

**WATER PERMIT NO. 7836-3**

Name of Applicant: **Craig L Nelson**

Address: **30641 466<sup>th</sup> Ave, Vermillion SD 57069**

Phone: **605 253-2823**

Amount of Water Claimed: **1.78 cfs**

Total Acres: **158 acres**

Source of Water Supply: **groundwater (two wells)**

Water to be used for: **irrigation**

County: **Clay**

Type of Waste Disposal System:

Location: **11 miles north of Vermillion**

**PRIORITY**

Date Received: **4-25-13**

Application/License Fee: **\$ 1050**

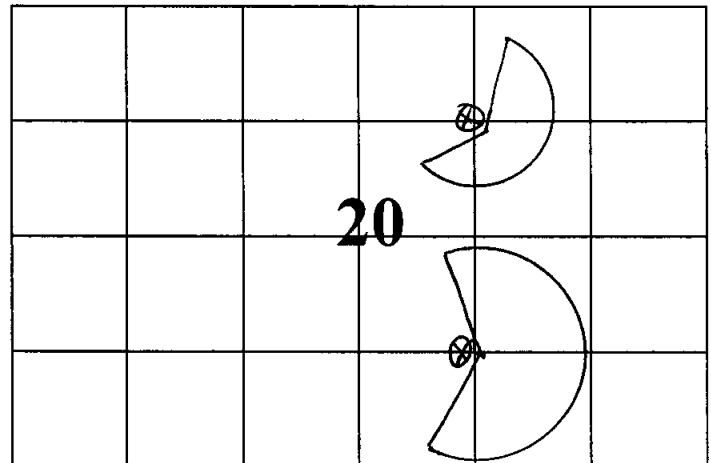
Corrected Application Received: **5-~~6~~<sup>3</sup>-13**

Period of Annual Use: **May 1 – October 31**

Remarks:

Diversion Point: **approximate center of the NE 1/4  
and SE 1/4 Sec 20-T94N-R51W**

Land to be Irrigated: **SE 1/4, E 1/2 NE 1/4, SW 1/4  
NE 1/4 Sec 20-T94N-R51W**



Depth of Well: **170 feet deep**

Well Driller:

Remarks:

Type of Map: **aerial**

Prepared by:

Reviewed and the Number Assigned on: **5-6-13**

By: **Karen Schlaak**

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

**FORM 2: Application for irrigation in South Dakota**  
(type or print)**RECEIVED****APR 25 2013****WATER RIGHTS  
PROGRAM**

|                                                                                                                 |                                                                                                                                     |                                 |
|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| Mail to:<br>PMB 2020<br>DENR - Water Rights<br>523 E Capitol Ave<br>Pierre, SD 57501-3182<br>ph. (605) 773-3352 | (office use only)                                                                                                                   |                                 |
|                                                                                                                 | No. <u>7836-3</u>                                                                                                                   | Hydrologic Unit <u>10170102</u> |
|                                                                                                                 | Basin <u>Vermillion River</u> <u>605-624-2695</u>                                                                                   |                                 |
|                                                                                                                 | Newspaper <u>Plain Talk 201 W Chung St. Vermillion 57069</u><br><u>605-665-7811</u><br><u>Press Dakota 319 Walnut Yonkers 57078</u> |                                 |

**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 Craig L. Nelson  
(check one) ☒ Owner ☐ Tenant/lessee ☐ Owner's Legal Agent  
(name and complete address if different than above name)  
Mailing Address 30641 466th Ave Vermillion SD 57069  
(City) (State) (Zip Code)  
Home Phone (605) 253-2823 Cell (605) 951-5926 Email nelsonrepair@gmail.com
2. Amount of water claimed 1.78 \*CFS or 800 \*\*GPM      \*\*\*AF Total Acreage 158  
(\*Cubic Feet per Second) (\*\*Gallons per Minute) (\*\*\*)Acre Feet - storage capacity of dam/dugout or annual use if applicable)
3. Source of water supply Lower Vermillion Missouri Aquifer
4. Location of point of diversion one well in SE 1/4 Sec 20 T-94-N R-51-W  
(example - 3 wells in SW 1/4 NE 1/4 section 12-T104N-R53W)  
one well in NE 1/4 Sec 20 T-94-N R-51-W County Clay
5. County or counties where water will be used Clay
6. Annual period during which water is to be used May - October 31
7. List below each forty acre division, or lot, or fraction thereof and show number of acres to be irrigated in each.  
(Attach sheet if more space is needed)

| Land Description                          | Acres | Land Description                          | Acres |
|-------------------------------------------|-------|-------------------------------------------|-------|
| SE 1/4 of the SE 1/4 Sec 20 T-94-N R-51-W | 40    | NE 1/4 of the NE 1/4 Sec 20 T-94-N R-51-W | 35    |
| NE 1/4 of the SE 1/4 Sec 20 T-94-N R-51-W | 40    | SE 1/4 of the NE 1/4 Sec 20 T-94-N R-51-W | 12    |
| NW 1/4 of the SE 1/4 Sec 20 T-94-N R-51-W | 12    | SW 1/4 of the NE 1/4 Sec 20 T-94-N R-51-W | 4     |
| SW 1/4 of the SE 1/4 Sec 20 T-94-N R-51-W | 15    |                                           |       |

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

To drill two wells to provide irrigation for agricultural purposes.  
Per Dick Hammond (the driller) test wells were not needed  
due to the location and proximity of other wells.

I, Craig L. Nelson, 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. 7836-3**

Date of first receipt of application April 25, 2013.

Date of return to applicant for corrections, amendments or changes April 25, 2013.

Date of receipt of corrected application May 3, 2013.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 7836-3 to Craig L Nelson, 30641 466<sup>th</sup> Ave, Vermillion SD 57069 authorizing the construction of the water use system and the placing of water to beneficial use subject to the following limitations, conditions and qualifications:

1. Water Permit No. 7836-3 appropriates 1.78 cubic feet of water per second from two wells to be completed into the Lower Vermillion:Missouri Aquifer (170 feet deep) located in the approximate centers of the NE 1/4 and SE 1/4 Section 20 for irrigation of 158 acres located in the E 1/2 NE 1/4, SW 1/4 NE 1/4 and the SE 1/4 Section 20; all in T94N-R51W.
2. The amount of the appropriation may not exceed 2 acre feet annually for each acre of land to which water is actually and beneficially applied for irrigation. The water is to be used during the following described annual period: May 1 – October 31.
3. The date from which applicant may claim right is April 25, 2013.
4. The date of approval of Permit No. 7836-3 is July 22, 2013.
5. One-fifth of the construction is to be completed on or before January 22, 2016.
6. All construction is to be completed on or before July 22, 2018.
7. Water is to be put to beneficial use on or before July 22, 2022.
8. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

**QUALIFICATIONS**

1. The wells approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The wells authorized by Permit No. 7836-3 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

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

**AUG 23 2013**

date



## Supplemental Information

(type or print)

**1. Well Information** (check one or both as applicable) ☒ Drilling new well(s) ☐ Using existing well(s)

a) If new wells, how many 2 Have test holes been drilled ☐ Yes ☒ No Drilled by \_\_\_\_\_  
(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 170 ft Depth to Top of Water Bearing Material 100 ft Depth to Water from Surface 80 ft

d) Distance to nearest existing domestic well:

On applicant's property 1200 ft On property owned by others \_\_\_\_\_

**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)

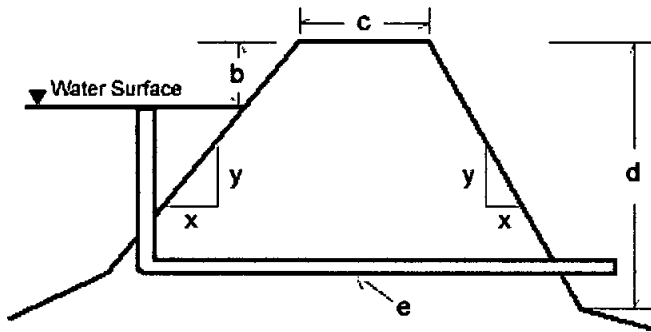
Upstream \_\_\_\_\_

Downstream \_\_\_\_\_

h) Surface Area of Impoundment \_\_\_\_\_

i) Storage \_\_\_\_\_ Acre Feet

j) Drainage Area Above Dam \_\_\_\_\_ Acres



Sec 18  
T094N  
R51W

Sec 17  
T094N  
R51W

Sec 16  
T094N  
R51W

Sec 19  
T094N  
R51W

Sec 20  
T094N  
R51W

Sec 21  
T094N  
R51W

Sec 30  
T094N  
R51W

Sec 29  
T094N  
R51W

Sec 28  
T094N  
R51W

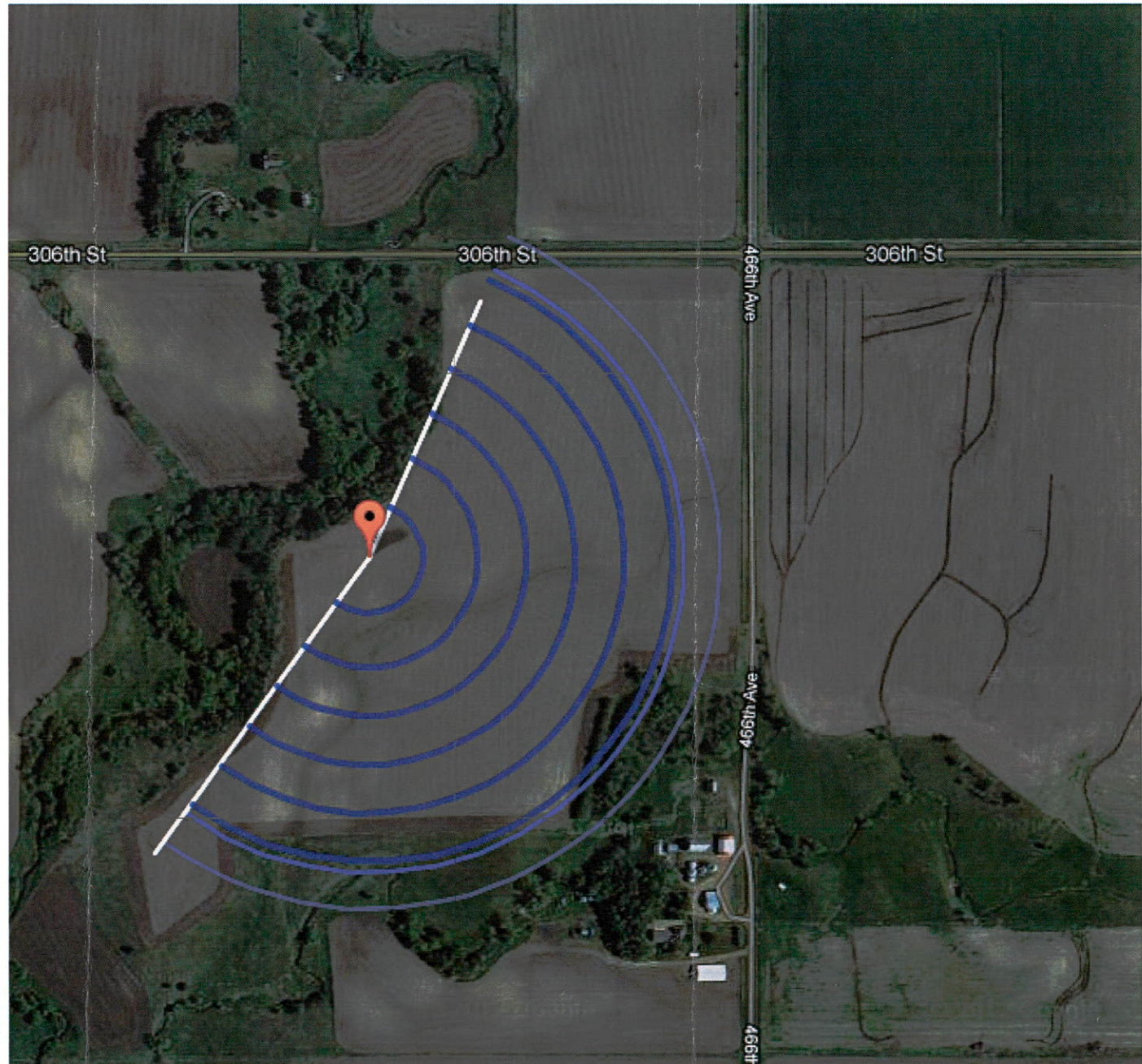




Prepared By: **Heine Electric and Irrigation, Inc.**  
For: **Nelson, Craig- north**  
*Questions or concerns? Please call us at 402-640-1999!*

Pivot center at **42.950734, -96.889487**  
Arc Start Bearing: 23.46  
Arc Stop Bearing: 216

- 1 180 ft. Total: 180 ft.  
Acreage: 1.24. Total: 1.24 acres.
- 2 180 ft. Total: 360 ft.  
Acreage: 3.74. Total: 4.99 acres.
- 3 160 ft. Total: 520 ft.  
Acreage: 5.42. Total: 10.41 acres.
- 4 160 ft. Total: 680 ft.  
Acreage: 7.39. Total: 17.81 acres.
- 5 160 ft. Total: 840 ft.  
Acreage: 9.36. Total: 27.17 acres.
- 6 160 ft. Total: 1000 ft.  
Acreage: 11.34. Total: 38.51 acres.
- Overhang** 36 ft. Total: 1036 ft.  
Acreage: 2.82. Total: 41.34 acres.
- Spray** 120 ft. Total: **1156 ft.**  
Acreage: 10.13. Total: **51.47 acres.**



