

WATER PERMIT NO. 7916-3

Name of Applicant: **John H Thompson**

Address: **47333 295th St, Beresford SD 57004** Phone: **605 957-5544**

Amount of Water Claimed: **0.56 cfs** Total Acres: **150 acres**

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

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

Type of Waste Disposal System:

Location: **15 miles south of Beresford**

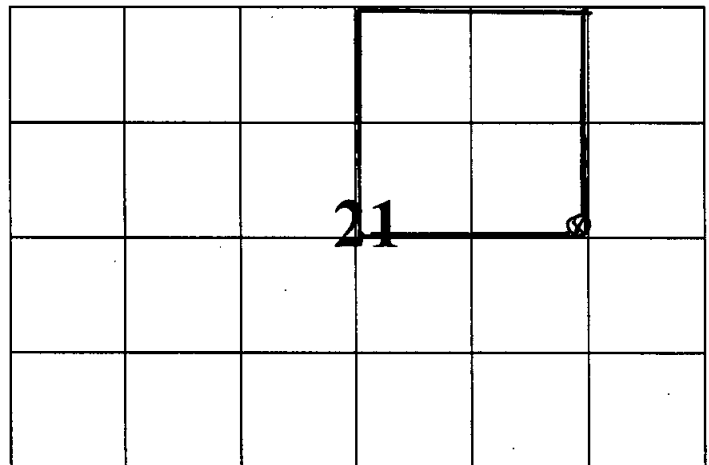
PRIORITY Date Received: **10-18-13** Application/License Fee: **\$ 1050**

Corrected Application Received: Period of Annual Use: **July 1 – Sept 10**

Remarks:

Diversion Point: **SE 1/4 NE 1/4 Sec 21-T93N-R50W**

Land to be Irrigated: **NE 1/4 Sec 21-T93N-R50W**



Depth of Well: **159 feet deep**

Well Driller: **Thein Well Company**

Remarks:

Type of Map: **aerial**

Prepared by:

Reviewed and the Number Assigned on: **10-21-13**

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____

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

No. 7916-3 (office use only)
Hydrologic Unit 10170203
Basin Sioux River 605-763-2006
Newspaper Beresford Republic Box 111 Beresford
605-665-7811 57004
Preso & Dakotan 319 Walnut Yankton 57078

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OCT 18 2013
WATER RIGHTS
PROGRAM

Application For Permit To Appropriate Water For Irrigation

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

(Use predates Mar 2, 1955)

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

1. Name to Appear on Irrigation Permit John H. Thompson

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

(name and complete address if different than above name)

Mailing Address 47333 295th St. Beresford SD 57004
(Address) (City) (State) (Zip Code)

Home Phone 605-957-4602 Cell 605-957-5514 Email _____

2. Amount of water claimed 0.56 *CFS or 250 **GPM ***AF Total Acreage 150
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)

3. Source of water supply ground water or (well)

4. Location of point of diversion 1 well - NE 1/4 Sec. 21 Twp. 93N
CSE 1/4 NE 1/4 (example - 3 wells in SW 1/4 NE 1/4 section 12-T104N-R53W)

Range 50 W. In the SE corner of field County Union

5. County or counties where water will be used Union

6. Annual period during which water is to be used July 1 - Sept. 30 3 months a year

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>NE 1/4 Sec. 21 93-50</u>	<u>150</u>		
<u>Union Co. S.D.</u>			

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

This will be a sub irrigation project. It will start with 3" tile spaced 20 ft. apart with gate valves for water control. The design will be mapped and a person will put water in the tile to sub irrigate the crop. Should be much more efficient than a center pivot - no evaporation.

I, John Thompson, the applicant, certify that I have read this application, have examined the attached map, and that the matters stated are true. less water

**SOUTH DAKOTA
WATER PERMIT NO. 7916-3**

Date of first receipt of application October 18, 2013.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 7916-3 to John H Thompson, 47333 295th St, Beresford SD 57004 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. 7916-3 appropriates 0.56 cubic feet of water per second from one well to be completed into the Dakota Aquifer (159 feet deep) located in the SE 1/4 NE 1/4 Section 21 for irrigation of 150 acres located in the NE 1/4 Section 21; all in T93N-R50W.
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: July 1 – September 30.
3. The date from which applicant may claim right is October 18, 2013.
4. The date of approval of Permit No. 7916-3 is January 20, 2014.
5. One-fifth of the construction is to be completed on or before July 20, 2016.
6. All construction is to be completed on or before January 20, 2019.
7. Water is to be put to beneficial use on or before January 20, 2023.
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. 7916-3 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.

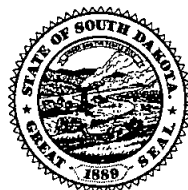
WATER MANAGEMENT BOARD

By: 

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

FEB 27 2014

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 Therin Well Co.
(if yes, please provide copies of logs)

b) If existing wells, how many 0 Provide copy of log(s), if available. Drilled by _____

c) Well Depth 159' Depth to Top of Water Bearing Material 80' Depth to Water from Surface 28'

d) Distance to nearest existing domestic well:

On applicant's property none

On property owned by others 2700 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)

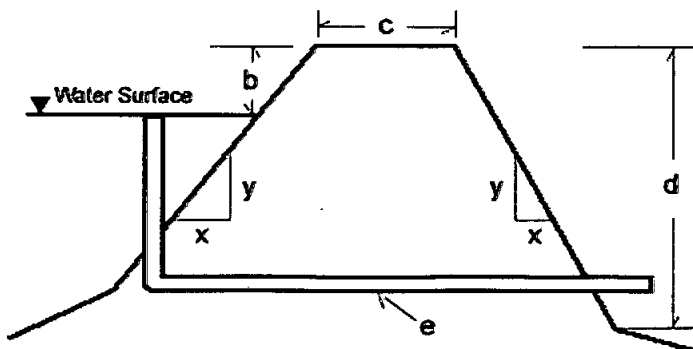
Upstream _____

Downstream _____

h) Surface Area of Impoundment _____

i) Storage _____ Acre Feet

j) Drainage Area Above Dam _____ Acres



Blue line is
main from well
in SE corner

Black line is
3" Tile you run water
to lines for sub
irrigation

might require
4" tile. Don't

Know until it is
mapped.

