

WATER PERMIT NO. 8635-3

Name of Applicant: **Big Watt Digital SD LLC**

Address: **295 Palmas Inn Way, Ste C9, Humacao PR 00791**

Phone: **619 823-1679**

Amount of Water Claimed: **0.67 cfs** Total Acres: **NA**

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

Water to be used for: **commercial** County: **Sully**

Type of Waste Disposal System:

Location: **12 miles west of Onida**

PRIORITY Date Received: **5-9-22**

Application/License Fee: **\$ 700**

Corrected Application Received: .

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

Remarks:

Diversion Point: **NE 1/4 NE 1/4 Sec 10-T114N-R79W**

Land to be Irrigated: **NA**

Depth of Well: **2250 feet deep**

Well Driller:

Remarks:

Type of Map: **plat**

Prepared by:

Reviewed and the Number Assigned on: **5-9-22**

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____

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			10		

SOUTH DAKOTA
WATER PERMIT NO. 8635-3

Date of first receipt of application May 9, 2022.

Date of return to applicant for corrections, amendments or changes May 11, 2022.

Date of receipt of corrected application May 24, 2022.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 8635-3 to Big Watt Digital SD LLC, 295 Palmas Inn Way, Ste C9, Humacao PR 00791 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. 8685-3 appropriates an amount not exceeding 76.7 acre-feet of water annually at a maximum pump rate of 0.89 cubic feet of water per second from one well to be completed into the Inyan Kara Aquifer (approximately 2,250 feet deep) located in the NE 1/4 NE 1/4 Section 10-T114N-R79W for commercial use to cool computer servers in a computer data center. This site is located approximately 12 miles west of Onida SD.
2. The water appropriated shall be used for the purpose of 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. 8635-3 is July 25, 2022.
5. The date from which applicant may claim right is May 9, 2022.
6. One-fifth of the construction is to be completed on or before January 25, 2025.
7. All construction is to be completed on or before July 25, 2027.
8. Water is to be put to beneficial use on or before July 25, 2031.
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 Water Permit No. 8635-3 is located near domestic wells and other wells which may obtain water from the same aquifer. Water withdrawals shall be controlled 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. 8635-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. The Permit holder shall report to the Chief Engineer annually the amount of water withdrawn from the Inyan Kara aquifer.
4. Water Permit No. 8635-3 authorizes a total annual diversion of 76.7 acre feet of water.

WATER MANAGEMENT BOARD

By: Eric Gronlund
Eric Gronlund, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

AUG 10 2022
date



RECEIVED

MAY 24 2022

OFFICE OF
WATER

Originally Rec'd
5/9/22

Mail to: DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>8635-3</u> (office use only) Hydrologic Unit <u>10130105</u>
	Basin <u>Missouri River</u>
	Newspaper <u>Onida Watchman</u>
	<u>American News</u>

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

Check use(s) of water:

☐ Municipal	☐ Water Distribution System	☐ Recreational	☐ Institutional
☐ Rural Water System	☒ Commercial	☐ Fish & Wildlife	☐ Geothermal
☐ 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 to Appear on Water Permit Big Watt Digital SD LLC

Mailing Address 295 Palmas Inn way, Ste C9, Humacao, PR 00791

Phone _____ Mobile 619-823-1679 Email david@bigwattdigital.com

2. Amount of water claimed 0.89 *CFS or 400 **GPM and 76.7 ***AF or 25 Million Gallons

Flow rate and volume are both required (*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use)

3. Source of water supply Sundance Aquifer NE 1/4 NE 1/4 (see map)

4. Location of point of diversion Lot U-1 in NW 1/4 of Section 10, Township 114 North, Range 79 West of the 5th Principal Meridian County Sully

(example: 3 wells in SW 1/4 NE 1/4 section 12-T104N-R53W)

If not a public water supply (e.g. municipal), will water be used outside of the area described above? ☐ Yes ☒ No

If "Yes," where will water be used? _____

(example: NW 1/4 section 12-T104N-R53W)

5. County or counties where water will be used Sully

6. Annual period during which water is to be used Water used year round at various flow rates

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)

Big Watt Digital SD LLC is building a Data Center on 5 acres leased from Oahe Electric Coop on Onida Rd. The Data Center will be 3 buildings housing computer servers. The servers are cooled using adiabatic air/water coolers that primarily use air cooling, and use evaporative water cooling on very hot days. The adiabatic coolers recycle their water until it is evaporated so there is no waste or discharge water that requires disposal. The well water will be used for commercial cooling only. Mid Dakota Rural Water service will provide a 2" water line that will be used for the office and restrooms. A septic system will be installed for the Office restroom discharge only.