RECEIVED  
APR 25 2013  
WATER RIGHTS  
PROGRAM



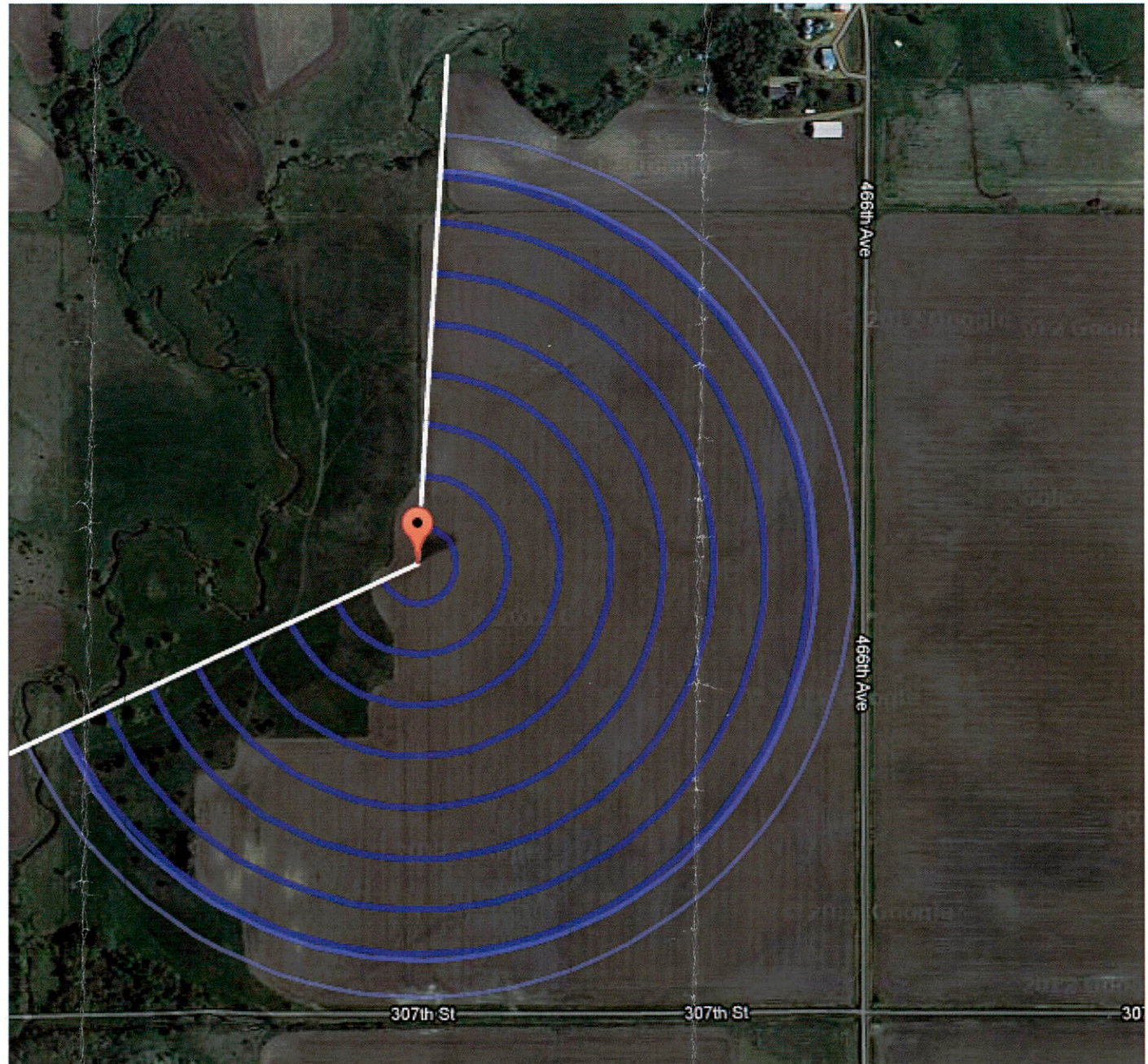
Prepared By: **Heine Electric and Irrigation, Inc.**  
 For: **Nelson, Craig- south**  
 Questions or concerns? Please call us at 402-640-1999!

Pivot center at 42.943053, -96.890291  
 Arc Start Bearing: 3.27  
 Arc Stop Bearing: 245.38

- 1 128 ft. Total: 128 ft.  
Acreage: 0.79. Total: 0.79 acres.
- 2 168 ft. Total: 296 ft.  
Acreage: 3.46. Total: 4.25 acres.
- 3 168 ft. Total: 464 ft.  
Acreage: 6.2. Total: 10.46 acres.
- 4 168 ft. Total: 632 ft.  
Acreage: 8.94. Total: 19.4 acres.
- 5 168 ft. Total: 800 ft.  
Acreage: 11.68. Total: 31.09 acres.
- 6 168 ft. Total: 968 ft.  
Acreage: 14.43. Total: 45.52 acres.
- 7 168 ft. Total: 1136 ft.  
Acreage: 17.17. Total: 62.7 acres.
- 8 148 ft. Total: 1284 ft.  
Acreage: 17.4. Total: 80.1 acres.
- Overhang** 20 ft. Total: 1304 ft.  
Acreage: 2.51. Total: 82.61 acres.
- Spray** 120 ft. Total: 1424 ft.  
Acreage: 15.9. Total: 98.52 acres.

RECEIVED

APR 25 2013

WATER RIGHTS  
PROGRAM

# RECEIPT

## WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 4/25, 20 13

RECEIVED OF Craig L Nelson 30641 466th Ave Vermillion SD 57069

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

|                                                                                                                        |       |         |
|------------------------------------------------------------------------------------------------------------------------|-------|---------|
| Fee for Application for Permit No. <u>7836-3</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>7856-3</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. **06315**

By Glaire Goodman  
Chief Engineer



DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES

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

denr.sd.gov

April 25, 2013

RECEIVED  
MAY - 3 2013  
WATER RIGHTS  
PROGRAM

Craig L Nelson  
30641 466<sup>th</sup> Ave  
Vermillion SD 57069

Dear Mr. Nelson:

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

- A map needs to be submitted that references a government section corner or quarter corner including section, township and range. The maps submitted with your application did not reference a section. For your use, I have enclosed a map with those designations. Please outline the acres to be irrigated and mark each proposed well location with an "X".

If you have any questions, please contact me.

Sincerely,

*Karen Schlaak*

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

enclosures

*Karen,*

*Outlined the acres  
in black and marked  
the well site with  
an "X".*

*Thanks!  
Craig Nelson—*



**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. 7836-3, Craig L Nelson**

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. 7836-3, Craig L Nelson, 30641 466<sup>th</sup> Avenue, Vermillion SD 57069.

The Chief Engineer is recommending APPROVAL of Application No. 7836-3 because 1) there is reasonable probability that there is unappropriated water available for the applicant's proposed use, 2) the proposed diversion can be developed without unlawful impairment of existing rights, 3) the proposed use is a beneficial use and 4) it is in the public interest with the following qualifications:

1. The wells approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The wells authorized by Permit No. 7836-3 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.

*for*   
Jeanne Goodman, Chief Engineer  
July 1, 2013

# **REPORT TO THE CHIEF ENGINEER**

## **WATER PERMIT APPLICATION NO. 7836-3**

**Craig L Nelson**

**May 21, 2013**

Water Permit Application No. 7836-3 proposes to divert groundwater at a maximum rate of 1.78 cubic feet of water per second (cfs) from two wells to be completed into the Lower Vermillion Missouri aquifer. The wells are expected to be approximately 170 feet deep and located in the approximate centers of the NE¼ and the SE¼ of Section 20, T94N-R51W. Water will be used to irrigate 158 acres located in the E½ NE¼, SW¼ NE¼ and the SE¼ of Section 20, T94N-R51W in Clay County.

### **AQUIFER: Lower Vermillion Missouri aquifer (LVM)**

#### **GEOLOGY AND AQUIFER CHARACTERISTICS:**

The Lower Vermillion Missouri is a buried outwash consisting of sand and gravel. In total, the aquifer is estimated to underlie 125,600 acres and contain 1,884,000 acre-feet (ac-ft) of recoverable water in storage (Hedges and others, 1982). The majority of the Lower Vermillion Missouri aquifer lies in Clay County and also extends east into Union County. The aquifer connects to the Upper Vermillion Missouri aquifer to the north and to the Missouri: Elk Point aquifer to the south, overlies the Dakota aquifer in portions of Clay County, and is hydraulically connected to the Vermillion River. Water in the aquifer generally moves to the southeast (Stephens, 1967).

A test hole log was not submitted with this application; however, sufficient information is available to evaluate the aquifer at the proposed location. The aquifer is confined in the area of the proposed well sites but can be unconfined elsewhere. The proposed well sites are located on a bluff just east of the Vermillion River. At these sites, the top of the aquifer is expected to be encountered 130 feet below ground surface with a static water level at approximately 100 feet below ground surface, and the aquifer could be approximately 30 feet thick (Water Rights, 2013c).

#### **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 from the aquifer and the potential for impairment of existing rights.

