

WATER PERMIT NO. 1910-1

Name of Applicant: **Sturgis Water Company**

Address: **1040 2nd St, Suite 102, Sturgis SD 57785**

Phone: **605 347-4425**

Amount of Water Claimed: **1.44 cfs (280 AF)**

Total Acres: **NA**

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

Water to be used for: **municipal**

County: **Meade**

Type of Waste Disposal System:

Location:

PRIORITY

Date Received: **10-8-09**

Application/License Fee: **\$1,050**

Corrected Application Received: **2-22-10**

Period of Annual Use: **January 1 – December 31**

Remarks: **Increases the diversion authorized by Water Permit No. 1789-1**

Diversion Point: **NE ¼ SW ¼ Sec 9-T5N-R5E**

Land to be Irrigated: **NA**

Depth of Well: **1041 feet deep**

Well Driller: **Weston Engineering**

Remarks:

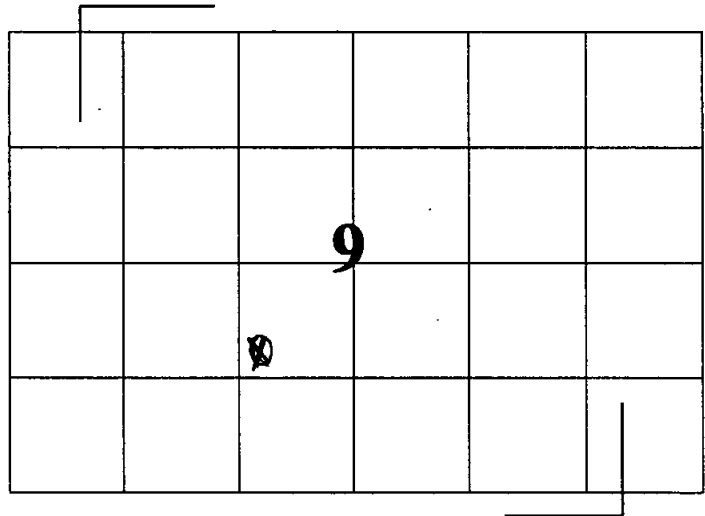
Type of Map: **aerial**

Prepared by: **Mike DeFea**

Reviewed and the Number Assigned on: **2-22-10**

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____



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

Mail to: Water Rights Program Joe Foss Building 523 E. Capitol Pierre, SD 57501-3181 (605) 773-3352	No. <u>1910-2</u>	(office use only) Hydrologic Unit <u>10 12 0203</u>
	Basin <u>Belle Fourche River</u>	
	Newspaper <u>Meade Co. Times</u>	<u>1022 Main</u>
	<u>Sturgis</u>	<u>57785-605-347-2503</u>

RECEIVED
OCT 06 2009
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: ☒ New ☐ Vested Right (Use predates Mar 2, 1955) ☐ Future Use Reservation
(check one) ☐ 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.)

Permit Well #7 to 1100 gpm, That is an increase to 650 gpm
(C Water Permit No. 1789-1)

- Name of Applicant Sturgis Water Company Phone 605-347-4425
(check one) ☒ Owner ☐ Tenant/lessee
Mailing Address 1040 2nd St, Suite 102, Sturgis State SD 57785
(Street, RR, or Box and City) (Zip Code)
- Amount of water claimed 1.44 *CFS or 650 **GPM 280 ***AF
(*Cubic Feet per Second) (**Gallons per Minute) (**Acre Feet - storage capacity of dam/dugout or annual use if applicable)
- Source of water supply Madison
- Location of point of diversion (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W) 1 well NE 1/4 SW 1/4,
Section 9 - T5N - R5E
County MEADE
- County or counties where water will be used MEADE
- Annual period during which water is to be used YEAR round Jan. 1 - Dec 31
- 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)

STATE OF SOUTH DAKOTA)
County of Meade) SS

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

I, Eric Sibbetts, 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 [Signature]

Subscribed and sworn to before me this 5th day of October 2009

BEVERLY J. JOHNSON
NOTARY PUBLIC

My Commission Expires 8/22/2013

[Signature]
Notary Public signature

SOUTH DAKOTA WATER PERMIT NO. 1910-1

Date of first receipt of application October 6, 2009.

Date of return to applicant for corrections, amendments or changes October 6, 2009.

Date of receipt of corrected application February 22, 2010.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 1910-1 to Sturgis Water Company, 1040 2nd St, Suite 102, Sturgis SD 57785 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. 1910-1 increases the diversion rate authorized by Water Permit No. 1789-1. Water Permit No. 1789-1 appropriates 1.0 cubic feet of water per second (cfs) (724 acre-feet annually) from one well completed into the Madison Formation (1,040 feet deep) located in NE 1/4 SW 1/4 Section 9-T5N-R5E. This permit increases the water appropriation from the existing well an additional 1.44 cfs (280 acre-feet annually). This permit and Water Permit No. 1789-1 will authorize a total diversion rate of 2.44 cfs (1,004 acre-feet annually)
2. The water appropriated shall be used for the purpose of municipal 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. 1910-1 is May 24, 2010.
5. The date from which applicant may claim right is February 22, 2010 (additional 1.44 cfs).
6. All construction is to be completed on or before May 24, 2015.
7. Water is to be put to beneficial use on or before May 24, 2019.
8. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

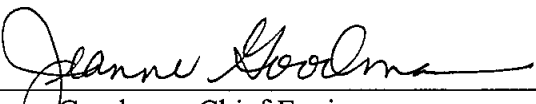
QUALIFICATIONS

1. In accordance with SDCL 46-1-14 and 46-2A-20, Permit No. 1910-1 is issued for a twenty year term based on the term established under Water Permit No. 1789-1. 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. 1910-1 may also be cancelled for nonconstruction, forfeiture, abandonment or three permit violations pursuant to SDCL 46-1-12, 46-5-37, 46-5-37.1, and ARSD 74:02:01:37.

(continued)

2. 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.
3. The Sturgis Water Company shall report to the Chief Engineer annually the amount of water withdrawn from the Madison Aquifer.

WATER MANAGEMENT BOARD

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

NOV 21 2013

date



Water Permit No. 1910-1 & 1789-1

Sturgis Water Company
1040 2nd St. Suite #1
Sturgis, SD 57785



Mike DeFea

Mike DeFea
Natural Resources Engineer
DENR, Water Rights Program
November 14, 2013

0 410 820 1,640 2,460 3,280 Feet



South Dakota
Department of Environment
& Natural Resources
Protecting SD's Tomorrow... Today

SOUTH DAKOTA WATER WELL COMPLETION REPORT

1789-1

11-02

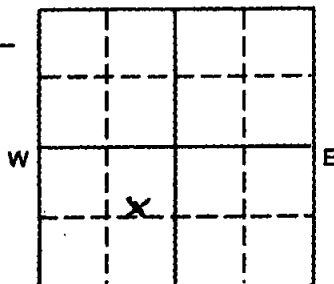
Location NE $\frac{1}{4}$ SW $\frac{1}{4}$ Sec 9 Twp 5N Rg 5E

County Meade

North

Meade

Please mark well location with an "X"



Well Completion Date

7-24-03

1 Mile

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

? Unknown ft. from (identify source)

PROPOSED USE:

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

METHOD OF DRILLING:

Rotary - Mud

CASING DATA: ☒ Steel ☐ Plastic ☐ Other

If other describe

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
0.219 LB/FT	16" IN	0 FT	31 FT	20 IN
40 1/2 LB/FT	10 3/4 IN	0 FT	891 FT	14 1/2 IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
class C	530	1448 Lb/gral	891 Ft	0 Ft

Describe grouting procedure

Pressure grout

SCREEN: ☐ Perforated pipe ☐ Manufactured
 Diameter _____ Inches Length _____ Feet
 Material _____
 Slot Size _____ Set From _____ Feet to _____ Feet
 Other information _____

9 7/8" open hole 891' - 1056'

WAS A PACKER OR SEAL USED? ☐ Yes ☒ No

If so, what material?

Describe packer(s) and location

DISINFECTION: Was well disinfected upon completion?

☒ Yes, How? chlorine tablets

☐ No, Why Not?

Lab sample sent to for water quality analysis

Sampled by City of Sturgis
 By Midcontinent Testing
 Lab results enclosed

Well Owner: City of Sturgis

Business Name: 1029 1st Street

Address: Sturgis, SD 57785

City, State, Zip:

WELL LOG:

DEPTH

FORMATION

FROM

TO

SEE ATTACHED

STATIC WATER LEVEL

363

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

403

Ft. After

48

Hrs. pumped

900

GPM

Ft. After

Hrs. pumped

GPM

If pump installed, pump rate:

GPM

REMARKS:

RECEIVED

OCT 16 2003

WATER RIGHTS PROGRAM

This well was drilled under license # 604

And this report is true and accurate.

Drilling firm: Weston Engineering, Inc.