Mains might Be
6" line non-perforated

Blue is main

bing N 42 51.567, w 96 44.831

Road Bird's eye Traffic

World • United States • SD • Union Co.

312th St

472nd Ave

48

My places editor

My places Actions

You must Sign in to save your list of places

Unsaved places

- 43.0481, -96.726816666...
80' well
John Thompson
- 42.859, -96.747233333...
Test hole 3
John Thompson
- 42.85945, -96.74718333...
Test hole 4
John Thompson

1:34 PM 9/24/2013

We will use test hole no. 2 this will provide enough water for this sub irrigation project. which will require only 250 gals. a minute of water.

the 150 acres will be irrigated. minus roads & ditches 3 or 4 inch tile will be placed 2 1/2 foot down 20 foot spacing



Sec 17
T093N
R50W

Sec 16
T093N
R50W

Sec 15
T093N
R50W

Sec 20
T093N
R50W

Sec 21
T093N
R50W

Sec 22
T093N
R50W

Sec 29
T093N
R50W

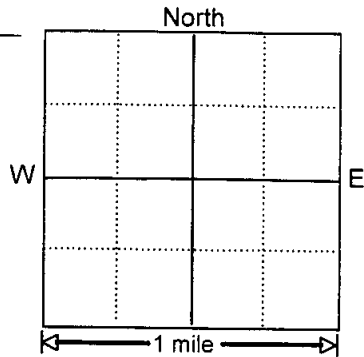
Sec 28
T093N
R50W

Sec 27
T093N
R50W

SOUTH DAKOTA WELL AND TEST HOLE PLUGGING REPORT 11-02

Location SE ¼ NE ¼ Sec 21 Twp 93N Rg 50W

Well Owner:

County UnionPlease mark well
location with an "X"Name: John ThompsonAddress: 47333 295th StCity, State, Zip: Beresford SD 57004

Comments:

Test hole 2GPS: N 42 51.54
W 96 44.834Plugging Completion Date August 13, 2013

CHECK APPROPRIATE BOX

EXISTING WELL ☐TEST HOLE ☒

Well depth _____

Hole depth 159'

Casing material _____

Hole size 6.25"

Casing size(s) _____

Casing condition _____

Describe plugging procedure:

tremie piped

Describe grout or plugging material:

Volclay grout

Type of non-slip plug: _____

This well or test hole was plugged under license # 475 and this report is true and accurate.Drilling firm: Thein Well Co., Inc.

Signature of Licensed Representative: _____

Signature of Well Owner: _____

Date: _____

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OCT 18 2013

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PROGRAM

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WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 10/21, 20 13

RECEIVED OF John H Thompson 47333 295th St Beresford SD 57004

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

Fee for Application for Permit No. <u>7916-3</u> to Appropriate Water, to construct and to put water to beneficial use	850	00
Fee for Application for Permit No. _____ to Appropriate Water for Future use		
Fee to retain Future Use Permit No. _____ after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. <u>7916-3</u>	200	00
Fee for Filing Transfer Form _____		
Fee for _____		
Fee for Issuing New Well Driller's License No. _____ for C.Y. _____		
Fee for Renewal of Well Driller's License No. _____ for C.Y. _____		
Fee for Issuing Well Pump Installer's License No. _____ for C.Y. _____		
Fee for Renewal of Well Pump Installer's License No. _____ for C.Y. _____		
(Any Other Work Provided by Law)	TOTAL	1050 00

No. **06465**

By James Holman
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. 7916-3, John H Thompson**

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. 7916-3, John H Thompson, 47333 295th Street, Beresford SD 57004.

The Chief Engineer is recommending APPROVAL of Application No. 7916-3 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. 7916-3 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.

Jeanne Goodman, Chief Engineer
December 27, 2013

NOTE: DENR encourages you to fully evaluate the water quality of the Dakota Aquifer prior to making a large capital investment in an irrigation system. Although water from the Dakota Aquifer is not uniform in quality it is commonly unfit for irrigation use due to high sulphates and chlorides.

REPORT TO THE CHIEF ENGINEER
ON
WATER PERMIT APPLICATION NO. 7916-3
JOHN H THOMPSON
DECEMBER 27, 2013

Water Permit Application No. 7916-3 proposes to appropriate water at a maximum diversion rate of 0.56 cubic feet of water per second (cfs) from a well to be completed into the Dakota aquifer. The well is expected to be 159 feet deep and is to be located in the SE ¼ NE ¼ Section 21 for the irrigation of 150 acres located in the NE ¼ Section 21; all in T93N-R50W in Union County.

AQUIFER: Dakota aquifer (DKOT)

GEOLOGY AND AQUIFER CHARACTERISTICS:

Test hole information was not submitted with this permit application. However, sufficient data is available through well completion reports (Water Rights, 2013c), water right/permit files (Water Rights, 2013b), and SD DENR-Geological Survey test hole logs (SDGS, 2013) to evaluate this application. The Dakota aquifer consists of the permeable beds of sand and sandstone contained in the Cretaceous aged Dakota Formation (Buhler, 2012). The Dakota Formation underlies approximately 66,500 square miles of the 77,047 square miles that constitute the state of South Dakota (Schoon, 1971). The total amount of recoverable water in storage in the Dakota-Newcastle Formation in western South Dakota is approximately 308,442,000 acre-feet (Allen et. al, 1985). Hedges and others (1982) estimated that the Dakota Formation in eastern South Dakota contained an estimated 381,104,000 acre-feet of recoverable water.

The lithology of the Dakota Formation is quite variable both laterally and vertically. It consists of interbedded sand, sandstone, and shale. It has been postulated that the explanation for this is that the Dakota was deposited in a fluvial environment. The porosity of the Dakota varies with the lithology but is assumed to average 15 percent. The specific yield of the aquifer is assumed to be 0.075 (Hedges et. al, 1982). Recharge to the Dakota aquifer is from underlying formations in the western part of South Dakota, especially the Madison Formation, but may also receive recharge in areas where the aquifer is overlain by the Missouri aquifer (Niehus, 1997). The water in the Dakota aquifer in this area generally has elevated levels of calcium, sulfate, and bicarbonate (Niehus, 1997).

