

WATER PERMIT NO. 8173-3

Name of Applicant: Cody Eugene Smith

Address: 8752 87th St SE, Monango ND 58436

Phone: 701 535-0357

Amount of Water Claimed: 3.33 cfs

Total Acres: 240

Source of Water Supply: groundwater (one well)

Water to be used for: irrigation

County: McPherson

Type of Waste Disposal System:

Location: 5 miles north of Long Lake

PRIORITY Date Received: 6-9-15

Application/License Fee: \$ 1150

Corrected Application Received: 6-28-15

Period of Annual Use: May 1 – Sept 15

29

Remarks:

Diversion Point: W 1/2 NE 1/4 Sec 5-T128N-
R69W

Land to be Irrigated: E 1/2 Sec 5-T128N-R69W

Depth of Well: 280 feet deep

Well Driller: Manikowski Well Drilling

Remarks:

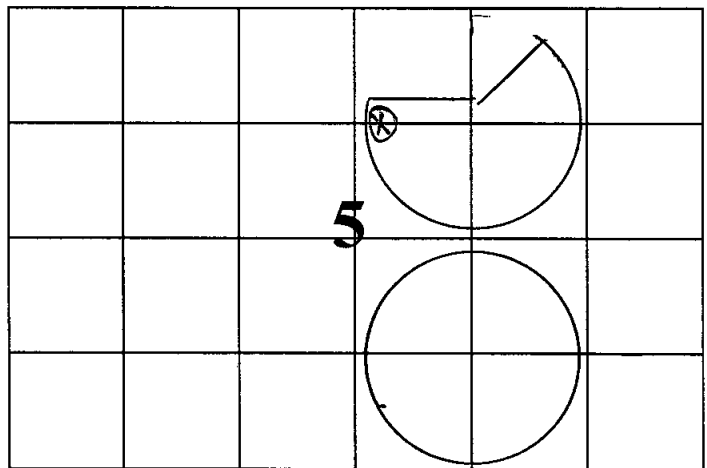
Type of Map: aerial

Prepared by:

Reviewed and the Number Assigned on: 6-29-15

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

(office use only)
No. 8173-3 Hydrologic Unit 10130106
Basin Missouri River 605-284-2631
Newspaper NW Blade, Box 797 Eureka 57437
American News, Box 443- 57402 605-225-4100

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WATER RIGHTS
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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

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

Cody Eugene Smith

(name and complete address if different than above name)

Mailing Address ~~8752~~ 87th St SE Monango ND 58436
(Address) (City) (State) (Zip Code)

Home Phone 701-349-4516 Cell 701-535-0357 Email codyesmith0@gmail.com

2. Amount of water claimed 3.33 *CFS or 1500 **GPM ***AF Total Acreage 240
(*Cubic Feet per Second) (**Gallons per Minute) (**Acre Feet storage capacity of dam/dugout or annual use if applicable)

3. Source of water supply 1 well 280ft from Spring Creek Aquifer

4. Location of point of diversion

1 well in NE $\frac{1}{4}$ Section 5 T128N R69W (example 3 wells in SW $\frac{1}{4}$ NE $\frac{1}{4}$ section 12 T104N R53W)
W1/2 Harrison Township County Mepherson

5. County or counties where water will be used Mepherson

6. Annual period during which water is to be used May 1 - Sept 15

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
NE $\frac{1}{4}$ Sec. 5 - 128N - 69W	110		
SE $\frac{1}{4}$ Sec. 5 - 128N - 69W	130		

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

1 well, 2 pivots, covering ~~215~~ 215 acres (under pivot)

I, Cody E. Smith, 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. 8173-3

Date of first receipt of application June 9, 2015.

Date of return to applicant for corrections, amendments or changes June 9, 2015.

Date of receipt of corrected application June 29, 2015.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 8173-3 to Cody Eugene Smith, 8752 87th St SE, Monango ND 58436 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. 8173-3 appropriates 3.33 cubic feet of water per second from one well to be completed into the Pleistocene series: Unknown Aquifer (280 feet deep) located in the W 1/2 NE 1/4 Section 5 for irrigation of 240 acres located in the E 1/2 Section 5; all in T128N-R69W.
2. The amount of the appropriation may not exceed 2 acre feet annually for each acre of land to which water is actually and beneficially applied for irrigation. The water is to be used during the following described annual period: May 1 – September 15.
3. The date from which applicant may claim right is June 9, 2015.
4. The date of approval of Permit No. 8173-3 is September 28, 2015.
5. One-fifth of the construction is to be completed on or before March 28, 2018.
6. All construction is to be completed on or before September 28, 2020.
7. Water is to be put to beneficial use on or before September 28, 2024.
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. 8173-3 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.

(continued)

4. A North Dakota observation well located 0.8 miles east northeast of the well authorized by Permit No. 8173-3 will be used to monitor water levels in the aquifer if it is functional. If that observation well is no longer useable, the Permit holder shall contract with a licensed well driller to construct an observation well for the South Dakota Department of Environment and Natural Resources - Water Rights Program Observation Well Network. The observation well must be completed into the same aquifer as the production well and shall be located in the public right of way or a perpetual easement shall be granted to the State for the purpose of maintaining an observation well on property owned by the Permit holder. The observation well construction must be coordinated with the DENR Water Rights Program staff.

WATER MANAGEMENT BOARD

By: *Jeanne Goodman*

Jeanne Goodman, Chief Engineer

Water Rights Program

Department of Environment and Natural Resources

OCT 09 2015

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 Manikowski Well Drilling Inc.
(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 280 Depth to Top of Water Bearing Material Depth to Water from Surface

d) Distance to nearest existing domestic well: 1 mile approx. pasture well for livestock

On applicant's property ☐

On property owned by others approx. 1 mile
(livestock well)

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)

