no longer allows inundating of the floodplain (Stephens, 1967). Regardless of cause, the declining water table levels demonstrate the hydraulic connection between the aquifer and the Missouri River. Pumping from the aquifer will induce recharge supplied by the Missouri River or capture discharge before outflowing to the river (Stephens, 1967).

The hydrographs also show the effects of nearby pumping on the aquifer. Observation well data indicates that, at the current level of development, temporal well withdrawal is masked by climatic conditions, indicating that recharge to and natural discharge from the aquifer greatly

exceeds well withdrawal. Therefore, there is a reasonable probability that unappropriated water is available from the Missouri: Elk Point aquifer to support the proposed appropriation of 420 ac-ft/yr.

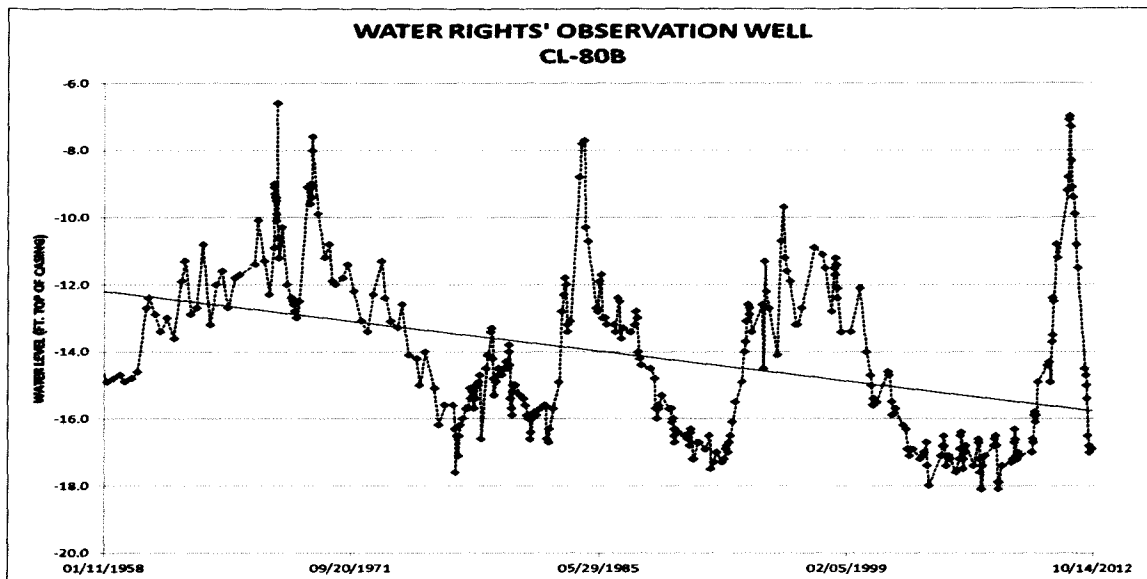


Figure 2: Hydrograph for DENR-Water Rights' observation well CL-80B (Water Rights, 2012a)

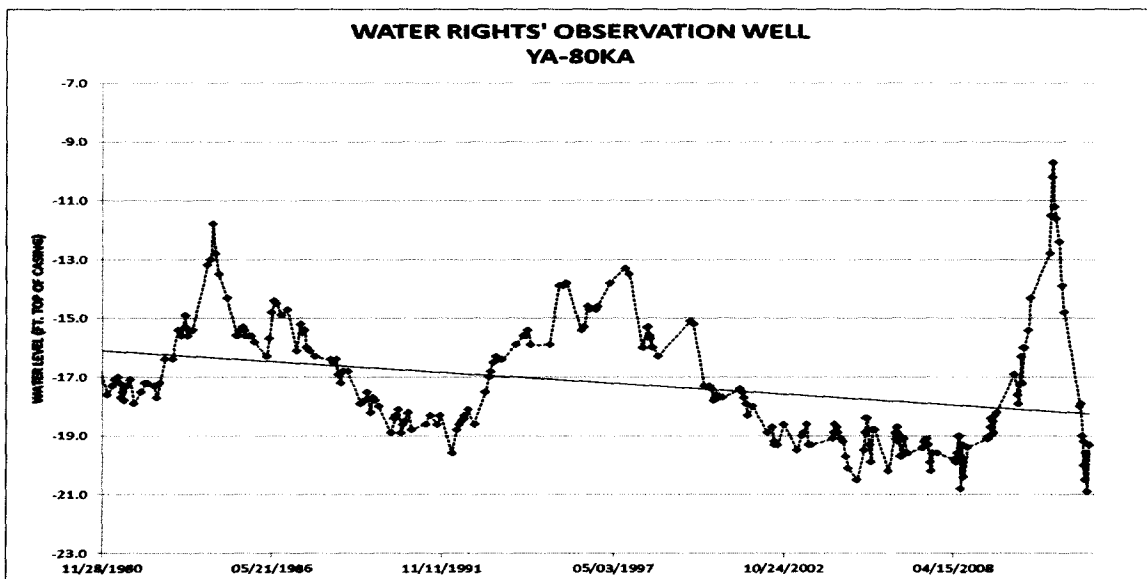


Figure 3: Hydrograph for DENR-Water Rights' observation well YA-80KA (Water Rights, 2012a)