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

Date:

9/23/03

STURGIS WELL NO. 7
LITHOLOGIC DESCRIPTIONS

Depth (Feet)	Principal Lithology	Description	Comments
0 - 60	Sandstone, Siltstone, and Limestone	Moderate brown, fine-grained, friable sandstone with pale green mottling; moderate brown siltstone; pale green siltstone; and yellow, massive limestone.	Spudded into the Spearfish Formation.
60 - 90	Sandstone, Siltstone, Chert, and Limestone	Moderate brown, fine-grained, friable sandstone with pale green mottling; moderate brown siltstone; pale green siltstone; yellowish, massive limestone; and minor gray green chert.	
90 - 130		No Samples	
130 - 150	Sandstone, Gypsum, and Shale	Moderate brown, fine-grained, friable sandstone with pale green mottling; white gypsum; light green shale; and texturally mature quartz.	
150 - 180	Sandstone, Gypsum, and Shale	Moderate brown, fine-grained, friable sandstone with pale green mottling; minor white gypsum; light green shale; and texturally mature quartz.	
180 - 210	Sandstone	Moderate brown, fine-grained, friable sandstone with extensive pale green mottling.	
210 - 240	Limestone and Sandstone	Light olive gray to white, massive limestone and minor moderate brown, fine-grained, friable sandstone with extensive pale green mottling.	Minnekahta Limestone at 226 feet.
240 - 400	Limestone, Sandstone, Gypsum, and Shale	Light olive gray to white, massive limestone; pale olive, fine-grained, massive, quartz-rich sandstone; dusky red shale; minor moderate brown, fine-grained, friable sandstone with extensive pale-green mottling; and minor white gypsum.	
400 - 430	Limestone, Sandstone, and Shale	Light olive gray to white, massive, limestone; pale olive, fine-grained, massive, quartz rich sandstone; dusky red shale; minor moderate brown, fine-grained, friable sandstone with extensive pale green mottling; and minor white to tan, fine-grained, friable, massive quartz sandstone.	
430 - 605	Sandstone, Limestone, and Shale	Abundant white to tan, fine-grained, friable, quartz sandstone; light olive gray to white, massive limestone; pale olive, fine-grained, massive, quartz-rich sandstone; dusky red shale; and decreasing amounts of moderate brown, fine-grained, friable sandstone with extensive pale green mottling.	Minnelusa Formation at 432 feet.

Depth (Feet)	Principal Lithology	Description	Comments
605 - 635	Sandstone, Limestone, and Shale	Abundant white to tan, fine-grain, friable, quartz sandstone; light olive gray to white, massive limestone; brown gray, massive, soft limestone; pale olive, fine-grain, massive, quartz rich sandstone; dusky red shale; and decreasing amounts of moderate brown, fine-grain, friable sandstone with extensive pale green mottling.	
635 - 845	Sandstone, Limestone, Siltstone, and Shale	Abundant white to tan, fine-grain, friable, quartz sandstone; light olive gray to white, massive limestone; brown gray, massive, soft limestone; light gray siltstone; pale olive, fine-grain, massive, quartz rich sandstone; dusky red shale; and decreasing amounts of moderate brown, fine-grain, friable, poorly bedded sandstone with extensive pale green mottling.	
845 - 1,041	Limestone, Sandstone, Siltstone, and Shale	Abundant white to very light yellow limestone; and decreasing amounts of the following with depth: white to tan, fine-grained, friable, quartz sandstone; light olive gray to white, massive limestone; brown gray, soft limestone; light gray siltstone; pale olive, fine-grained, massive, quartz rich sandstone; dusky red shale; and moderate brown, fine-grained, friable sandstone with extensive pale green mottling.	Madison Limestone at 860 feet. Loss of drilling fluid at a rate of 15 gpm below 860 feet. Void from 1,031 to 1,041 feet.

September 1, 2003

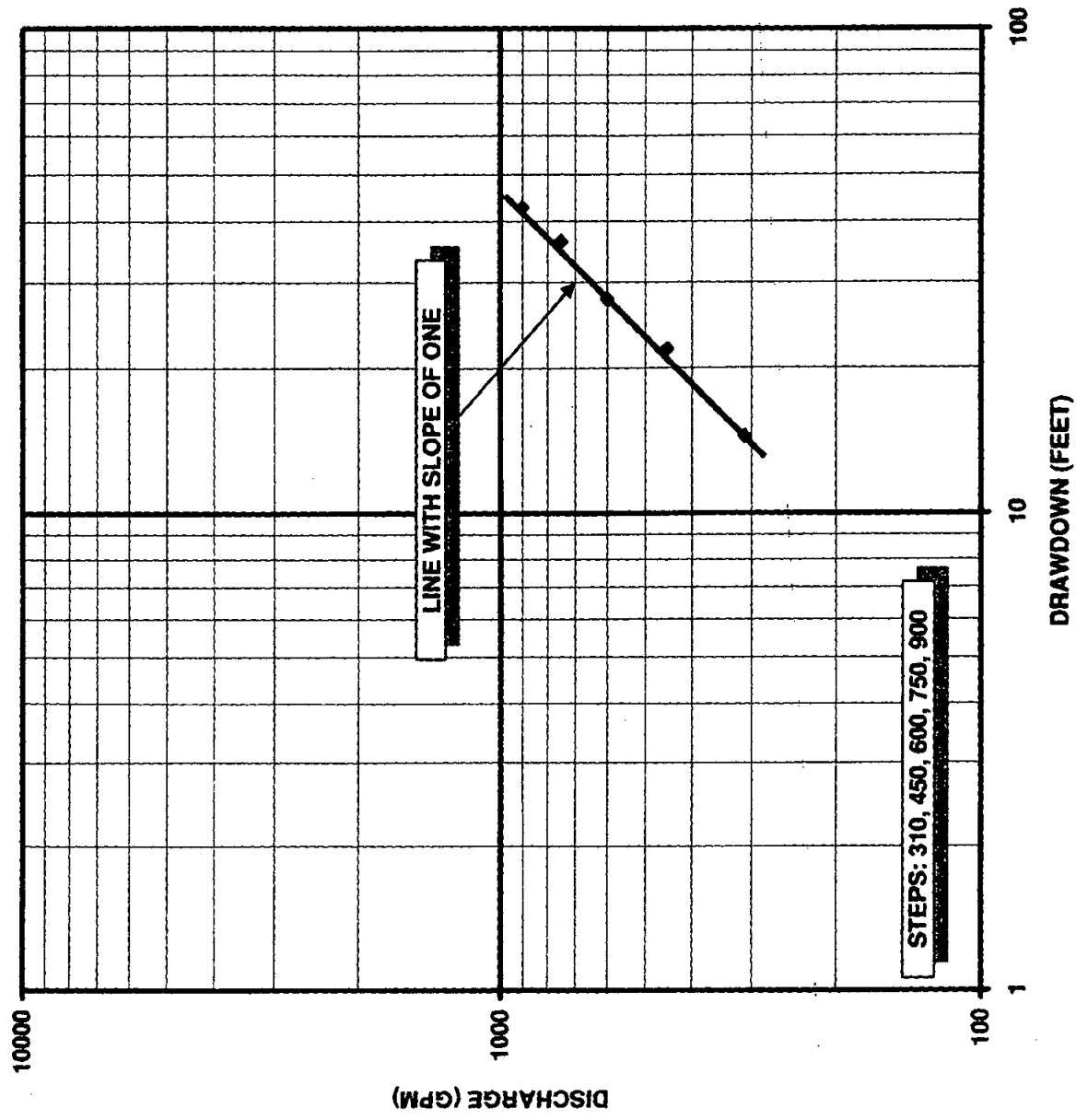
RE: Sturgis No. 7 Testing and Drawdown Predictions