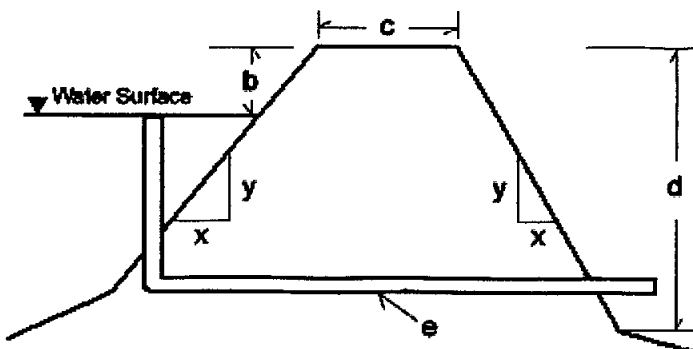
Upstream

Downstream

h) Surface Area of Impoundment

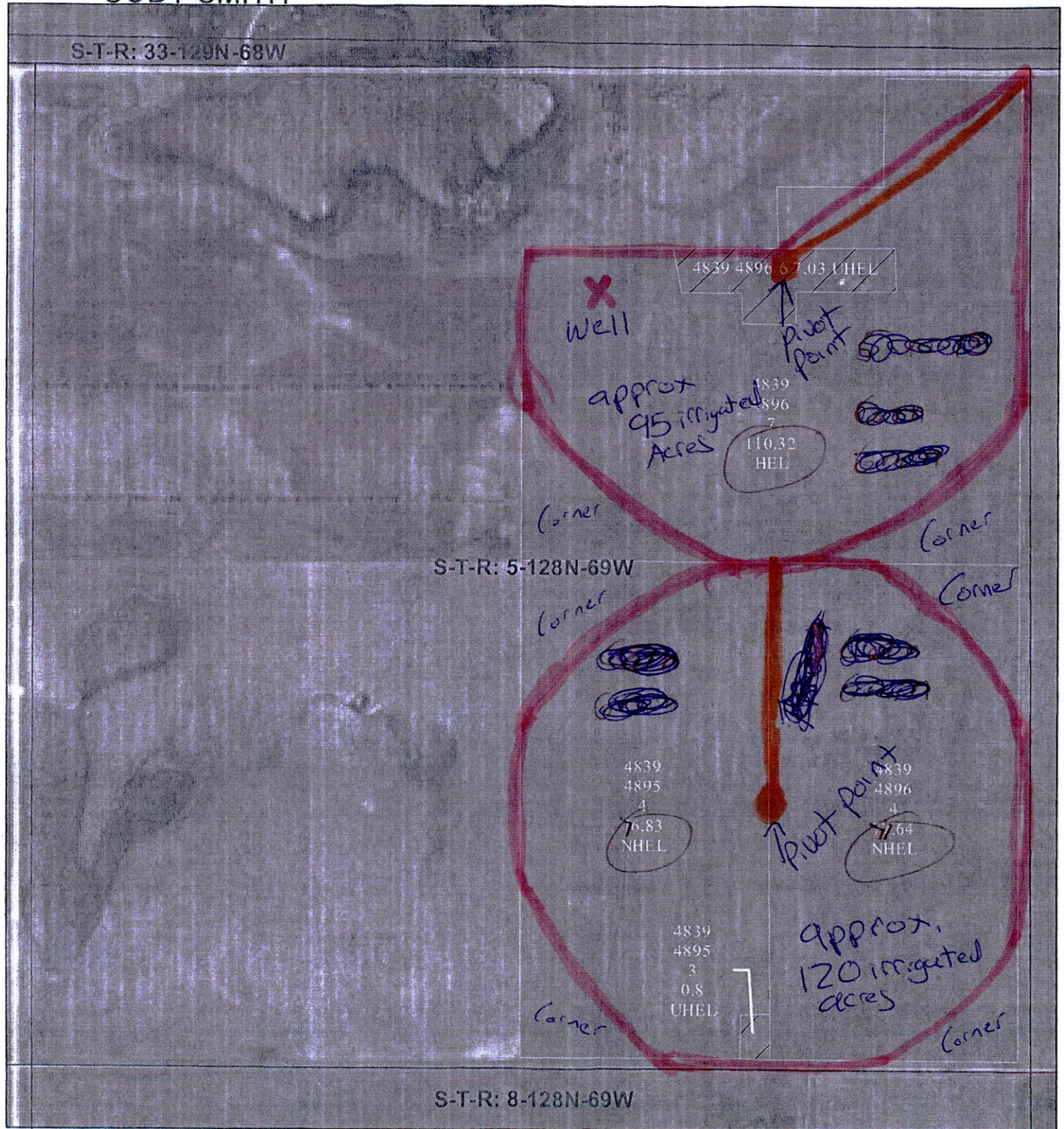
i) Storage Acre Feet

j) Drainage Area Above Dam Acres



CODY SMITH

S-T-R: 33-129N-68W



United States Department of Agriculture
Farm Service Agency

November 05, 2012

PLSS: 5_128N_69W
Farm: 4839

McPherson County
1:8,446



Total field
area 280 acres

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

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Total Irrigated Acres
215 1/2

**WATER RIGHTS
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Cody Smith Sec. 5. 128. ~~68~~ 69
Hole #1
5/21/15

0-5. Topsoil and. Fine sand
5-10. Med to coarse sand
10. Clay layer
10-15. Fine gray sand
15-179 Blue clay
179-188. Medium sand
188-234. Soft blue clay
234-244 Fine clean sand
244-252. Soft blue clay
252-258. fine sand
258-274. Silty clay
274-282. Fine to coarse sand
TD. 295

69
Cody Smith 128 5
Hole #2
5/21/15

0-5.	Topsoil & yellow clay
5-22.	Medium to coarse sand
22-165.	Blue clay
165-172.	Medium sand
172-175.	Blue clay
175-177.	Sand
177-183.	Blue clay
183-193.	Clean fine to medium sand
193-235.	Soft silty blue clay
235-262.	Fine chatterry sand
262-271.	Silty clay
271-287.	Med to coarse sand
	Drilled good
287-300.	Shale
TD.	300

Cody Smith
Hole #3
West test hole
5/22/15

0-10.	Sand and gravel
10-185.	Blue clay
185-191.	Clean fine sand
191-234.	Soft silty blue clay
234-237.	Clean fine sand
237-253.	Clay
253-263.	Clean fine to medium sand
263-271.	Soft blue clay
271-295.	Clean coarse sand and gravel
295-300.	Shale

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 6/9, 20 15

RECEIVED OF Cody Smith 8752 87th St SE Monango ND 58436

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

Fee for Application for Permit No. <u>8173-3</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. _____		
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	950 00

No. 07419

By *James Goodman*
Chief Engineer

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 6/29, 20 15

RECEIVED OF Cody Smith 8752 87th St SE Manango ND 58436

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

Fee for Application for Permit No. _____ to Appropriate Water, to construct and to put water to beneficial use	200	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>8173-3</u>		
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	200 00

No. 07439

By

James Goodman Jr
Chief Engineer



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

June 9, 2015

Cody Eugene Smith
8752 87th St SE
Monango ND 58436

Dear Mr. Smith:

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

- The application/license fee for irrigation of 215 acres is \$1,150.00. We received your check for \$950.00. Please submit an additional \$200.00.
- You indicated the test hole(s) had been drilled by Manikowski Well Drilling. If available, please submit a copy of the test hole log. *received 6/12/15*
- You also indicate the total acres to be irrigated as approximately 215 acres. It would be to your advantage to overestimate acreage versus under estimate. The filing fee remains the same for irrigation of 181 to 240 acres. After the water permit is developed, a staff person will inspect and license the permit for the actual number of acres developed. If more than 215 acres are developed, you will then need to make application for the additional acres.
- Please let me know if you would like to change the application for 130 acres in the SE 1/4 and 110 acres in the NE 1/4 of Section 5 for a total of 240 acres.

If you have any questions, please contact me.

Sincerely,

Karen Schlaak

Karen Schlaak
Water Rights Program
605 773-3352
karen.schlaak@state.sd.us

Water Rights Program - File Documentation

NAME: Cody Smith

ADDRESS: Monango ND

DATE: 6-16-15 **COUNTY:** McPherson **TELEPHONE:** 701 535-0357

RE: Pending application

COMMENTS:

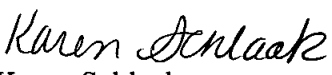
Cody Smith called regarding my June 9th letter. Mr. Smith stated he would like to amend the number of acres to be irrigated on his application as follows:

110 acres in the NE 1/4 Section 5-T128N-R69W

130 acres in the SE 1/4 Section 5-T128N-R69W

For a total of 240 acres.