I, David Schull David Schull CEO, the applicant, certify under

Name of Person

Title (if applicable)

penalty of perjury that I have read this application, examined the attached map, and that the matters stated are true. I further certify, if acting on behalf of an entity or individual other than myself, that I am authorized to submit this application.

Supplemental Information

(Type or print)

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

a) If new wells, how many 1 Have test holes been drilled ☐ Yes ☒ No Drilled by _____
(if yes, please provide copies of logs)

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

For either Existing or Proposed Wells:

c) Well Depth (required) 2100-2250 Depth to Top of Water Bearing Material 2100 Depth to Water from Surface 2150

d) Distance to nearest domestic well on applicant's property none Property owned by others Oahe Elect Coop

2. Wastewater Disposal System Information

a) Type of System (i.e. septic tank, drain field) Well water will not be disposed, it will be recycled until evaporated.

b) System Capacity (gallons) _____ Year Constructed _____

c) Connected to the City of _____ Sanitary System

3. Dugout Information

a) Surface Dimensions none Depth _____

b) Depth to water (ground surface to water level) _____

4. Water Storage Dams none

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)

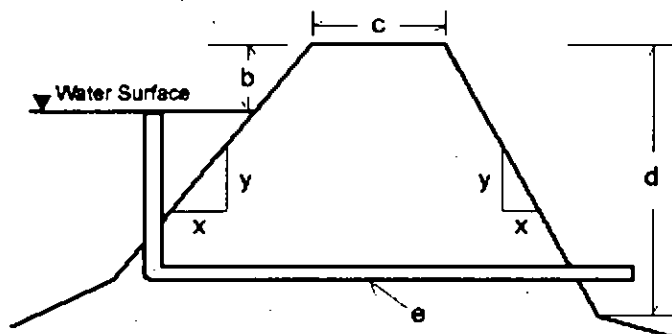
Upstream _____

Downstream _____

h) Surface Area of Impoundment _____

i) Storage _____ Acre Feet

j) Drainage Area Above Dam _____ Acres



IN THE NE1/4 OF SECTION 10, TOWNSHIP 114 NORTH, RANGE 79 WEST OF THE 5TH
PRINCIPAL MERIDIAN, SULLY COUNTY, SOUTH DAKOTA.
CONTAINING ±19.84 ACRES

PLAT OF LOT 1 AND LOT 2 OF
SULLY BUTTES SUBSTATION ADDITION

IN THE NE1/4 OF SECTION 10, TOWNSHIP 114 NORTH, RANGE 79 WEST OF THE 5TH
PRINCIPAL MERIDIAN, SULLY COUNTY, SOUTH DAKOTA.
CONTAINING ±19.84 ACRES

SURVEYOR'S CERTIFICATE

I, JOSHUA R. VANDERWERF, A REGISTERED LAND SURVEYOR UNDER THE LAWS OF THE STATE OF SOUTH DAKOTA, DO HEREBY CERTIFY THAT ON OR BEFORE NOVEMBER 5TH, 2021, I HAVE SURVEYED LOT 1, 1 IN THE NORTHWEST ONE QUARTER OF SECTION 10, TOWNSHIP 114 NORTH, RANGE 79 WEST OF THE 5TH PRINCIPAL MERIDIAN, SULLY COUNTY, SOUTH DAKOTA AND A PORTION OF THE NE1/4 OF SECTION 10, TOWNSHIP 114 NORTH, RANGE 79 WEST OF THE 5TH P.M., SULLY COUNTY, SOUTH DAKOTA AND PLATTED THE SAME INTO LOT 1 AND LOT 2 OF SULLY BUTTES SUBSTATION ADDITION IN THE NE1/4 OF SECTION 10, TOWNSHIP 114 NORTH, RANGE 79 WEST OF THE 5TH PRINCIPAL MERIDIAN, SULLY COUNTY, SOUTH DAKOTA WITH AREA AND DIMENSIONS AS SHOWN ON THE ABOVE PLAT.

THE SAME SHALL HEREAFTER BE KNOWN AND DESCRIBED AS LOT 1 AND LOT 2 OF SULLY BUTTES SUBSTATION ADDITION IN THE NE1/4 OF SECTION 10, TOWNSHIP 114 NORTH, RANGE 79 WEST OF THE 5TH PRINCIPAL MERIDIAN, SULLY COUNTY, SOUTH DAKOTA.

I FURTHER CERTIFY THAT THE ABOVE PLAT CORRECTLY REPRESENTS THE SAME TO THE BEST OF MY KNOWLEDGE AND BELIEF AND THAT THIS SURVEY WAS PERFORMED AT THE REQUEST AND UNDER THE DIRECTION OF THE OWNERS FOR THE PURPOSE OF TRANSFER.

DATED THIS 8TH DAY OF NOVEMBER, 2021.

