

WATER PERMIT NO. 2694-2

Name of Applicant: Pete Lien & Sons, Inc.

Address: PO Box 440, Rapid City SD 57709

Phone: 605 342-7224

Amount of Water Claimed: 1.56 cfs

Total Acres: NA

Source of Water Supply: groundwater (one well)

Water to be used for: commercial and industrial

County: Pennington

Type of Waste Disposal System:

Location: north of Rapid City

PRIORITY

Date Received: 10-12-12

Application/License Fee: \$1750

Corrected Application Received:

Period of Annual Use: Jan 1 – Dec 31

Remarks:

Diversion Point: NW 1/4 NW 1/4 Sec 21-T2N-R7E

Land to be Irrigated: NA

Depth of Well: 1300 feet deep

Well Driller: Taylor Drilling

Remarks:

Type of Map: aerial

Prepared by:

Reviewed and the Number Assigned on: 10-15-12

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____

	⊗				
			21		

SD EForm - 1585LD V3

FORM 2: Application for uses other than irrigation
(type or print)

Mail to: PMB 2020 DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>2694-2</u> (office use only)	Hydrologic Unit <u>10120110</u>
	Basin <u>Upper Cheyenne</u>	
	Newspaper <u>Rapid City Journal P.O. Box 450</u>	
	<u>605-394-8300</u>	<u>57701</u>

RECEIVED
OCT 12 2012
WATER RIGHTS
PROGRAM

Application For Permit To Appropriate Water Within The State Of South Dakota

Check use(s) of water:

☐ Municipal	☐ Suburban Housing	☐ Recreational	☐ Institutional
☐ Rural Water System	☒ Commercial	☐ Fish & Wildlife	☐ Geothermal Heat
☐ Domestic (over 18 gpm)	☒ Industrial	☐ Other	

Type of Application:
(check one)

☒ New ☐ Vested Right (Use predates Mar 2, 1955) ☐ Future Use Reservation
☐ Place to Beneficial Use Water Reserved by Future Use Permit No. _____
☐ Amendment/Correction to Permit No. _____

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

1. Name of Applicant Pete Lien & Sons, Inc. Phone (605) 342-7224
 (check one) ☒ Owner ☐ Tenant/lessee
 Mailing Address PO Box 440 Rapid City SD 57709
 (Address) (City) (State) (Zip Code)

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

3. Source of water supply Madison

4. Location of point of diversion (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W) County Pennington
NW1/4 NW1/4 Section 21 T2N, R7E

5. County or counties where water will be used Pennington, Meade

6. Annual period during which water is to be used Jan 1 - Dec 31

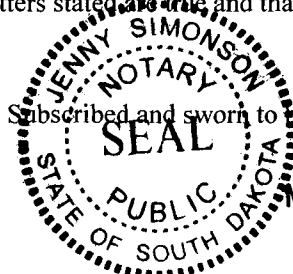
7. Give a description of the project. When available include any preliminary engineering report or other reports or information that will help explain the project. (Attach sheet if more space is needed)

To construct a well into the Madison to provide flow for operations. Pete Lien & Sons, Inc. operates a wash plant and dust suppression operations at this complex. An office building and ready mix facility are scheduled for construction at this site in 2013 and 2014.

STATE OF SOUTH DAKOTA)
 County of Pennington) SS

Attachments: Attach Form 2A if diversion is from a well or dugout, or if storage of water is proposed. Also, attach map and any other technical information. (see instructions)

I, Joel Brannan, the applicant, certify that I have read this application, have examined the attached map and that the matters stated are true and that I intend, and am able to complete the necessary construction.



Applicant's signature _____

Subscribed and sworn to before me this 9 day of October 20 12

My Commission Expires
October 13, 2017

Notary Public signature _____

**SOUTH DAKOTA
WATER PERMIT NO. 2694-2**

Date of first receipt of application October 12, 2012.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 2694-2 to Pete Lien & Sons, Inc., PO Box 440, Rapid City SD 57709 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. 2694-2 appropriates 1.56 cubic feet of water per second from one well to be completed into the Madison Aquifer (1300 feet deep) located in NW 1/4 NW 1/4 Section 21-T2N-R7E.
2. The water appropriated shall be used for the purpose of industrial and commercial use and may not exceed the amount of water needed for beneficial use.
3. The water is to be used during the following described annual period: January 1 – December 31.
4. The date of approval of Permit No. 2694-2 is January 14, 2013.
5. The date from which applicant may claim right is October 12, 2012.
6. One-fifth of the construction is to be completed on or before July 14, 2015.
7. All construction is to be completed on or before January 14, 2018.
8. Water is to be put to beneficial use on or before January 14, 2022.
9. 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. 2694-2 shall be constructed by a licensed well driller and construction 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. In accordance with SDCL 46-1-14 and 46-2A-20, Permit No. 2694-2 is issued for a twenty year term. Pursuant to SDCL 46-2A-21, the twenty year term may be deleted at any time during the twenty year period or following its expiration. If the twenty year term is not deleted at the end of the term, the permit may either be cancelled or amended with a new term limitation of up to twenty years. Permit No. 2694-2 may also be cancelled for nonconstruction, forfeiture, abandonment or three permit violations pursuant to SDCL 46-1-12, 46-5-37.1 and ARSD 74:02:01:37.

(continued)

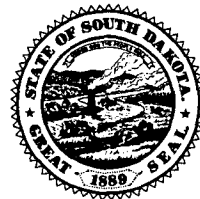
4. The Water Permit holder under this permit shall control withdrawals from the well so there is not a significant adverse effect on the water flow from area springs or a significant adverse effect on the water quality and character in area springs.
5. Pete Lien & Sons shall report annually the amount of water diverted from the Madison Aquifer.

WATER MANAGEMENT BOARD

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

FEB 08 2013

date



Supplemental Information

(type or print in ink)

1. Well Information - Proposed Construction

- a) Drill Hole Diameter 24"-13.5"-10" Depth 180'-585'-536'
- b) Casing Type Steel Diameter 16"-10.75" Thickness .375-.350
- c) Screen Type _____ Diameter _____ Thickness _____
- d) Gravel Pack _____ Length of Gravel Pack _____
- e) Depth to Top of Water Bearing Material 710'
- f) Depth to Water (ground surface to water level) 5'
- g) Distance to nearest existing domestic well:

On applicant's property SE1/4 of section 21

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 _____

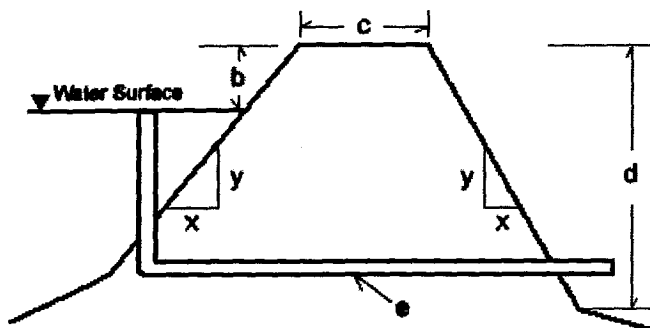
If pipe, diameter _____

- 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





PLS Property
Well Location

Property: Rapid City Complex

Location: Sections 21 & 28
T2N R7E Pennington County, SD

Background: Bing maps Aerial

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Legend

- Section Lines
- New Well



0 350 700 1,400
Feet
1 inch = 700 feet

PETE LIEN
& Sons, Inc.

Not an official
Pete Lien & Sons
GIS Map.
Last Revised: 10/10/2012
Drawn by: THutchens

SOUTH DAKOTA WATER WELL COMPLETION REPORT

07-92

Location NW 1/4 NW 1/4 Sec 21 Twp 2N Rg 7E

County

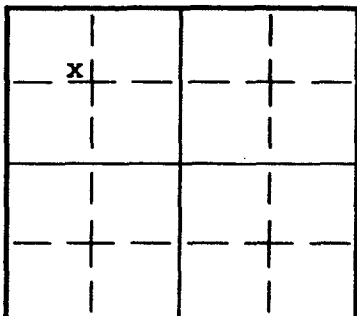
Pennington

North

Please mark well location with an "X"

W

E



Well Completion Date

10-03-2012

1 Mile

LOCATION:

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

PROPOSED USE:

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

METHOD OF DRILLING:

Rotary - Mud and AirCASING DATA: ☒ Steel ☐ Plastic ☐ Other

If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
<u>63</u> LB/FT	<u>16</u> IN	<u>0</u> FT	<u>180</u> FT	<u>24</u> IN
<u>40.5</u> LB/FT	<u>10 3/4</u> IN	<u>+2</u> FT	<u>765</u> FT	<u>13 1/2</u> IN
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN

GROUTING DATA

Grout Type	No. of Sacks	Grout Weight	From	To
<u>cement</u>	<u>350</u>	<u>14</u> lb./gal	<u>0</u> ft.	<u>180</u> ft.
<u>cement</u>	<u>375</u>	<u>14</u> lb./gal	<u>0</u> ft.	<u>765</u> ft.

Describe grouting procedure pressure grout through casingSCREEN: ☐ Perforated pipe ☐ Manufactured

Diameter _____ IN Length _____ FEET

Material _____

Slot Size _____ Set From _____ Feet to _____ Feet

Other information _____

WAS A PACKER OR SEAL USED? ☒ YES ☒ NO

If so, what material? _____

Describe packer(s) and location? _____

DISINFECTION: Was well disinfected upon completion?

X YES, How: Chlorine solution

Laboratory sent to for water quality analysis _____

_____ NO, Why Not? _____

Well Owner: Pete Lien and Sons Inc

Business Name: _____

Address: PO Box 440Rapid City, SD 57709

WELL LOG:

DEPTH

FORMATION	DEPTH	
	FROM	TO
Fill overburden	0	10
Minnekahta Limestone	10	31
Oppeche Shale	31	155
Minnelusa	155	710
Madison	710	1297
Englewood	1297	1301

STATIC WATER LEVEL 5 Feet

If flowing: closed in pressure _____ PSI

GPM flow _____ through _____ inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other _____

Reduced Flowrate _____ GPM

Can well be completely shut in? _____

WELL TEST DATA:

☐ Pumped Describe: Air developed at 580ft☐ Bailed with 140 PSI back pressure☒ Other _____

Pumping Level Below Land Surface

580 ft. After 5 Hrs. pumped 500 GPM

_____ ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate _____ GPM

REMARKS

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WATER RIGHTS
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And this report is true and accurate.