He will be sending in the additional fee. I told Mr. Smith we had received the test hole logs from the Manikowski Well Drilling on June 12th.


Karen Schlaak
Water Rights Program



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

denr.sd.gov

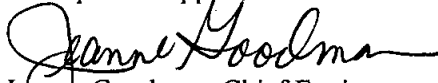
**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 8173-3, Cody Eugene Smith**

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. 8173-3, Cody Eugene Smith, 8752 87th Street SE, Monango ND 58436

The Chief Engineer is recommending APPROVAL of Application No. 8173-3 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. 8173-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.
4. A North Dakota observation well located 0.8 miles east northeast of the well authorized by Permit No. 8173-3 will be used to monitor water levels in the aquifer if it is functional. If that observation well is no longer useable, the Permit holder shall contract with a licensed well driller to construct an observation well for the South Dakota Department of Environment and Natural Resources - Water Rights Program Observation Well Network. The observation well must be completed into the same aquifer as the production well and shall be located in the public right of way or a perpetual easement shall be granted to the State for the purpose of maintaining an observation well on property owned by the Permit holder. The observation well construction must be coordinated with the DENR Water Rights Program staff.

See report on application for additional information.


Jeanne Goodman, Chief Engineer
September 1, 2015

NOTE: The SD Department of Environment and Natural Resources (DENR) has contacted the North Dakota State Water Commission regarding the use of an observation well located about 0.8 miles from your proposed irrigation well site to monitor water levels in the aquifer. North Dakota staff indicated the water level in that observation well was last recorded in 2008. If the well is

useable, North Dakota is agreeable to DENR using the well in our observation well network which will mean taking routine water level readings. North Dakota staff is checking the status of this observation well. Once DENR finds out if the well can be part of our observation well network, we will contact you to let you know whether it can be used or if you will need to construct an observation well.

If you have any questions regarding this observation well issue, I encourage you to contact Whitney Kilts or Ken Buhler of my staff at (605) 773-3352.

Report to the Chief Engineer

Application No. 8173-3

Cody Smith

July 24, 2015

Water Permit Application Number 8173-3 proposes to appropriate water from the Pleistocene series: Unknown aquifer at a maximum diversion rate of 3.33 cubic feet per second (cfs). This application proposes to divert water from one proposed well located in the W ½ NE ¼ Section 5 in T128N-R69W. The water is to be used for the irrigation of 240 acres in the E ½ of Section 5 in T128-R69W. The proposed well location for this application is about a quarter of a mile from the North Dakota border and about five miles north of Long Lake, SD in McPherson County.

Aquifer: Pleistocene series: Unknown (PS: U)

Aquifer Characteristics and Hydrogeology

The test hole identified by the driller as the most favorable location for a well to supply this proposed appropriation reported that aquifer materials were encountered at 0-10, 185-191, 234-237, 253-263, and 271-295 feet below grade (approximate location shown in Figure 1). The thickest of these (24 feet) are the aquifer materials encountered at 271 to 295 feet below grade described as “clean coarse sand and gravel.” In the region of the proposed well site for this application, Hamilton (1982) identifies the Spring Creek aquifer, Klausing (1981a) reports on the Spring Creek aquifer system in McIntosh County North Dakota, Hedges et al. (1982 and 1985) map the McPherson management unit of the Spring Creek aquifer, and North Dakota State Water Commission (2015b) updates the extent of Klausing (1981a). Hamilton (1982) primarily reports on the “mostly shallow outwash” conditions that dominate the aquifer in McPherson County, but does note that in north central McPherson County the aquifer is buried. Hedges et al. (1982) classifies the Spring Creek: McPherson as an aquifer of the surface system. Neither Hedges et al. (1982) nor Hamilton (1982) map an aquifer at the proposed well location for this application.

Klausing (1981a) describes the Spring Creek aquifer system near the South Dakota/North Dakota border as consisting of a vertical sequence of four “laterally extensive” aquifers (shown in Figure 2). An examination of publications with information on this aquifer and of North and South Dakota lithological data appears to indicate that the upper aquifers of the vertical sequence identified in Klausing (1981a) correspond with the McPherson management unit of the Spring Creek aquifer, and the basal aquifer of the sequence has only a minimal extent in South Dakota. Its areal extent is primarily located in North Dakota (Klausing, 1981a, 1981b, 1981c; North Dakota 2015b; North Dakota 2015c; SDGS, 2015; and Water Rights, 2015c). Based on the South Dakota aquifer identification conventions this aquifer is considered to be Pleistocene series: Unknown, however the majority of published data on this aquifer is from North Dakota where it is considered part of the Spring Creek aquifer system. The basal aquifer of this series appears to consist primarily of aquifer materials located below about 1720 to 1730 feet mean sea level (ft. msl) corresponds with the aquifer materials encountered at the test hole at 253-263 (1665-1689

ft. msl) and 271-295 (1697-1707 ft. msl) feet below grade (Klausing, 1981a; North Dakota 2015b; North Dakota 2015c; SDGS, 2015; and Water Rights, 2015c). The aquifer is under confined conditions at the proposed well site for this application (North Dakota, 2015c). An examination of Klausing (1981a, 1981b, 1981c, and 1981d) indicate that the basal aquifer of this system consists of buried valley deposits in North Dakota that merge near the North and South Dakota borders (see Figure 2 and 3). Groundwater movement is generally toward the south (Klausing, 1981b).