Joshua R. Vanderwerf
JOSHUA R. VANDERWERF
10058
SULLY COUNTY, SOUTH DAKOTA

Joshua R. Vanderwerf
JOSHUA R. VANDERWERF, LS
NO. 10958

OWNER'S CERTIFICATE

WE, THE UNDERSIGNED, DO HEREBY CERTIFY THAT WE ARE THE OWNERS OF ALL LAND INCLUDED IN THE ABOVE PLAT AND THAT SAID PLAT HAS BEEN MADE AT OUR REQUEST AND IN ACCORDANCE WITH OUR INSTRUCTIONS FOR THE PURPOSE OF TRANSFER, AND THAT THE DEVELOPMENT OF SAID LANDS SHALL CONFORM TO ALL EXISTING APPLICABLE ZONING, SUBDIVISION AND EROSION AND SLOPE CONTROL REGULATIONS.

WE HEREBY DEDICATE TO THE PUBLIC FOR PUBLIC USE FOREVER THE STREETS, ROADS, ALLEYS AND PARKS AND PUBLIC GROUNDS, AS SHOWN ON SAID PLAT, INCLUDING ALL SWIMMING POOLS, PONDS, WARR, DISTRIBUTION LINES, SIDEWALKS AND OTHER IMPROVEMENTS ON OR UNDER THE STREETS, ROADS, ALLEYS, PARKS AND PUBLIC GROUNDS, WHETHER SUCH IMPROVEMENTS ARE SHOWN OR NOT. WE ALSO HEREBY GRANT EASEMENTS TO RUN WITH THE LAND FOR WATER, SEWER, GAS, ELECTRIC, TELEPHONE OR OTHER PUBLIC UTILITY LINES OR SERVICES UNDER, ON OR OVER THOSE STRIPS OF LAND DESIGNATED HEREON AS EASEMENTS.

WE FURTHER CERTIFY THAT THIS PLATTING OF SAID DESCRIBED LOT 1 AND LOT 2 OF SULLY BUTTES SUBSTATION ADDITION IN THE NE1/4 OF SECTION 10, TOWNSHIP 114 NORTH, RANGE 79 WEST OF THE 5TH PRINCIPAL MERIDIAN, SULLY COUNTY, SOUTH DAKOTA, DOES HEREBY VACATE:

LOT 1, 1 IN THE NORTHWEST ONE QUARTER OF SECTION 10, TOWNSHIP 114 NORTH, RANGE 79 WEST OF THE 5TH PRINCIPAL MERIDIAN, SULLY COUNTY, SOUTH DAKOTA, ON FILE AT THE REGISTER OF DEEDS OFFICE IN BOOK 4 OF PLATS, PAGE 36.

DATE THIS 10 DAY OF March, 2021

Edward L. Eller
EDWARD L. ELLER, GENERAL PARTNER
IN ELLER FAMILY LIMITED PARTNERSHIP,
A SOUTH DAKOTA LIMITED PARTNERSHIP

Mark H. Hieoperations
MARK H. HIEOPERATIONS
FIRST RIVER ELECTRIC POWER
COOPERATIVE, INC.

STATE OF
COUNTY OF Bland

ON THIS 10 DAY OF March, 2021, BEFORE ME THE UNDERSIGNED NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE PERSONALLY APPEARED EDWARD L. ELLER WHO ACKNOWLEDGED HIMSELF TO BE THE GENERAL PARTNER OF ELLER FAMILY LIMITED PARTNERSHIP, A SOUTH DAKOTA LIMITED PARTNERSHIP, AND BEING AUTHORIZED TO DO SO, EXECUTED THE FOREGOING INSTRUMENT FOR THE PURPOSE THEREIN CONTAINED.

WHEREFORE I HAVE SET MY HAND AND SEAL

STATE OF Bland
COUNTY OF Bland

ON THIS 1 DAY OF March, 2021, BEFORE ME THE UNDERSIGNED NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE PERSONALLY APPEARED MARK HOFMANN, WHO ACKNOWLEDGED HIMSELF TO BE THE CHIEF OPERATIONS OFFICER OF FIRST RIVER ELECTRIC POWER COOPERATIVE, INC. AND BEING AUTHORIZED TO DO SO, EXECUTED THE FOREGOING INSTRUMENT FOR THE PURPOSE THEREIN CONTAINED.

IN WITNESS WHEREOF, I HAVE SET MY HAND AND SEAL

Kurt Donelan
KURT DONELAN
NOTARY PUBLIC
SOUTH DAKOTA
COMMISSION EXPIRES 11/11/23

HIGHWAY AUTHORITY CERTIFICATE

"ACCESS TO SOUTH DAKOTA HIGHWAY 1804 IS APPROVED. THIS ACCESS APPROVAL DOES NOT REPLACE THE NEED FOR ANY PERMITS BY LAW TO ESTABLISH THE PRECISE ACCESS LOCATION, INCLUDING PERMIT REQUIREMENTS SET FORTH IN ADMINISTRATIVE RULES OF SOUTH DAKOTA 70.09.01.02."