Drilling firm Taylor Drilling Co.Signature of License Representative: K Tyle

Signature of Well Owner or Equitable Property Holder: _____

Date: 10-09-2012



2310 Commerce Road, Rapid City, SD 57702
 Phone 605-348-3600 / Fax 605-394-9409
 Email: taylordrilling@rushmore.com

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**WATER RIGHTS
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Pete Lien & Sons Inc.
Madison Formation Supply Well
 Well Completion Date 10-03-2012

Depth (feet)	Description
0 – 8	Overburden
8-28	Minnekahta Limestone
28 – 141	Opeche
141 – 159	Dark Red Shaley SS
159 – 174	Red and Yellow Siltstone, SS – Top of Minnelusa
174 – 193	Light Pink, Cream Limestone
193 – 212	Light Red, Purple Siltstone, Shale
212 – 218	Red SS
218 – 220	Limestone with Anhydrite
220 – 233	Red and Purple Limestone with Layers of Shale
233 – 243	Pink SS
243 – 254	Pink and Tan Limestone
254 – 260	Red Shale, Anhydrite
260 – 280	Yellow SS
280 – 283	Limestone
283 – 285	Red Shale, Anhydrite
285 – 295	Pink, Yellow Dolomite Shale
295 – 355	Peach, White, Yellow SS
355 – 383	White, Maroon Limestone / Shale
383 – 402	Shaley Red SS
402 – 410	Grey, Maroon Limestone
410 – 415	Red Shale
415 – 420	Red, White, Pink Limestone
420 – 422	Pink Limestone
422 – 426	Red SS
426 – 445	Limestone
445 – 457	Red Shale
457 – 490	Limestone
490 – 495	White SS, Dolomite
495 – 500	Purple Limestone
500 – 550	White, Purple Limestone /Dolomite

[illegible]

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WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 10/15, 20 12

RECEIVED OF Pete Lien & Sons

PO Box 440

Rapid City SD 57709

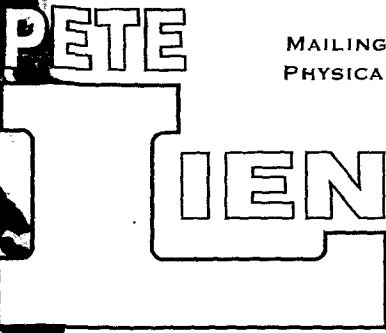
The following amount in fees for services rendered as provided for by law:

Fee for Application for Permit No. <u>2694-2</u> to Appropriate Water, to construct and to put water to beneficial use	1550	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>2694-2</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	1750 00

No. 05615

By

David E. Schell
Chief Engineer



MAILING ADDRESS: P.O. Box 440 RAPID CITY, SD 57709-0440 PH. 605-342-7224
PHYSICAL ADDRESS: 3401 UNIVERSAL DR. RAPID CITY, SD 57702 FX. 605-342-6979

*PETE LIEN & SONS *BIRDSALL SAND & GRAVEL *COLORADO LIEN CO.
*DAKOTA BLOCK CO. *TRANS COLORADO CONCRETE

PETER C. LIEN
1898 - 1969 FOUNDER

BRUCE H. LIEN
FOUNDER

CHARLES H. LIEN
FOUNDER
CHAIRMAN

PETER C. LIEN
PRESIDENT

& Sons, Inc.

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AUG 13 2012

WATER RIGHTS
PROGRAM

August 8, 2012

SDDENR
Water Rights
Ken Buhler
523 East Capitol
Pierre, SD 57501

Fax: (605) 773-4068

Re: Pete Lien & Sons-Request to Construct Test Well

Pursuant to 74:02:04:21, Pete Lien & Sons, Inc. requests permission to construct a test well to be completed in the Minnelusa aquifer. The site for this well is located in NW1/4 NW1/4 of section 21 in T2N, R7E in Penning ton County, SD.

If there are any questions or concerns regarding this request please feel free to contact me at (605) 939-2686 or dwiebers@petelien.com.

Sincerely,

Danielle Wiebers
Manager or Environmental, Safety and Technical Services
Pete Lien & Sons, Inc.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

August 10, 2012

Danielle Wiebers
Pete Lien & Sons, Inc.
PO Box 440
Rapid City, SD 57709-0440

Dear Ms. Wieber:

As requested, pursuant to South Dakota Well Construction Standard 74:02:04:21, you are authorized to construct a test well into the Minnelusa aquifer in the NW¼ NW¼ Section 21, T2N-R7E, prior to approval of a water permit. The test well must be constructed in accordance with the SD Well Construction Standards. Any test holes that are abandoned must be plugged pursuant to the SD Well Construction Standards.

Authorization must be obtained before water from the well can be used. Approval of this test well does not assure issuance of a water permit. Following review of a Water Permit Application; and assessing the availability of water, the potential impacts to existing users, the beneficial use, and the public interest of a permit, the Chief Engineer will make a recommendation to the Water Management Board regarding the application. The recommendation to approve, deny, or defer the application will be publicly noticed and an opportunity afforded for the public to intervene. A public hearing may be required to consider the water permit.

Very truly yours,

GARLAND ERBELE, Chief Engineer
Water Rights Program
(605) 773-3352



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

September 19, 2012

Kim Taylor
Taylor Drilling Co.
2310 Commerce Road
Rapid City, SD 57702

Dear Mr. Taylor:

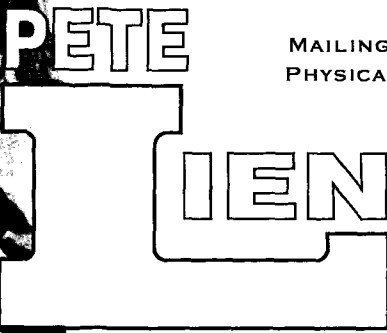
As requested, pursuant to South Dakota Well Construction Standard 74:02:04:21, Taylor Drilling is authorized to construct a test well for Pete Lien & Sons Inc., approximately 720 feet deep, which will be constructed into the Madison aquifer prior to approval of a water permit. The test well will be located in the NW ¼ NW ¼ Sec. 21, T2N-R7E. All test wells must be constructed in accordance with the SD Well Construction Standards. Any test holes that are abandoned must be plugged pursuant to the SD Well Construction Standards.

Authorization must be obtained before water from the well can be used. Approval of this test well does not assure issuance of a water permit. Following review of a Water Permit Application; and assessing the availability of water, the potential impacts to existing users, the beneficial use, and the public interest of a permit, the Chief Engineer will make a recommendation to the Water Management Board regarding the application. The recommendation to approve, deny, or defer the application will be publicly noticed and an opportunity afforded for the public to intervene. A public hearing may be required to consider the water permit.

Very truly yours,

ERIC GRONLUND for
GARLAND ERBELE, Chief Engineer
Water Rights Program
(605) 773-3352

cc: Danielle Wiebers
Pete Lien & Sons Inc.
PO Box 440
Rapid City, SD 57709



MAILING ADDRESS: P.O. Box 440 RAPID CITY, SD 57709-0440 PH. 605-342-7224
PHYSICAL ADDRESS: 3401 UNIVERSAL DR. RAPID CITY, SD 57702 FX. 605-342-6979

*PETE LIEN & SONS *BIRDSALL SAND & GRAVEL *COLORADO LIEN CO.
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FOUNDER
CHAIRMAN

PETER C. LIEN
PRESIDENT

& Sons, Inc.

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PROGRAM

October 11, 2012

PMB 2020
Department of Environment and Natural Resources
Water Rights Program
523 East Capitol Ave.
Pierre, SD 57501-3182

Dear Mr.Gronlund:

Enclosed is an application for permit to appropriate water for Pete Lien & Sons, Inc. Thank you for your department's assistance in completing this application process. If you have any questions regarding the documentation being submitted please feel free to contact me at (605) 939-2686 or dwiebers@petelien.com.

Sincerely,

Danielle Wiebers
Manager of Environmetal, Safety and Technical Services
Pete Lien & Sons, Inc



**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. 2694-2, Pete Lien & Sons, Inc.**

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. 2694-2, Pete Lien & Sons, Inc., c/o Joel Brannan, PO Box 440, Rapid City SD 57709.

The Chief Engineer is recommending Approval of Application No. 2694-2 for a 20 year term pursuant to SDCL 46-1-14 and 46-2A-20 because 1) although evidence is not available to justify issuing this permit without a 20 year term limitation, 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. 2694-2 shall be constructed by a licensed well driller and construction 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. In accordance with SDCL 46-1-14 and 46-2A-20, Permit No. 2694-2 is issued for a twenty year term. Pursuant to SDCL 46-2A-21, the twenty year term may be deleted at any time during the twenty year period or following its expiration. If the twenty year term is not deleted at the end of the term, the permit may either be cancelled or amended with a new term limitation of up to twenty years. Permit No. 2694-2 may also be cancelled for nonconstruction, forfeiture, abandonment or three permit violations pursuant to SDCL 46-1-12, 46-5-37.1 and ARSD 74:02:01:37.
4. The Water Permit holder under this permit shall control withdrawals from the well so there is not a significant adverse effect on the water flow from area springs or a significant adverse effect on the water quality and character in area springs.
5. Pete Lien & Sons shall report annually the amount of water diverted from the Madison Aquifer.

See report on application for additional information.

Garland Erbele, Chief Engineer
December 18, 2012

WATER PERMIT APPLICATION NO. 2694-2
PETE LIEN & SONS, INC
DECEMBER 12, 2012

Water Permit Application No. 2694-2 proposes to appropriate 1.56 cubic feet of water per second (cfs) from a well to be completed into the Madison aquifer (1,301 feet deep) located in the NW $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 21, T2N-R7E, Pennington County. The water is to be used for commercial and industrial use.

AQUIFER: Madison aquifer (MDSN)

GEOLOGY AND AQUIFER CHARACTERISTICS:

The Madison aquifer is a major regional aquifer that underlies parts of Montana, North Dakota, South Dakota, Nebraska, Wyoming and Canada (figure 1). The aquifer underlies most of western South Dakota and parts of Eastern South Dakota.

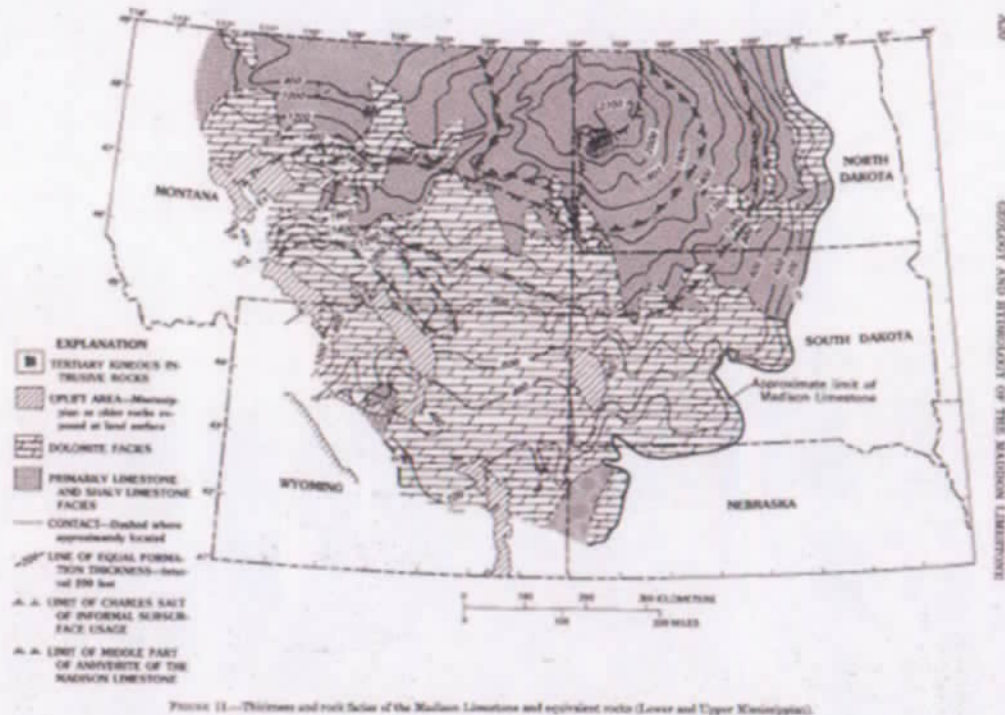


Figure 1. Areal extent of the Madison aquifer. Modified from Peterson (1984)

The Madison aquifer contains an estimated 644,827,200 acre-feet of recoverable water in storage in western South Dakota (Allen and others, 1985) and 51,512,300 acre-feet of recoverable water in storage in eastern South Dakota (Hedges and others, 1982).

The Madison aquifer occurs within the Mississippian aged Madison Limestone which is locally known as the Pahasapa Limestone. The top of the Madison Limestone is reported to be 710 feet below grade in the completion report submitted with this application. The

Madison Limestone is a massive limestone and dolomite with relatively low primary permeability and porosity however, extensive secondary porosity and permeability does occur locally within the Madison. The average porosity of the Madison is estimated to be 11% and the effective porosity from which recoverable water can be obtained by wells is assumed to be 5% (Rahn, 1979). The upper portion of the Madison Limestone in particular is karstic with caves, solution collapse features and enlarged conduits. Although the well completion report submitted with this application reports 587 feet of "Madison", Long and Putnam (2002) only consider the upper 100-200 feet of the Madison Limestone the "Karstic Madison aquifer". The lower portion of the Madison Formation and the underlying Englewood Formation generally form a lower confining zone to the aquifer (Strobel and others, 1999). The Minnelusa Formation unconformably overlies the Madison aquifer and generally serves as an upper confining layer to the Madison. However, fracturing and weathering may result in hydraulic connections in some areas (Putnam and Long, 2009). The test well completion report submitted with this application reports a static water level of five feet below grade.