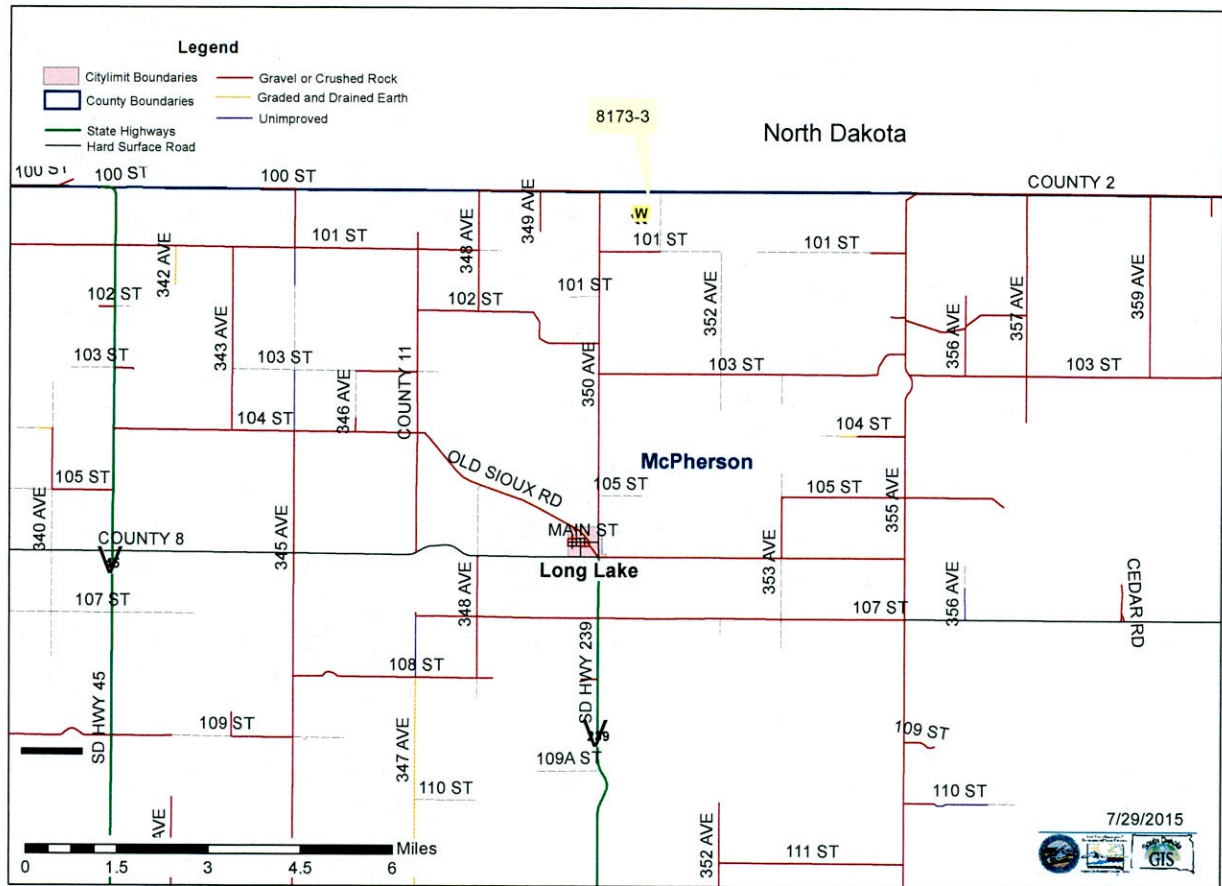


Figure 1: Approximate location of proposed well site location for this application

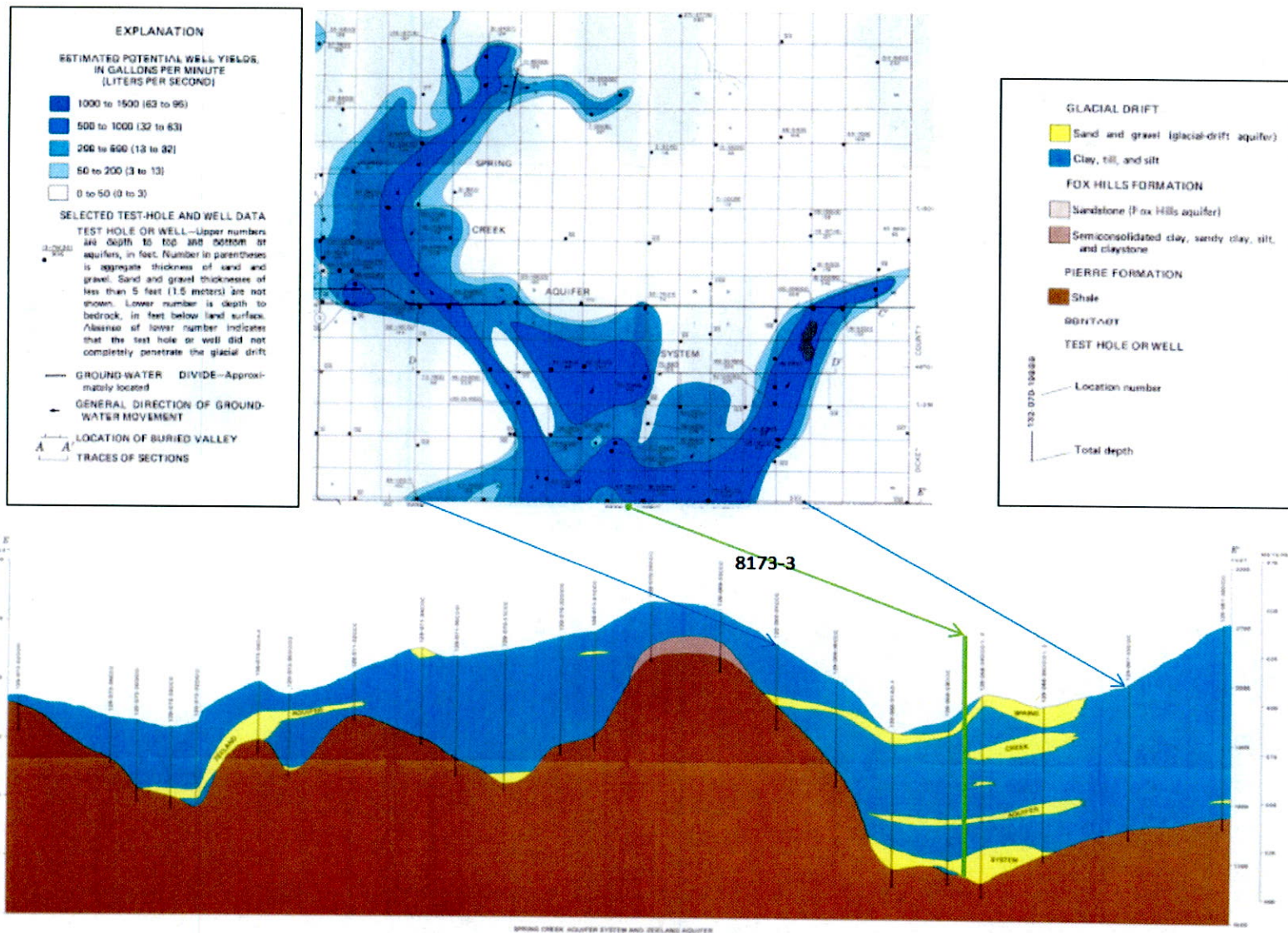


Figure 2: Geologic cross section located at the border of McIntosh County, ND and South Dakota with cross section area corresponding to the Spring Creek Aquifer System indicated (modified from Klausing, 1981b and 1981c)