Frank,

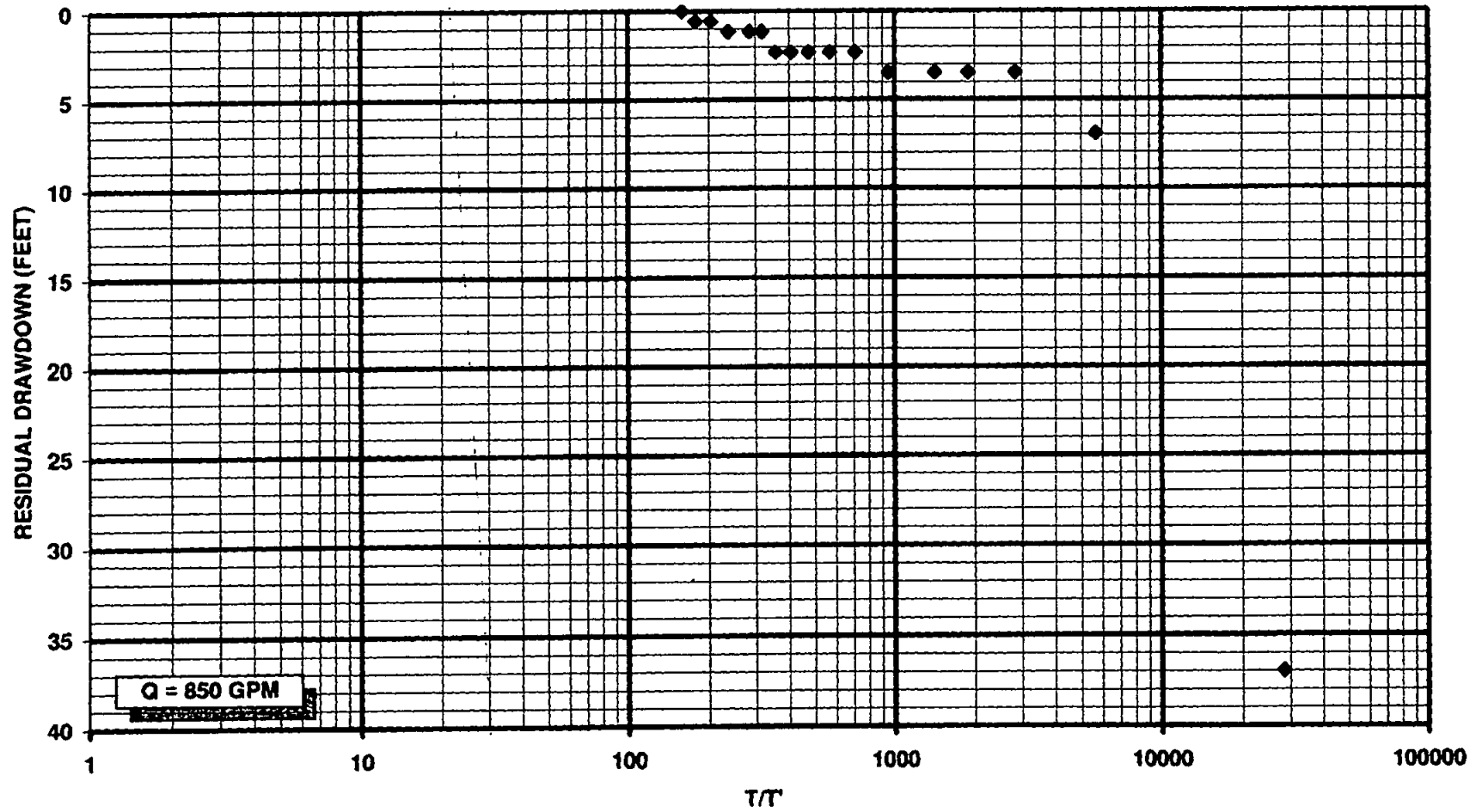
From the constant-rate test plot, I calculated an effective transmissivity of 450,000 gallons per day per foot. That was fudging a bit to actually reduce the transmissivity because of the flat drawdown curve. Using this transmissivity and assuming the aquifer is confined, the Jacob equation predicts a drawdown of approximately 7 feet. Of course, this underestimates the drawdown since we have step-test data that proves this. The lowest specific capacity we observed during the step-test was 20.5 gallons per minute per foot of drawdown (gpm/ft). Applying the specific capacity of 20.5 gpm/ft and the production rate of 1,000 gpm, the predicted drawdown would be approximately 50 feet. This would seem reasonable given the data we have collected. I would however, urge the City of Sturgis to collect both static water level and pumping water level data on a routine basis to watch for signs of a negative hydraulic boundary. Looks like another great WESTON well!

Ben.

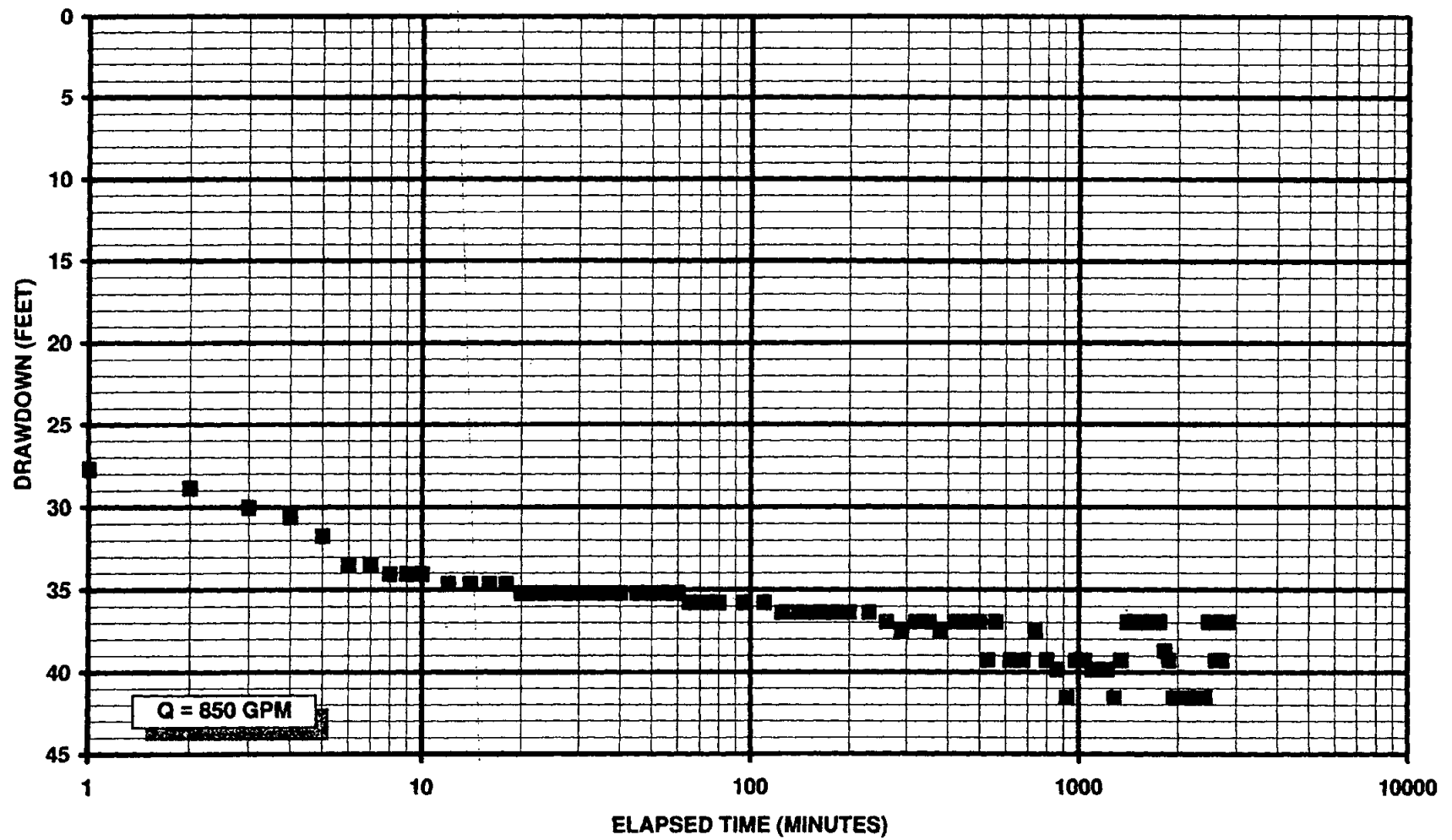
STURGIS NO. 7 STEP-TEST SUMMARY
AUGUST 20, 2002



STURGIS NO. 7
CONSTANT-RATE TEST RECOVERY
AUGUST 23, 2003



STURGIS NO. 7 CONSTANT-RATE TEST
AUGUST 20, 2003





SAMPLE NAME: WELL #7
DESCRIPTION: EPA #0321
SAMPLE DATE: 08/25/03
SAMPLE TIME:
SAMPLED BY: DALE OLSON

DATE:

Sept. 12, 2003

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 2/22, 2016

RECEIVED OF City of Sturgis 1040 2nd St 103 Sturgis SD 57785

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

Fee for Application for Permit No. <u>1910-1</u> to Appropriate Water, to construct and to put water to beneficial use	£50	CC
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>1910-1</u>	200	CC
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 CC

No. _____

By

Michael F. [Signature]
Chief Engineer



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

October 6, 2009

Sturgis Water Company
c/o Eric Tibbetts
1040 2nd St, Suite 102
Sturgis SD 57785

Dear Mr. Tibbetts:

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

- The application/license filing fee will be \$1,150.00. Eric Gronlund has indicated you will be meeting with the city council soon and the fee will be submitted after that meeting.

If you have any questions, please contact me.

Sincerely,

A handwritten signature in cursive script that reads "Karen Schlaak".

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



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

February 3, 2010

Sturgis Water Company
c/o Eric Tibbetts
1040 2nd St, Suite 102
Sturgis SD 57785

Dear Mr. Tibbetts:

On October 6, 2009, you submitted *an Application for Permit to Appropriate Water Within the State of South Dakota* for municipal use. You were notified that the application/license filing fee was still required. The amount of the fee requested in that letter was incorrect. The correct application/license fee based on the requested 280 acre-feet of water annually will be \$1,050.00.