The lithologic logs in the area identify the top of the Dakota aquifer to be approximately 110 feet below ground surface (SDGS, 2013). Schoon (1971) estimated the thickness of the Dakota in the area of this application to be between 350 and 400 feet, but not all of that thickness is aquifer material. The aquifer is likely under confined conditions at the proposed well site.

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 primarily

address the availability of unappropriated water and effects on existing rights from the aquifer that are pertinent to this application.

WATER AVAILABILITY:

This application proposes to appropriate water from the Dakota. Actual water use, if this application is approved, will likely be less than 300 acre-feet annually (ac-ft/yr). The probability of unappropriated water available from an aquifer can be evaluated by considering SDCL 46-6-3.1 which requires “No application to appropriate groundwater may be approved if, according to the best information reasonably available, it is probable that the quantity of water withdrawn annually from a groundwater source will exceed the quantity of the average estimated annual recharge of water to the groundwater source.” If the source of the water is older or lower than the Greenhorn Formation and a public water system has applied for a permit, the Board need not consider the recharge/withdrawal issue. Here, the Dakota Formation is stratigraphically lower than the Greenhorn Formation. However, this application is not for a public water system. Therefore, the withdrawal/recharge issue must be considered.

Recharge versus Withdrawals:

There have been concerns regarding the declining artesian head pressure of the Dakota aquifer since the early 1900’s. Rothrock and Robinson (1938) stated “There has been a pronounced decline in the artesian head since the first wells were drilled in the area. The decline has not proceeded uniformly but has varied from place to place, depending upon the local draft...” This decline in artesian head pressure has been well documented. One interpretation of the decline in artesian head pressure is that the Dakota aquifer is being “mined”. Schoon (1971) stated “The fact that withdrawal from the artesian system exceeds recharge is clearly demonstrated by declining pressures.”

The Water Management Board has considered the issue of declining head pressure in the Dakota aquifer. The Board has found that past declines of the potentiometric surface do not automatically mean that withdrawals have exceeded recharge (Water Rights, 2010). After the deliberation and approval of Permit No. 5136-3, the Water Management Board adopted Findings of Facts and Conclusions of Law that state that the quantity of the average estimated annual recharge to the Dakota aquifer is not likely to be quantified in the near future (Water Rights, 1987). The Board concluded that whether withdrawals exceeded the average annual recharge cannot be determined based solely upon a decline in head pressure, and in theory the Dakota aquifer head pressure is stabilizing relative to withdrawals and discharges (Water Rights, 1987). The Board found that the decline of head pressure is primarily due to water being discharged without beneficial use through uncontrolled flowing wells, and the water discharge from uncontrolled flowing wells does not constitute withdrawal (appropriation) pursuant to SDCL 46-6-3.1 (Water Rights, 1987).

Davis and others (1961) stated that in 1958 the flow from 46 uncontrolled wells in Bon Homme, Brule, Buffalo, Charles Mix, Gregory, Lyman, and Yankton counties was more than 16 million gallons per day (mgd) (17,920 ac-ft/yr), and the flow from 3,054 Dakota aquifer wells, that were controlled, in the James River valley was also estimated to be approximately 16 mgd. Therefore, 46 uncontrolled flowing wells had as much flow as 3,054 controlled wells. The number of wells tapping the Dakota increased significantly in the 1950’ and 1960’s.

Currently, there are 230 water rights/permits appropriating water and six future use permits reserving water from the Dakota aquifer in South Dakota (Water Rights, 2013b). There are 20 water rights/permits that authorize the withdrawal of water for irrigation. The irrigation water rights/permits authorize the irrigation of 1,064.54 acres. The total diversion authorized by the 210 non-irrigation water rights/permits is 76.209 cfs. The future use permits are shown in Table 1. Table 2 shows the historic irrigation water use from the Dakota aquifer.

Estimated average annual withdrawal from the aquifer by non-irrigation appropriations is 33,104 ac-ft/yr. This estimate is calculated by assuming pumping at the maximum allowed diversion rate for 60 percent of the time. The estimated average annual water use including future use reservation from the Dakota aquifer is 36,977 ac-ft/yr.

Permit No.	Name	County	Type	Volume Reserved (ac-ft)
1262C-3	CITY OF CANTON	LN	MUN	674
4817-3	SOUTH LINCOLN RWS	LN	RWS	1448
5101-3	CITY OF LENNOX	LN	MUN	0
5101A-3	CITY OF LENNOX	LN	MUN	0
5155-3	LINCOLN COUNTY RWS	LN	RWS	440
5219-3	CITY OF CANTON	LN	MUN	1175
Sum				3737
LN= Lincoln, MUN= Municipal, RWS= Rural Water System				

Table 1- Future use permits reserving water from the Dakota aquifer (Water Rights, 2013b)

Year	No. of Permits Reporting	Appropriation (ac-ft)	Pumpage (ac-ft)
2012	18	2158.52	304.7
2011	18	2158.52	175.77
2010	17	1950.52	178.03
2009	15	1166.52	137.13
2008	14	1106.52	202.05
2007	14	1106.52	205.64
2006	14	1106.52	237.91
2005	12	867.52	150.75
2004	10	726.52	159.63
2003	10	726.52	205.02
2002	10	726.52	184.53
2001	11	740.52	160.85
2000	10	666.52	172.81
1999	10	666.52	101.57
1998	9	633.52	64.76
1997	9	533.12	48
1996	8	527.12	34.38
1995	8	527.12	30.83
1994	7	931.12	51.29
1993	7	1521.52	112.4
1992	5	1501.52	40.4
1991	5	1481.52	165.42
1990	4	1471.52	234
1989	4	1471.52	265.4
1988	4	1471.52	452.8
1987	5	1900.52	1.3
1986	5	1834.76	238.85
1985	5	1554.26	8.1
1984	4	1405.76	0
1983	5	1834.76	64.39
1982	5	1420.52	33.23
1981	4	1469	45
1980	2	729	110
1979	2	729	38
Min	2	527.12	0
Max	18	2158.52	452.8
Avg	8.5	1200.7	135.7

Table 2- Historic irrigation water use from the Dakota aquifer (Water Rights, 1979-2013)

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 43 observation wells completed into the Dakota aquifer (Water Rights, 2013a). The nearest Dakota aquifer observation well is UN-77E, approximately 1.2 miles southwest of the well site. The hydrograph for observation well UN-77E is shown in Figure 1.