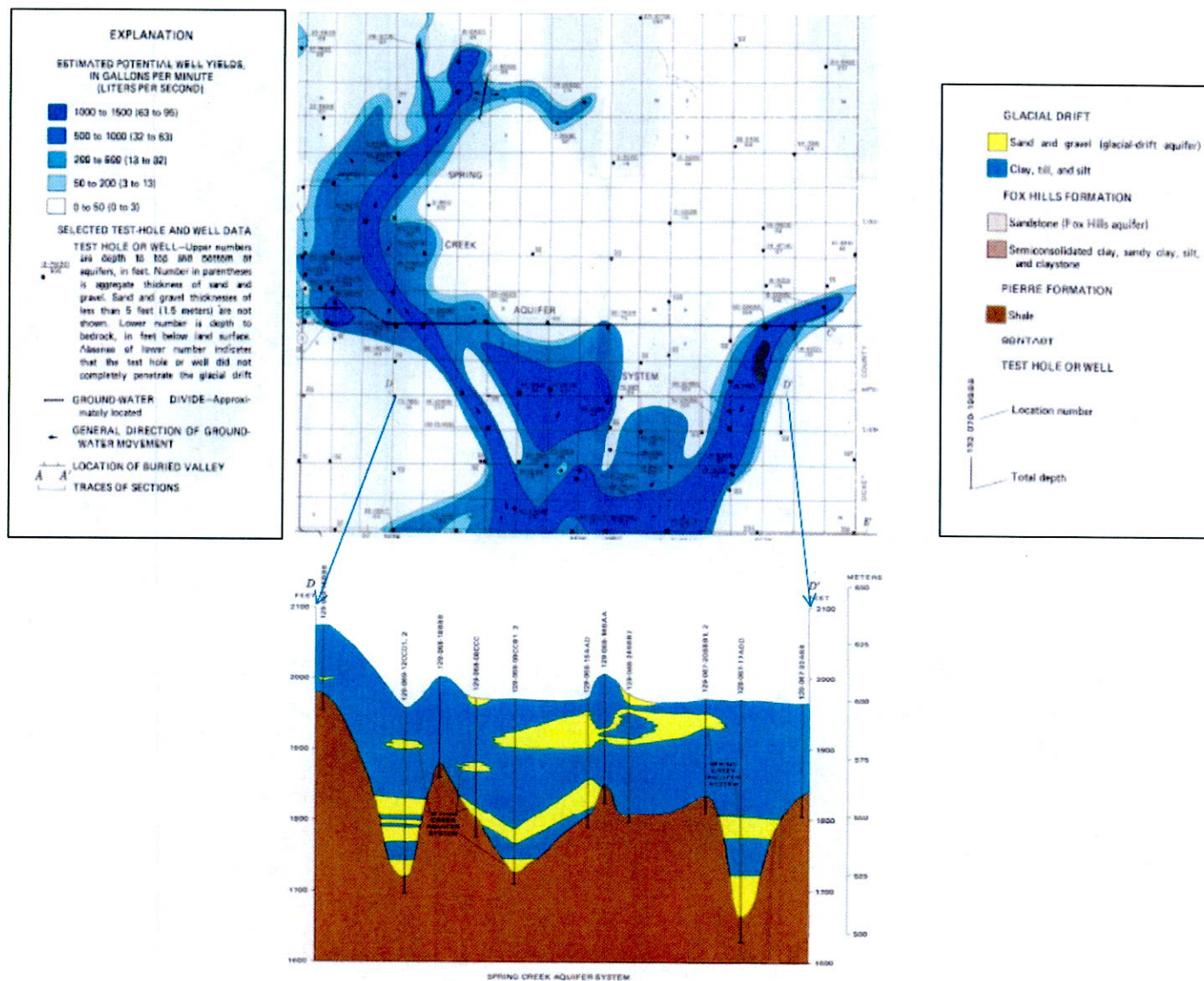


Figure 3: Geologic cross section located approximately four miles north of the border of McIntosh County, ND and South Dakota with cross section area corresponding to the Spring Creek Aquifer System indicated (modified from Klausing, 1981b and 1981c)

Klausing (1981a) estimated the area of the Spring Creek aquifer system in North Dakota at about 56,320 acres, and the North Dakota State Water Commission (2015b) estimates the area of the Spring Creek aquifer system in North Dakota at about 77,883 acres. In considering the limited lithological data available, area bedrock topography, Spring Creek Aquifer System cross sections, and Klausing (1979, 1981b, 1981c, 1981d and North Dakota, 2015c) there is a reasonable indication that the aquifer of the system in which the proposed well for this application would be considering could have an areal extent of at least 7,360 acres (shown in Figure 4). Additionally, communication with the North Dakota State Water Commission staff indicated that there are no foreseeable plans for additional drilling to take place within the estimated area of this aquifer (in Figure 4) (Rambo, 2015b).

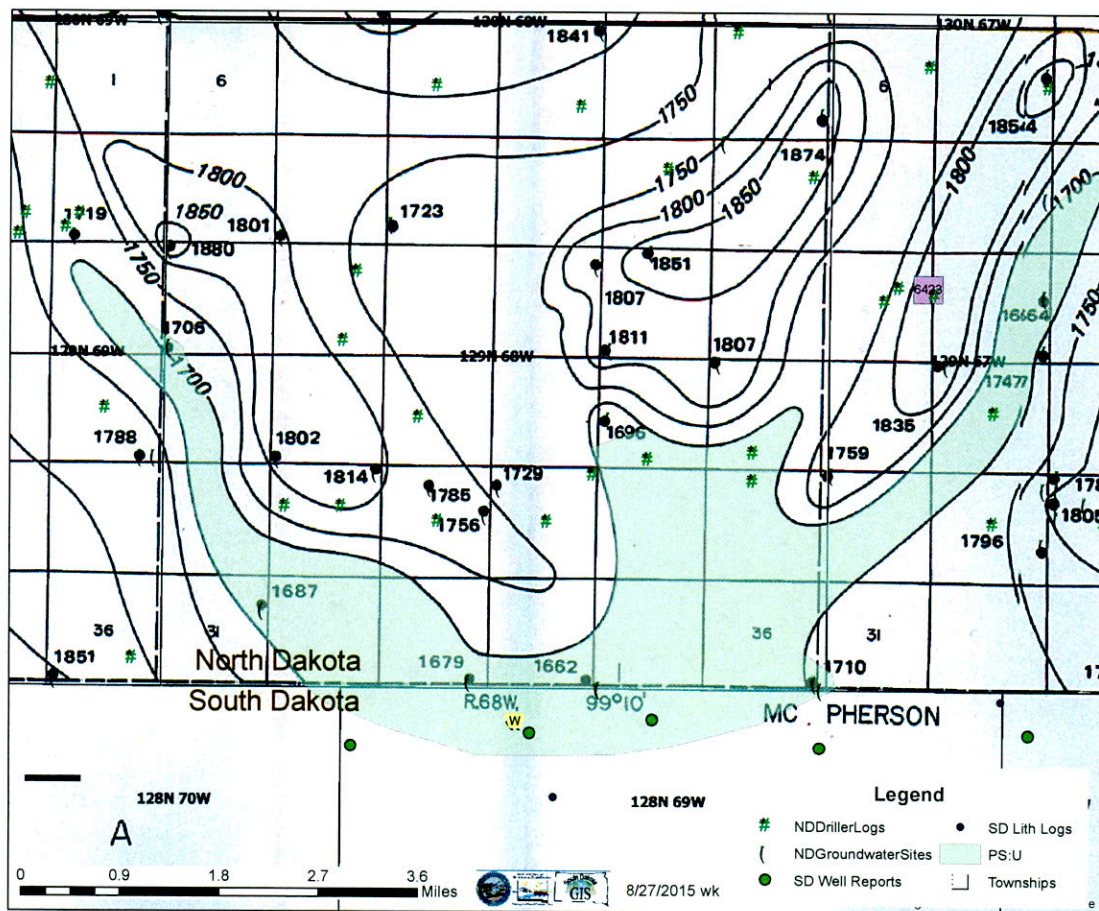


Figure 4: Estimated areal extent of the aquifer and lithological data locations on a base map of the McIntosh County Bedrock Map (modified from Klausing, 1981a, 1981b, 1981c, 1981b; North Dakota 2015b; North Dakota 2015c; SDGS, 2015; and Water Rights, 2015c)

South Dakota Codified Law (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 that are pertinent to this application.