Upon receipt of the fee from the city, further processing of the application will continue.

If you have any questions, please contact me.

Sincerely,

Karen Schlaak

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



**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. 1910-1, Sturgis Water Company**

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. 1910-1, Sturgis Water Company, c/o Eric Tibbetts, 1040 2nd Street, Suite 102, Sturgis SD 57785.

The Chief Engineer is recommending APPROVAL of Application No. 1910-1 for a 20 year term pursuant to SDCL 46-1-14 and 46-2A-20 based on the term established under Water Permit No. 1789-1 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. In accordance with SDCL 46-1-14 and 46-2A-20, Permit No. 1910-1 is issued for a twenty year term based on the term established under Water Permit No. 1789-1. 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. 1910-1 may also be cancelled for nonconstruction, forfeiture, abandonment or three permit violations pursuant to SDCL 46-1-12, 46-5-37, 46-5-37.1, and ARSD 74:02:01:37.
2. 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.
3. The Sturgis Water Company shall report to the Chief Engineer annually the amount of water withdrawn from the Madison Aquifer.

See report on application for additional information.

Garland Erbele
April 22, 2010

WATER PERMIT APPLICATION NO.1910-1
STURGIS WATER COMPANY
MARCH 22, 2010

Water Permit Application No. 1910-1 proposes to increase the appropriation from the existing well authorized by Water Permit No. 1789-1. Water Permit No. 1789-1 authorizes a diversion rate of 1.0 cubic feet of water per second (cfs) (724 acre-feet annually (ac-ft/yr)) from a well, 1,040 feet deep, completed into the Madison aquifer, located in the NE¼ SW¼ Section 9, T5N-R5E. Application No. 1910-1 proposes to appropriate an additional 280 acre-feet annually and increase the diversion rate authorized from the well by 1.44 cfs. Approval of Application No. 1910-1 combined with the appropriation of Water Permit No. 1789-1 will authorize a total withdrawal of 1,004 ac-ft/yr at a maximum diversion rate of 2.44 cfs, for municipal use.

AQUIFER: Madison aquifer (MDSN)

GEOLOGY AND AQUIFER CHARACTERISTICS:

The Madison aquifer is contained within the Madison Limestone which in general is composed of carbonate rocks. The Madison Limestone is a massive limestone and dolomite with relatively low primary permeability and porosity. Extensive secondary porosity and permeability occur within the Madison in the form of fractures and solution openings. The upper portion of the Madison Limestone in particular is karstic with caves, solution collapse and enlarged conduits. 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). A number of high yield wells have been developed in the Madison aquifer where these enhanced porosity and permeability features are favorable. The Madison Limestone is estimated to be about 500 feet thick in this area (Carter and Redden, 1999a, and Carter and Redden, 1999b). 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). The well this application proposes to use is located about one and one-half miles from the Madison outcrop (Strobel and others, 2000). The lower portion of the Madison is typically tighter and together with the underlying Englewood Formation form a lower confining zone (Strobel and others, 1999). The Minnelusa Formation unconformably overlies the Madison aquifer and acts as an upper confining layer.

The potentiometric surface of the Madison aquifer is lower in the Sturgis area than the surrounding areas. It does not appear that the lower water levels represent a cone of depression from pumping since increased development has not been apparent on the water levels. The anomalously low water level is probably the result of geologic controls involving the Whitewood Anticline and a Tertiary aged intrusive south of Sturgis.

A log of the well that is to be used for this appropriation indicates that the top of the Madison Limestone is 860 feet below grade and reports a "void" from 1,031-1,041 feet below grade. The Madison is under confined conditions in this area and the static water level of this well was reported to be 363 feet below grade on July 24, 2003. A constant rate

pump test (850 gallons per minute) was conducted on the well for approximately two days and the aquifer transmissivity was estimated to be 450,000 gallons per day per foot (60,156 ft²/d) (Water Rights, 2003). A step test conducted on the well identified a specific capacity in excess of 20.5 gpm. /ft, see Figure 1, (Water Rights, 2003).

**STURGIS NO. 7 STEP-TEST SUMMARY
AUGUST 20, 2002**

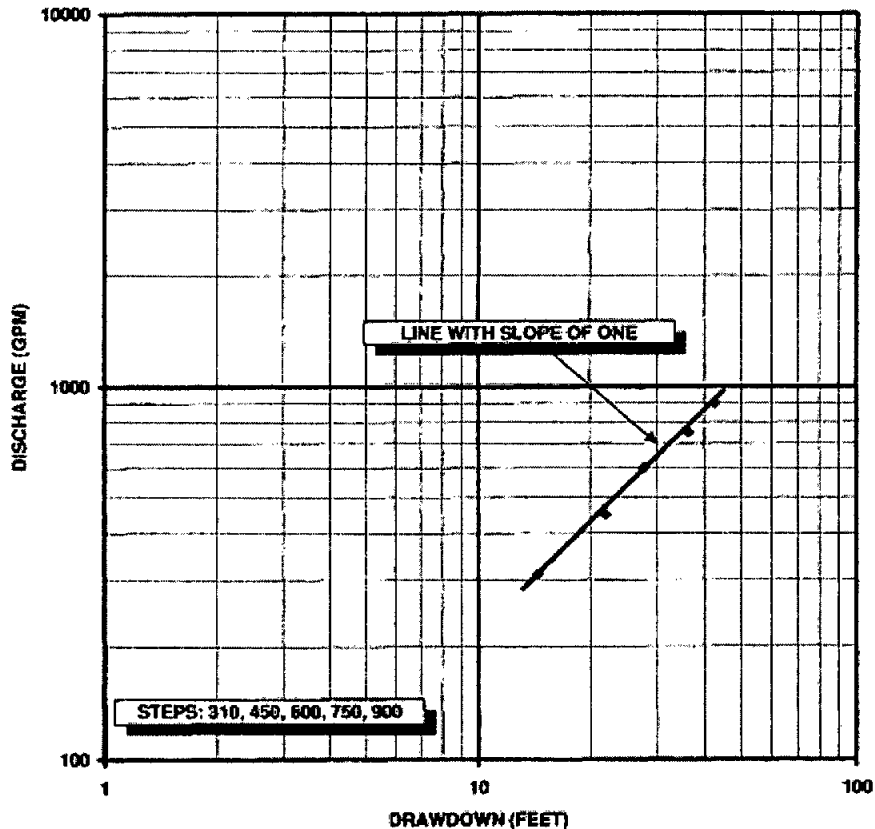


Figure 1. Plot of step test performed on Sturgis Well No. 7, modified from Weston Engineering, Inc. (Water Rights, 2003)

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.

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.”

Although this statute contains two exceptions which could apply to this application, namely exceptions for water distribution systems and for groundwater from formations older than or stratigraphically lower than the Greenhorn Formation; the principle of withdrawals not exceeding recharge is a reasonable benchmark to define water availability and will be employed below

Water Balance:

Recharge to the Madison aquifer occurs through streamflow losses and direct infiltration of precipitation at the outcrop area. 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).

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 164 appropriations plus one deferred application from the Madison aquifer in South Dakota. These appropriations include: seven future use permits; 132 water rights/permits for non-irrigation uses; 25 water rights/permits for irrigation; Withdrawals from wells completed into the Madison aquifer where estimated to average 12,309 acre-feet annually from 1987-1996 (Carter and others, 2001b). Well withdrawals from the Madison aquifer for 2008 are estimated to be less than 20,000 ac-ft/yr (Water Rights, 2008).

This application proposes to appropriate an additional 280 ac-ft/yr from the Madison aquifer. If this permit is approved, the total annual appropriation from "Sturgis Well No. 7" will be 1,004 ac-ft/yr. The September 22, 2009 licensing inspection of Water Permit No. 1789-1 by DENR-Water Rights Project Engineer Mike DeFea, identified that the well had been equipped with a larger pump than was authorized. Annual reporting by the City of Sturgis of the amount of water pumped from "Well No. 7", (see table 1), clearly shows the city has routinely exceeded their annual appropriation and obviously the well was equipped with a pump capable of pumping in excess of 1.0 cfs.

STURGIS WELL NO.7	
YEAR	REPORTED WATER USE (AC-FT/YR)
2004	51.69
2005	767.69
2006	840.02
2007	816.43
2008	915.56
2009	837.88

Table 1. Reported Water Use from Sturgis Well No. 7, (Water Rights, 2005-2010).

Approval of Application No. 1910-1 combined with the appropriation of Water Permit No. 1789-1 will authorize a total withdrawal of 1,004 ac-ft/yr at a maximum diversion rate of 2.44 cfs. The volume of 1,004 ac-ft/yr represents pumping at the authorized diversion rate (2.44 cfs) an average of 13.6 hours a day (approximately 57% of the time) year round. This volume to rate ratio seems appropriate. The city would only be authorized to pump 88.44 ac-ft/yr more from this well than they reported to have pumped in 2008.