#### **WATER AVAILABILITY:**

If this application is approved, the actual water use will likely be less than 316 acre-feet per year (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 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, a public water system is not involved and the aquifer is not older or lower than the Greenhorn Formation therefore withdrawal/recharge issue must be considered.

### **Hydrologic Budget:**

#### *Recharge:*

Recharge to the Lower Vermillion Missouri aquifer is due to infiltration of precipitation in areas where the aquifer is near land surface, inflow to the Vermillion River during periods of high flow, inflow from the Upper Vermillion Missouri aquifer, and leakage from the underlying Dakota aquifer.

Hedges and others (1985) estimated recharge, based on observation well data, of the Lower Vermillion Missouri aquifer to be 3.8 inches per year. Using this recharge rate and the area of the aquifer, a conservative estimate of recharge for the Lower Vermillion Missouri aquifer is 39,774 ac-ft/yr.

#### *Discharge:*

Discharge from the Lower Vermillion Missouri aquifer occurs due to evapotranspiration in areas where the aquifer is near land surface, outflow to the Missouri: Elk Point aquifer, outflow to the Vermillion River during periods of low flow, and well withdrawals. Currently there are a total of 79 water rights/permits appropriating water from the Lower Vermillion Missouri aquifer (Water Rights, 2013b).

In addition, there are many completion reports on file for domestic wells that appear to be completed into the Lower Vermillion Missouri aquifer (Water Rights, 2013c). The annual withdrawal due to domestic use is not considered significant.

From the Lower Vermillion Missouri aquifer, water rights/permits for non-irrigation use that are limited only by diversion rate currently appropriate a total of 2.13 cfs. Water rights/permits for non-irrigation use that are limited by an annual volume currently appropriate a total of 307 ac-ft/yr (Water Rights, 2013b). The amount of water that can be expected to be withdrawn by the non-irrigation use water rights/permits at the current appropriation amount can be estimated by assuming water rights/permits limited by an annual volume will pump the entire volume appropriated annually and water rights/permits limited only by diversion rate will pump at the maximum permitted diversion rate 60 percent of the time. Therefore, the total annual withdrawal from the Lower Vermillion Missouri aquifer by non-irrigation use is currently expected to be 1,233 ac-ft/yr (Water Rights, 2013b).

Figure 1 shows the Lower Vermillion Missouri aquifer’s historic irrigation data. The development of this aquifer has remained at the same general stage over the period of record. The annual withdrawal due to irrigation use fluctuates greatly, which seems to be dependent on annual growing season climatic conditions. The average pumpage reported is 1,463 ac-ft/yr

(Water Rights, 1980-2012). Since 2011, 14 irrigation water permits have been approved from this aquifer, so irrigation use could increase during years with dry climatic conditions.

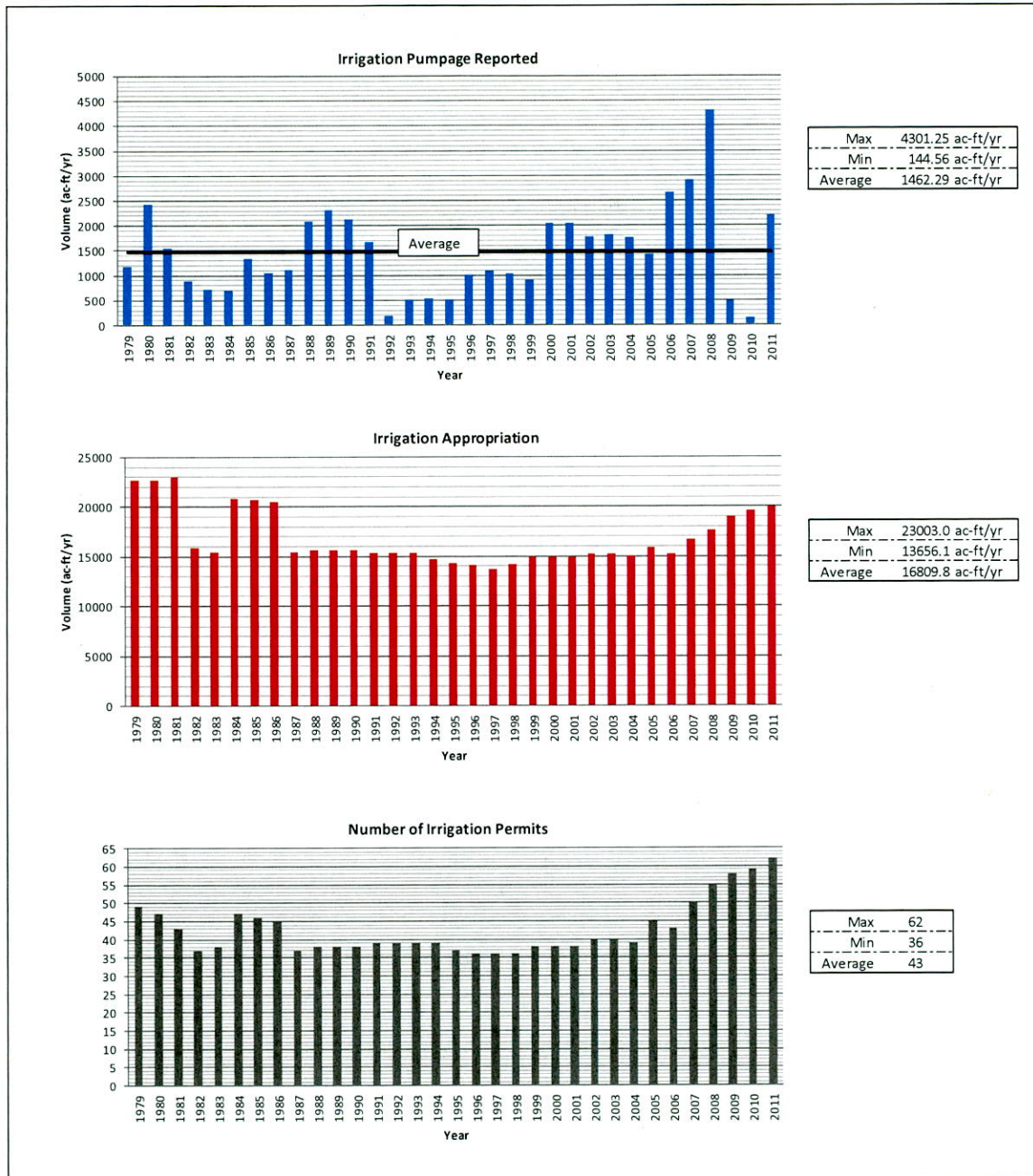


Figure 1: Historic irrigation water use from the Lower Vermillion Missouri aquifer (Water Rights, 1980-2012)

#### *Hydrologic Budget:*

The annual expected withdrawal, 2,969 ac-ft/yr, is much less than estimated annual recharge, 39,774 ac-ft/yr. Therefore, there is a reasonable probability that unappropriated water is available from the Lower Vermillion Missouri aquifer for the proposed appropriation.

### Observation Well Data:

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

The DENR-Water Rights Program monitors 12 observation wells completed into the Lower Vermillion Missouri aquifer (Water Rights, 2013a). The nearest of these wells, CL-80J and CL-80H, are located approximately three miles northwest and two miles north of the proposed well sites, respectively. Hydrographs of these observation wells are shown in Figures 2 and 3.