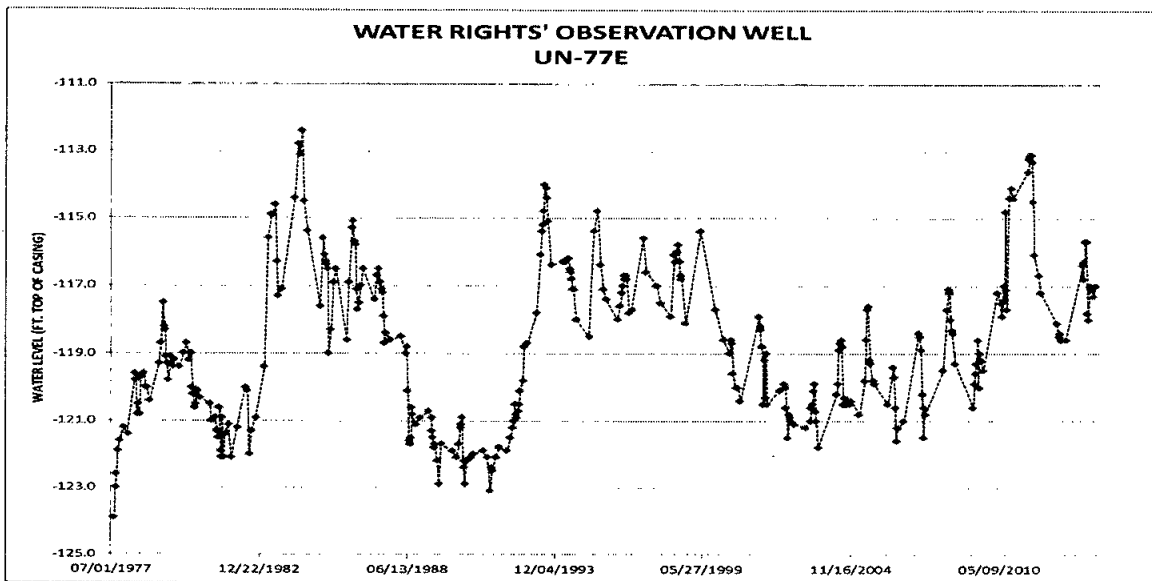


Figure 1- Hydrograph for observation well UN-77E (Water Rights, 2013a)

The water levels in observation well UN-77E have been stable to slightly increasing over the period of record, and clearly show the aquifer is being recharged. The hydrograph also documents that in the area of the observation well unappropriated water is available for this proposed appropriation. While the water levels of the Dakota aquifer have not declined in Union County (Schoon, 1972; Water Rights, 2013a), the artesian head pressure of the Dakota aquifer has declined significantly in most areas of the state since the first wells were completed into the aquifer around 1900. In most areas the water levels have yet to stabilize, demonstrating that the aquifer has not equilibrated to withdrawals. For example, in neighboring Lincoln County, water levels of the Dakota aquifer declined in conjunction with development of rural water system and municipal water rights/permits since the late 1970's. The rate of decline of water levels in the observation wells has been reducing. This may indicate that water levels in the Dakota aquifer are equilibrating to withdrawals.

EXISTING WATER RIGHTS:

There are no water rights/permits authorizing withdrawal of water from the Dakota aquifer within approximately 12 miles of the proposed well site (Water Rights, 2013b). There are a number of domestic wells on file with the SD DENR-Water Rights Program within approximately three miles of the proposed well site (Water Rights, 2013c). Since the Dakota aquifer is under confined conditions in the area of this application, drawdown resulting from pumping may extend several miles from the production well. Therefore, there may be some interference issues due to the proximity of domestic wells to the proposed well site. At observation well UN-77E there is at least 30 ft of saturated thickness with approximately 15 feet of artesian head above that.

SDCL 46-6-6.1 does not protect artesian head pressure as a means of delivery, and the Water Management Board has consistently recognized that to place water to maximum beneficial use a certain amount of drawdown may occur. To balance interests between appropriative use and delivery of water by artesian pressure the Water Management Board defined an "adversely impacted domestic well" in ARSD 74:02:04:20(7) as:

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

Depending on the specific characteristics of the Dakota aquifer at the proposed well site, some existing well owners may need to lower their pumps to accommodate for deeper water levels. However when considering the statute (SDCL 46-6-6.1) and rule (ARSD 74:02:04:20(7), well interference from the proposed appropriation is not likely to cause a significant impact. Therefore, there is a reasonable probability that any interference will not be adverse.

DAKOTA AQUIFER FOR IRRIGATION USE:

Currently, there are 20 water rights/permits authorizing the withdrawal of water from the Dakota aquifer for irrigation purposes, with three withdrawn applications, two permits having been incorporated into a water right, and one water permit having been cancelled. There are two potential issues with irrigating from the Dakota aquifer: 1) poor water quality and 2) public interest issues.

Water Quality:

The Dakota aquifer does not have uniform water quality (Schoon, 1971). Erickson (1955) states, “It should also be stated here that the Dakota water is usually unfit for irrigation as it contains too much sodium as well as sulphates and chlorides. Small scale irrigation of garden plots can usually be done without serious injury to the crops, if the garden is watered only when natural rainfall does not occur.”

There have been comparatively few applications filed to irrigate from the Dakota aquifer in South Dakota primarily due to the relatively poor water quality of the aquifer. Soil Water Compatibility Permits, once required, were typically conditionally approved (Buhler, 2009). However, in 1990, Water Permit Application No. 5436-3 was withdrawn from consideration because the South Dakota Conservation Commission denied a Soil Water Compatibility Permit for the project. Although the statutes requiring soil water compatibility approval have been repealed, efforts continue to be made by the DENR-Water Rights Program to inform applicants that water from the Dakota Formation is generally unsuitable for irrigation (Buhler, 2009).