EXISTING WATER RIGHTS:

There are 13 water rights/permits appropriating water from the Missouri: Elk Point aquifer within two miles of the proposed well site (Water Rights, 2012b). There are several domestic wells on file with the SD DENR-Water Rights Program within two miles of the proposed well site that could be completed into and withdrawing from the Missouri: Elk Point aquifer (Water

Rights, 2012c). The nearest wells are located further than approximately a half mile from the proposed well site.

Well interference has not been a problem with the Missouri: Elk Point aquifer and the water table conditions of the aquifer in this area dictates that any drawdown due to pumping would probably not extend far from the proposed well sites (i.e. less than half a mile). As previously discussed, the hydrographs for observation wells completed into the aquifer document the effects of pumping, however, these are minimal relative to climatic conditions. Over the period of record, water levels in the two nearest observation wells fluctuated at maximum 12 feet (Water Rights, 2012a). This amount of fluctuation is probably the worst case scenario for the aquifer in this area and is due more likely the aquifer's connection to the Missouri River than pumping from wells. According to the test hole log, there is approximately 100 feet of aquifer materials in this area. Therefore, at the distances involved between the proposed well site and wells of existing water rights/permits and domestic users, interference is not expected to be a concern.

Considering that the Water Management Board has consistently recognized that to place water to maximum beneficial use a certain amount of drawdown may occur, a nearby adequate well defined by ARSD 74:02:20(7), which states that the pump intake must be set 20 feet below the top of the aquifer or, if the aquifer is less than 20 feet thick, as near to the bottom of the aquifer as is practical, is not expected to be adversely or unlawfully impaired.

CONCLUSIONS:

1. The application proposes to appropriate 420 ac-ft/yr for irrigation; however, the actual water used will likely be much less.
2. Most of the water that will be withdrawn from the Lewis and Clark RWS wells will be induced from the Missouri River.
3. There is a reasonable probability that unappropriated water is available from the Missouri: Elk Point aquifer to supply the proposed appropriation.
4. There is a reasonable probability that this proposed well will not cause interference in existing nearby wells.



Joseph R Stonesifer
SD DENR-Water Rights Program

Approved by



Ken Buhler
SD DENR-Water Rights Program

REFERENCES:

- Goodman, J.A. 2007. Report on Water Permit Application No. 6869-3 for Lewis and Clark RWS: SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, SD.
- Hedges, L.S., Burch, S.L., Iles, D.L., Barari, R.A., and Schoon, R.A. 1982. Evaluation of Ground-Water Resources Eastern South Dakota and Upper Big Sioux River, South Dakota and Iowa, Task 1: Bedrock Topography and Distribution, Task 2: Extent of Aquifers, Task 3: Ground-Water Storage, Task 4: Computerized Data Base, Final Report. U.S. Army Corps of Engineers Contract DACW 45-80-C-0185.
- Hedges, L.S., Allen, J., and Holly, D.E. 1985. Evaluation of Ground-Water Resources Eastern South Dakota and Upper Big Sioux River, South Dakota and Iowa. Task 7: Ground Water Recharge. South Dakota DENR-Geological Survey, Vermillion, SD.
- Jensen, A.R. 2000. Aquifer Materials Map 1. South Dakota DENR-Geological Survey, Vermillion, SD.
- Stephens, J.C. 1967. Geology and Hydrogeology of Clay County, South Dakota, Part II: Water Resources. South Dakota DENR-Geological Survey Bulletin 19, 62 p.
- Water Rights. 1979-2012. "Annual Irrigation Summary by Aquifer": SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, SD.
- Water Rights. 2012a. Observation Well Files, SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, SD.
- Water Rights. 2012b. Water Right/Permit Files, SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, SD.
- Water Rights. 2012c. Water Well Completion Reports, SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, SD.

NOTICE OF APPLICATION
NOS. 7486-3, 7487-3, 7488-3 to
Appropriate Water

Notice is given that Bottolfson Brothers, c/o Jay Bottolfson, 1834 Constance Dr, Vermillion SD 57069 has filed the following applications for a water permit.