Water Availability

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 water distribution system has applied for a permit, the Board need not consider the recharge/withdrawal issue. Here, a water distribution system is not involved and the Pleistocene series: Unknown aquifer is not older or lower than the Greenhorn Formation, therefore the withdrawal/recharge issue must be considered.

Observation Wells

The SD-DENR Water Rights Program does not monitor any observation wells in this aquifer. The North Dakota State Water Commissions’ Online Ground and Surface Water Database indicates that they have an observation well located approximately 0.8 miles east northeast of the proposed well site for this application that appears to be located in the same aquifer as the proposed well for this application. There are a limited number of water level measurements for this observation well taken in 1977, 2003, and 2008, which show relatively similar water levels (North Dakota, 2015c). Personal communication indicated that currently North Dakota State Water Commission has no plans for more routine monitoring of water levels this far south in the aquifer (Rambo, 2015b). Due to this, the limited information available on this aquifer, and the lack of any South Dakota observation wells completed into this aquifer it is suggested that this permit, if approved, require the installation of an observation well to allow water level monitoring of the aquifer.

Estimated Hydrologic Budget

For confined glacial aquifers, Hedges et al. (1985) recommends utilizing a range of recharge rates from 0.15 to 0.60 inches per year for management and development programs to estimate recharge. At an average annual application rate of less than one foot per acre per year an annual recharge volume less than 240 acre-feet per year would be needed. At the suggested recharge rates of Hedges et al. (1985) the areal extent of the aquifer would need to be between 4,800 acres and 19,200 acres. Based on the available data the areal extent of the aquifer is estimated at about 7,360 acres, which results in an estimated average annual recharge of 92 to 368 acre-feet. This range of recharge rates corresponds to average annual application rates over 240 acres of 4.6 to 18.4 inches per acre. Any domestic and stock withdrawals from this aquifer would be expected to have relatively small diversion rate and would not be considered a significant portion of the hydraulic budget.

Existing Users

There are no water rights/permits in South Dakota completed into this aquifer. There are domestic well completion reports on file with the SDDENR-Water Rights Program within two miles of the proposed well location for this application, some of which could to be completed into this aquifer; however the majority appear to be completed into overlying aquifers.

The Water Management Board has promulgated rules that allow water to be placed to maximum beneficial use without the necessity of maintaining artesian head pressure for domestic use. The board has defined an adversely impacted domestic well 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.” Additionally, in the case of irrigation since reasonable domestic use must be insured first, the Water Management Board does need to give consideration to artesian head pressure. In the case of Water Permit Application No. 2313-2 for the Coca-Cola Bottling Company of the Black Hills the Water Management Board adopted findings that noted that if the increased costs or decreased production as a result of the impacts of legitimate users on artesian head pressure could be considered an adverse impact it would conflict with SDCL 46-1-4 (Water Rights, 1995). SDCL 46-1-4 requires the water resources of the state be put to beneficial use to the maximum extent of which they are capable (Water Rights, 1995).

North Dakota

Communication with the North Dakota State Water Commission staff indicated that there were no concerns about the Spring Creek aquifer in North Dakota (Rambo, 2015a). Additionally, the proposed well for this application is not expected to adversely impact domestic or stock wells in North Dakota due to distances involved or the completion of wells into a more surficial aquifer than the aquifer being considered by this application (North Dakota, 2015b and Rambo, 2015a).

The proposed well location for this application is located approximately 0.25 miles south of the North Dakota border. The North Dakota State Water Commissions' Online Water Permits Database has two records for the Spring Creek aquifer (North Dakota, 2015a). One is for the City of Ashley North Dakota approved for 470.4 acre-feet, and the other is for an irrigation permit for the Ashley Public School District No. 9 for 17 acres (North Dakota, 2015a). Ashley, ND, is about six miles north of the South Dakota border. The North Dakota State Water Commissions' Online Water Permits Database has water use data from the Spring Creek aquifer from 1977 to 2014 with average annual water use for that time period of about 130 acre-feet. Additionally there is a recently approved groundwater permit (for George Kibby) for the Spring Creek aquifer for the irrigation of 197.1 acres is located about 5.5 miles northeast of the proposed well site for this application (North Dakota, 2015a and 2015b and Rambo, 2015). These permits are located outside the estimated extent of this aquifer. However due to the limited

amount of data in the area it is possible that they could be completed into this aquifer should it extend beyond the estimated areal extent.

Conclusions

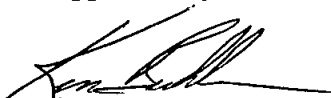
1. Water Permit Application No. 8173-3 proposes to appropriate water from the Pleistocene series: Unknown aquifer at a maximum diversion rate of 3.33 cfs from one proposed well located in the W ½ NW ¼ Section 5 in T128N-R69W for the irrigation of 240 acres in the E ½ of Section 5 in T128-R69W.
2. The majority of the areal extent of this aquifer is located in North Dakota.
3. There is a reasonable probability that there is water available in the aquifer to meet the needs of this application.
4. There is a reasonable probability that this application will not adversely impact existing adequate wells.
5. The construction and monitoring of an observation well in this aquifer is recommended.



Whitney Kilts

SDDENR-Water Rights Program

Approved by



Ken Buhler

SDDENR-Water Rights Program

References

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- Christensen, C. M. 1977. Geology and Water Resources of McPherson, Edmunds, and Faulk Counties Part I: Geology. Bulletin 26. SDGS. Vermillion, SD.
- Clayton, L. 1962. Glacial Geology of Logan and McIntosh Counties North Dakota. Bulletin 37. NDGS. Grand Forks, ND.
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- 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 3: Ground-Water Storage. U.S. Army Corps of Engineers Contract DACW 45-80-C-0185.
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- Klausing, R. L. 1981a. Ground-water Resources of McIntosh County, North Dakota. County Ground-water Studies 30-Part III and Bulletin 73-Part III. USGS, ND State Water Commission and NDGS, Bismarck, ND.
- Klausing, R. L. 1981b. Ground-water Resources of McIntosh County, North Dakota. County Ground-water Studies 30-Part III and Bulletin 73-Part III. Plate 3: Map Showing availability of Water from Major Glacial Aquifers, McIntosh County, North Dakota. USGS, ND State Water Commission and NDGS, Bismarck, ND.
- Klausing, R. L. 1981c. Ground-water Resources of McIntosh County, North Dakota. County Ground-water Studies 30-Part III and Bulletin 73-Part III. Plate 4: Geologic Sections of Glacial-Drift and Fox Hills Aquifers, McIntosh County, North Dakota. USGS, ND State Water Commission and NDGS, Bismarck, ND.
- Klausing, R. L. 1981d. Ground-water Resources of McIntosh County, North Dakota. County Ground-water Studies 30-Part III and Bulletin 73-Part III. Plate 1: Map Showing

Topography of the Pierre Formation, McIntosh County, North Dakota. USGS, ND State Water Commission and NDGS, Bismarck, ND.