A simple water balance comparing the estimated average annual recharge and the potential withdrawal by existing wells and current appropriations shows that unappropriated water is available from the Madison aquifer to satisfy this additional appropriation. (theoretically 280 ac-ft per year but in practicality, less than 90 ac-ft/yr more than they are currently pumping).

Localized Hydrologic Budget:

Carter and others (2001b) developed a hydrologic budget for the Madison and Minnelusa aquifers combined, for a subarea that includes the well site proposed by this application. The hydrologic budget for this subarea balanced from 1987-1996, by estimating that the outflow from the subarea was primarily through groundwater flowing out of the subarea with a much smaller amount leaving the subarea through well withdrawals (Carter and others, 2001b). Carter and others (2001b) assumed that no water leaves this subarea through artesian springflow. The estimated well withdrawal from the subarea from both the Madison and Minnelusa aquifers was estimated to average 3.7 cfs for 1987-1996. This fairly low combined diversion rate further demonstrates that the Madison aquifer is relatively untapped in this area even on a fairly localized scale.

Obviously, if a new hydrologic budget is to balance for this subarea (i.e. a new condition of dynamic equilibrium), with an increase of well withdrawals, groundwater outflow must decrease, or more groundwater flow will have to come in from another area. Groundwater enters this subarea from the northwest and exits the area to the east (Carter and others, 2001b). It can be assumed that with a very subtle change in the hydraulic gradient at either the inflow zone or the outflow zone, a new dynamic equilibrium would be established in this area with virtually immeasurable impacts to the amount of water in storage.

Observation Well Data:

The Water Rights Program monitors 26 observation wells completed into the Madison aquifer in the Black Hills area (Water Rights, 2010a). This well site is located within about eight miles of four Water Rights' Observations Wells completed into the Madison aquifer. Observation Well MD-86A is located approximately 0.9 miles south-southeast of this site, Observation Well LA-90A is located approximately three miles northwest of this site, Observation Well LA-96D is located approximately 4.8 miles south-southwest of this well site, and MD-90A is located approximately eight miles southeast of this well site. The Madison is under unconfined conditions at LA-96D and under confined conditions at the other three wells cited. Hydrographs for the wells show the aquifer's response to climatic conditions and clearly demonstrate the system is recharged, (see figures 2-5).

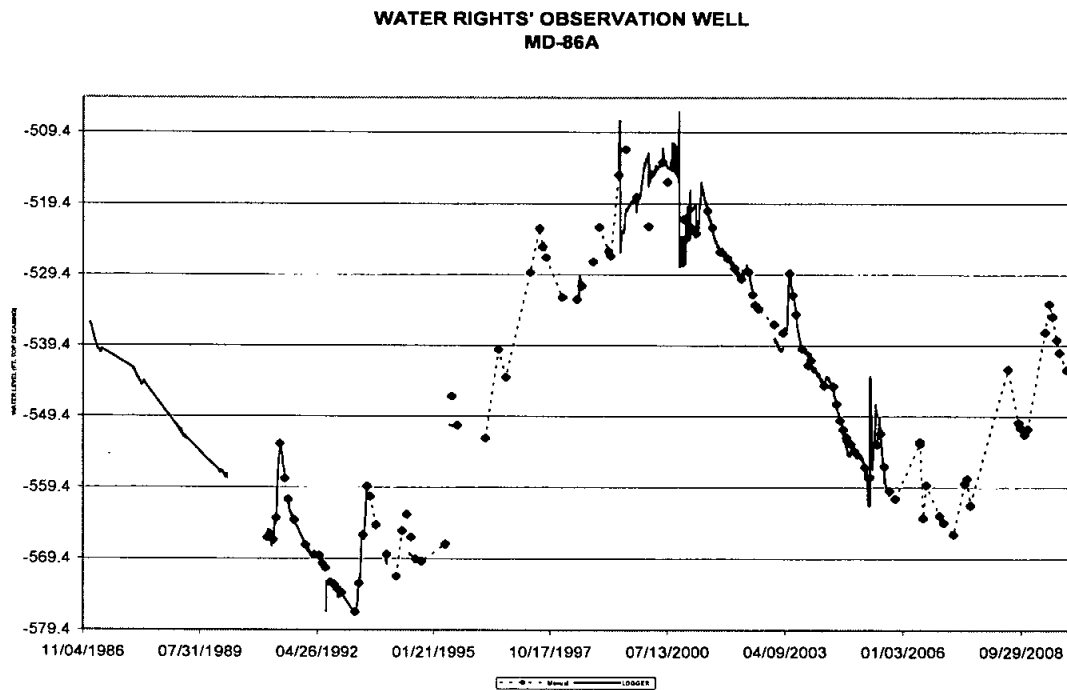


Figure 2. Hydrograph of Water Rights' Observation well located approximately 0.9 miles south-southeast of the 1910-1

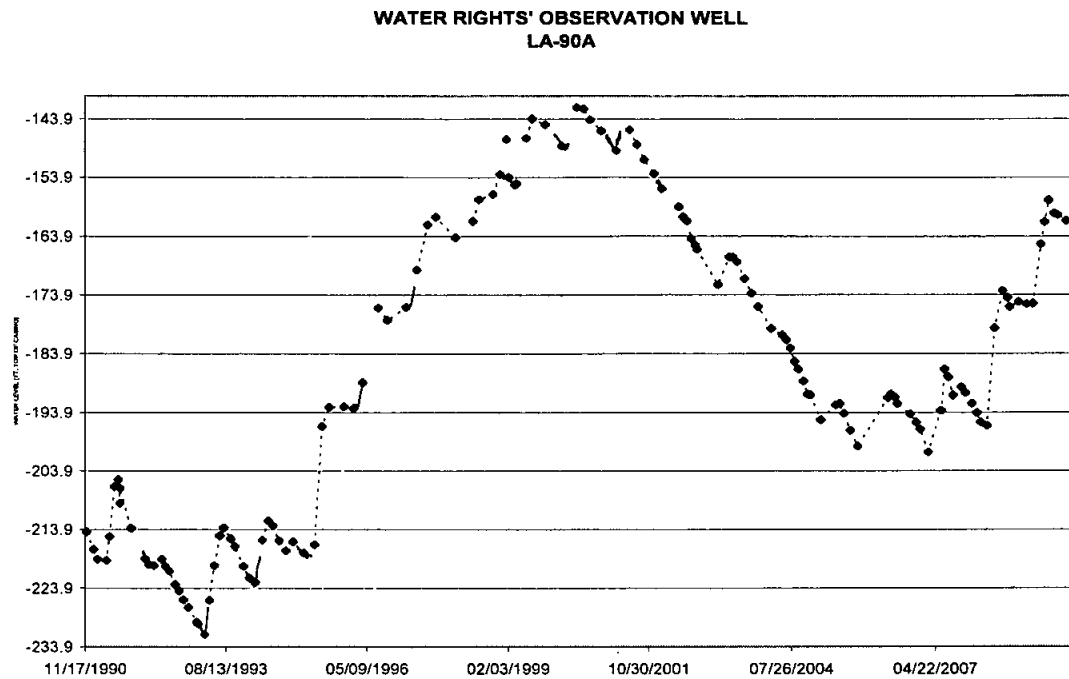


Figure 3. Hydrograph of Water Rights' Observation well located approximately three miles northwest of the 1910-1

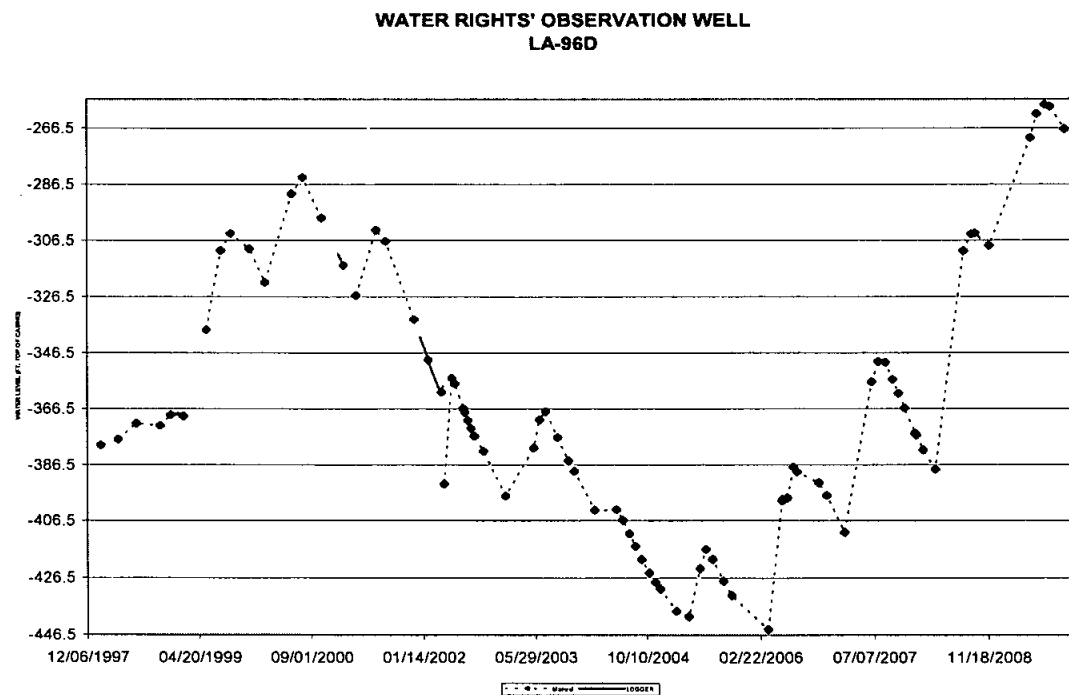


Figure 4. Hydrograph of Water Rights' Observation well located approximately 4.8 miles west-southwest of the 1910-1