AFFIDAVIT OF PUBLICATION

PLAIN TALK

DENR
Division of Environmental Services
Air Quality Program
Joe Foss Building, 523 East Capitol
Pierre, SD 57501.

STATE OF SOUTH DAKOTA
COUNTY OF CLAY

TERA SCHMIDT BEING FIRST DULY SWORN ON OATH DEPOSES
AND SAYS THAT SHE IS THE **CLASSIFIED MANAGER** OF YANKTON
MEDIA INC., A CORPORATION, THE PRINTER AND THE PUBLISHER OF THE
PLAIN TALK, A LEGAL WEEKLY NEWSPAPER PUBLISHED AND CIRCULATED
IN THE CITY OF VERMILLION, SAID COUNTY AND STATE, AND ONE OF THE
OFFICIAL NEWSPAPERS OF THE SAID COUNTY OF FACTS STATED IN THIS
AFFIDAVIT; THAT THE ANNEXED
NOTICE OF APPLICATION FOR AIR QUALITY CONSTRUCTION PERMIT

TAKEN FROM THE PAPER, IN WHICH IT WAS LAST PUBLISHED IN THE
NEWSPAPER ON THE 18 DAY OF JANUARY 2013
THAT THE FULL AMOUNT OF THE FEE CHARGED FOR THE PUBLICATION
OF SAID **NOTICE** TO WIT **\$38.73** ENSURES TO THE
BENEFITS OF THE PUBLISHER OF SAID NEWSPAPER AND THAT NO
AGREEMENT AND UNDERSTANDING FOR THE DIVISION THEREOF HAS
BEEN MADE WITH ANY OTHER PERSON, AND THAT NO PART THEREOF
HAS BEEN AGREED TO BE PAID TO ANY PERSON WHOMSOEVER.

PUBLISHED ON: 1/18/13

FILED ON: 1/18/13

Application No. 7486-3 proposes to irrigate 70 additional acres. Water Permit No. 7083-3 authorizes 1.56 cubic feet of water per second (cfs) from one well completed into the Missouri:Elk Point Aquifer (115 feet deep) located in the NE 1/4 NE 1/4 Section 16 for irrigation of 103.5 acres located in the N 1/2 NE 1/4, SE 1/4 NE 1/4 Section 16; all in T92N-R52W. This application proposes to irrigate 70 additional acres located in the N 1/2 NW 1/4 Section 16-T92N-R52W from the existing well. This application, if approved, does not authorize any increase in the diversion rate.

Application No. 7487-3 proposes to appropriate 1.56 cfs from one well to be completed into the Lower Vermillion:Missouri Aquifer (180 feet deep) located in the SW 1/4 SW 1/4 Section 13 to irrigate 140 acres located in the SW 1/4 Section 13; all in T93N-R52W.

Application No. 7488-3 proposes to appropriate 1.56 cfs from one well to be completed into the Missouri:Elk Point Aquifer (100 feet deep) located in the approximate center of the NE 1/4 Section 17 to irrigate 210 acres located in the NE 1/4 Section 17 and NW 1/4 Section 16; all in T92N-R53W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application Nos. 7486-3, 7487-3 and 7488-3 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on these applications, as recommended, unless a petition is filed opposing the applications or the applicant files a petition contesting the Chief Engineer's recommendations. If a petition opposing the applications or contesting the recommendations is filed, then a hearing will be scheduled and the Water Management Board will consider these applications. Notice of the hearing will be given to the applicant and any person filing a petition.

Tera A. Schmidt
SUBSCRIBED AND SWORN TO BEFORE ME THIS

22

DAY OF

January

Boyd M. Schild
NOTARY PUBLIC, SOUTH DAKOTA
MY COMMISSION EXPIRES

8/19/2015

Any person interested in opposing or supporting these applications or recommendations must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendations. 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 January 28, 2013.

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

Published once at the total approximate cost of \$38.73.

Published: January 18, 2013

JAN 22 2013
WATER RIGHTS
PROGRAM

AFFIDAVIT OF PUBLICATION

YANKTON DAILY PRESS AND DAKOTAN

Department of Environment and Natural Resources
PMB 2020
Joe Foss Building
523 East Capitol
Pierre, SD 57501-3182

STATE OF SOUTH DAKOTA
COUNTY OF YANKTON

KELLY HERTZ BEING FIRST DULY SWORN ON OATH DEPOSES
AND SAYS THAT HE IS THE MANAGING EDITOR OF, YANKTON
MEDIA INC, A CORPORATION, THE PRINTER AND THE PUBLISHER OF THE
YANKTON DAILY PRESS AND DAKOTAN, A LEGAL DAILY NEWSPAPER
PUBLISHED AND CIRCULATED IN THE CITY OF YANKTON, SAID COUNTY
AND STATE, AND ONE OF THE OFFICIAL NEWSPAPERS OF THE SAID
COUNTY OF FACTS STATED IN THIS AFFIDAVIT; THAT THE ANNEXED
Notice of Application Nos. 7486-3 & 7487-3