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North Dakota State Water Commission. 2015b. North Dakota State Water Commission Mapservice. Retrieved 7/30/2015. <http://mapservice.swc.nd.gov/>

North Dakota State Water Commission. 2015c. North Dakota Ground and Surface Water Database. Retrieved 7/30/2015. <http://www.swc.nd.gov/4dlink2/4dcgi/wellsearchform/Map%20and%20Data%20Resources>

Rambo, B. 2015a. Personal Communication. Hydrologist. North Dakota State Water Commission. Bismarck, ND. August 25, 2015.

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Water Rights. 1980-2015. 1979-2014 Irrigation Summaries by Aquifer. SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.

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AFFIDAVIT OF PUBLICATION

RECEIVED

SEP 21 2015

WATER RIGHTS
PROGRAM

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

STATE OF South Dakota: COUNTY OF McPherson

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

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

The notice has been published in the newspaper listed above.

DATE(S) OF PUBLICATION

Sept. 17 - Notice of application number
8173-3 to appropriate water

NAME OF THE CORPORATION/GOVERNMENT OFFICE: DENR

TYPE OF DOCUMENT: legals

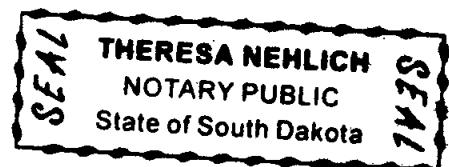
AUTHORIZED SIGNATURE: Kayla Metzger

SUBSCRIBED AND SWORN TO BEFORE ME ON THE

17th DAY OF September, 2015.

NOTARY SIGNATURE: Theresa Nehlich

My Commission Expires: June, 16 2020



**NOTICE OF APPLICATION NO.
8173-3 to Appropriate Water**

Notice is given that Cody Eugene Smith, 8752 87th St SE, Monango ND 58436 has filed an application for a water permit to appropriate 3.33 cubic feet of water per second from one well to be completed into the Pleistocene series: Unknown Aquifer (280 feet deep) located in the W 1/2 NE 1/4 Section 5 for irrigation of 240 acres located in the E 1/2 Section 5; all in T128N-R69W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No.

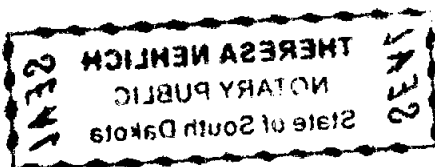
8173-3 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on this application, as recommended, unless a petition is filed 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 September 28, 2015.

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 \$19.67 at .01 cents per reader.



RECEIVED

SEP 14 2015

Form 8

WATER RIGHTS
PROGRAM

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County of Brown) SS

I, Mary Bostian

certify that the attached printed Notice was taken
from the Aberdeen News

printed and published in Aberdeen

County of Brown and

state of South Dakota. The notice was published

in the newspaper on the following date:

Sept 10, 2015

Cost of Printing \$ 43.75

Mary Bostian

(Signature)

Adv. Billing Sec

(Title)

(No. 2010798)
(Sept. 10, 2015 - 1T)

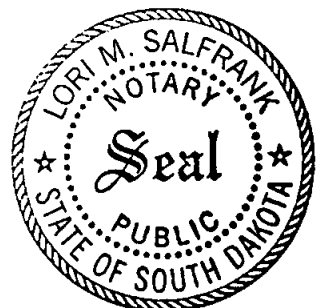
NOTICE OF APPLICATION NO. 8173-3
to Appropriate Water

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Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8173-3 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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9-11-15

(Date Signed)

Schlaak, Karen

From: Schlaak, Karen
Sent: Wednesday, September 02, 2015 8:33 AM
To: nwblade@valleytel.net
Subject: 8173-3, Cody Eugene Smith
Attachments: 8173-3public.short.docx; FORM8 FRM.doc

Attached is a notice to be published on September 10, 2015.

Cody Eugene Smith, 8752 87th St SE, Manongo ND 58436 (701 349-4516 or c 701 535-0357) has been notified to contact you to authorize publication and arrange for payment.

Please send the affidavit or return the attached Proof of Publication form ASAP.

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

Karen Schlaak

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

Schlaak, Karen

From: Schlaak, Karen
Sent: Wednesday, September 02, 2015 8:31 AM
To: Nancy Zantow (nzantow@aberdeennews.com)
Subject: 8173-3, Cody Eugene Smith
Attachments: 8173-3public.short.docx; FORM8 FRM.doc

Attached is a notice to be published on September 10, 2015.

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

Karen Schlaak

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



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

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

September 1, 2015

Cody Eugene Smith
8752 87th St SE
Monango ND 58436

Dear Mr. Smith:

Water Permit Application No. 8173-3 for irrigation use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Northwest Blade printed at Eureka SD (Ph # 605-284-2631) and the American News printed at Aberdeen SD (Ph # 605-225-4100). You will need to contact the newspaper(s) and authorize publication of this notice. For your information, a copy of the notice, the recommendation of the Chief Engineer and report on the application are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

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

Sincerely,

Eric Gronlund
Natural Resources Engineer
(605) 773-3352

enclosures

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

Instruction to Newspaper - Publish the Notice on September 10, 2015. The applicant is responsible for payment.

NOTICE OF APPLICATION NO. 8173-3 to Appropriate Water

Notice is given that Cody Eugene Smith, 8752 87th St SE, Monango ND 58436 has filed an application for a water permit to appropriate 3.33 cubic feet of water per second from one well to be completed into the Pleistocene series: Unknown Aquifer (280 feet deep) located in the W 1/2 NE 1/4 Section 5 for irrigation of 240 acres located in the E 1/2 Section 5; all in T128N-R69W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8173-3 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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Published once at the total approximate cost of_____.

Water Rights Program - File Documentation

NAME: Cody Eugene Smith

ADDRESS: Monango ND

DATE: 9-14-15 **COUNTY:** MP **TELEPHONE:** 701-535-0357

RE: Publication Notice

COMMENTS:

The Northwest Blade called and stated they did not receive the email with the publication notice so it was not published on September 10th.

I resent the notice to be published on September 17th with the date for petitions to be submitted as September 28th.

I called Mr. Smith cell phone and left a message stating what had occurred.


Karen Schlaak
Water Rights Program

Schlaak, Karen

From: Schlaak, Karen
Sent: Monday, September 14, 2015 11:04 AM
To: nwblade@valleytel.net
Subject: 8173-3, Cody Eugene Smith
Attachments: 8173-3public.short.docx; FORM8 FRM.doc

Attached is a notice to be published on September 17, 2015.

Cody Eugene Smith, 8752 87th St SE, MonangoND 58436 (cell 701-535-0357 or h 701 349-4516) has been notified to contact you to authorize publication and arrange for payment.

Please send the affidavit or return the attached Proof of Publication form ASAP.

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

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

Instruction to Newspaper - Publish the Notice on September 17, 2015. The applicant is responsible for payment.

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Published once at the total approximate cost of_____.