A number of high yield wells, some capable of producing up to 2,500 gal/min, have been developed in the Madison aquifer where enhanced porosity and permeability features are favorable (Putnam and Long, 2009). The Rapid City area is characterized as having undergone extensive tectonic activity (Long and Putnam, 2002) and the well site proposed by this application is located near a syncline-anticline set (Redden and DeWitt, 2008). The Madison is generally considered an excellent aquifer in terms of its potential to supply good quality water to relatively productive wells, especially near the outcrop (recharge area). This well site is located about four and one-half miles east of the main Madison outcrop (see figure 2) (Strobel and others, 1999).

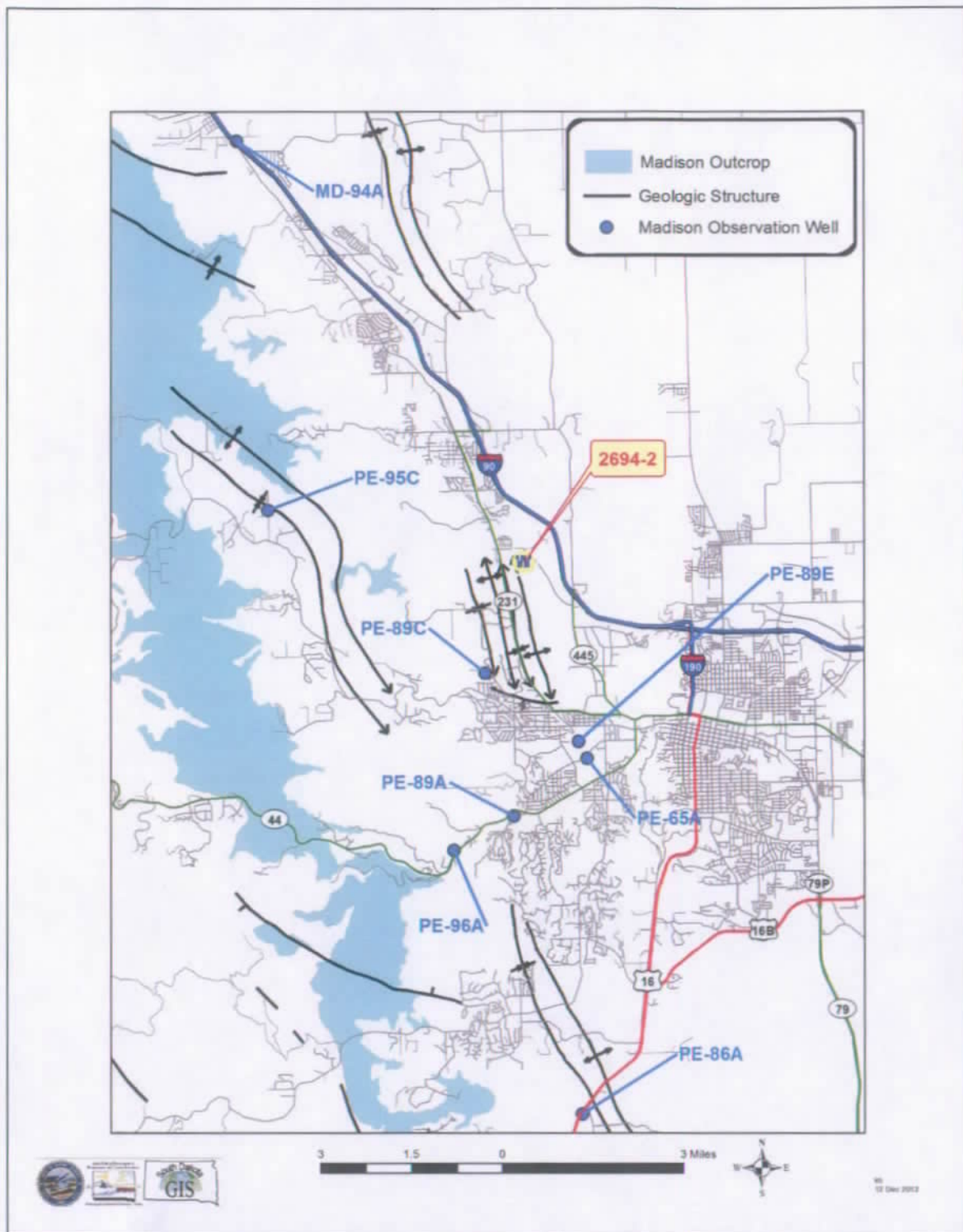


Figure 2. Location of 2694-2, DENR-Water Rights' Observation Wells, major geologic structures and the Madison outcrop.

SDCL 46-2A-9

Pursuant to SDCL 46-2A-9, a permit to appropriate water may be issued only if there is reasonable probability that there is unappropriated water available for the applicant's

proposed use, that the proposed diversion can be developed without unlawful impairment of existing rights and that the proposed use is a beneficial use and in the public interest. This report will mainly address water availability and existing rights.

WATER AVAILABILITY:

The probability of unappropriated water available for appropriation can be evaluated by considering SDCL 46-6-3.1 which requires that:

“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.”

Water Balance:

Recharge to the Madison aquifer occurs through streamflow losses and direct infiltration of precipitation at the outcrop area and potentially from upward leakage from lower aquifers. Recharge to the Madison aquifer in South Dakota has been estimated to range from 140,000 to 400,000 acre-feet per year (Woodward-Clyde, 1981). Woodward-Clyde however, defined the Madison aquifer as everything between the Precambrian and the Cretaceous shales. As part of the Black Hills Hydrology Study, the average annual recharge to the Madison aquifer from 1931-1998 was estimated to be approximately 137,000 ac-ft/yr (Carter and others, 2001a).

Outflow from the Madison occurs primarily through springflow, regional outflow and water use. In addition, although the lower portion of the Minnelusa Formation generally inhibits the movement of water from the Madison aquifer to the Minnelusa aquifer, faults, fractures and collapse features may allow for movement of water between the two aquifers in some areas.

The high cost of Madison wells, except very near the outcrop, and the availability of groundwater from shallower sources, has limited domestic development from the aquifer. Carter and others, (2001b) estimate “Self-supply Domestic” and “Livestock Watering” only account for approximately 2.25% of the water use from the Madison aquifer. In general, well withdrawals from the Madison are for uses which require water rights/permits. The majority of the water rights/permits from the aquifer are from Butte, Lawrence, Meade, Pennington and Fall River Counties. The Madison supplies water for irrigation, geothermal, industrial, and commercial use. However, by far the major use of the aquifer is for water distribution systems (suburban housing development and municipal use). The cities of Spearfish, Belle Fourche, Sturgis, Rapid City, Box Elder, and Edgemont all depend on water from wells completed into the Madison aquifer.

There are currently a total of 163 appropriations, one pending application, plus one deferred application from the Madison aquifer in South Dakota (Water Rights, 2012b). Appropriations are shown in table 1.

USE TYPE	NO. PERMITS
Commercial	12
Domestic	4
Future Use	7
Geothermal	2
Industrial	11
Institutional	2
Irrigation	28
Municipal	36
Recreation	1
Rural Water System	15
Suburban Housing Development	45

Table 1. Appropriations from the Madison aquifer in South Dakota

Assuming that: (1) future use permits will be fully developed; (2) appropriations with a specified annual volume limitation will divert to their maximum limit; and (3) appropriations limited by diversion rate only, will be used at 60 percent of full time usage at their maximum diversion rate; the appropriations represent a potential maximum annual withdrawal from the Madison aquifer of approximately 55,000 ac-ft/yr. The assumptions used to estimate the potential maximum withdrawal from the aquifer are extremely conservative and represent a “worst case scenario.”

Almost all water use from the Madison aquifer is from the Black Hills area. Withdrawals from all wells completed into the Madison aquifer in the Black Hills of South Dakota and Wyoming, where estimated to average 12,310 acre-feet annually from 1987-1996 (Carter and others, 2001b). The “potential maximum annual withdrawal” from the aquifer for 1996, using the assumptions given above for the appropriations in 1996 is 35,831 ac-ft/yr. Applying the 1996 “potential maximum annual withdrawal” to the estimated average annual use ratio to the 2012 “potential maximum annual use” (55,000 ac-ft/yr), will would result in a use of less than 20,000 ac-ft/yr.

The quantities of both the average annual recharge and the average annual use for the Madison aquifer are both small percentages of the amount of water stored in the Madison aquifer so the aquifer can actually withstand several years of drought conditions with only minimal impact to wells or springs. Comparison of average annual recharge and average annual withdrawal estimates for the Madison aquifer indicate that unappropriated water is available from the Madison aquifer. The simple water budget comparing the estimated average annual recharge and the potential withdrawal by existing wells and current appropriations is not intended to suggest that all of the water that is in storage in the Madison or that all of the recharge to the aquifer is available for this appropriation, merely to demonstrate that in general the Madison aquifer is an immense resource that is relatively untapped.

Localized Hydrologic Budget

On a more localized scale, Long and Putnam (2002) evaluated an area which includes Rapid City and the surrounding area, and Putnam and Long (2009) modeled an area consisting of approximately 1,000 square miles centered just east of the well site proposed by Application

No. 2694-2. The estimated water-budget components for the Madison aquifer under steady-state conditions are shown in table 3.

Madison Water-budget rate (cfs)		
Inflow	Component	Total
	Streamflow recharge	36.2
	Areal Recharge	15.1
	Upward leakage from Deadwood aquifer	6.3
Total Inflow		57.6
Outflow	Springflow	32.8
	Water use	6.7
	Regional outflow	12.2
Total Outflow		51.7

Table 3. Estimated water-budget components for the Madison aquifer for steady-state simulation modified from Putnam and Long (2009).

In addition to the components identified in table 3, there may also be leakage from the Madison aquifer to the Minnelusa aquifer in this area. The average net leakage from the Madison to the Minnelusa was estimated to be 8 cfs for a somewhat similar area (Long and Putnam, 2002).

Considering increased well withdrawals can capture water from the regional groundwater outflow, leakage to the Minnelusa aquifer, leakage from the Deadwood aquifer and springflow components of the localized hydrologic budget, there is a reasonable probability that withdrawals from the area will not exceed recharge to the area and unappropriated water is available for this appropriation.

Observation Well Data:

The Water Rights Program monitors 26 observation wells completed into the Madison aquifer in the Black Hills area (Water Rights, 2012a). This well site is located within about five miles of five Water Rights' observation wells completed into the Madison aquifer (see figure 2). Hydrographs for the wells show the aquifer's response to climatic conditions and clearly demonstrate the system is recharged, (see figures 3-7).