TAKEN FROM THE PAPER, IN WHICH IT WAS LAST PUBLISHED IN THE
NEWSPAPER ON THE 18th DAY OF January 2013
THAT THE FULL AMOUNT OF THE FEE CHARGED FOR THE PUBLICATION
OF SAID NOTICE TO WIT \$37.24 ENSURES TO THE
BENEFITS OF THE PUBLISHER OF SAID NEWSPAPER AND THAT NO
AGREEMENT AND UNDERSTANDING FOR THE DIVISION THEREOF HAS
BEEN MADE WITH ANY OTHER PERSON, AND THAT NO PART THEREOF
HAS BEEN AGREED TO BE PAID TO ANY PERSON WHOMSOEVER.

PUBLISHED ON: 1/18/2013

FILED ON: 1/18/2013


SUBSCRIBED AND SWORN TO BEFORE ME THIS 18th DAY OF January


NOTARY PUBLIC, SOUTH DAKOTA

MY COMMISSION EXPIRES 8/19/2015

2013

Brothers, c/o Jay Bottolton, 1834
Constance Dr, Vermillion SD
57069 has filed the following ap-
plications for a water permit.

Application No. 7486-3 proposes
to irrigate 70 additional acres.
Water Permit No. 7083-3 author-
izes 1.56 cubic feet of water per
second (cfs) from one well com-
pleted into the Missouri:Elk Point
Aquifer (115 feet deep) located in
the NE 1/4 NE 1/4 Section 16 for
irrigation of 103.5 acres located in
the N 1/2 NE 1/4, SE 1/4 NE 1/4
Section 16; all in T92N-R52W.
This application proposes to irri-
gate 70 additional acres located in
the N 1/2 NW 1/4 Section
16-T92N-R52W from the existing
well. This application, if ap-
proved, does not authorize any in-
crease in the diversion rate.

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to appropriate 1.56 cfs from one
well to be completed into the
Lower Vermillion:Missouri Aquif-
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SW 1/4 SW 1/4 Section 13 to irri-
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1/4 Section 13; all in
T93N-R52W.

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to appropriate 1.56 cfs from one
well to be completed into the Mis-
souri:Elk Point Aquifer (100 feet
deep) located in the approximate
center of the NE 1/4 Section 17 to
irrigate 210 acres located in the
NE 1/4 Section 17 and W 1/2 NW
1/4 Section 16; all in
T92N-R53W.

Pursuant to SDCL 46-2A-2, the
Chief Engineer recommends AP-
PROVAL of Application Nos.
7486-3, 7487-3 and 7488-3 be-
cause 1) unappropriated water is
available, 2) existing rights will
not be unlawfully impaired, 3) it
is a beneficial use of water, and 4)
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these applications, as recom-
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Any person interested in opposing
or supporting these applications or
recommendations must file a writ-
ten petition with BOTH the appli-
cant and Chief Engineer. The ap-
plicant must file a petition if con-
testing the Chief Engineer's rec-
ommendations. The Chief Engi-
neer'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 inter-
ested person or the applicant must
be filed by January 28, 2013.

The petition may be informal, but
must include a statement describ-
ing the petitioner's interest in the
applications, the petitioner's rea-
sons for opposing or supporting
the applications, and the signature
and mailing address of the peti-
tioner or the petitioner's legal
counsel, if legal counsel is ob-
tained. Contact Eric Gronlund at
the above Water Rights Program
address to request copies of infor-
mation pertaining to these appli-
cations. Steven M. Pimer, Secre-
tary, Department of Environment
and Natural Resources.

Published once at the total ap-
proximate cost of \$37.24.



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

January 7, 2013

Plain Talk
201 W Cherry St
Vermillion SD 57069

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application Nos. 7486-3, 7487-3 and 7488-3 to Appropriate Water. Please publish the notice once on January 18, 2013. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352.

The applicant must verify to you that the notice is to be published and arrange for payment. **Please BILL the APPLICANT for the cost of publication.** The APPLICANT is Bottolfson Brothers, c/o Jay Bottolfson, 1834 Constance Dr., Vermillion SD 57069 (Ph # 605-624-8249).