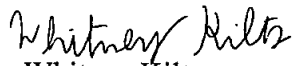
**Water Rights Program
File Documentation**

NAME OF FILE: Water Right No. 8173-3
RE: ND observation well

COMMENTS:

On October 5th 2015, Water Rights Staff -Whitney Kilts and Brain Beel- traveled to ND/SD border in central McPherson County (approximately six miles north and a mile and a half east of Long Lake, SD) to check ND observation well 129-068-34 DDD for possible inclusion in our observation well network. Based on the ND log for the well the screened interval was reported be at 278-281 ft., the measured total depth of the well before and after air development was approximately 202 ft. The well was air developed through a half inch diameter hose placed approximately three foot from the bottom. Well yield during development was approximately 0.5 gpm. Pumped water was initially muddy then clear at the end of pumping. The air hose encountered what appeared to be a solid bottom. An attempt was made to clear out the well but the water continued to pump clear and the hose could not be lowered further into the well. Based on the ND lithological log for the location the aquifer of interest occurs at 261 to 320 ft.

GPS coordinates taken at the site (-99.17222, 45.93994) when compared to ND well records (-99.17220, 45.93994) indicated that the location was correct. Contact with ND did not result in an explanation and confirmed that we had the well log that matched their electronic and paper records. Brady Rambo with the ND State Water Commission indicated he would investigate and might replace the well depending on what he finds.


Whitney Kilts

Natural Resources Engineer



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

OCT 09 2015

Cody Eugene Smith
8752 87th St SE
Monango ND 58436

Dear Mr. Smith:

Enclosed is Water Permit No. 8173-3 authorizing construction of the water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

Since approval of the permit, DENR staff has been to the site of the North Dakota observation well to determine if it is useable. Staff was unsuccessful in getting the air hose below 202 feet into the well casing. The aquifer in this location is estimated to occur between 261 to 320 feet and your application estimated a production well depth of 280 feet. As such, this observation well will not be useable. Please contact Ken Buhler with the Water Rights Program at 605 773-3352 to coordinate construction of an observation well pursuant to qualification No. 4 on the 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

8173-3

RECEIVED

OCT 27 2016

WATER RIGHTS
PROGRAMNOTICE OF COMPLETION OF WORKS AND
APPLICATION OF WATER TO BENEFICIAL USEDate Oct. 25

TO: Water Rights Program, DENR
523 E. Capitol
Pierre, SD 57501-3181

FROM:

Cody E. Smith

(name)

8752 87th St SE

(address)

Manargo, ND 58436

(city, state, zip)

701-349-4516

(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.

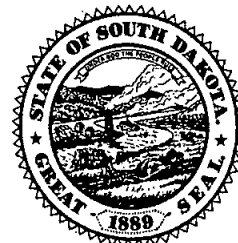
Water Permit No. 8173-3 states that the water use system is to be constructed by 6/29/2020, and water is to be put to beneficial use by 6/29/2020.
(date) (date)

The water use system was completed on Oct. 15-2016.
(date)

Applying the water to beneficial use was completed on 2017.
(date)

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

Cody E. Smith
(signature)



WATER RIGHTS PROGRAM -- FILE DOCUMENTATION

NAME & ADDRESS: Cody E Smith, 8752 87th St, SE, Monango, ND 58436

DATE: October 25, 2016

TELEPHONE: 701 394-4516

RE: completion report filed for No. 8173-3

COMMENTS:

Mr. Smith called and spoke with Eric Gronlund about the completion report he submitted along with his irrigation questionnaire.

He completed most of the system however he wants to wait a year or two to find out how the current system works. He thought he may need to develop the remainder of his diversion rate authority by requesting a 2nd well.

RECOMMENDED ACTION:

He has until September, 2020 to complete the project and September, 2024 to place water to beneficial use. An inspection of the water use system for licensing purposes should not be done prior to the time to place water to beneficial use unless Mr. Smith confirms he has completed everything is going to do.



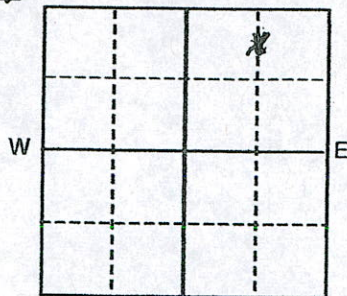
Genny McMath
Water Rights Program

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location NW 1/4 NE 1/4 Sec 5 Twp 28 Rg 69County McPherson

Please mark well location with an "X"



Well Completion Date

4-12-16

1 Mile

Distance to nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)?
1500 ft. from wet Land (identify source)

PROPOSED USE:

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

METHOD OF DRILLING:

Forward Rotary

CASING DATA:

☐ Steel
☒ Plastic
☐ Other

 PIPEWEIGHT DIAMETER FROM TO HOLE DIAMETER
SDR21 LB/FT 12 IN 11 FT 276 FT 12 1/2 IN
 LB/FT IN FT FT IN
 LB/FT IN FT FT IN

GROUTING DATA:

 Grout Type No. of Sacks Grout Weight From To
Portland Cement 53 9.50 Lb/gal 0 Ft 263 Ft
 Lb/gal Ft Ft

Describe grouting procedure

Tremie line pumping Grout from Bottom of Hole to Surface

SCREEN:

☐ Perforated pipe
☒ Manufactured
Diameter 12 Inches Length 20 FeetMaterial stainless steelSlot Size 1080 Set From 276 Feet to 296 FeetOther information ss plate bottomGravel Packed 4ea RockWAS A PACKER OR SEAL USED? ☐ Yes ☒ No

If so, what material?

Describe packer(s) and location

DISINFECTION: Was well disinfected upon completion?

☒ Yes, How? chlorine
☐ No, Why Not?
 Lab to which water quality sample sent for analysis
Well Owner: Coty Smith

Business Name:

Address: 8752 87 st SECity, State, Zip: Monango, ND 58436

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
<u>Sand & Gravel oxidized</u>	<u>0</u>	<u>10</u>
<u>Blue clay</u>	<u>10</u>	<u>185</u>
<u>Fine sand clean</u>	<u>185</u>	<u>191</u>
<u>Soft silty Blue clay</u>	<u>191</u>	<u>234</u>
<u>clean Fine sand</u>	<u>234</u>	<u>237</u>
<u>Blue clay</u>	<u>237</u>	<u>253</u>
<u>clean Fine Sand</u>	<u>253</u>	<u>263</u>
<u>soft Blue clay</u>	<u>263</u>	<u>271</u>
<u>clean Coarse sand & Gravel</u>	<u>271</u>	<u>296</u>

STATIC WATER LEVEL 15.3 FEET

If flowing: closed in pressure _____ PSI

GPM flow _____ through _____ Inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other _____

Reduced flow rate _____ GPM

Can well be completely shut in?

WELL TEST DATA:

☒ Pumped Describe: submersible 40hp Pump
☐ Bailed
☐ Other

Pumping Level Below Land Surface

54.5 Ft. After 8 Hrs. pumped 940 GPM

Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: _____ GPM

REMARKS

shale 296PERMITS SERIES: UNKNOWN KEThis well was drilled under license # 285 and this report is true and accurate.Drilling firm: Manikowski Well Drilling, Inc.

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

RECEIVED

Date: JAN - 6 2017

WATER RIGHTS PROGRAM