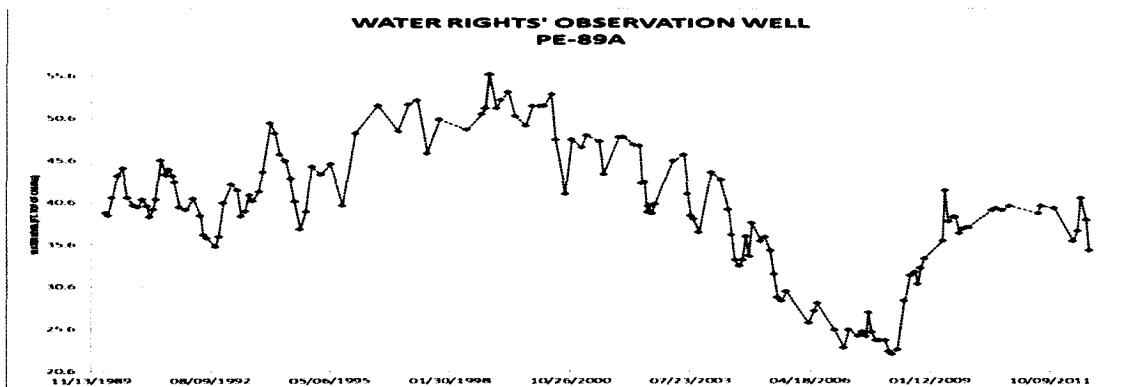


Figure 3. Hydrograph of Water Rights' Observation well located approximately 4.3 miles south of the well site proposed by Application No. 2694-2

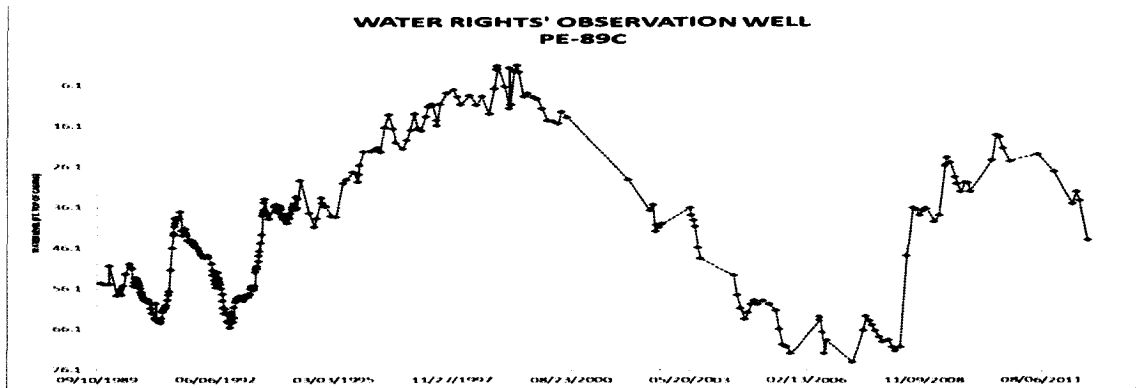


Figure 4. Hydrograph of Water Rights' Observation well located approximately two miles south-southwest of the well site proposed by Application No. 2694-2

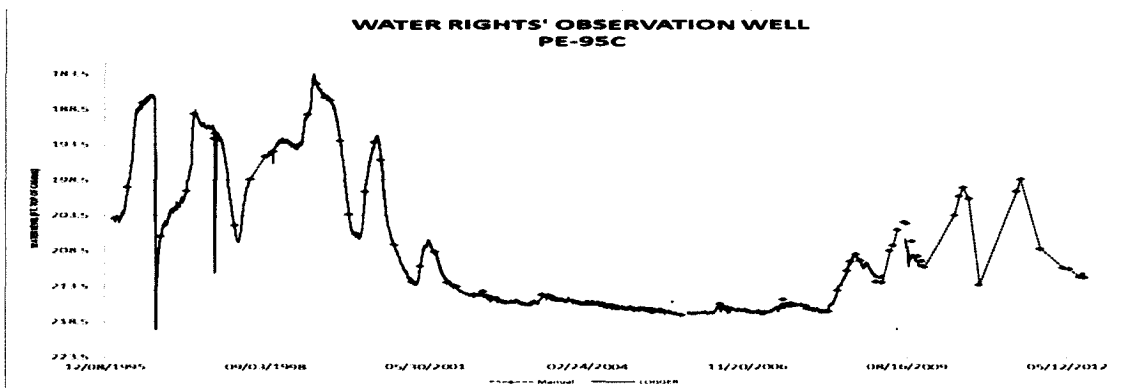


Figure 5. Hydrograph of Water Rights' Observation well located approximately 4.3 miles west of the well site proposed by Application No. 2694-2

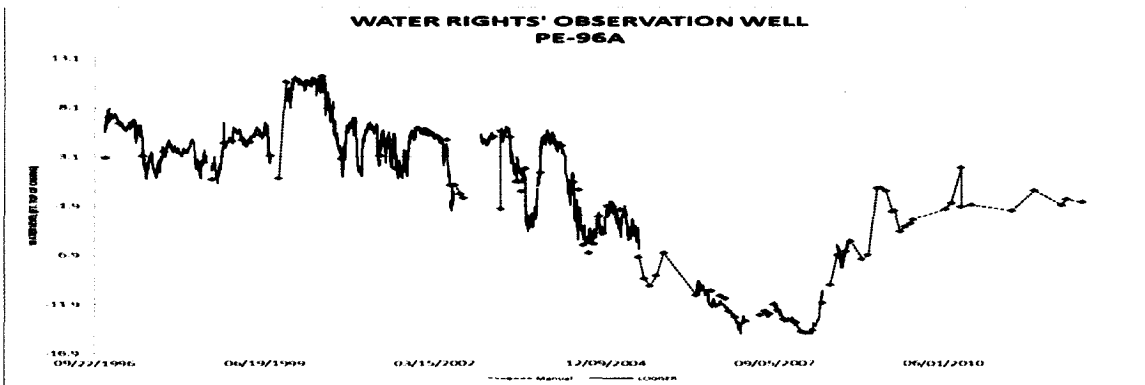


Figure 6. Hydrograph of Water Rights' Observation well located approximately five miles south-southwest of the well site proposed by Application No. 2694-2

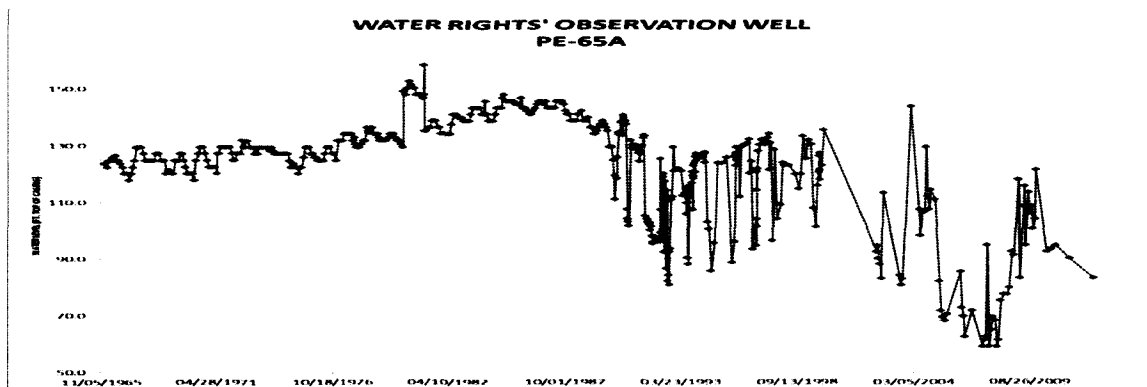


Figure 7. Hydrograph of Water Rights' Observation well located approximately three and one-half miles south-southeast of the well site proposed by Application No. 2694-2.

The hydrographs show the potentiometric surface measured at these sites rose during the late 1990's and the late 2000's in response to wet climatic conditions. The water levels decreased in the early 2000's in response due to dry conditions.

A comparison of these hydrographs with data from other Water Rights' Observation wells completed into the Madison aquifer, suggest the fluctuations shown in figures 3-6 are representative of climatic conditions instead of pumping from the aquifer. Figure 7 documents the effect of pumping from Rapid City well #5 which is located approximately 1600 feet away and capable of diverting 2700 gallons per minute (Water Rights, 1992). The observation well data verifies that for the period of record, withdrawals have not exceeded recharge.

AFFECTS ON EXISTING RIGHTS:

There are a number of completion reports on file with the DENR-Water Rights Program for wells in this vicinity (Water Rights, 2012c). There are 42 Water Rights/Permits and two Future Use Permits appropriating groundwater within approximately two and three-quarter miles of the well site proposed by this application. The approximate location of the diversion points for the groundwater appropriations are shown in figure 8. Existing Water Rights/Permits appropriating water from the Madison aquifer within approximately two and three-fourths miles of this well site are shown in table 4 (Water Rights, 2012b).

PERMIT NO	NAME	PRIORITY DATE	STATUS	USE	CFS
1341-1	BLACK HAWK WATER USER DIS	08/05/1985	LC	RWS	1.15
2085-2	CITY OF RAPID CITY	05/18/1989	IL	MUN	8.01
2110-2	COCA-COLA BOTTLING CO	12/20/1989	IL	IRR/COM	0.25
2124-2	CITY OF RAPID CITY	03/19/1990	LC	MUN	1.79
2155-2	CITY OF RAPID CITY	05/18/1989	IL	MUN	
2271-2	CITY OF RAPID CITY	05/18/1989	IL	MUN	
2272-2	CITY OF RAPID CITY	03/19/1990	IL	MUN	
2273-2	CITY OF RAPID CITY	05/18/1989	LC	MUN	11.06
2275-2	CITY OF RAPID CITY	05/18/1989	LC	MUN	3.8
2286-2	DONALD KONECHNE	04/28/1993	LC	IRR	0.1
454-2	BLACK HILLS CORPORATION	04/09/1957	LC	IND	1
2313-2	COCA-COLA BOTTLING	04/08/1994	LC	IRR/COM	0.33
2458-2	CITY OF RAPID CITY	03/30/2001	LC	IRR	0.8
2669-2	DIOCESE OF RAPID CITY	05/27/2011	PE	IRR	0.1
2673-2	DIOCESE OF RAPID CITY	09/02/2011	PE	IRR	0.044
2155-2	CITY OF RAPID CITY	05/18/1989	IL	MUN	
2286-2	DONALD KONECHNE	04/28/1993	LC	IRR	0.1
2286-2	DONALD KONECHNE	04/28/1993	LC	IRR	0.1

RWS= Rural Water System, MUN= Municipal, IRR= Irrigation, COM= Commercial, IND= Industrial * two diversion points, LC= Water Right, PE= Water Permit, IL=Incorporated

Table 4. Madison aquifer appropriations within approximately two and three-fourths miles of 2694-2 (Water Rights, 2012b)

In addition to the appropriations listed in Table 4, Rapid City's Future Use Permit No. 2086-2 reserves 4,075 ac-ft/yr from the Madison aquifer from an area that is included in Figure 8 but does not encompass the well site proposed by Application No. 2694-2. Rapid City's future use area is within approximately one mile of the well site proposed by this application. A permit to construct works and place water reserved by a future use permit to beneficial use could only be approved if there would be no unlawful impairment of existing rights. Therefore, if Application No. 2694-2 is approved, consideration must be given to impairment to the right, even though it would have a junior priority date, if the City elects to apply for a permit to develop the future well site in this vicinity.