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

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

Sincerely,


Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

January 7, 2013

Press & Dakotan
319 Walnut
Yankton SD 57078

ATTENTION: Legal Public Notice

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Sincerely,

Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

denr.sd.gov

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

January 7, 2013

Bottolfson Brothers
Jay Bottolfson
1834 Constance Dr
Vermillion SD 57069

Dear Mr. Bottolfson:

Water Permit Application Nos. 7486-3, 7487-3 and 7488-3 for irrigation use have been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Plain Talk printed at Vermillion SD (Ph # 605-624-2695) and the Press & Dakotan printed at Yankton SD (Ph # 605-665-7811). You will need to contact the newspaper(s) and authorize publication of this notice. For your information, a copy of the notice, the recommendations of the Chief Engineer and reports on the applications are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

Be sure to contact the above newspaper(s) to authorize publication of your Notice and to arrange for payment. Early contact with the paper(s) can eliminate delays. Upon receiving authorization from you, the publisher has been instructed to publish your notice. The newspaper(s) has also been instructed to send us the Proof of Publication. We must receive Proof of Publication before action can be taken on the applications.

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 applications.

Instruction to Newspaper - Publish the Notice on January 18, 2013. The applicant is responsible for payment. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352 or email: Karen.schlaak@state.sd.us.

NOTICE OF APPLICATION NOS. 7486-3, 7487-3, 7488-3 to Appropriate Water

Notice is given that Bottolfson Brothers, c/o Jay Bottolfson, 1834 Constance Dr, Vermillion SD 57069 has filed the following applications for a water permit.

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Published once at the total approximate cost of _____.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

FEB 19 2013

Bottolfson Brothers
Jay Bottolfson
1834 Constance Dr
Vermillion SD 57069

Dear Mr. Bottolfson:

Enclosed are Water Permit Nos. 7486-3, 7487-3 and 7488-3 authorizing construction of your water diversion systems and beneficial use of the water, not exceeding the limits as specified in the Water Permits.

Form 10's, *Notice of Completion of Works and Application of Water to Beneficial Use*, are enclosed. Please return the completed forms after you have finished the systems and have put the water to beneficial use. An investigation can then be scheduled so the water licenses may be issued, thus completing the acquisition of a water right.

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

Sincerely,

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

enclosures

7488-3
RECEIVED
JUL 29 2013
WATER RIGHTS
PROGRAMNOTICE OF COMPLETION OF WORKS AND
APPLICATION OF WATER TO BENEFICIAL USEDate 7-25-13TO: Water Rights Program, DENR
523 E. Capitol
Pierre, SD 57501-3181

FROM:

Bottorson Bros

(name)

1834 Constance Dr

(address)

Vermillion, SD 57069

(city, state, zip)

605
624-2404

(phone)

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

Water Permit No. 7488-3 states that the water use system is to be constructed by1-28-18

(date)

, and water is to be put to beneficial use by 1-28-22

(date)

The water use system was completed on 7-5-13

(date)

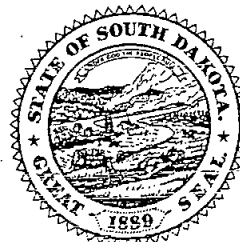
Applying the water to beneficial use was completed on 7-5-13

(date)

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

M. K. Bottorson owner/partner

(signature)

Bottorson Bros



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
PMB 2020
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3182
<http://denr.sd.gov>

July 29, 2013

7486-3
7487-3
7488-3

Bottolfson Brothers
1834 Constance Dr
Vermillion SD 57069

Dear Mr. Bottolfson:

I am writing to acknowledge receipt of the "Notice of Completion of Works" forms that you sent in to let us know that you are completed with your irrigation systems.

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

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

Sincerely,

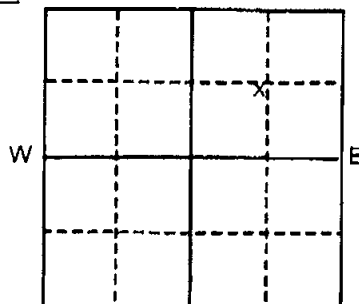
Genny McMath
Water Rights Program
(605) 773-3352
email: genny.mcmath@state.sd.us

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location SW 1/4 NE 1/4 Sec 17 Twp 92N Rg 53WCounty Clay

North

Please mark well
location with an "X"

Well Completion Date

April 29, 2013

1 Mile

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

1,975.0 ft. from Septic Tank (Identify source)

PROPOSED USE:

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

METHOD OF DRILLING:

bucket method

CASING DATA:

☐ Steel ☒ Plastic ☐ Other

If other describe

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	16.00 IN	0.0 FT	80.0 FT	22.00 IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
Bentonite	20	9.5 Lb/gal	0.0 Ft	70.0 Ft
		Lb/gal	Ft	Ft

Describe grouting procedure
Tremie Method

SCREEN:

☐ Perforated pipe ☒ Manufactured
Diameter 16.00 Inches Length 20.0 FeetMaterial PVCSlot Size .050 Set From 80.0 Feet to 100.0 Feet

Other information

WAS A PACKER OR SEAL USED?