Public Interest:

Although South Dakota Water Law does not provide protection of artesian head pressure as a means of delivery, the courts have ruled that a balance of interests between irrigation and delivery of water by artesian pressure for domestic use is required (Buhler, 2009). The issue of the effects of appropriations on the artesian pressure of the Dakota aquifer has been considered in two ways.

When the Water Management Board considered Water Permit Application No. 5136-3, Findings of Fact and Conclusions of Law were adopted that essentially stated that the public interest is better served by allowing Dakota aquifer water to be utilized for a beneficial use than to allow

the water to remain unused or to be discharged by uncontrollable flowing wells. And, that it is not in the public interest to deny a water permit application when the effects of the withdrawal will not have a significant effect upon the decline or stabilization of head pressure in the Dakota Formation (Buhler, 2009).

In the matter of Water Permit Application No. 5669-3, which proposed irrigation from the Dakota aquifer from a well that was to be located approximately 20 miles north-northwest of the well site proposed by this application, the DENR-Water Rights Program also considered the artesian pressure issue. The history of declining water levels in the aquifer statewide in conjunction with the controversy associated with the development of the Dakota aquifer for nearby public water systems (i.e. South Lincoln RWS, City of Lennox, City of Canton, and Lincoln County RWS) lead staff to question whether irrigation from the Dakota aquifer is in the public interest (Goodman, 1992). The Chief Engineer recommended denial of Water Permit Application No. 5669-3 because “it is not in the public interest to allow use of Dakota Formation water for irrigation in this location. The application is also within the South Lincoln Rural Water System Future Use area specified by Permit No. 4817-3.” (Water Rights, 1992). In response to the denial recommendation, the application was withdrawn before any board consideration. The Water Management Board’s position remains to optimize development for beneficial use from the Dakota aquifer (Buhler, 2009).

HISTORY OF CONTENTION

The well site proposed by this application is approximately 25 miles south of the well field authorized by Water Permit No. 4300-3 for South Lincoln RWS and 15 miles south of the future use area for Future Use Permit No. 4817-3 for South Lincoln RWS. Water Permit No. 4300-3, and the subsequent permits it was incorporated into, Water Permit Nos. 4300-3A, 4300-3B, and 4300-3C and Future Use Permit No. 4817-3, were all very controversial in the late 1970’s to the mid 1980’s. The concerns were over potential impact of a declining water level and reduction of water quality caused by pumping the rural water systems wells. The Board approved the permits with conditions. There has not been controversy since.

CONCLUSIONS:

1. Water Permit Application No. 7916-3 proposes to appropriate water from the Dakota aquifer at a maximum diversion rate of 0.56 cfs for the irrigation of 150 acres in Union County.
2. Water levels in the Dakota aquifer have declined in many parts of the state since the first wells were completed into the aquifer.
3. The Water Management Board has concluded that whether withdrawals exceed average annual recharge cannot be determined based solely upon a decline in head pressure.
4. The decline in the potentiometric surface of the Dakota aquifer is primarily a result of the waste of water from uncontrolled flowing wells.

5. The Water Management Board has concluded that in reference to SDCL 46-6-3.1, "withdrawals" applies only to water placed to beneficial use via appropriations of domestic use.
6. There is a reasonable probability that unappropriated water is available from the Dakota aquifer for this proposed appropriation.
7. There is a reasonable probability that the diversion rate requested by this application can be made without adversely impacting existing water rights/permits and domestic users.
8. The quality of water from the Dakota aquifer may not be suitable for irrigation.
9. The Water Management Board's position has been to optimize development for beneficial use from the Dakota aquifer.



Adam Mathiowetz
SD DENR-Water Rights Program

Approved by:



Ken Buhler
SD DENR-Water Rights Program

REFERENCES:

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AFFIDAVIT OF PUBLICATION

STATE OF SOUTH DAKOTA

COUNTY: UNION

CITY: BERESFORD

NEWSPAPER: BERESFORD REPUBLIC

RECEIVED

JAN 21 2014

WATER RIGHTS
PROGRAM

Allyson M. Hill, being first duly sworn, on oath, says that the BERESFORD REPUBLIC IS a weekly newspaper published in said city and county, State of South Dakota; that she has full and personal knowledge of the facts herein stated; that said newspaper is a legal newspaper as defined in SDCL 17-2-2.1 through 17-2-2.4 inclusive, and has met all the requirements for at least one year next prior to the first publication of the attached public notice, and that said notice, a printed copy of which; taken from the paper in which the same was published, and which is hereto attached and made a part of this affidavit, was published in said newspaper

1 time(s) as follows: that the first publication of said notice in said newspaper aforesaid was on Thursday the

9 day of January, 2014, and that the succeeding publications were severally on

Thursday, the ____ day of _____, 2014;

Thursday, the ____ day of _____, 2014;

Thursday, the ____ day of _____, 2014

Affiant further says that the full amount of the fees charged for the publication of said notice inures to the benefit of the publishers of said newspaper; that no agreement of understanding for the division thereof has been made with any other person, that no part therefore has been agreed to be paid to any person whomsoever; and that the fees charges for the publication thereof are:

DOLLARS \$ 19.92

X Allyson M. Hill, Allyson M. Hill

Subscribed and sworn to before me this 16 day of January, 2014.

[Signature]

Notary Public

My commission expires 11/14/2018.

SHANE HILL



NOTARY PUBLIC
SOUTH DAKOTA



NOTICE OF APPLICATION NO. 7916-3 to Appropriate Water

Notice is given that John H Thompson, 47333 295th St, Beresford SD 57004 has filed an application for a water permit to appropriate 0.56 cubic feet of water per second from one well to be completed into the Dakota Aquifer (159 feet deep) located in the SE 1/4 NE 1/4 Section 21 for irrigation of 150 acres located in the NE 1/4 Section 21; all in T93N-R50W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 7916-3 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on this application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider this application. Notice of the hearing will be given to the applicant and any person filing a petition.

Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by January 20, 2014.