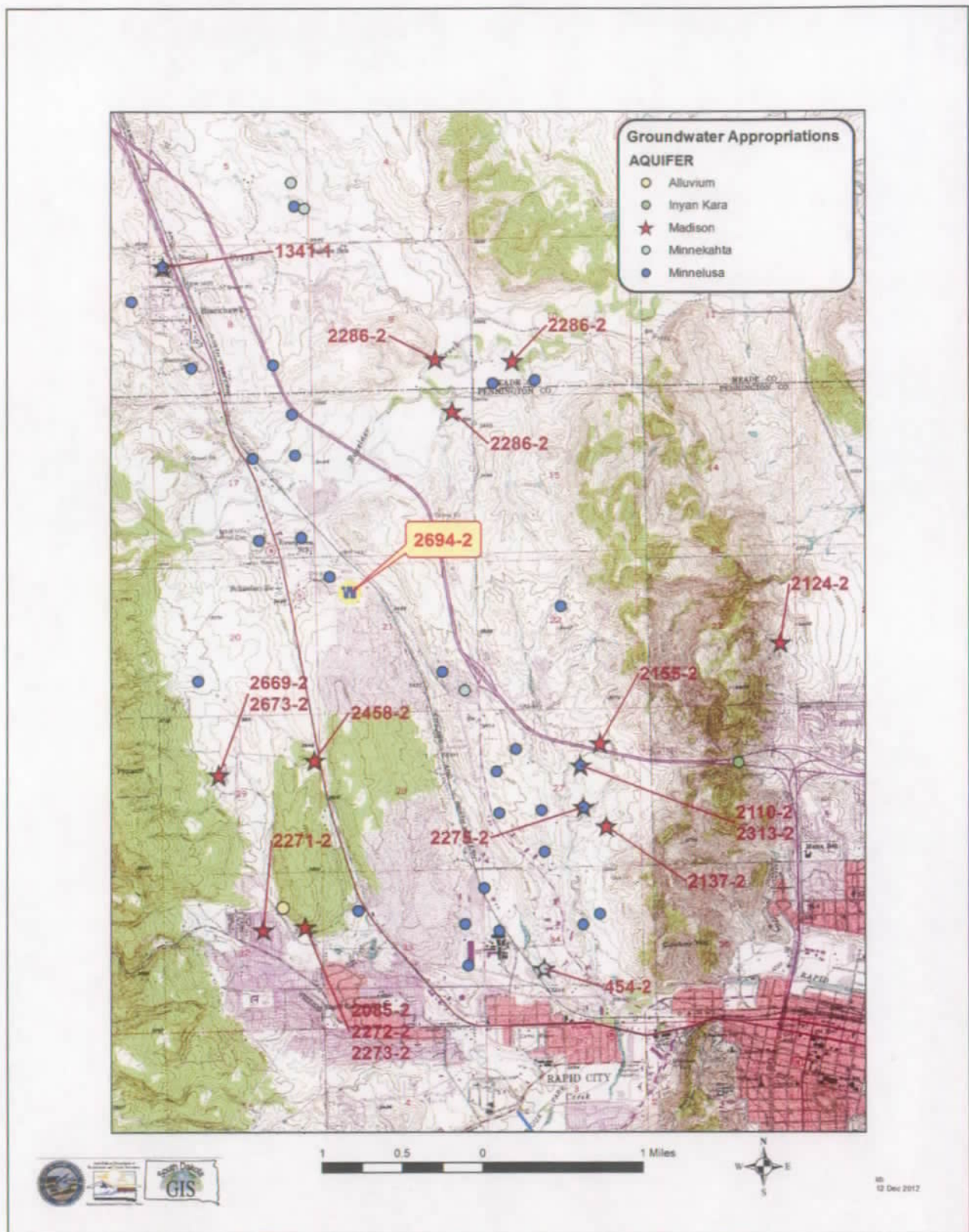


Figure 8. Vicinity map with approximate locations of groundwater appropriations within approximately two and three-quarter miles of the well proposed by Application No. 2694-2

Since the Madison is under artesian conditions in this area, drawdown from pumping a well may extend over a fairly large area. The transmissivity of the aquifer is very heterogeneous with values that range from 500 to 20,000 ft²/d (Putnam and Long, 2002). In addition the aquifer characteristics of the Madison can vary considerably within a short distance (Greene, 1993).

Considering the distances involved to existing wells and the relatively low diversion rate proposed by this application, well interference should not be significant. This is especially the case when considering the Madison is under artesian conditions with 705 feet of head pressure at this well site and further recognizing that there is over 70 feet of natural fluctuation in this area (see figure 4).

Wells supplying existing Water Rights/Permits and domestic uses are protected from adverse impacts per Water Management Board rules 74:02:04 and 74:02:05, which were promulgated pursuant to SDCL 46-6-6.1. These rules provide for the regulation of large capacity wells to the degree necessary to maintain an adequate depth of water for a prior appropriator in wells that have the ability to produce water **independent of artesian pressure**. Simply put, the pump placement in a prior appropriator's well is not necessarily protected.

If the water levels in the Madison aquifer were to decline, owners of existing wells bear the responsibility of lowering the pump inlet in the well to the top of the aquifer, if necessary. Increased lift would decrease the pump discharge; or require a larger pump or a different type of a pump to maintain the same output.

An increase in operating expenses that may result from interference between wells is not necessarily an adverse impact. The Water Management Board considered this situation in the matter of Water Permit Application 2313-2, Coca-Cola Bottling Company of the Black Hills (Water Rights, 1995). The Board adopted findings of fact and conclusions of law that basically state that if the increased cost or decreased production is considered an adverse impact, it could be in conflict with SDCL 46-1-4, which requires South Dakota's water resources to be put to beneficial use to the fullest extent of which they are capable.

It should be noted, that well interference (drawdown) measured at Water Rights' observation wells located near high capacity municipal wells in Spearfish, Sturgis and Rapid City has never been significant (e.g. see figure 7).

Given the distance between the well site proposed by this application and existing Madison wells, well interference is not expected to be adverse.

SPRINGS:

There are a number of springs in the Rapid City area (see figure 9) that based on hydrochemistry, originate from the Madison aquifer (Putnam and Long, 2009). These springs are classified as Type 2 springs by Rahn and Gries (1973), meaning "The springs do not dry up and serve as points of permanent discharge from the carbonate aquifer."

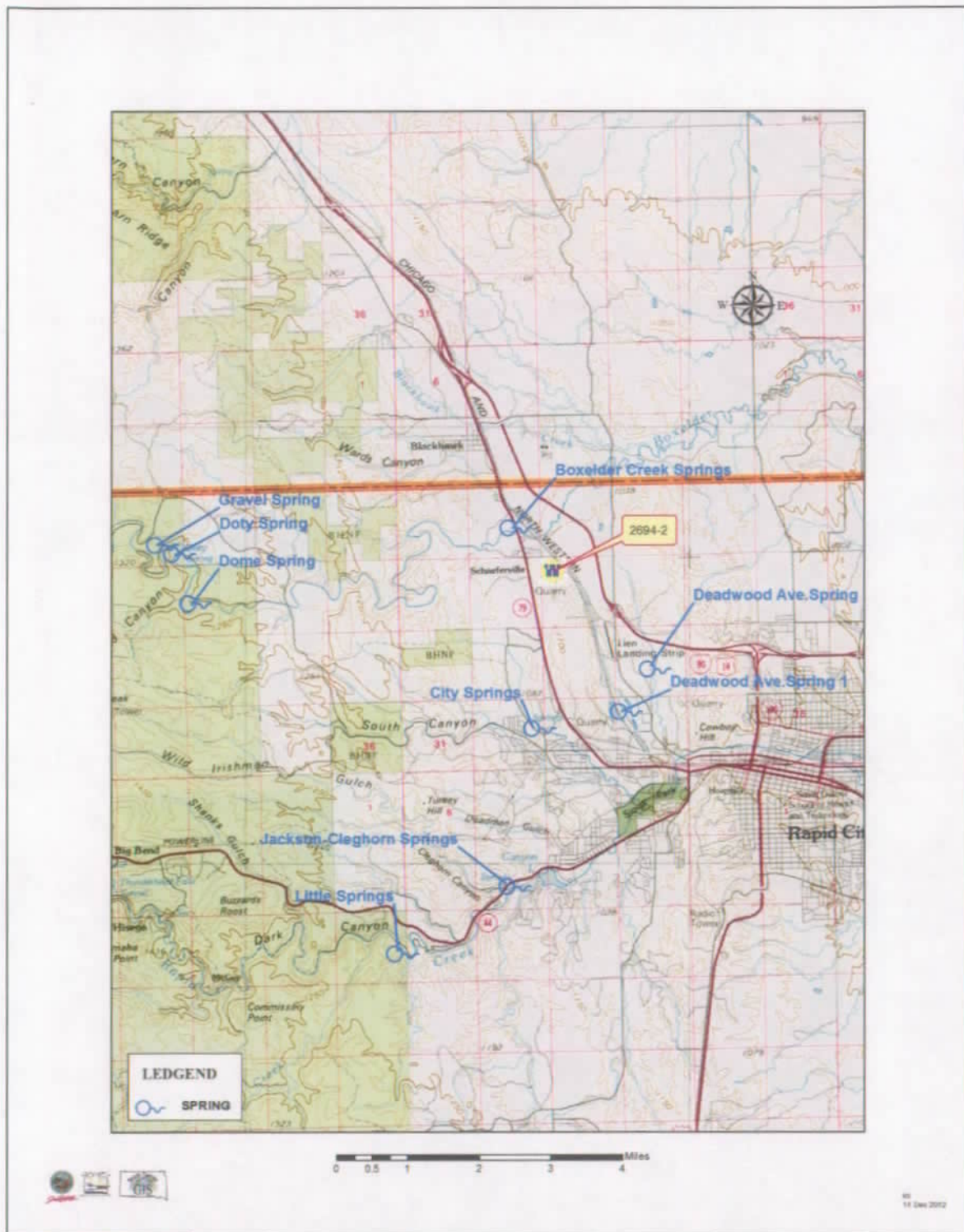


Figure 9. Springs in the Rapid City area in relation to the well site proposed by Application No. 2694-2.

Flow from some area springs can be relatively steady, whereas flow from others may fluctuate considerably. Topographic altitude, hydraulic head variation, and hydraulic properties of the overlying material can all affect springflow rates (Long and Putnam, 2002). The average springflow from the area for Water Years 88-97 was estimated to be 31 cfs. Total springflow averaged 25.3 cfs during dry periods and 37.4 cfs for wet periods. (Long and Putnam, 2002).

A decline of the potentiometric surface in the vicinity of the springs could decrease spring discharge. In the past, the Water Management Board has recognized that South Dakota Water Law does not protect artesian head pressure as a means of diversion and determined that well interference resulting in decreased discharge from “artesian” springs probably does not constitute an adverse impact. The Board has however recognized that “public interest” concerns exist if decreased discharge of springs and ultimately base flows in area streams could result from well interference. In fact, when considering the deferral of Water Permit Application No. 2585-2 for Southern Black Hills Water System, the Water Management Board adopted a conclusion of law (No. 11) which states in part “The only protection South Dakota law provides when considering an application for an underground water permit for flow from an artesian spring is under the public interest criteria.” (Water Rights, 2007).

Putnam and Long (2009) developed a numerical groundwater-flow model of the Minnelusa and Madison aquifers in the Rapid City area to analyze the effect of additional stress on the aquifers’ water levels and on the discharge of area springs. Their simulated effect of increasing pumping of existing production wells from 7 cfs to 17 cfs, on springflow from Jackson-Cleghorn Springs was a decrease in springflow equal to about 30 percent of the increase in pumping rate at 6 months, increasing to about 50 percent of the increase in pumping rate after 10 years of pumping. Putnam and Long (2009) concluded that “The influence of potential pumping stresses on springflow is an important consideration in evaluating management alternatives”.

The Putnam and Long model is one of the most detailed and is probably the most representative model currently available for the Rapid City area; however, the model is limited by the simplifying assumptions necessary to represent this complex hydrogeologic system. Under steady-state conditions, the simulated potentiometric surface for the Madison was more frequently lower than the observed hydraulic head (i.e. the model overstated drawdown in the area). Since the reduction of springflow is in part hydraulic head dependent, it can be inferred that the actual reduction of springflow that would result from the increased 10 cfs pumping is also less than 5 cfs (50% of the pumping rate after 10 years of pumping). Regardless of the precision of the model, it is clear that this appropriation (1.56 cfs) will not significantly impact springflow. This is particularly true in light of the natural variability of the spring discharge.

In theory, the cumulative impact of pumping from the Madison aquifer could eventually affect springflow. If this and subsequent permits approved from the Madison aquifer in this area contain a qualification similar to Qualification No. 5 on Permit No. 2633-2, (i.e. “The Applicant, Water Permit Holder, under this permit shall control withdrawals from the well so there is not a significant adverse effect on the water flow from area springs or a

significant adverse effect on the water quality and character in area springs”), the Water Management Board would have the ability to reduce withdrawals on a priority basis if it is determined that the springflow has been “ significantly adversely effected.”

TERM LIMITATION:

SDCL 46-2A-20 requires that "... no water permit for construction of works to withdraw water from the Madison formation in Butte, Fall River, Custer, Lawrence, Meade and Pennington counties may be issued for a term of more than twenty years, unless the water management board determines, based upon the evidence presented at the hearing that:

- (1) Sufficient information is available to determine whether any significant adverse hydrologic effects on the supply of water in the Madison formation would result if the proposed withdrawal were approved; and
- (2) The information, whether provided by the applicant or by other means, show that there is a reasonable probability that issuance of the proposed permit would not have a significant adverse effect on nearby Madison formation wells and springs."