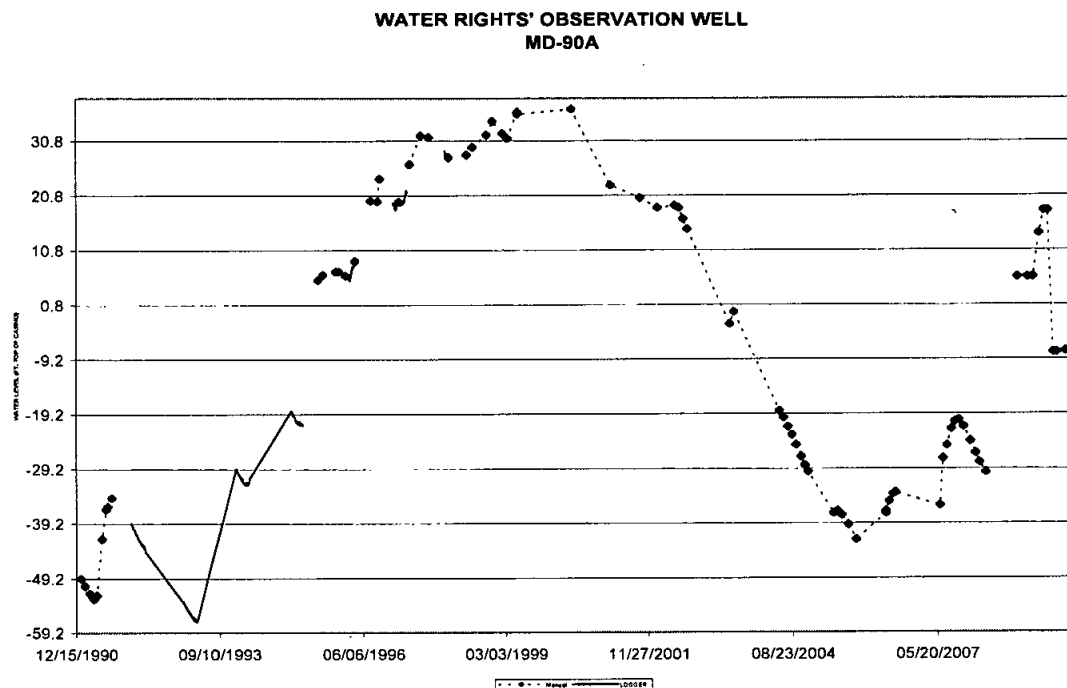


Figure 5. Hydrograph of Water Rights' Observation well located approximately eight miles southeast of the 1910-1

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 to less recharge.

A comparison of these hydrographs with data from other Water Rights' Observation wells completed into the Madison aquifer, suggest the fluctuations shown in figures 2-5 are representative of climatic conditions instead of pumping from the aquifer. The observation well data verifies that for the period of record, withdrawals have not exceeded recharge and unappropriated water is available from the Madison aquifer.

AFFECTS ON EXISTING RIGHTS:

Water rights/permits supplied by aquifers that are either above or below the Madison are not expected to be affected by Madison aquifer withdrawals since the lower Minnelusa serves as an upper confining unit and the bottom portion of the Madison and the Englewood Formation act as a lower aquitard. There is only one Water Right (No. 1684-1, Mike Ringer), appropriating water from the Madison aquifer within approximately three miles of the well that is to be used to supply this permit. Water Right No. 1684-1 is located approximately one and one-half miles southwest of 1910-1.

Since the Madison is under artesian conditions in this area, drawdown from pumping a well may extend over a fairly large area. At this time, it is not practical to attempt to quantify the specific affect this well may have on area wells since aquifer characteristics have not been determined for this area, and the aquifer characteristics of the Madison can vary considerably within a short distance (Greene, 1993).

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 however, 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 (i.e. drawdown of only a few feet or tens of feet) (Water Rights, 2010a). Given the distance this proposed well site is from existing Madison aquifer wells supplying water rights/permits interference.

Given the distance between the well that is to supply this appropriation and the well that supplies Water Right No. 1684-1 (Ringer Well) and the relatively small drawdown expected in the production well (less than 54 feet at the production well based on step test data), well interference is not expected to be adverse. The Madison is under artesian conditions at the Ringer well with approximately 200 feet of artesian pressure. The small amount of drawdown that may occur at the Ringer well will be insignificant when compared to the seasonal/climatic fluctuations documented by the observation wells. In other words, a well that can consistently deliver sufficient water for the well owner's needs with the natural fluctuation documented by the observation wells, will not be affected by this withdrawal.

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:

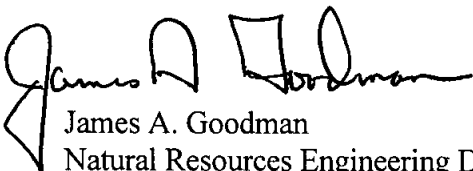
1. The Madison aquifer is a major regional aquifer and a viable source of water for this proposed appropriation.
2. This application proposes to appropriate 280 acre-feet annually at a maximum diversion rate of 1.44 cfs.
3. There is a reasonable probability that unappropriated water is available in the Madison aquifer to supply this appropriation.
4. Exceptions included in SDCL-46-6-3.1 would allow average annual withdrawals from the Madison to exceed average annual recharge for this proposed municipal use.
5. There is a reasonable probability this appropriation can be made without adversely impacting existing water rights including domestic users.
6. Information is not available to justify issuing these permits without a term limitation of 20 years.
7. 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.



Ken Buhler

Natural Resources Engineering Specialist

Approved by



James A. Goodman

Natural Resources Engineering Director

REFERENCES:

- Carter, J.M., Driscoll, D.G., and Hamade, G.R., 2001a, Estimated Recharge to the Madison and Minnelusa Aquifers in the Black Hills Area, South Dakota and Wyoming, Water Years 1931-98: U.S. Geological Survey Water-Resources Investigations Report 00-4278, 66 p
- Carter, J.M., Driscoll, D.G., Hamade, G.R., and Jarrell, G.J., 2001b, Hydrologic Budgets for the Madison and Minnelusa Aquifers, Black Hills of South Dakota and Wyoming, Water Years 1987-1996: Water-Resources Investigations Report 01-4119, U.S. Department of the Interior, U.S. Geological Survey, Rapid City, SD
- Carter, J.M., Redden, J.A., 1999a, Altitude of the Top of the Madison Limestone in the Black Hills Area, South Dakota: U.S. Geological Survey Hydrologic Investigations Atlas HA-744-D, 2 sheets, scale 1:100,000
- Carter, J.M., Redden, J.A., 1999b, Altitude of the Top of the Deadwood Formation in the Black Hills Area, South Dakota: U.S. Geological Survey Hydrologic Investigations Atlas HA-744-E, 2 sheets, scale 1:100,000
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- Strobel, M.L., Jarrell, G.J., Sawyer, J.F., Schleicher, J.R., and Fahrenbach, M.D., 1999, Distribution of Hydrogeologic Units in the Black Hills Area, South Dakota: U.S. Geological Survey Hydrologic Investigations Atlas HA-743, 3 sheets, scale 1:100,000
- Strobel, M.L., Galloway, J.M., Hamade, G.R., Jarrell, G.J., 2000, Potentiometric Surface of the Madison Aquifer in the Black Hills Area, South Dakota: U.S. Geological Survey Hydrologic Investigations Atlas HA-745-D, 2 sheets, scale 1:100,000
- Water Rights Program, 1995, Findings of Fact, Conclusions of Law and Final Decision in the Matter of Water Permit Application No. 2313-2, Coca-Cola Bottling Company of The Black Hills , SD DENR-Water Rights Program, Joe Foss Building, Pierre, SD 57501
- Water Rights Program, 2003, "Water Permit No. 1789-1, SD DENR-Water Rights Program, Joe Foss Building, Pierre, SD 57501
- Water Rights Program, 2006a, "Report for Future Use Permit Application No. 1872-1, City of Spearfish", Unpublished Report in Future Use Permit No. 1872-1, SD DENR-Water Rights Program, Joe Foss Building, Pierre, SD 57501

Water Rights Program, 2006b, Water Permit No. 2560-2, SD DENR-Water Rights Program, Joe Foss Building, Pierre, SD 57501

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Water Rights Program, 2008, "Report for Water Permit Application No. 2631-2", Unpublished Report in Water Permit No. 2631-2, SD DENR-Water Rights Program, Joe Foss Building, Pierre, SD 57501

Water Rights Program, 2010a, Observation Well Files, DENR-Water Rights Program, Joe Foss Building, Pierre, SD 57501

Water Rights Program, 2010b, Water Permit/Right Files, DENR-Water Rights Program, Joe Foss Building, Pierre, SD 57501

Water Rights Program, 2010c, Well Completion Report Files, DENR-Water Rights Program, Joe Foss Building, Pierre, SD 57501

Water Rights, 2005-2010, Non-irrigation Water User Reporting 2004-2009, SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.