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

Published once at the total approximate cost of \$19.92

RECEIVED

JAN 15 2014

WATER RIGHTS
PROGRAM

AFFIDAVIT OF PUBLICATION

YANKTON DAILY PRESS AND DAKOTAN

1+9

NOTICE OF APPLICATION

NO. 7916-3 to Appropriate Water

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 No. 7916-3**

TAKEN FROM THE PAPER, IN WHICH IT WAS LAST PUBLISHED IN THE NEWSPAPER ON THE 9th DAY OF January 2014 THAT THE FULL AMOUNT OF THE FEE CHARGED FOR THE PUBLICATION OF SAID **NOTICE** TO WIT **\$25.49** 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: 1/9/2014

FILED ON: 1/13/2014

SUBSCRIBED AND SWORN TO BEFORE ME THIS 13th DAY OF January

NOTARY PUBLIC, SOUTH DAKOTA

MY COMMISSION EXPIRES

8/19/2015

Notice is given that John H Thompson, 47333 295th St, Beresford SD 57004 has filed an application for a water permit to appropriate 0.56 cubic feet of water per second from one well to be completed into the Dakota Aquifer (159 feet deep) located in the SE 1/4 NE 1/4 Section 21 for irrigation of 150 acres located in the NE 1/4 Section 21; all in T93N-R50W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 7916-3 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on this application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider this application. Notice of the hearing will be given to the applicant and any person filing a petition.

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

Published once at the total approximate cost of \$25.49.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

denr.sd.gov

December 27, 2013

Beresford Republic
PO Box 111
Beresford SD 57004

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 7916-3 to Appropriate Water. Please publish the notice once on January 9, 2014. 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 John H Thompson, 47333 295th St, Beresford SD 57004 (Ph # 605-957-4602).

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

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

Sincerely,

Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

December 27, 2013

Press & Dakotan
319 Walnut
Yankton SD 57078

ATTENTION: Legal Public Notice

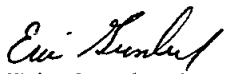
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Eric Gronlund
Natural Resources Engineer
605 773-3352

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 DATES, CONTACT
THE NEWSPAPER RIGHT AWAY.**

December 27, 2013

John H Thompson
47333 295th St
Beresford SD 57004

Dear Mr. Thompson:

Water Permit Application No. 7916-3 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 Beresford Republic printed at Beresford SD (Ph # 605-763-2006) 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 recommendation of the Chief Engineer and report on the application are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

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

Sincerely,

Eric Gronlund
Natural Resources Engineer
(605) 773-3352
enclosures

NOTE: If you plan to contest any part of the Chief Engineer's recommendation, you must file a petition pursuant to the procedures outlined in the attached notice of hearing. The Water Management Board will then consider your concerns during a hearing on the application.

Instruction to Newspaper - Publish the Notice on January 9, 2014. The applicant is responsible for payment. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352 or email: Karen.schlaak@state.sd.us.

NOTICE OF APPLICATION NO. 7916-3 to Appropriate Water

Notice is given that John H Thompson, 47333 295th St, Beresford SD 57004 has filed an application for a water permit to appropriate 0.56 cubic feet of water per second from one well to be completed into the Dakota Aquifer (159 feet deep) located in the SE 1/4 NE 1/4 Section 21 for irrigation of 150 acres located in the NE 1/4 Section 21; all in T93N-R50W.

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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

denr.sd.gov



FEB 27 2014

John H Thompson
47333 295th St
Beresford SD 57004

Dear Mr. Thompson:

Enclosed is Water Permit No. 7916-3 authorizing construction of your water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

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

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

Sincerely,

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

enclosures

SOUTH DAKOTA WATER WELL COMPLETION REPORT

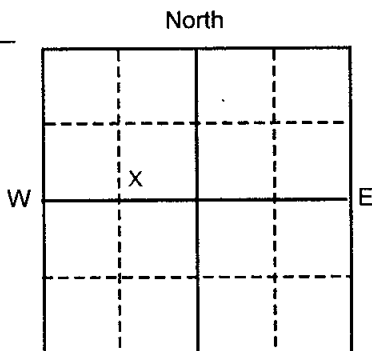
7916-5 SD Form - 1021LD V1

11-02

Location SE 1/4 NW 1/4 Sec 20 Twp 96N Rg 51W

County LINCOLN

Please mark well location with an "X"



Well Completion Date

4-30-2015

← 1 Mile →

Distance to nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)?
1,600.0 ft. from SEPTIC TANK (identify source)

PROPOSED USE:

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

METHOD OF DRILLING:
 REVERSE ROTARY

CASING DATA:

☐ Steel ☒ Plastic ☐ Other

If other describe

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
160.0 LB/FT	16.00 IN	0.0 FT	30.0 FT	28.00 IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
BENTONITE	30	9.5 Lb/gal	0.0 Ft	25.0 Ft

Describe grouting procedure

TREMIE PIPE AND GROUT PUMP

SCREEN:

☒ Perforated pipe ☐ Manufactured

Diameter 16.00 Inches Length 55.0 Feet

Material PVC

Slot Size .085 Set From 30.0 Feet to 85.0 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? CHLORINE TABLETS

☐ No, Why Not?

Lab to which water quality sample sent for analysis

Well Owner: RICHARD VASGAARD

Business Name:

Address: 28746 462 AVE

City, State, Zip: CENTERVILLE SD 57014

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
TOP SOIL	0	2
CLAY	2	11
GRAVEL	11	20
CLAY	20	35
MED SAND/ GRAVEL	35	85

STATIC WATER LEVEL 10.0 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: TURBINE PUMP AND MOTOR
☐ Bailed
☐ Other

Pumping Level Below Land Surface

50.0 Ft. After 2.0 Hrs. pumped 800.0 GPM

70.0 Ft. After 2.0 Hrs. pumped 1,000.0 GPM

If pump installed, pump rate: _____ GPM

REMARKS

RECEIVED

JUN 15 2015

WATER RIGHTS PROGRAM

This well was drilled under license # 805 and this report is true and accurate.

Drilling firm: SAM HEINE WELL CO.,LLC

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

Date: 4-30-15



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

January 14, 2025

NOTICE

TO: JOHN THOMPSON, 47333 295TH ST, BERESFORD, SD 57004

FROM: Ron Duvall, Engineer III
for Eric Gronlund, Chief Engineer
Water Rights Program

SUBJECT: Reporting Requirement for 2024 Irrigation Questionnaire(s)

Our records indicate your 2024 Irrigation Questionnaire(s) has not been submitted for Permit No(s) 7900-3, 7901-3, 7843-3 & 7916-3. The request for the Questionnaire was dated October 23, 2024. The Water Management Board has directed owners of water permits who have not submitted the 2024 Irrigation Questionnaire(s) be given notice of permit violation and a hearing to be held by the Board. The hearing is to determine what action is to be taken for violation of Water Permit No(s) 7900-3, 7901-3, 7843-3 & 7916-3 qualification:

"This permit is approved subject to the Irrigation Water Use Questionnaire being submitted each year."