Pursuant to SCL 46-2A-21, “at the end of the twenty-year limitation, the board may cancel a permit or amend the permit with a new term limitation of up to twenty years, if the board is unable to make a finding after notice and hearing that sufficient information is available to delete the term.”

Although the criteria for approval of a water permit established by SDCL 46-2A-9 are met, (i.e., there is a reasonable probability that unappropriated water is available for the applicant's proposed use, and this proposed diversion can be developed without unlawful impairment of existing rights) evidence is not available to justify issuing this permit without a term limitation of 20 years.

CONCLUSIONS:

1. The Madison aquifer is a major regional aquifer and a viable source of water for this proposed appropriation.
2. This application proposes to appropriate 1.56 cubic feet of water per second.
3. There is a reasonable probability that unappropriated water is available in the Madison aquifer to supply this appropriation.
4. There is a reasonable probability this appropriation can be made without adversely impacting existing water rights including domestic users.
5. Information is not available to justify issuing these permits without a term limitation of 20 years.
6. Following notice and a public hearing, the Water Management Board can cancel this permit or amend it with a new term limitation after twenty years.
7. This proposed diversion will not have a significant impact on area springflow.



Ken Buhler
SD DENR-Water Rights Program

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Affidavit of Publication

STATE OF SOUTH DAKOTA

County of Pennington

SS:

RECEIVED

JAN - 9 2013

WATER RIGHTS
PROGRAM

Jan. 3
L26752109

NOTICE OF APPLICATION

NO. 2694-2 to Appropriate Water
Notice is given that Pete Lien & Sons, Inc., PO Box 440, Rapid City SD 57709 has filed an application for a water permit to appropriate 1.56 cubic feet of water per second from one well to be completed into the Madison Aquifer (1300 feet deep) located in NW 1/4 NW 1/4 Section 21-T2N-R7E. The water is for commercial and industrial use.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2694-2 subject to a 20-year term limitation because 1) although evidence is not available to justify issuing the permit without a 20 year term limitation, there is reasonable probability that there is unappropriated water available, 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. In accordance with SDCL 46-2A-23, the Chief Engineer will act on this application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider this application. Notice of the hearing will be given to the applicant and any person filing a petition.

Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must

file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by January 14, 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. Pinner, Secretary, Department of Environment and Natural Resources.

(Published once at the total approximate cost of \$23.54).

Brandyn Crawford being first duly sworn, upon his/her oath says: That he/she is now and was at all time hereinafter mentioned, an employee of the RAPID CITY JOURNAL, a corporation of Rapid City, South Dakota, the owner and publisher of the RAPID CITY JOURNAL, a legal and daily newspaper printed and published in Rapid City, in said County of Pennington, and has full and personal knowledge of all the facts herein stated as follows: that said newspaper is and at all of the times herein mentioned has been a legal and daily newspaper with a bonafide paid circulation of at least Two Hundred copies daily, and has been printed and published in the English language, at and within an office maintained by the owner and publisher thereof, at Rapid City, in said Pennington County, and has been admitted to the United States mail under the second class mailing privilege for at least one year prior to the publication herein mentioned; that the advertisement, a printed copy of which, taken from said Rapid City Journal, the paper in which the same was published, is attached to this sheet and made a part of this affidavit, was published in said paper once each

week for one successive week, the first publication there of being on the 3rd day of January that the fees charged for the publication there of are fifty two dollars and no cents.

Brandyn Crawford

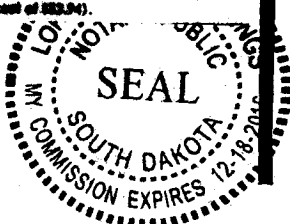
Subscribed and sworn to before me this Ninth day of January, 2013.

Theraine K. Cummings

Notary public

Dec. 18, 2016

My commission expires





DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

December 19, 2012

Rapid City Journal
PO Box 450
Rapid City SD 57701

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 2694-2 to Appropriate Water. Please publish the notice once on January 3, 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 Pete Lien & Sons Inc., c/o Joel Brannon, PO Box 440, Rapid City SD 57709 (Ph # 605-342-7224).

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 DATE, CONTACT
THE NEWSPAPER(S) RIGHT AWAY.**

December 19, 2012

Pete Lien & Sons Inc
Joel Brannon
PO Box 440
Rapid City SD 57709

Dear Mr. Brannon:

Water Permit Application No. 2694-2 for commercial and industrial use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Rapid City Journal printed at Rapid City SD (Ph # 605-394-8300). You will need to contact the newspaper(s) and authorize publication of this notice. For your information, a copy of the notice, the recommendation of the Chief Engineer and report on the application are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

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

Sincerely,

Eric Gronlund
Natural Resources Engineer
(605) 773-3352

enclosures

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

Instruction to Newspaper - Publish the Notice on January 3, 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. 2694-2 to Appropriate Water

Notice is given that Pete Lien & Sons, Inc., PO Box 440, Rapid City SD 57709 has filed an application for a water permit to appropriate 1.56 cubic feet of water per second from one well to be completed into the Madison Aquifer (1300 feet deep) located in NW 1/4 NW 1/4 Section 21-T2N-R7E. The water is for commercial and industrial use.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2694-2 subject to a 20-year term limitation because 1) although evidence is not available to justify issuing the permit without a 20 year term limitation, there is reasonable probability that there is unappropriated water available, 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. In accordance with SDCL 46-2A-23, the Chief Engineer will act on this application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider this application. Notice of the hearing will be given to the applicant and any person filing a petition.

Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by January 14, 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

FEB 08 2013

Pete Lien & Sons Inc
PO Box 440
Rapid City SD 57709

Dear Mr. Mr. Brannon:

Enclosed is Water Permit No. 2694-2 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.

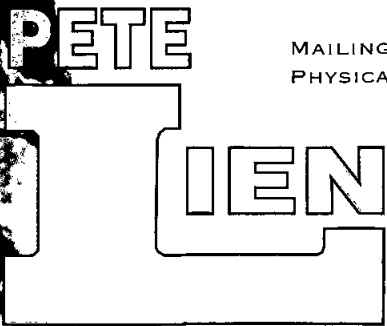
An informational sheet *Common Water Right Questions?* is also enclosed. This sheet is intended to answer some of the questions associated with obtaining and keeping a water right.

Sincerely,

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

enclosures

2694-2



MAILING ADDRESS: P.O. Box 440 RAPID CITY, SD 57709-0440 PH. 605-342-7224
PHYSICAL ADDRESS: 3401 UNIVERSAL DR. RAPID CITY, SD 57702 FX. 605-342-6979

RECEIVED
JAN 08 2018
WATER RIGHTS
PROGRAM

& Sons, Inc.

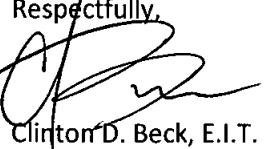
January 2, 2018

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

Re: Pete Lien & Sons, Inc.; Water Permit 2694-2; Notice of Completion of Works & Beneficial Use

Please find the enclosed notice of completion of works and application of water for beneficial use under Water Permit No. 2694-2. Condition 7 requires construction be completed by January 14th of 2018, while Condition 8 requires water be put to beneficial use by January 14th of 2022. As of January 2nd of 2018, the water system has been constructed and water has been put to beneficial use.

If there are any questions regarding this submittal or if additional information is required, please feel free to contact me at (605) 939-2690 or by email at CBeck@petelien.com.

Respectfully,

Clinton D. Beck, E.I.T.
Environmental Coordinator
Pete Lien & Sons, Inc.

Enclosures

Return Receipt: 7016 0910 0000 5705 6386

2694-2
RECEIVED

JAN 08 2018

WATER RIGHTS
PROGRAMNOTICE OF COMPLETION OF WORKS AND
APPLICATION OF WATER TO BENEFICIAL USEDate January 2, 2018TO: Water Rights Program, DENR
523 E. Capitol
Pierre, SD 57501-3181FROM: Pete Lien & Sons, Inc.
(name)
PO Box 440
(address)
Rapid City, SD 57709 (605) 342-7224
(city, state, zip) (phone)

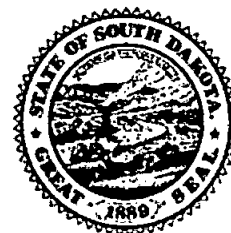
I have completed the construction of the water use system and I have put the water to beneficial use to the maximum extent it is going to be used.

Water Permit No. 2694-2 states that the water use system is to be constructed by January 14, 2022
January 14, 2018, and water is to be put to beneficial use by
(date) (date)

The water use system was completed on January 2, 2018
(date)

Applying the water to beneficial use was completed on January 2, 2018
(date)

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



Gronlund, Eric

From: Quissell, Steve
Sent: Thursday, July 12, 2018 2:24 PM
To: Gronlund, Eric
Cc: McMath, Genny
Subject: FW: [EXT] [ExternalSender] Permit # 2694-2
Attachments: Pete_Lien&Sons_Sec21_wells.pdf; Pete_Lien&Sons_2694-2_12000final.pdf;
 Pete_Lien&Sons_2694-2_2400final.pdf; Pete_Lien&Sons_2694-2.docm

I am forwarding what information I have concerning the licensing of the 2012 Pete Lien well #2694-2. I did the original inspection in 2016 and then did a follow-up inspection in May of 2018. There was some confusion with the staff at Lien concerning the pump installed. After a multiple calls and contacts I finally tracked down what pump is installed in this well, but it should be considered temporary since the well should produce in excess of 600 gpm and the pump installed is of 33 gpm capacity. I suggested to Clint Beck with Lien we hold off on the actual licensing until another contact is made after the date the water is to be put to beneficial use. I am providing what information I have so the inspector at that time is aware of the circumstances and licensing possibly could be finalized with just a phone call. I am attaching three arc maps and a draft of the EOW with potential areas of edit in RED.

Steve Quissell
 Water Rights Inspector
 SD DENR, Water Rights Program
 (605) 394-2229
denr.sd.gov



From: Quissell, Steve
Sent: Thursday, July 12, 2018 12:58 PM
To: 'Clint Beck'
Subject: RE: [EXT] [ExternalSender] Permit # 2694-2

Thanks, I will let Eric Gronlund know the status of this permit so that this information is available for the inspector of record in 2022. I may actually be retired by then.

Steve Quissell
 Water Rights Inspector
 SD DENR, Water Rights Program
 (605) 394-2229
denr.sd.gov



From: Clint Beck [<mailto:CBeck@petelien.com>]
Sent: Thursday, July 12, 2018 12:56 PM
To: Quissell, Steve
Subject: RE: [EXT] [ExternalSender] Permit # 2694-2

Hello again Steve,

We agree with the below system description. This may explain why we didn't have any pump information for the new well. While I confirmed the old well still runs. That leaves us to believe the new well isn't the one filling the cistern.

Clinton D. Beck, P.E.

Environmental Coordinator

Pete Lien & Sons, Inc.

Office: (605) 939-2690

Cell: (605) 519-1213



From: Quissell, Steve [<mailto:Steve.Quissell@state.sd.us>]

Sent: Thursday, July 12, 2018 12:41 PM

To: Clint Beck <CBeck@petelien.com>

Subject: [ExternalSender] Permit # 2694-2

Clint

In regards to the licensing inspection of the well permitted under #2694-2, I have some additional information. I had contacted Kim Taylor @ Taylor Drilling concerning pump information on the 2012 well drilled by his company. He confirmed that they had not installed the pump but suggested I call Gary Albers at Farmers Supply in Rapid City. I had a call out to Gary Albers and he finally got back to me and he provided the following information:

He thought the cistern was being supplied by the 1954 era well (Lien well #5, License #1656-2) which has the original 75 hp line-shaft deep-well turbine pump installed in 1954 producing about 1,000 gpm. He thought this pump when it eventually fails would most likely cause the abandonment of well #5.