Woodward Clyde Consultants, 1981, Well Field Hydrology Technical Report, for the ETSI Coal Slurry Pipeline Project, U.S. Dept. of the Interior, Bureau of Land Management

Form 8

RECEIVED

MAY 12 2010

WATER RIGHTS
PROGRAM

RECEIVED

MAY 12 2010

Drinking Water

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County of Meade) SS

I, Pam Buhler

certify that the attached printed Notice was
taken

from the Meade Co Times
Tribeine

printed and published in Sturgis, SD

County of Meade and

state of South Dakota. The notice was
published

in the newspaper on the following two dates:

5/5/2010

5/12/2010

Cost of Printing \$ 50.76

Pam Buhler

(Signature)

Office manager

(Title)

5/12/2010

(Date Signed)

RECEIVED

MAY 12 2010

Drinking Water Program

NOTICE OF APPLICATION

NO. 1910-1 to

Appropriate Water

Notice is given that Sturgis Water Company, c/o Eric Tibbetts, 1040 2nd St, Suite 102, Sturgis SD 57785 has filed an application for a water permit to increase the diversion rate authorized by Water Permit No. 1789-1. Water Permit No. 1789-1 appropriates 1.0 cubic feet of water per second (cfs) (724 acre-feet annually) from one well completed into the Madison Formation (1,040 feet deep) located in NE 1/4 SW 1/4 Section 9-T5N-R5E. This application proposes to increase the water appropriation from the existing well an additional 1.44 cfs (280 acre-feet annually). This application, if approved, and Water Permit No. 1789-1 will authorize a total diversion rate of 2.44 cfs (1,004 acre-feet annually) for municipal use.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 1910-1 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 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

Public Notice

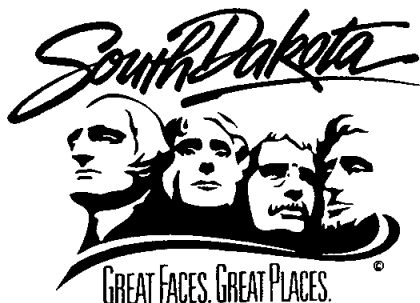
the applicant must be filed by May 24, 2010.

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.

/s/ Steven M. Pirner, Secretary, Department of Environment and Natural Resources.

Published twice at the total approximate cost of \$50.76.

Published Wed., May 5
and Wed., May 12, 2010
Meade County Times Tribune



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

April 26, 2010

Meade County Times & Tribune
1022 Main St
Sturgis SD 57785

ATTENTION: Legal Public Notice

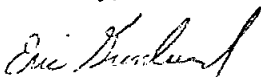
Enclosed is a Notice on Application No. 1910-1 to Appropriate Water to be published twice. Please publish the first notice on May 5, 2010 with the second publication 7 days later. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352.

The applicant must verify to you that the notice is to be published, before you make the first publication. **Please BILL the APPLICANT for the cost of publication.** The APPLICANT is Sturgis Water Company, c/o Eric Tibbets, 1040 2nd St., Suite 102, Sturgis SD 57785 (Ph # 605-347-4425).

Please send the Water Rights Program the first publication immediately. The publication is checked for accuracy so any corrections can be made in the second publication. You may use the form below or fax a copy of the first publication. Any fax should be sent to the attention of Karen Schlaak at (605) 773-4068. Publication errors can invalidate the public notice.

After the second publication, **please send us an affidavit or use the enclosed Proof of Publication form.** 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

-----CUT HERE-----

No. 1910-1

TO: Eric Gronlund
Water Rights Program
Joe Foss Building
Pierre SD 57501-3181

Date _____

We are in receipt of your letter of April 26, 2010 enclosing Notice to Appropriate Water by Application No. 1910-1 which was first published in our issue of _____. ENCLOSED IS A COPY OF THIS FIRST PUBLICATION.

Name

Newspaper



**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.

April 26, 2010

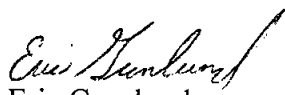
Sturgis Water Company
Eric Tibbets
1040 2nd St Ste 102
Sturgis SD 57785

Dear Mr. Tibbets:

Water Permit Application No. 1910-1 for municipal use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Publisher of the Meade County Times & Tribune printed at Sturgis SD (Ph # 605-347-2503). You will need to contact the newspaper 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 to authorize publication of your Notice and to arrange for payment. Early contact with the paper can eliminate delays. Upon receiving authorization, the publisher has been instructed to publish your notice once each week for two consecutive weeks. 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
eric.gronlund@state.sd.us

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 first Notice on May 5, 2010 with the second publication 7 days later. 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. 1910-1 to Appropriate Water

Notice is given that Sturgis Water Company, c/o Eric Tibbetts, 1040 2nd St, Suite 102, Sturgis SD 57785 has filed an application for a water permit to increase the diversion rate authorized by Water Permit No. 1789-1. Water Permit No. 1789-1 appropriates 1.0 cubic feet of water per second (cfs) (724 acre-feet annually) from one well completed into the Madison Formation (1,040 feet deep) located in NE ¼ SW ¼ Section 9-T5N-R5E. This application proposes to increase the water appropriation from the existing well an additional 1.44 cfs (280 acre-feet annually). This application, if approved, and Water Permit No. 1789-1 will authorize a total diversion rate of 2.44 cfs (1,004 acre-feet annually) for municipal use.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 1910-1 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 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 May 24, 2010.

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 twice 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

NOV 21 2013

Dale Olson, Water Superintendent
Sturgis Water Company
1040 2nd St, Suite 102
Sturgis SD 57785

Dear Mr. Olson:

Enclosed is Water Permit No. 1910-1 authorizing construction of the water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

Water Permit No. 1910-1 authorizes a total diversion rate of 2.44 cubic feet of water per second (1,004 acre-feet annually) from the well. Please be aware the city has until May 24, 2019 to utilize the entire permitted diversion rate.

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,

A handwritten signature in cursive script that reads "Jeanne Goodman".

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

enclosures

Permit Nos. 1910-1
Upper Cheyenne River - Water District

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

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

I have on this day, 9/15/2015, made a thorough examination of the water use system constructed by City of Sturgis, 1040 Harley-Davidson Way, Suite 103, Sturgis SD 57785 holder of Permit No. 1910-1, bearing the priority date of February 22, 2010, is authorized to appropriate 1.44 cfs (280 acre-feet annually) from one well for municipal purposes. Water Right No. 1789-1, bearing the priority date of March 11, 2003 is authorized to appropriate 1.0 cfs (724 acre-feet annually). Water Permit No. 1910-1 & Water Right No. 1789-1 combined, will authorize a total diversion rate of 2.44 cfs (1,004 acre-feet annually) from one well (Madison Aquifer) for municipal purposes, in Meade County.

Inspection contact and relationship to
permit holder, if applicable:

Gene Stock,
Parks & Cemetery Director

A. Works used to divert the water:

Hitachi submersible pump & Grundfos booster pump - 1100 gpm capacity (2.44 cfs).

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

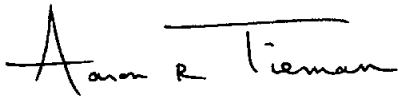
Municipal distribution lines & storage reservoirs.

The system is in the following condition **good**. The point of diversion (well) for Permit No. 1910-1 is located specifically at Lat/Lon – N44.406495/W-103.522017 which is the approximately 1735 feet north and 1900 feet east of the SW corner of Section 9, T5N-R5E. The works are capable of diverting 2.44 cfs which is to be used for municipal purposes. The license should be issued for 2.44 cfs.

All structures, wells and lands on map Y

Exceptions to compliance are: none.

Comments: Combined with Water Right No. 1789-1, Permit No. 1910-1 increases the total appropriation from the same well to 2.44 cfs (1,004 acre-feet annually). Applicable portions of Water Right No. 1789-1 should be incorporated into Water Permit No. 1910-1.