☐ Yes ☒ No

If so, what material?

Describe packer(s) and location

DISINFECTION: Was well disinfected upon completion?

☐ Yes, How?

☒ No, Why Not? Not Required
Lab to which water
quality sample sent for analysisWell Owner: Jay BottolfsonBusiness Name: Bottolfson BrosAddress: 45723 Timber RdCity, State, Zip: Vermillion SD 57069

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
Top Soil	0	1
Sand	1	40
Sand	40	54
Sandy Gravel	54	66
Clay Gravel Mix	66	69
Sandy Gray Clay	69	77
Sand	77	80
Sandy Gravel	80	100

STATIC WATER LEVEL 23.0 FEET

If flowing: closed in pressure _____ PSI

GPM flow _____ through _____ Inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other

Reduced flow rate _____ GPM

Can well be completely shut in?

WELL TEST DATA:

☐ Pumped Describe:

☐ Balled

☐ Other

Pumping Level Below Land Surface

_____ Ft. After _____ Hrs. pumped _____ GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

(If pump installed, pump rate: _____ GPM)

REMARKS

RECEIVED

SEP 06 2013

WATER RIGHTS
PROGRAMThis well was drilled under license # 666 and this report is true and accurate.Drilling firm: Hammond-Wetmore Drilling, LLC

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

Date: 6/11/13

**Permit No. 7488-3
Clay County**

Report of Examination of Works and/or Application of Water to Beneficial Use

To: Chief Engineer, Water Rights Program, DENR, Foss Bldg., Pierre, SD 57501

I have this day, September 22, 2014 made a thorough examination of the water system used by the Bottolfson Brothers, 1834 Constance Dr., Vermillion SD 57069, holder of Water Permit No. 7488-3, bearing the priority date of October 29, 2012. Water Permit No. 7488-3 authorizes the diversion of 1.56 cubic feet per second (cfs) from one well completed into the Missouri: Elk Point aquifer at approximately 100 feet below ground surface for the purposes of irrigating 210 acres in Clay County as follows: 35 acres in the NE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 17, 35 acres in the NW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 17, 35 acres in the SW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 17, 35 acres in the SE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 17, 35 acres in the NW $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 16, and 35 acres in the SW $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 16, all in T92N-R53W.

I have the following conditions to report for the system in question:

- 1) Works used to divert water:
One irrigation pump, manufactured by Kroy-Midwest
- 2) Works used to transport water to a place of use:
Underground pipes, 8 inch diameter.
- 3) Works used to apply water to beneficial use:
One Valley 8000 Pivot.

The system is in the following condition: well maintained. The well associated with Water Permit No. 7488-3 is located in the center of the NE $\frac{1}{4}$ of Section 17, T92N-R53W. The exact location the well is as follows:

- 1) **1,300 feet west and 1,300 feet south of the northeast corner of Section 17, T92N-R53W.
Lat 42.78986N Lon 97.12597W.**

The lands irrigated by the fore mentioned well are as follows:

- 1) 34 acres in the SW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 17, T92N-R53W.
- 2) 35 acres in the NW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 17, T92N-R53W.
- 3) 35 acres in the NE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 17, T92N-R53W.
- 4) 35 acres in the SE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 17, T92N-R53W.
- 5) 35 acres in the NW $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 16, T92N-R53W.
- 6) 35 acres in the SW $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 16, T92N-R53W.

For a total of 209 acres.

License should be issued for the developed diversion rate of: **1.56 cfs or 700 gpm.**

Applicable permit qualifications have been complied with: **Yes**

Exceptions to compliance are: **None**

Date Report Completed: **May 27, 2015**



Bracken Capen
Natural Resources Engineer
DENR, Water Rights Program

FIELD INVESTIGATION REPORT FOR WATER PERMIT NO. 7488-3

DATE OF INVESTIGATION:	September 22, 2014
NAME & ADDRESS OF PERMIT HOLDER	Bottolfson Brothers 1834 Constance Dr. Vermillion SD 57069
NAME & ADDRESS OF INVESTIGATION CONTACT/ RELATIONSHIP TO PERMIT HOLDER, IF APPLICABLE	Mark Bottolfson
DIVERSION POINT LEGAL LOCATIONS	1,300 feet west and 1,300 feet south of the northeast corner of Section 17, T92N-R53W. Lat 42.78986N Lon 12597W.