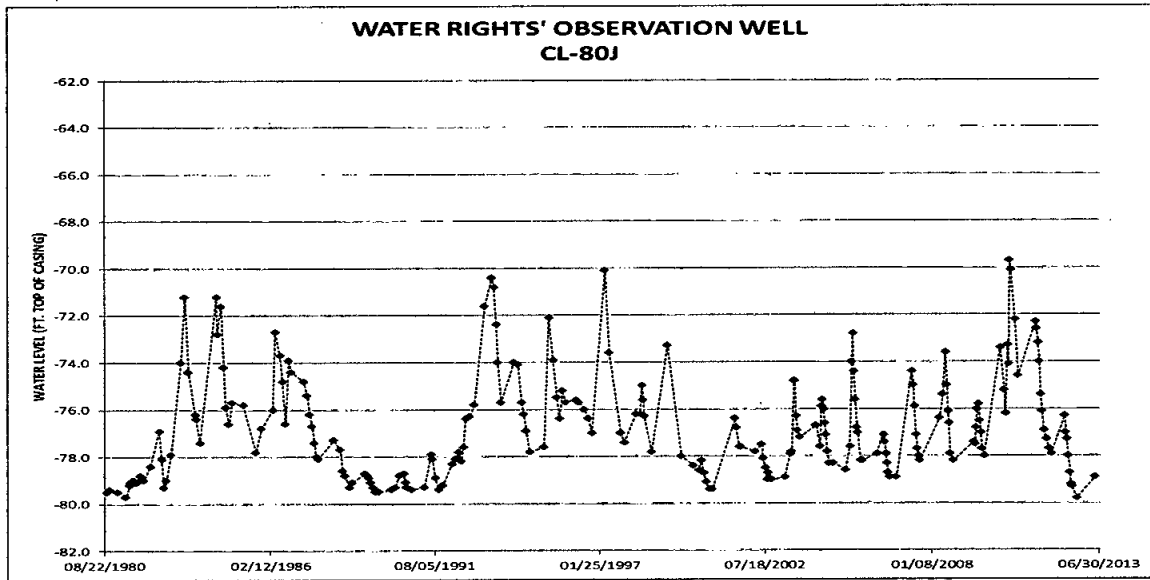


Figure 2: Hydrograph for observation well CL-80J (Water Rights, 2013a)

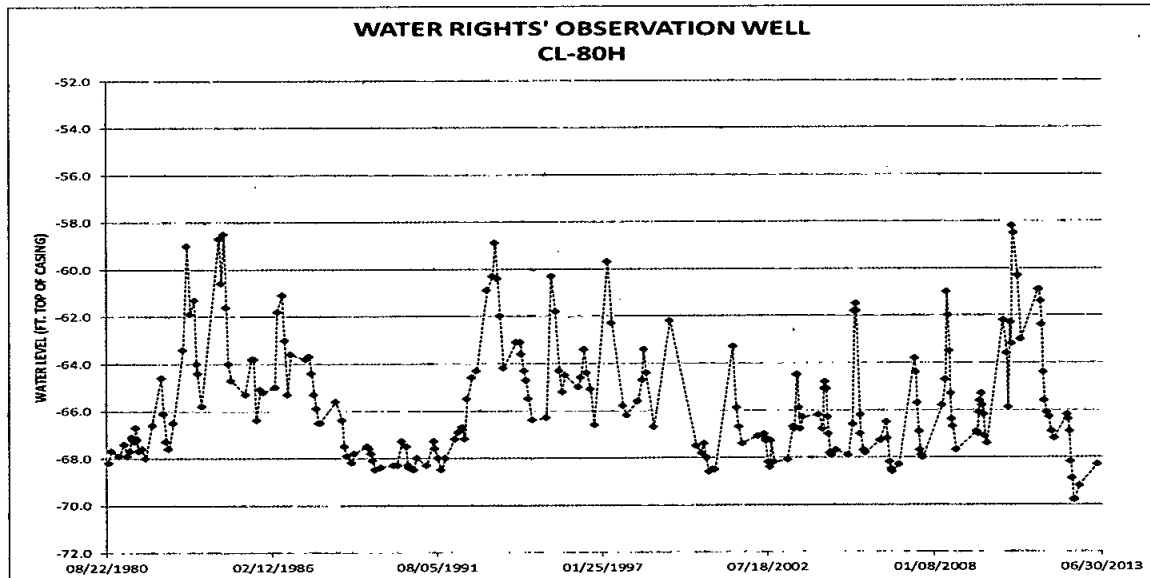


Figure 3: Hydrograph for observation well CL-80H (Water Rights, 2013a)

The observation well data documents cyclic conditions of water levels, recharging during wet years and declining during dry years. The hydrographs also show the effects of nearby pumping on the aquifer. Observation well data indicates that, at the current level of development, temporal well withdrawal is masked by climatic conditions, indicating that recharge to and natural discharge from the aquifer greatly exceeds well withdrawal. Therefore, there is a reasonable probability that unappropriated water is available from the Lower Vermillion Missouri aquifer to support the proposed appropriation.

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

If approved, the proposed wells will be located near other wells that obtain water from the same aquifer. In addition to domestic wells, there are four water rights permits appropriating water from the Lower Vermillion Missouri aquifer within two miles of the proposed well sites (Water Rights, 2013b; Water Rights, 2013c). These water rights/permits are all located further than one mile from the proposed well site. The nearest well on record, a domestic well for Duane Baer, is located just over a half mile from the northern and nearest proposed well site (Water Rights, 2013c).

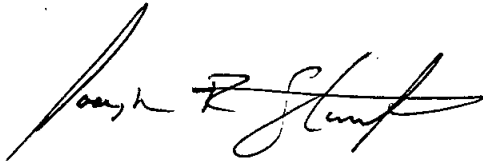
The Lower Vermillion Missouri aquifer is under artesian conditions at the proposed well sites; therefore, drawdown due to pumping is expected. However, precise drawdown cannot be quantified without aquifer testing. The Water Management Board has consistently recognized that to place water to maximum beneficial use a certain amount of drawdown may occur. SDCL 46-6-6.1 does not require protection of artesian head pressure as a means of groundwater delivery. However, reasonable domestic use must be assured before irrigation use is allowed. Therefore, when considering irrigation projects, the Water Management Board must give consideration to maintaining artesian head pressure as a method of delivery for domestic wells. To balance interests between irrigation use and delivery of groundwater by artesian pressure, ARSD 74:02:04:20(7) defines 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”

Depending on the characteristics of the aquifer at the proposed well sites, some existing well owners may need to lower their pumps to accommodate possible reduction of head pressure.

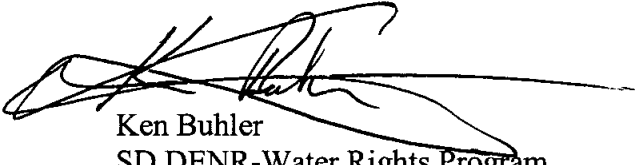
#### **CONCLUSIONS:**

1. The water permit application proposes to withdraw groundwater at a maximum diversion rate of 1.78 cfs from two wells to be completed into the Lower Vermillion Missouri aquifer for the irrigation of 158 acres.
2. Unappropriated water is available from the Lower Vermillion Missouri aquifer to supply the proposed appropriation.
3. There is a reasonable probability that this proposed diversion will not adversely or unlawfully impair existing nearby wells.



Joseph R Stonesifer  
SD DENR-Water Rights Program

Approved by



Ken Buhler  
SD DENR-Water Rights Program

#### **REFERENCES:**

Hedges, L.S., Burch, S.L., Iles, D.L., Barari, R.A., and Schoon, R.A. 1982. Evaluation of Ground-Water Resources Eastern South Dakota and Upper Big Sioux River, South Dakota and Iowa, Task 1: Bedrock Topography and Distribution, Task 2: Extent of Aquifers, Task 3: Ground-Water Storage, Task 4: Computerized Data Base, Final Report. U.S. Army Corps of Engineers Contract DACW 45-80-C-0185.