The hearing will be held on **Wednesday, March 5, 2025, at 9:30 am (Central Time)** in the Floyd Matthew Training Center, Joe Foss Building, 523 E Capitol Avenue, Pierre, SD and will be conducted pursuant to SDCL 46-1-12, 46-1-14, 46-2-9, 46-2-11 and 46-2-17. These are contested case hearings pursuant to Chapter 1-26. According to SDCL 46-1-12, the Board may suspend a permit for a period of up to one year for the first violation of a permit qualification or up to three years for a second violation or cancel a permit for a third violation. Following the hearing, the Water Management Board can:

1. Suspend or cancel Permit No(s) 7900-3, 7901-3, 7843-3 & 7916-3 in accordance with applicable provisions of SDCL 46-1-12;
2. Postpone any action; or
3. Take no action.

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

If the questionnaire(s) is (are) received in this office before the **March 5, 2025**, hearing you will no longer be in violation of your permit and your name will be removed from the Board agenda. Enclosed are additional questionnaire(s) for your use. If you have questions or need assistance, please contact Amanda Dewell at (605) 773-3352 or email at amanda.dewell@state.sd.us. **If you prefer, you can complete the questionnaire online at the following link: <https://danr.sd.gov/iq> using this password: MHLBIX**

NOTE: Please contact the Water Rights Program, Joe Foss Building, 523 E Capitol, Pierre, SD (605-773-3352) to assure access to the meeting room for the handicapped or to obtain an interpreter for the hearing impaired.



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

January 24, 2025

7843-3, 7900-3
7901-3, 7916-3

John Thompson
47333 295th St
Beresford SD 57004

Dear Mr. Thompson:

I am writing to acknowledge the receipt of your 2024 irrigation questionnaire(s).

You may disregard the January 14, 2025, "Notice" concerning the reporting requirements for Water Permit No(s). 7843-3, 7900-3, 7901-3 & 7916-3. The information was received prior to the March 5, 2025, Water Management Board meeting and the above listed permit number(s) have been removed from the agenda.

If you have any questions or concerns, please contact me.

Sincerely,

Amanda Dewell
Permitting Administrator
Water Rights Program
605 773-3352
Amanda.Dewell@state.sd.us

**Report of Examination of Works and/or Application of Water to Beneficial Use
For Permit No. 7916-3**

I have this day, December 18, 2024, made a thorough examination of the water use systems owned by John Thompson, 47333 295th St., Beresford, SD 57004, holder of Permit No. 7916-3, bearing the priority date of October 18, 2013. This permit authorizes the diversion of 0.56 cu. ft. per second of the waters of groundwater (Dakota Aquifer) authorizing the irrigation of 150 acres located in Union County.

Inspection contacts: John Thompson

A. Works used to divert the water:

Well Information

- 1) Well Drilling Firm: Hammond Wetmore Drilling, LLC
- 2) No. of Wells: 1
- 3) Depth(s): 350 feet
- 4) Well log is available: Yes

Casing:

- 1) Diameter: 8 inches
- 2) Length: 310 feet
- 3) Type: Plastic

Screen:

- 1) Diameter: 8 inches
- 2) Length: 40 feet
- 3) Type: PVC
- 4) Static water level: 81 feet

Pump:

- 1) Make: Grundfos
- 2) Model: 385S250-4B
- 3) Capacity: 350 gpm

Motor:

- 1) Make: Unknown
- 2) Model No.: Unknown
- 3) Horsepower rating: 25 hp

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

- 1) Type: Six three-inch diameter polyethylene pipes from a distribution manifold by the well to six subsoil irrigation zones.

C. Works used to apply water to beneficial use:

- 1) Type: Subsoil irrigation with three-inch perforated plastic pipes on fifteen-foot spacings. See the field map shown below.

Chemigation Equipment:

- 1) Does chemigate: No

D. Compliance with Permit Requirements:

- 1) Permit qualifications being abided by: No
- 2) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period: Yes
- 3) Exceptions to compliance are: The pump flow rate is more than what was permitted.

E. Condition and Location:

- 1) The system is in good condition with the point(s) of diversion located as follows:
The well is 2,540 feet south and 50 feet west of the northeast corner of Section 21-T93N-R50W (Latitude 43.85925, Longitude -96.74687– SE1/4 of the NE1/4).
- 2) The works are capable of diverting and conveying to the places of use 0.78 cu. ft. per second of water from the well which is to be used for irrigation purposes. Water has been put to beneficial use to the maximum extent as follows:

<u>Section 21-T93N-R50W</u>	
<u>NW1/4NE1/4</u>	<u>39 acres</u>
<u>NE1/4NE1/4</u>	<u>37 acres</u>
<u>SW1/4NE1/4</u>	<u>36 acres</u>
<u>SE1/4NE1/4</u>	<u>38 acres</u>

comprising a total of 150 acres of land and the license should be issued for 0.56 cfs.

- 3) All structures, wells and lands on map: Yes

F. Comments or other permit(s) associated with the project: This is a subsoil irrigation system. The pump and motor information was obtained from Heine Electric and Irrigation, Inc. The pump is rated for more flow than authorized by the permit.