Aaron Tieman
Natural Resources Engineer II
DENR, Water Rights Program

Date report completed: September 28, 2015

FIELD INVESTIGATION REPORT FOR PERMIT NO. 1910-1

DATE OF INVESTIGATION:	September 15, 2015
NAME & ADDRESS OF PERMIT HOLDER	City of Sturgis 1040 Harley-Davidson Way, Suite 103 Sturgis, SD 57785
INVESTIGATION CONTACT/ RELATIONSHIP TO PERMIT HOLDER, IF APPLICABLE	Gene Stock, Parks & Cemetery Director
DIVERSION POINT LEGAL LOCATION	NE¼ SW¼ Section 9, T5N-R5E
WATER SUPPLY SOURCE	Groundwater, Madison Aquifer

Other permit(s) associated with the project: Water Right No. 1789-1

WELL INFORMATION:

- 1) Well Drilling Firm: Weston Engineering, Inc.
- 2) Number of Wells: One
- 3) Depth(s): 1040 feet
- 4) Well log available: yes

Casing:

- 1) Diameter: 10¾ inches 16 inches
- 2) Length: 891 feet 31 feet
- 3) Type: Steel Steel

Screen:

- 1) Type: Open hole
- 2) Length: N/A feet
- 3) Static water level: 363 feet

Pump:

- 1) Make: Hitachi & Grundfos booster
- 2) Model: unknown
- 3) Capacity: 1100 gpm

Motor:

- 1) Make: Franklin
- 2) Model: unknown
- 3) Horsepower rating: 75 hp

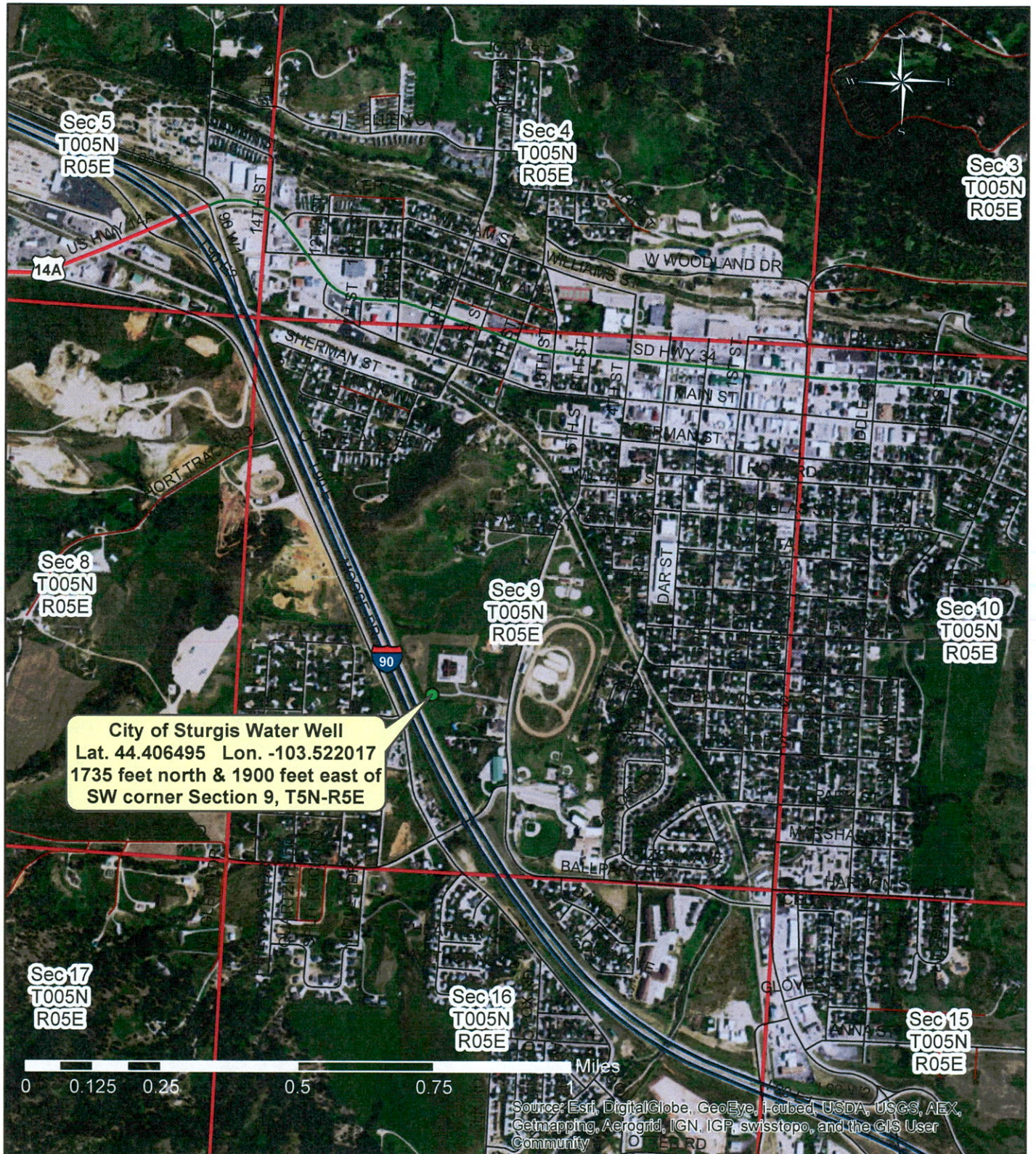
DISTRIBUTION LINES OR CANALS:

- 1) Type: Municipal distribution lines.

PERMIT QUALIFICATIONS:

- 1) Special qualifications to permit being abided by Yes
- 2) All structures, wells and lands on map Yes

Water Right 1910-1
City of Sturgis
September 28, 2015



Aaron R. Tieman

Aaron Tieman
Natural Resources Engineer II
DENR Water Rights Program



1910-1



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

OCT 19 2015

1789-1
1910-1

Sturgis Water Company
1040 Harley Davidson Way Ste 103
Sturgis SD 57785

Dear Sir:

Enclosed is Water License No. 1910-1. 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 the owner of an existing well, such as the well authorized by Water Right No. 1910-1, 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

Note: Upon licensing, the applicable portions of Water Right No. 1789-1 were incorporated into Water License No. 1910-1.

**STATE OF SOUTH DAKOTA
WATER LICENSE NO. 1910-1**

(1) The Sturgis Water Company, 1040 Harley Davidson Way, Suite 103, Sturgis SD 57785 made Application No. 1910-1, October 6, 2009 for a water permit to divert an additional 1.44 cubic feet of water per second (280 acre feet annually) from ground water (one existing well- Madison Formation), Meade County, South Dakota for municipal purposes. Permit No. 1910-1, with a priority date of February 22, 2010 was approved May 24, 2010 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before May 24, 2015 and for the application to beneficial use of said water on or before May 24, 2019.

Water Right No. 1789-1, with a priority date of March 11, 2003, authorizes 1.00 cfs (724 acre-feet annually) from a well located in the NE ¼ SW ¼ Section 9, T5N, R5E. Water Permit No. 1910-1 was obtained to increase the diversion rate and the annual appropriation. The combined diversion authorized from the well is 2.44 cfs with an annual volume of 1,004 acre feet.

The applicable portions of Water Right No. 1789-1 are incorporated into Water License No. 1910-1. The priority dates retained are as follows:

- March 11, 2003 (established under No. 1789-1) for 1.00 cfs (724 acre feet annually)
- February 22, 2010 (established under No. 1910-1) for 1.44 cfs (280 acre feet annually)

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

- 1,735 feet north and 1,900 feet east of the SW corner of Section 9, T5N, R5E (NE ¼ SW ¼).

(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 the Sturgis Water Company, 1040 Harley Davidson Way, Suite 103, Sturgis SD 57785 the holder and/or owner of incorporated Water Right No. 1910-1 is issued a license to appropriate water, the right to use 2.44 cubic feet of water per second (1,004 acre feet annually) from ground water (one well – Madison Formation) with priority dates of March 11, 2003 (1.00 cfs) and February 22, 2010 (1.44 cfs) from the location specified in (2) of this license for municipal purposes.

This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Right No. 1910-1 and subject to the following qualifications:

- In accordance with SDCL 46-1-14 and 46-2A-20, Permit No. 1910-1 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. 1910-1 may also be cancelled for non-construction, forfeiture, abandonment or three permit violations pursuant to SDCL 46-1-12, 46-5-37, 46-5-37.1, and Board Rule ARSD 74:02:01:37.

continued

Water License No. 1910-1

- 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.
- *(Qualification from Permit No. 1789-1) The well authorized by Permit No. 1789-1 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) from the producing formation to the surface pursuant to Section 74:02:04:28. (The well was drilled in July, 2003 by Weston Engineering Inc. A copy of the well log is on file with the Water Rights Program.)*
- The Sturgis Water Company shall report to the Chief Engineer annually the amount of water withdrawn from the Madison Aquifer.



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

OCT 19 2015

date