Hedges, L.S., Allen, J., and Holly, D.E. 1985. Evaluation of Ground-Water Resources Eastern South Dakota and Upper Big Sioux River, South Dakota and Iowa. Task 7: Ground Water Recharge. South Dakota DENR-Geological Survey, Vermillion, South Dakota.

Stephens, J.C. 1967. Geology and Hydrogeology of Clay County, South Dakota, Part II: Water Resources. South Dakota DENR-Geological Survey Bulletin 19, 62 p.

Water Rights, 1980-2012. "Irrigation Report Summaries." SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.

Water Rights. 2013a. Observation Well Files, SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.

Water Rights. 2013b. Water Right/Permit Files, SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.

Water Rights. 2013c. Water Well Completion Reports, SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.

RECEIVED

JUL 22 2013

WATER RIGHTS  
PROGRAM

**AFFIDAVIT OF PUBLICATION**

PLAIN TALK

DENR  
Division of Environmental Services  
Water Rights Program  
Joe Foss Building, 523 East Capitol  
Pierre, SD 57501

STATE OF SOUTH DAKOTA  
COUNTY OF CLAY

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

TAKEN FROM THE PAPER, IN WHICH IT WAS LAST PUBLISHED IN THE  
NEWSPAPER ON THE 12 DAY OF JULY 2013  
THAT THE FULL AMOUNT OF THE FEE CHARGED FOR THE PUBLICATION  
OF SAID NOTICE TO WIT \$27.97 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: 7/12/13

FILED ON: 7/12/13

Tera O. Schmidt

SUBSCRIBED AND SWORN TO BEFORE ME THIS

16th DAY OF

July

[Signature]  
NOTARY PUBLIC, SOUTH DAKOTA

MY COMMISSION EXPIRES

8/19/2015

**NOTICE OF APPLICATION  
NO. 7836-3 to Appropriate  
Water**

Notice is given that Craig L. Nelson, 30641 466th Ave, Vermillion SD 57069 has filed an application for a water permit to appropriate 1.78 cubic feet of water per second from two wells to be completed into the Lower Vermillion:Missouri Aquifer (170 feet deep) located in the approximate centers of the NE 1/4 and SE 1/4 Section 20 for irrigation of 158 acres located in the E 1/2 NE 1/4, SW 1/4 NE 1/4 and the SE 1/4 Section 20; all in T94N-R51W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 7836-3 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 July 22, 2013

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 infor-

mation pertaining to this application. Steven M. Pimer, Secretary, Department of Environment and Natural Resources.

Published once at the total approximate cost of \$27.97.

Published: July 12, 2013

RECEIVED

JUL 17 2013

WATER RIGHTS  
PROGRAM

## AFFIDAVIT OF PUBLICATION

YANKTON DAILY PRESS AND DAKOTAN

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

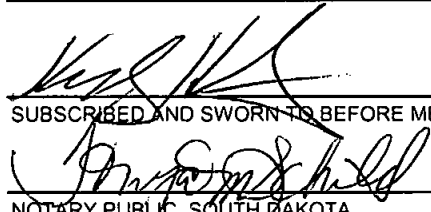
STATE OF SOUTH DAKOTA  
COUNTY OF YANKTON

KELLY HERTZ BEING FIRST DULY SWORN ON OATH DEPOSES  
AND SAYS THAT HE IS THE MANAGING EDITOR OF, YANKTON  
MEDIA INC, A CORPORATION, THE PRINTER AND THE PUBLISHER OF THE  
YANKTON DAILY PRESS AND DAKOTAN, A LEGAL DAILY NEWSPAPER  
PUBLISHED AND CIRCULATED IN THE CITY OF YANKTON, SAID COUNTY  
AND STATE, AND ONE OF THE OFFICIAL NEWSPAPERS OF THE SAID  
COUNTY OF FACTS STATED IN THIS AFFIDAVIT; THAT THE ANNEXED  
Application No. 7836-3

TAKEN FROM THE PAPER, IN WHICH IT WAS LAST PUBLISHED IN THE  
NEWSPAPER ON THE 12th DAY OF July 2013  
THAT THE FULL AMOUNT OF THE FEE CHARGED FOR THE PUBLICATION  
OF SAID NOTICE TO WIT \$26.48 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: 7/12/2013

FILED ON: 7/12/2013

  
SUBSCRIBED AND SWORN TO BEFORE ME THIS 12th DAY OF July 2013  
  
NOTARY PUBLIC, SOUTH DAKOTA  
MY COMMISSION EXPIRES 8/19/2015

Notice is given that Craig L Nelson, 30641 466th Ave, Vermillion SD 57069 has filed an application for a water permit to appropriate 1.78 cubic feet of water per second from two wells to be completed into the Lower Vermillion:Missouri Aquifer (170 feet deep) located in the approximate centers of the NE 1/4 and SE 1/4 Section 20 for irrigation of 158 acres located in the E 1/2 NE 1/4, SW 1/4 NE 1/4 and the SE 1/4 Section 20; all in T94N-R51W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 7836-3 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 July 22, 2013

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 \$26.48.



DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES

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

denr.sd.gov

July 2, 2013

Plain Talk  
201 W Cherry St  
Vermillion SD 57069

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 7836-3 to Appropriate Water. Please publish the notice once on July 12, 2013. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352.

The applicant must verify to you that the notice is to be published and arrange for payment. **Please BILL the APPLICANT for the cost of publication.** The APPLICANT is Craig L Nelson, 30641 466<sup>th</sup> Ave, Vermillion SD 57069 (Ph # 605-253-2823).

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

July 2, 2013

Press & Dakotan  
319 Walnut  
Yankton SD 57078

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 7836-3 to Appropriate Water. Please publish the notice once on July 12, 2013. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352.

The applicant must verify to you that the notice is to be published and arrange for payment. **Please BILL the APPLICANT for the cost of publication.** The APPLICANT is Craig L Nelson, 30641 466<sup>th</sup> Ave, Vermillion SD 57069 (Ph # 605-253-2823).

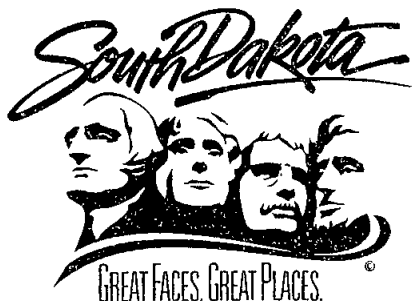
**Please send the Water Rights Program an affidavit or the enclosed Proof of Publication form immediately.**

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

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

July 2, 2013

Craig L Nelson  
30641 466<sup>th</sup> Ave  
Vermillion SD 57069

Dear Mr. Nelson:

Water Permit Application No. 7836-3 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 Plain Talk printed at Vermillion SD (Ph # 605-624-2695) and the Press & Dakotan printed at Yankton SD (Ph # 605-665-7811). You will need to contact the newspaper(s) and authorize publication of this notice. For your information, a copy of the notice, the 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 July 12, 2013. The applicant is responsible for payment. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352 or email: Karen.schlaak@state.sd.us.

---

NOTICE OF APPLICATION NO. 7836-3 to Appropriate Water

Notice is given that Craig L Nelson, 30641 466<sup>th</sup> Ave, Vermillion SD 57069 has filed an application for a water permit to appropriate 1.78 cubic feet of water per second from two wells to be completed into the Lower Vermillion:Missouri Aquifer (170 feet deep) located in the approximate centers of the NE 1/4 and SE 1/4 Section 20 for irrigation of 158 acres located in the E 1/2 NE 1/4, SW 1/4 NE 1/4 and the SE 1/4 Section 20; all in T94N-R51W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 7836-3 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 July 22, 2013

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\_\_\_\_\_.



**DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES**

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

denr.sd.gov

**AUG 23 2013**

Craig L Nelson  
30641 466<sup>th</sup> Ave  
Vermillion SD 57069

Dear Mr. Nelson:

Enclosed is Water Permit No. 7836-3 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

SD EForm - 1311LD V1

Form 10

# **NOTICE OF COMPLETION OF WORKS AND APPLICATION OF WATER TO BENEFICIAL USE**

MAIL TO: PMB 2020

Date October 31, 2016

DENR - Water Rights Program

523 E Capitol Ave

Pierre, SD 57501-3182

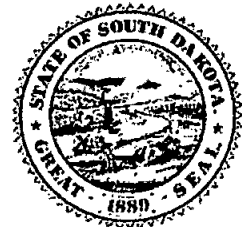
ph. (605) 773-3352

FROM: Craig L. Nelson  
(name)30641 466<sup>th</sup> AVE  
(address)Vermillion SD 57069  
(city) (state) (zip)605-257-5926  
(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. 7836-3 states that the water use system is to be constructed byJuly 22, 2018, and water is to be put to beneficial use by July 22, 2022  
(date) (date)The water use system was completed on June 2014  
(date)Applying the water to beneficial use was completed on July 2014  
(date)

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



## **Report of Examination of Works and/or Application of Water to Beneficial Use For Permit No. 7836-3**

I have this day, October 31, 2016, made a thorough examination of the water use system constructed by Craig L Nelson, 30641 466<sup>th</sup> Ave, Vermillion, SD 57069 of Permit No. 7836-3, bearing the priority of April 25, 2013 authorizing the diversion of 1.78 cu. ft. per second from two wells of the waters of Lower Vermillion:Missouri Aquifer for irrigation purposes, of 158 acres, in Clay County.

Inspection contact & relationship to permit holder, if applicable: **Craig L Nelson, permit holder**

### **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) 170 feet
- 4) Well log is available Yes

Comments: Water Permit No. 7836-3 authorized two wells, but only one well was completed.

#### **Casing:**

- 1) Diameter 16 inches
- 2) Length 110 feet
- 3) Type PVC

#### **Screen:**

- 1) Type PVC Manufactured
- 2) Length 60 feet
- 3) Static water level 71.4 feet

#### **Pump:**

- 1) Make Turbine
- 2) Model In-Line Shaft
- 3) Capacity 800 GPM

#### **Motor:**

- 1) Make Amarillo Right Angle Gear Drive
- 2) Model No. S80A
- 3) Horsepower rating 80 hp

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

- 1) Type PVC      2) Size 8 inches      3) Length 3060 feet

Comments: See map for approximate location.

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

**Center pivot (NE ¼ Sec 20-T94N-R51W):**

- 1) Make Valley 8000  
2) Overall length 978 feet  
3) Number of towers 6  
4) End gun Yes  
5) Capacity 800 GPM

**Center pivot (SE ¼ Sec 20-T94N-R51W):**

- 1) Make Lockwood 2100  
2) Overall length 1301 feet  
3) Number of towers 8  
4) End gun Yes  
5) Capacity 800 GPM

Comments: System is set up so that only one center pivot can be operated at a time.  
Lockwood Center Pivot was purchased used and has a Valley controller.  
System is driven by a 95 KW Isuzu Diesel Generator Set with above ground diesel fuel tank.

**Chemigation Equipment:**

- 1) Does chemigate No

**D. Compliance with Permit Requirements:**

- 1) Permit qualifications being abided by Yes  
2) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period Yes, began irrigating in 2014.  
3) Exceptions to compliance are: None

**E. Condition and Location:**

1. The system is in good condition with the point(s) of diversion located as follows: West 1580', North 1420' from SE Corner of Sec 20-T94N-R51W; Lat 42.94289/Long -96.89072; NW ¼ SE ¼ Sec 20-T94N-R51W.

2. The works are capable of diverting and conveying to the place of use 1.78 cfs or 800 gpm of water which is to be used for irrigation. Water has been put to beneficial use to the maximum extent as follows:

All land is located in Sec 20-T94N-R51W.

NW ¼ NE ¼ - 1 ac

NE ¼ NE ¼ - 25 ac

SW ¼ NE ¼ - 8 ac

SE ¼ NE ¼ - 15 ac

NW ¼ SE ¼ - 11 ac

NE ¼ SE ¼ - 32 ac

SW ¼ SE ¼ - 25 ac

SE ¼ SE ¼ - 28 ac

comprising a total of 145 acres of land and the license should be issued for 1.78 cfs or 800 gpm.

3. All structures, wells and lands on map Yes

*Harold Holoch*

Harold Holoch, PE  
Staff Engineer  
DENR, Water Rights Program

Date report completed: April 27, 2017

7836-3

SD EForm - 1621LD V1

## SOUTH DAKOTA WATER WELL COMPLETION REPORT

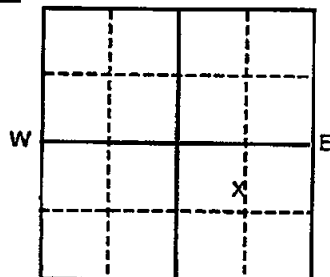
11-02

Location NW ¼ SE ¼ Sec 20 Twp 94N Rg 51W

County Clay

North

Please mark well location with an "X"



Well Completion Date

November 6, 2013

1 Mile

Distance to nearest potential pollution source (septic tank, abandoned well, feed lot, etc.):  
2,000.0 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 |
|------------|----------|--------|----------|---------------|
| LB/FT      | 16.00 IN | 0.0 FT | 110.0 FT | 28.00 IN      |
| LB/FT      | IN       | FT     | FT       | IN            |
| LB/FT      | IN       | FT     | FT       | IN            |

## GROUTING DATA:

| Grout Type | No. of Sacks | Grout Weight | From   | To       |
|------------|--------------|--------------|--------|----------|
| Bentonite  | 22           | 9.5 Lb/gal   | 0.0 Ft | 100.0 Ft |
|            |              | Lb/gal       | Ft     | Ft       |

Describe grouting procedure  
Tremie Method

## SCREEN:

☐ Perforated pipe ☒ Manufactured  
 Diameter 16.00 Inches Length 60.0 Feet

Material PVC

Slot Size .080 Set From 110.0 Feet to 170.0 Feet

Other information

## WAS A PACKER OR SEAL USED?

☐ Yes ☒ No

If so, what material?

Describe packer(s) and location

## DISINFECTION: Was well disinfected upon completion?

☐ Yes, How?

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

Well Owner: Craig Nelson

Business Name:

Address: 30641 466th Ave

City, State, Zip: Vermillion SD 57069

## WELL LOG:

| FORMATION            | DEPTH |     |
|----------------------|-------|-----|
|                      | FROM  | TO  |
| Top Soil             | 0     | 2   |
| Brown Glacial Till   | 2     | 35  |
| Sandy Blue Clay      | 35    | 72  |
| Med Sand & Gravel    | 72    | 78  |
| Med to Coarse Gravel | 78    | 90  |
| Black Med Sand       | 90    | 93  |
| Coarse Gravel        | 93    | 104 |
| Med Sand & Gravel    | 104   | 170 |
| Fine Sand            | 170   |     |

STATIC WATER LEVEL 71.4 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

79.0 Ft. After 2.0 Hrs. pumped 800.0 GPM

Ft. After Hrs. pumped GPM

If pump installed, pump rate: 700.0 GPM

## REMARKS

RECEIVED

JAN 21 2014

WATER RIGHTS PROGRAM

This well was drilled under license # 666 and this report is true and accurate.