WELL INFORMATION:

- 1) Well Drilling Firm:
Hammond Wetmore Drilling
- 2) Number of Wells: **1**
- 3) Depth: **100 feet**
- 4) Well Log Available: **Yes**
- 5) Comment:

Pumps

- 1) Make: **Kroy Midwest**
- 2) Model:
- 3) Size:
- 4) Capacity: **700 gpm (1.56 cfs)**

Casing

- 1) Diameter: **16 inches**
- 2) Length: **80 feet**
- 3) Type: **Plastic**

Screen

- 1) Type: **Manufactured**
- 2) Length: **20 feet**
- 3) Static Water Level: **23**

Motor

- 1) Make: **Kroy-Midwest**
- 2) Model No:
- 3) Power: **35 hp**

System Type

- 1) Make: **Valley 8000**
- 2) Overall length: **1,300 feet**
- 3) Number of Towers: **7 Towers**
- 4) Distance Between Towers:
- 5) End Gun: **Yes**
- 6) Pressure:
- 7) Capacity: **700 gpm**

CHEMIGATION EQUIPMENT:

Yes, Mobile System

- 1) Mainline Check Valve: **Yes**
- 2) Low Pressure Drain: **No**
- 3) Inspection Port/Air Relief: **Yes**
- 4) Discharge 20 Feet Away: **No discharge**
- 5) Injection Line Check Valve or Positive
Displacement Pump: **Piston Pump**
- 6) Injection Check Valve: **Yes**
- 7) Properly Installed: **Yes**

PERMIT QUALIFICATIONS:

- 1) Special qualifications to permit being abided by: **N/A**
- 2) All structures, wells, and lands on map: **Yes**
- 3) Irrigation Questionnaires checked to determine if permit owner started irrigation by end of construction period: **Yes, irrigation in 2013 to present. Has only reported irrigation of 140 acres. During a phone conversation on May 27, 2015. Mark Bottolfson explained that this was a mistake and that both pivots are operational.**

Sec 8
T092N
R53W

Sec 9
T092N
R53W

NW 1/4 NE 1/4
Section 17
35 Acres

NE 1/4 NE 1/4
Section 17
35 Acres

NW 1/4 NW 1/4
Section 16
35 Acres

SW 1/4 NE 1/4
Section 17
34 Acres

SE 1/4 NE 1/4
Section 17
35 Acres

SW 1/4 NW 1/4
Section 16
35 Acres

Sec 16
T092N
R53W

Clay

Sec 17
T092N
R53W

17

16

20

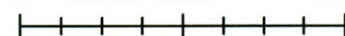
21

Legend

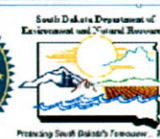
-  Irrigated Acres
-  Section Boundaries - PLSS
-  Well Location



0 0.045 0.09 0.18 Miles



Prepared by Bracken Capen
Natural Resources Engineer
DENR, Water Rights Program



**STATE OF SOUTH DAKOTA
WATER LICENSE NO. 7488-3**

(1) Bottolfson Brothers, 1834 Constance Dr., Vermillion SD 57069 made Application No. 7488-3, October 29, 2012 for a water permit to divert 1.56 cubic feet of water per second from ground water (one well, Missouri Elk Point Aquifer), Clay County, South Dakota for irrigation purposes. Permit No. 7488-3, with a priority date of October 29, 2012 was approved January 28, 2013 and issued to the applicants for diversion of water with construction of the described water supply system to be completed on or before January 28, 2018 and for the application to beneficial use of said water on or before January 28, 2022.

A "Notice of Completion of Works and Application of Water to Beneficial Use" was submitted on July 29, 2013. The "Notice" stated the water use system was completed and water placed to beneficial use on July 5, 2013.

(2) It is certified that the permit holders have complied with the provisions of South Dakota State Law relating to completion of the construction of the water supply system and are entitled to divert 1.56 cubic feet of water per second for beneficial use. The diversion point is located:

- 1,300 feet W and 1,300 feet S of the NE corner of Section 17, T92N, R53W (approximate center of the NE ¼ of Section 17).

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

Section 17, T92N, R53W		Section 16, T92N, R53W	
SW ¼ NE ¼	34 acres	NW ¼ NW ¼	35 acres
NW ¼ NE ¼	35 acres	SW ¼ NW ¼	35 acres
NE ¼ NE ¼	35 acres		
SE ¼ NE ¼	35 acres	Total	209 acres

(4) Pursuant to South Dakota Water Law 46-5-30.1 Bottolfson Brothers, 1834 Constance Dr., Vermillion SD 57069 the holders and/or owners of Water Right No. 7488-3 are issued a license to appropriate water, the right to use 1.56 cubic feet of water per second from ground water (one well, Missouri Elk Point Aquifer) with a priority date of October 29, 2012 from the location specified in (2) of this license for irrigation purposes.