He installed a 2 hp, 33 gpm pump set @ 100 ft. in the 2012 well in 2016. He did not think this pump was being used. If there was a larger pump currently installed in the well, he was unaware, so it would have been installed by someone else. A pump of 500-600 gpm would have been set at least 600 ft. deep and most likely would have been installed by a well servicing company.

The cistern has a 300 gpm, 15 hp pump.

If this information appears correct as far as you know, I would suggest we hold off on licensing the well until sometime in 2022. According to Permit #2694-2 the water must be put to beneficial use on or before 1/14/2022. If the above information is correct, the 2012 well may have a much larger pump installed by then and the license should reflect that pump rate.

I am attaching a map showing all of the permitted/licensed wells in section 21 for your information. If you know of corrections to the information above, let me know. I will then let the folks in Pierre know that even though the notice of completion was filed, that we will just put off the licensing until later in 2022.

Steve Quissell

Water Rights Inspector

SD DENR, Water Rights Program

(605) 394-2229

denr.sd.gov



Report of Examination of Works and/or Application of Water to Beneficial Use For Permit No. 2694-2

I have this day, May 3, 2018 made a thorough examination of the water use system constructed by Pete Lien & Sons Inc., 3401 Universal Drive, Rapid City, SD of Permit No. 2694-2, bearing the priority of 10/12/2012 authorizing the diversion of 1.56 cu. ft. per second of the water from one well for industrial and commercial purposes, in Pennington County.

Inspection contact & relationship to permit holder, if applicable: **Clinton Beck, Environmental Coordinator**
P.O. Box 440, Rapid City, SD 57709-0440
605-939-2690

A. Works used to divert the water:

Well Information:

- 1) Well Drilling Firm: Taylor Drilling (10/2012)
- 2) No. of Wells 1
- 3) Depth(s) 1,301 feet
- 4) Well log is available Yes

Casing:

- 1) Diameter 16" surface to 180 ft., 10 3/4" +2 to 765 ft.
- 2) Length 767 feet
- 3) Type steel

Screen:

- 1) Type N/A
- 2) Length N/A feet
- 3) Static water level 5 feet (air developed- 580 ft. level after 5 hrs. @ 500 gpm)

Pump:

- 1) Make
- 2) Model
- 3) Size 4" (set @ 100 ft.)
- 4) Capacity 33 GPM
- 5) Horsepower rating 2 hp

Note: This is the pump installed in the well in 2016 by Gary Albers of Farmers Supply, Rapid City. As far as he knows the water supplied to the cistern and used for the new batch plant and related uses is provided by the 1954 Minnelusa well authorized under License #1656-2. He believes when the original deep well line shaft turbine (75 hp, 1,000 gpm) fails, removal of the pump may not be possible and the well will have to be abandoned. See additional comments in Section F.

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

- 1) Type PVC pipe
- 2) Size various inches
- 3) Length -- feet

C. Works used to apply water to beneficial use:

The well serves an office complex (with booster pump from cistern), the redi-mix plant (with cistern) and an elevated storage tank which supplies a fill station used for loading water trucks.

D. Compliance with Permit Requirements:

- 1) Permit qualifications being abided by: -----
- 2) Exceptions to compliance are: -----

E. Condition and Location:

1. The system is in excellent condition with the point of diversion located as follows:
1,151 ft. S and 1,155 ft. E of the NW corner S21, T2N, R7E (44.122552 , - 103.287743)
2. The works are capable of diverting and conveying to the place of use .07 cu. ft. per second (**33 gpm**) of water which is to be used for **commercial and industrial use** and the license should be issued for **xxx cfs**.
3. All structures, wells and lands on map – **Structures/operations associated with the well are shown.**

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

Pete Lien and Sons has numerous water permits and licenses. There are 3 other Lien licenses located in S21 T2N R7E (#1279-2, #1656-2, and #1761-2). **The pump currently installed in the well authorized under permit 2694-2 should be considered a temporary pump and will most likely be replaced with a pump of 500-600 gpm prior to the date water is to be put to beneficial use (1/14/2022). A follow-up inspection contact should be made at that time. Disregard the notice of completion filed 1/2/2018.**



Steven Quissell
Water Rights Inspector
DENR, Water Rights Program

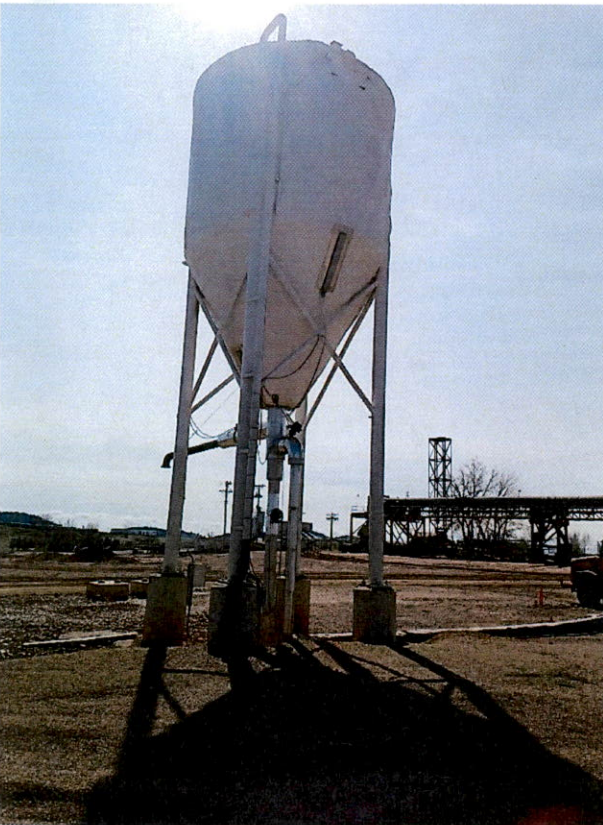
Date report completed: 7/12/2018



Well with controls and cistern with manhole
at each end.



Fill station



Elevated water reservoir for fill station

Sec 17
T002N
R07E

Sec 16
T002N
R07E

Sec 15
T002N
R07E

License #1656-2
Well (1954) Lien #5
location questionable
1,000 gpm

1,151'

1,155'

Permit #2694-2 2012 well
Lat: 44.122552 Lon: -103.287743

Redi-Mix

Office

Sec 20
T002N
R07E

Sec 21
T002N
R07E

Sec 22
T002N
R07E

Lien wells 1,2,3,4
License # 1279-2
Total 305 gpm

Sec 29
T002N
R07E

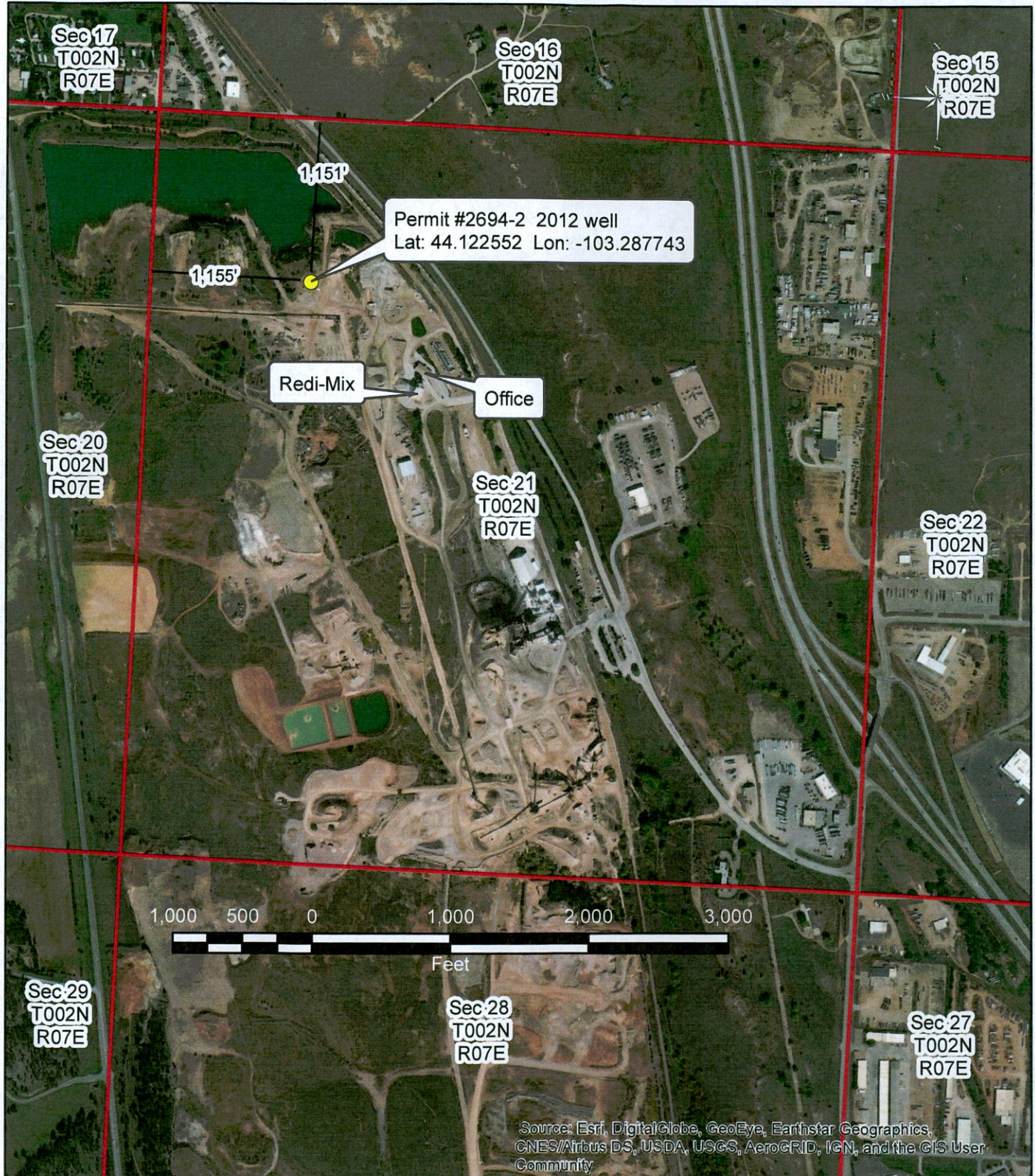
Sec 28
T002N
R07E

License #1761-2
Lien well #6
45 gpm (1955)

Sec 27
T002N
R07E

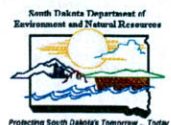
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Water Right #2694-2
Pete Lien & Sons
May 5, 2018