Keith DeJong

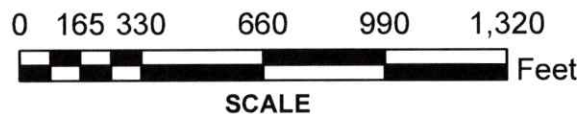
Keith DeJong, PE Ret.
Water Rights Inspector
DANR, Water Rights Program

Date report completed: December 20, 2024



John Thompson Subsoil Irrigation Pipe Map, NE1/4 of Section 21, T93N-R50W

Water Permit No. 7916-3



Keith DeJong
Keith DeJong, PE Ret.
Staff Engineer
December 18, 2024

7916-3

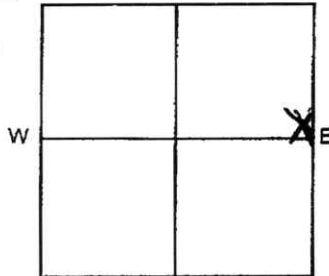
SD EForm - 1621LD V1

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location SE ¼ NE ¼ Sec 25 Twp 93n Rg 50wCounty Union ☒ North

Please mark well location with an "X"



Well Completion Date

9/1/2014

K — 1 Mile — D

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

2600 ft. from septic tank (identify source)

PROPOSED USE:

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

METHOD OF DRILLING:

Direct Rotary

CASING DATA:

If other describe

☐ Steel ☒ Plastic ☐ Other

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
SR 17 LB/FT	8 IN	0 FT	310 FT	13 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	48	9.5 Lb/gal	0 Ft	300 Ft
		Lb/gal	Ft	Ft

Describe grouting procedure
tremie

SCREEN:

☐ Perforated pipe ☒ ManufacturedDiameter 8 Inches Length 40 FeetMaterial pvcSlot Size 0.30 Set From 310 Feet to 350 Feet

Other information

WAS A PACKER OR SEAL USED? ☐ Yes ☒ No

If so, what material?

Describe packer(s) and location

DISINFECTION: Was well disinfected upon completion?

☒ Yes, How? hth tablets☐ No, Why Not?
Lab to which water quality sample sent for analysisWell Owner: John Thompson

Business Name:

Address: 47333 295th StreetCity, State, Zip: Beresford ☒ SD ☒ 57004

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
Topsoil, dk Brown	0	2
Clay, silty, brown, alluvium	2	12
Gravel, coarse,	12	14
Clay, gray, silty, pebbly (till)	14	60
Claystone, gray, silty	60	62
Siltstone, light gray, calcareous (Kg)	62	100
Siltstone, gray, clayey, (Kgs)	100	175
Siltstone & Sandstone, interbedded	175	280
Sandstone, white, v. fine,	280	360

STATIC WATER LEVEL 81 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

99.5 Ft. After 2 Hrs. pumped 350 GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: 350 GPM

REMARKS

RECEIVED

OCT 14 2014

WATER RIGHTS PROGRAM

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

Signature of License Representative:

Richard A. Hammond

Signature of Well Owner or Equitable Property Holder:

Date: 10/6/2014

10-28-14



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

January 26, 2015

John Thompson
47333 295th St
Beresford SD 57004

Dear Mr. Thompson:

A well driller's report filed by Hammond Wetmore Drilling LLC. indicates they completed a new well for you on September 1, 2014. The report states the well location as the SE 1/4 NE 1/4 Section 25-T93N-R50W and will be used for irrigation (copy enclosed). I have reviewed our files and cannot find a water permit for a well in this location. Water Permit No. 7916-3 authorizes a well and irrigation located in the NE 1/4 Section 21-T93N-R50W.

Please clarify if the location on the well drillers report is incorrect. If not, please let me know and I will send you application form to apply for a water permit.

If you have any questions, please contact me.

Sincerely,

Karen Schlaak

Karen Schlaak
Water Rights Program
karen.schlaak@state.sd.us

enclosure

Karen:

Dick Hammond Dug the well for me. it is
in the S.E. corner of the N.E. 1/4 of section 21
T 93 R 50 = Union County S.D. Spink Twp.
1/2 a mile north of Spink So. Dak.
I Don't know where he got section 25?
John Thompson



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

APR 07 2025

John H Thompson
47333 295th St
Beresford, SD 57004

Nos. 7843-3 & 7916-3

Dear Mr. Thompson:

Enclosed is Water License Nos. 7843-3 and 7916-3. These are the final water right documents completing your process of obtaining the Water Rights. Included with your licenses are maps 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,

Mark Mayer, PE
Director of Office of Water
(605) 773-3352

NOTE: The inspection found your system for Water Right No. 7843-3 to be capable of diverting 1.78 cfs (approx. 800 gpm). Diversion of water under this license is limited to 1.67 cfs (approx. 750 gpm).

The inspection found your system for Water Right No. 7916-3 to be capable of diverting 0.78 cfs (approx. 350 gpm). Diversion of water under this license is limited to 0.56 cfs (approx. 251 gpm).

enclosures

**STATE OF SOUTH DAKOTA
WATER LICENSE NO. 7916-3**

(1) John H Thompson, 47333 295th St, Beresford, SD 57004, made Application No. 7916-3, October 18, 2013, for a water permit to divert 0.56 cubic feet of water per second from groundwater, one well (Dakota Aquifer), Union County, South Dakota for irrigation purposes. Permit No. 7916-3, with a priority date of October 18, 2013, was approved January 20, 2014, and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before January 20, 2019, and for the application to beneficial use of water on or before January 20, 2023.

(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 0.56 cubic feet of water per second for beneficial use. The location of the diversion point is:

- 2,540 feet S and 50 feet W of the NE corner of Section 21, T93N, R50W (SE $\frac{1}{4}$ NE $\frac{1}{4}$)
(Latitude 43.85925 and Longitude -96.74687)

(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: July 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 21, T93N, R50W
NE $\frac{1}{4}$ NE $\frac{1}{4}$ - 37 acres
NW $\frac{1}{4}$ NE $\frac{1}{4}$ - 39 acres
SW $\frac{1}{4}$ NE $\frac{1}{4}$ - 36 acres
SE $\frac{1}{4}$ NE $\frac{1}{4}$ - 38 acres
Total – 150 acres

(5) Pursuant to South Dakota Water Law 46-5-30.1 John H Thompson, the holder and/or owner of Water Right No. 7916-3 is issued a license to appropriate water, the right to use 0.56 cubic feet of water per second from groundwater, one well (Dakota Aquifer), with a priority date of October 18, 2013, 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. 7916-3 and subject to 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. 7916-3 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. *(The well was drilled in 2014 by Hammond Wetmore Drilling LLC. A copy of the well completion report is on file with the Water Rights Program.)*
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.



Mark Mayer, PE
Director of Office of Water

4/7/25

date