This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Right No. 7488-3 and subject to the following qualifications:

- The well approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
- The well authorized by Permit No. 7488-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with the Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28. ***The well was constructed by Hammond Wetmore Drilling in April, 2013. A copy of the log is on file with the Water Rights Program.***

continued

- This Permit is approved subject to the irrigation water use questionnaire being submitted each year.



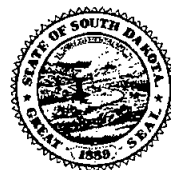
Jeanne Goodman, Chief Engineer

Water Rights Program

Department of Environment and Natural Resources

JUN 11 2015

date





DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

JUN 11 2015

Jay Bottolfson
Bottolfson Brothers
1834 Constance Dr
Vermillion SD 57069

RE: Water License Nos. 6899-3, 7082-3, 7486-3, 7487-3 and 7488-3

Dear Mr. Bottolfson:

Enclosed are Water License Nos. 6899-3, 7082-3, 7486-3, 7487-3 and 7488-3. They are the final water right documents completing your process of obtaining Water Rights. Included with each license is a map prepared by the staff engineer who conducted the field investigation.

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

In regard to the equipment used for applying chemicals and/or fertilizer through your irrigation systems, the staff engineer indicated he spoke with you about the absence of a low pressure drain. Enclosed is a copy of Water Management Board rules dealing with chemigation. "Appendix A" shows the minimum requirements for the equipment. Low pressure drains are required and must be in place to prevent contamination of the water source. If after reading through the rules you have questions concerning placement of the equipment, please contact Ron Duvall with our program (his card is attached).

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

Sincerely,

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

enclosures

Note: Water Permit Nos. 7083-3 and 7486-3 authorized irrigation of acreage using the same well. Upon licensing, the applicable portions of Water Permit No. 7083-3 were incorporated into Water License No. 7486-3.



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

July 20, 2022

NOTICE OF SHUTOFF ORDER

TO: Robert Heckenlaible
43380 285th St
Freeman, SD 57029

FROM:  Eric Gronlund, Chief Engineer
SD DANR, Water Rights Program

SUBJECT: Niobrara Aquifer Shutoff Order for Water Right No. 7448-3

Pursuant to South Dakota Codified Law (SDCL) 46-1-5(1), use of water for domestic purposes is the highest use of water and takes precedence over all appropriative rights. Consequently, your appropriative permit to use groundwater for irrigation was issued with the following qualification.

The wells approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.

We were notified on July 20, 2022, that two domestic wells located southwest of Freeman in Hutchinson county are no longer able to produce water from the Niobrara aquifer. These wells meet the adequate well definition and are afforded protection as domestic water use wells.

As noted in a letter to you dated, February 8, 2022, observation wells have been put into place to monitor water levels in the Niobrara aquifer near these domestic wells. Measurements from these monitoring wells confirm a significant decline in water level in the aquifer since measuring began in late June.

To protect this domestic use of water, the department is issuing you, and other nearby irrigators, shutoff orders. Specifically, your shutoff order pertains to Water Right No. 7448-3 for irrigation of 304 acres located in the SW $\frac{1}{4}$, S $\frac{1}{2}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$ NE $\frac{1}{4}$, NW $\frac{1}{4}$ SE $\frac{1}{4}$, SW $\frac{1}{4}$ SE $\frac{1}{4}$, NE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 36; all in T98N-R57W. Effective immediately, no diversions of water under this Permit will be allowed for the remainder of the 2022 irrigation season unless notified otherwise by the Chief Engineer. This Order is being issued pursuant to SDCL 46-2-18 to ensure compliance with the above permit qualification.

If you have any questions, please contact me at (605) 773-3352. Thank you for your cooperation in this matter.

c: Ann Mines Bailey, Assistant Attorney General

CERTIFICATION

I hereby certify that on July 20, 2022, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelope(s) containing a Notice dated July 20, 2022 regarding Notice of Shutoff Order addressed as stated below:

WR No. 7344-3
MICHAEL SCHULTZ
43721 281ST STREET
FREEMAN SD 57029

WR No. 7700-3
DAVID HUBER
28419 431ST AVE
MENNO SD 57045

WR No. 7448-3
ROBERT HECKENLAIBLE
43380 285TH ST
FREEMAN SD 57029

WR No. 7683-3
ROGER GUTHMILLER
28752 435th AVE
MENNO SD 57045

WR No. 7617-3
BRETT GUTHMILLER
28680 435TH AVE
MENNO SD 57045


Vickie Maberry
Senior Secretary-Water Rights

[illegible]

Sworn to, before me, this 20 day of July, 2022.

Karen Schlaak
Karen Schlaak
Notary Public
My Commission expires April 1, 2025