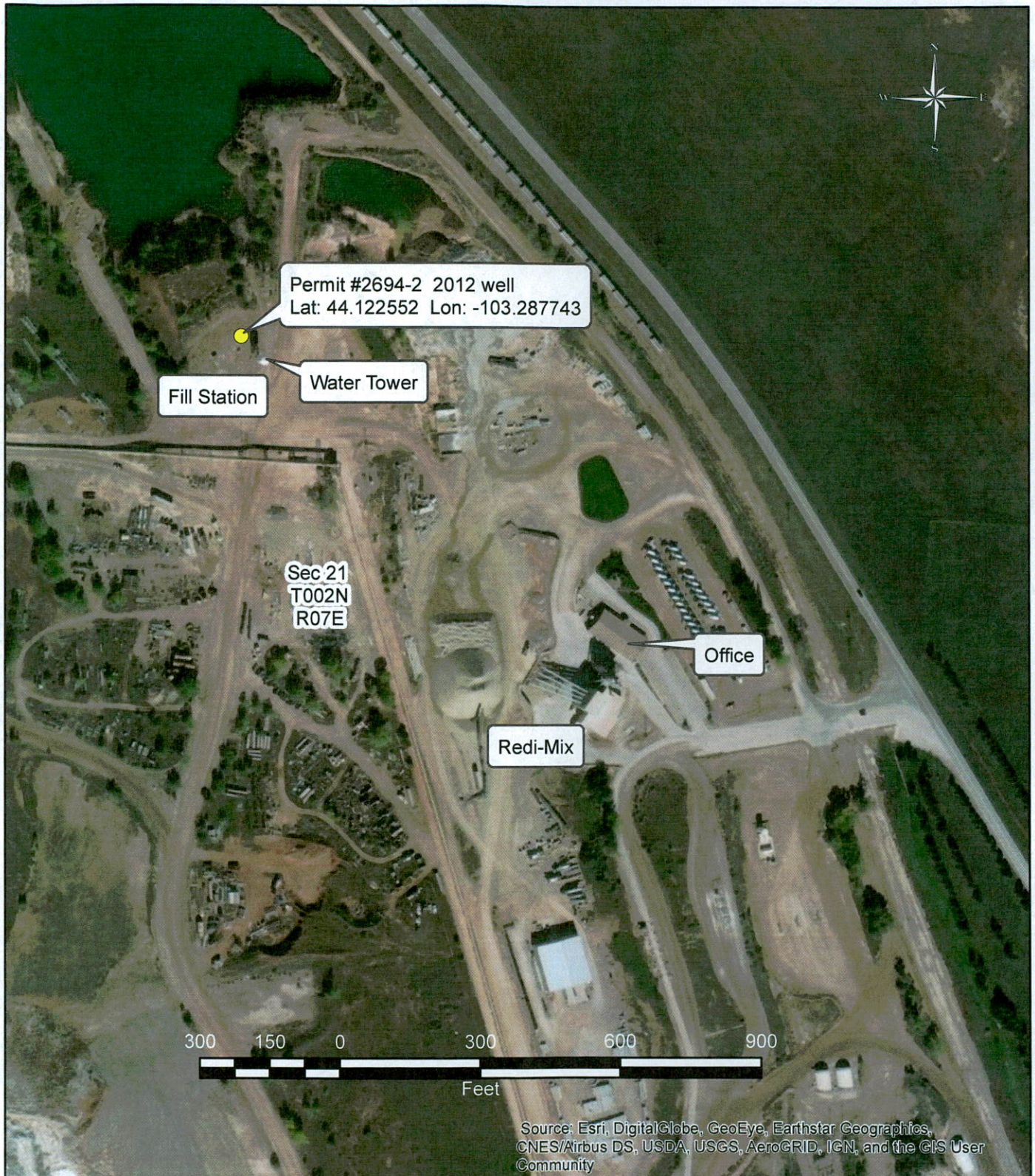


Steven Quissell

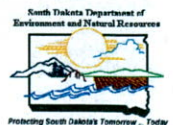
Steven Quissell
Water Rights Inspector
DENR Water Rights Program



Water Right #2694-2
Pete Lien & Sons
May 5, 2018



Steven Quissell
Water Rights Inspector
DENR Water Rights Program



Report of Examination of Works and/or Application of Water to Beneficial Use For Permit No. 2694-2

I have this day, May 3, 2018 made a thorough examination of the water use system constructed by Pete Lien & Sons Inc., 3401 Universal Drive, Rapid City, SD of Permit No. 2694-2, bearing the priority of 10/12/2012 authorizing the diversion of 1.56 cu. ft. per second of the water from one well for industrial and commercial purposes, in Pennington County.

Inspection contact & relationship to permit holder, if applicable: **Clinton Beck, Environmental Coordinator**
P.O. Box 440, Rapid City, SD 57709-0440
605-939-2690

A. Works used to divert the water:

Well Information:

- 1) Well Drilling Firm: Taylor Drilling (10/2012)
- 2) No. of Wells 1
- 3) Depth(s) 1,301 feet
- 4) Well log is available Yes

Casing:

- 1) Diameter 16" surface to 180 ft., 10 3/4" +2 to 765 ft.
- 2) Length 767 feet
- 3) Type steel

Screen:

- 1) Type N/A
- 2) Length N/A feet
- 3) Static water level 5 feet (air developed- 580 ft. level after 5 hrs. @ 500 gpm)

Pump:

- 1) Make
- 2) Model
- 3) Size 4" (set @ 100 ft.)
- 4) Capacity 33 GPM
- 5) Horsepower rating 2 hp

Information supplied 1-3-2022 by Danielle Wiebers with Pete Lien and Sons:
 Make: Goulds
 Model: 9RCLC-4
 Size: OD is 9.81 inches
 Capacity: 700 gpm at a TDH of 700 feet
 Horsepower rating: 150 HP Franklin Electric Motor

Note: This is the pump installed in the well in 2016 by Gary Albers of Farmers Supply, Rapid City. As far as he knows the water supplied to the cistern and used for the new batch plant and related uses is provided by the 1954 Minnelusa well authorized under License #1656-2. He believes when the original deep well line shaft turbine (75 hp, 1,000 gpm) fails, removal of the pump may not be possible and the well will have to be abandoned. See additional comments in Section F.

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

- 1) Type PVC pipe

2) Size various inches

C. Works used to apply water to beneficial use:

The well serves an office complex (with booster pump from cistern), the redi-mix plant (with cistern) and an elevated storage tank which supplies a fill station used for loading water trucks.

D. Compliance with Permit Requirements:

- 1) Permit qualifications being abided by: -----
- 2) Exceptions to compliance are: -----

E. Condition and Location:

1. The system is in **excellent** condition with the point of diversion located as follows:
1,151 ft. S and 1,155 ft. E of the NW corner S21, T2N, R7E (44.122552 , - 103.287743)
2. The works are capable of diverting and conveying to the place of use **1.56** cu. ft. per second (700 gpm) of water which is to be used for **commercial and industrial use** and the license should be issued for **1.56 cfs**.
3. All structures, wells and lands on map – **Structures/operations associated with the well are shown.**

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

Pete Lien and Sons has numerous water permits and licenses. There are 3 other Lien licenses located in S21 T2N R7E (#1279-2, #1656-2, and #1761-2). **The pump currently installed in the well authorized under permit 2694-2 should be considered a temporary pump and will most likely be replaced with a pump of 500-600 gpm prior to the date water is to be put to beneficial use (1/14/2022). A follow-up inspection contact should be made at that time. Disregard the notice of completion filed 1/2/2018.**



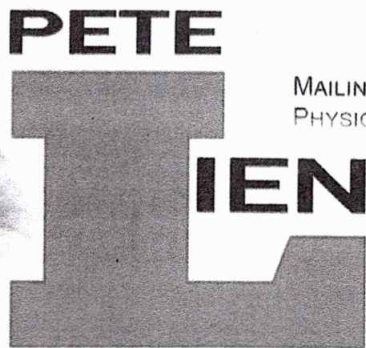
Steven Quissell
Water Rights Inspector
DENR, Water Rights Program

Date report completed: **7/12/2018**

January 20, 2022: On January 3, 2022, a new completion of works form and a letter with the pump information was submitted by Danielle Wiebers w/Pete Lien and Sons. The pump information on page 1 of this report was updated to reflect the new information. With the updated information, the water license can now be issued.

-Genny McMath

2694-2



& Sons, Inc.

MAILING ADDRESS:
PHYSICAL ADDRESS:

P.O. Box 440 RAPID CITY, SD 57709-0440 PH. 605-342-7224
3401 UNIVERSAL DR. RAPID CITY, SD 57702 FX. 605-342-6979

RECEIVED

JAN 03 2022

WATER RIGHTS
PROGRAM

December 29, 2021

SD DANR
Water Rights Program
523 East Capitol, Joe Foss Building
Pierre, SD 57501-3182

Re: Pete Lien & Sons, Inc.; Water Permit No. 2694-2; Annual Water use Report for 2021

Pete Lien & Sons, Inc. is submitting this annual usage report to satisfy the qualification for Water Permit No. 2694-2. During the 2021 calendar year, 84,000 gallons were used.

Details for the pump are:

Make: Goulds

Model: 9RCLC-4

Size: OD is 9.81"

Capacity: 700 GPM at a TDH of 700 Ft.

Horsepower Rating: 150 HP franklin electric motor was installed.

If there are any questions regarding this submittal or if additional information is required, please feel free to contact me at (605) 939-2690 or by email at dwiebers@petelien.com.

Respectfully,

Danielle Wiebers

Executive Technical Director of Environmental and Safety Affairs

Pete Lien & Sons, Inc.

USPS Certified Mail: 7016 0910 0000 5814 8035

RECEIVED

JAN 03 2022

WATER RIGHTS
PROGRAM

SD EForm - 1311LD V1

Form 10

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

MAIL TO: PMB 2020

Date December 29, 2021

DENR - Water Rights Program

523 E Capitol Ave

Pierre, SD 57501-3182

ph. (605) 773-3352

FROM: Pete Lien & Sons, Inc.
(name)

PO Box 440
(address)

Rapid City SD 57709 (605) 342-7224
(city) (state) (zip) (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. 2694-2 states that the water use system is to be constructed by

January 14, 2018, and water is to be put to beneficial use by January 14, 2022
(date) (date)

The water use system was completed on January 2, 2018
(date)

Applying the water to beneficial use was completed on December 20, 2021
(date)

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





**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

January 21, 2022

2694-2

Danielle Wiebers
Pete Lien & Sons Inc
PO Box 440
Rapid City SD 57709-0440

Dear Ms. Wiebers:

Enclosed is Water License No. 2694-2. This is the final water right document completing your process of obtaining a Water Right. Included with your license is a map prepared by the staff engineer who conducted the field investigation.

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

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

Sincerely,

Eric Gronlund, Chief Engineer
Water Rights Program
(605) 773-3352

enclosures

STATE OF SOUTH DAKOTA
WATER LICENSE NO. 2694-2

(1) Pete Lien & Sons Inc., PO Box 440, Rapid City SD 57709 made Application No. 2694-2, October 12, 2012 for a water permit to divert 1.56 cubic feet of water per second from ground water, one well (Madison Aquifer), Pennington County, South Dakota for industrial and commercial purposes. Permit No. 2694-2, with a priority date of October 12, 2012 was approved January 14, 2013 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before January 14, 2018 and for the application to beneficial use of said water on or before January 14, 2022.

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

- **1,151' S and 1,155' E of the NW corner Section 21, T2N, R7E (NW ¼ NW ¼)**
Latitude 44.122552 , Longitude - 103.287743

(3) The permit holder has complied with the provisions of South Dakota State Law relating to the application of water to beneficial use.

(4) Pursuant to South Dakota Water Law 46-5-30.1 Pete Lien & Sons Inc., PO Box 440, Rapid City SD 57709 the holder and/or owner of Water Right No. 2694-2 is issued a license to appropriate water, the right to use 1.56 cubic feet of water per second from ground water, one well (Madison Aquifer) with a priority date of October 12, 2012 from the location specified in (2) of this license for industrial and commercial purposes.

This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Right No. 2694-2 and subject to the following qualifications:

- The well approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
- The well authorized by Permit No. 2694-2 shall be constructed by a licensed well driller and construction shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28. ***The well was drilled in October 2012 by Taylor Drilling. A copy of the well completion report is on file with the Water Rights Program.***
- In accordance with SDCL 46-1-14 and 46-2A-20, No. 2694-2 is issued for a twenty year term. Pursuant to SDCL 46-2A-21, the twenty year term may be deleted at any time during the twenty year period or following its expiration. If the twenty year term is not deleted at the end of the term, the water right may either be cancelled or amended with a new term limitation of up to twenty years. No. 2694-2 may also be cancelled for non-construction, forfeiture, abandonment or three permit violations pursuant to SDCL 46-1-12, 46-5-37.1 and ARSD 74:02:01:37.

(continued)

- The Water Right holder shall control withdrawals from the well so there is not a significant adverse effect on the water flow from area springs or a significant adverse effect on the water quality and character in area springs.
- Pete Lien & Sons shall report annually the amount of water diverted from the Madison Aquifer.

Eric Gronlund

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

1/21/2022

date