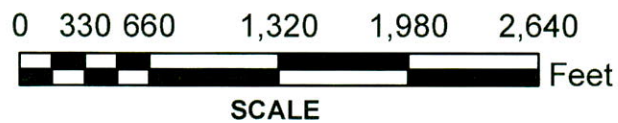
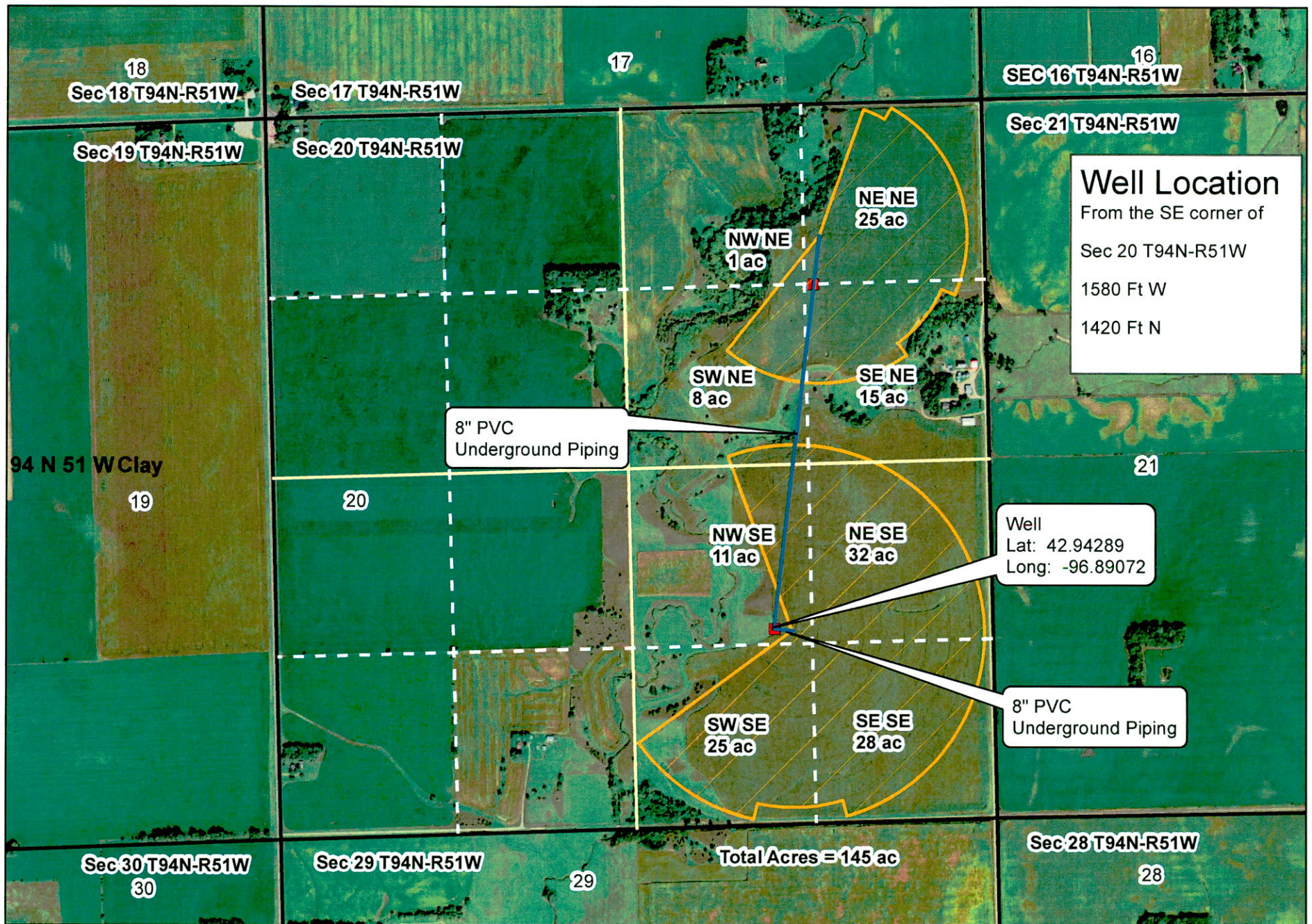
Drilling firm: Hammond-Wetmore Drilling, LLC

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

Date: 1-15-2014

7836-3



*Harold Holoch*  
 Harold Holoch, PE  
 Staff Engineer  
 April 27, 2017

**STATE OF SOUTH DAKOTA**  
**WATER LICENSE NO. 7836-3**

(1) Craig L Nelson, 30641 466<sup>th</sup> Ave, Vermillion SD 57069 made Application No. 7836-3, April 25, 2013 for a water permit to divert 1.78 cubic feet of water per second from two wells – Lower Vermillion:Missouri Aquifer, Clay County, South Dakota for irrigation purposes. Permit No. 7836-3, with a priority date of April 25, 2013 was approved July 22, 2013 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before July 22, 2018 and for the application to beneficial use of water on or before July 22, 2022.

The permit holder submitted a *Notice of Completion of Works and Application of Water to Beneficial Use* on October 31, 2016. The *Notice* stated the diversion system was completed in June, 2014 and the water placed to beneficial use in July, 2014.

(2) The water supply system has been completed and water applied to beneficial use in accordance with South Dakota State Law. Pursuant to South Dakota Codified Law 46-5-30.1, the holder and/or owner of Water Right No. 7836-3 is issued a license, bearing a priority date of April 25, 2013 to appropriate 1.78 cubic feet of water per second from one well – Lower Vermillion:Missouri Aquifer to irrigate 145 acres.

The diversion point is located: 1,580 feet west and 1,420 feet north from the SE corner of Section 20-T94N-R51W (NW 1/4 SE 1/4). The acres authorized for irrigation are as follows:

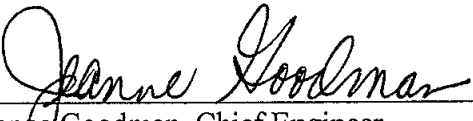
Section 20-T94N-R51W

|               |          |               |          |
|---------------|----------|---------------|----------|
| NW 1/4 NE 1/4 | 1 acre   | NW 1/4 SE 1/4 | 11 acres |
| SW 1/4 NE 1/4 | 8 acres  | SW 1/4 SE 1/4 | 25 acres |
| NE 1/4 NE 1/4 | 25 acres | NE 1/4 SE 1/4 | 32 acres |
| SE 1/4 NE 1/4 | 15 acres | SE 1/4 SE 1/4 | 28 acres |

Total 145 acres

(3) This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Permit No. 7836-3 including the following qualifications:

- The well approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
- The well authorized by Permit No. 7836-3 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 by Hammond-Wetmore Drilling LLC, November 6, 2013. A copy of the log is on file with the Water Rights Program.*
- This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

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

**JUN 19 2017**  
date





DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES

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

denr.sd.gov

7836-3

JUN 19 2017

Craig L Nelson  
30641 466<sup>th</sup> Ave  
Vermillion SD 57068

Dear Mr. Nelson:

Enclosed is Water License No. 7836-3. This is the final water right document completing your process of obtaining a Water Right. Also, included with your license is a map prepared by the staff engineer who conducted the investigation.

For your information SDCL 46-6-27 requires that if the owner of an existing well, such as the well authorized by Water Right No. 7836-3, constructs a replacement well and does not plan to use the old well, the old well is considered abandoned and must be plugged. Also, any well that is being used or is not considered abandoned must be valved and controlled, if flowing, or sealed and capped so that no leaking occurs either underground or at the surface.

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

Sincerely,

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

enclosures