SIGNED THIS 1 DAY OF March, 2021

c:r'l Lf'e

HIGHWAY AUTHORITY
SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION

ROAD AUTHORITY CERTIFICATE

I, J. SCHELL, HIGHWAY SUPERINTENDENT OF SULLY COUNTY, DO HEREBY CERTIFY THAT THIS PLAT AND ACCESS LOCATION HAS BEEN REVIEWED BY ME OR MY AUTHORIZED AGENT AND THAT THIS PLAT IS RECOMMENDED FOR APPROVAL.

DATED THIS 10 DAY OF November, 2021

m. S.
M. S. J.
HIGHWAY SUPERINTENDENT
SULLY COUNTY, SOUTH DAKOTA

CERTIFICATE OF TREASURER

I, TREASURER OF SULLY COUNTY, DO HEREBY CERTIFY THAT ALL TAXES WHICH ARE DUE UPON THE WITHIN DESCRIBED LANDS ARE FULLY PAID ACCORDING TO THE RECORD IN MY OFFICE.

CALED. BY a. l. l. o. w. t. b. e. t.

1. w. f. t. g. a. t. e. o. f. d. i. r. e. c. t. o. r. o. f. e. q. u. a. l. i. z. a. t. i. o. n.
1. w. f. t. g. a. t. e. o. f. d. i. r. e. c. t. o. r. o. f. e. q. u. a. l. i. z. a. t. i. o. n.

I, DIRECTOR OF EQUALIZATION OF SULLY COUNTY, DO HEREBY CERTIFY THAT I HAVE ON RECORD A COPY OF THE FOREGOING PLAT.

DATED THIS 10 DAY OF March, 2021.

Ganna Loesch
Ganna Loesch
DIRECTOR OF EQUALIZATION

CERTIFICATE OF PLANNING COMMISSION

THE SULLY COUNTY PLANNING COMMISSION HEREBY CERTIFIES THAT IT RECOMMENDS APPROVAL OF THE ABOVE PLAT.

DATED THIS 12 DAY OF March, 2021.

Daniel L. L. L.
Daniel L. L. L.
CHAIRMAN

CERTIFICATE OF COUNTY COMMISSION

RESOLUTION NO. 1-ig.

A RESOLUTION APPROVING THE PLAT OF LOT 1 AND LOT 2 OF SULLY BUTTES SUBSTATION ADDITION IN THE NE1/4 OF SECTION 10, TOWNSHIP 114 NORTH, RANGE 79 WEST OF THE 5TH PRINCIPAL MERIDIAN, SULLY COUNTY, SOUTH DAKOTA.

WHEREAS, THE PLAT OF THE ABOVE DESCRIBED PROPERTY HAS BEEN EXECUTED ACCORDING TO STATUTE, NOW THEREFORE:

BE IT RESOLVED THAT THE COUNTY COMMISSION AND FOR SULLY COUNTY, DOES HEREBY APPROVE THE SAID PLAT OF LOT 1 AND LOT 2 OF SULLY BUTTES SUBSTATION ADDITION IN THE NE1/4 OF SECTION 10, TOWNSHIP 114 NORTH, RANGE 79 WEST OF THE 5TH PRINCIPAL MERIDIAN, SULLY COUNTY, SOUTH DAKOTA.

DATED THIS 12 DAY OF March, 2021.

Bryan J. J.
Bryan J. J.
CHAIRMAN

ATTEST:
SEAL:
AUDITOR:

I, CLIFF Q. RIFE, SULLY COUNTY, DO HEREBY CERTIFY THAT AT AN OFFICIAL MEETING ON March 7, 2021, THE COUNTY COMMISSIONERS DID BY RESOLUTION APPROVE THE PLAT OF LOT 1 AND LOT 2 OF SULLY BUTTES SUBSTATION ADDITION IN THE NE1/4 OF SECTION 10, TOWNSHIP 114 NORTH, RANGE 79 WEST OF THE 5TH PRINCIPAL MERIDIAN, SULLY COUNTY, SOUTH DAKOTA.

DATED THIS 7 DAY OF March, 2021.

Seal of the County Auditor
Sully County, South Dakota
Susan Lamb, Auditor
No Commission

S. Ya. J.
S. Ya. J.
AUDITOR OF SULLY COUNTY

CERTIFICATE OF REGISTER OF DEEDS

FILED FOR RECORD THIS 28th DAY OF December, 2021, AT 12:30 P.M.

AND RECORDED IN BOOK 12 OF PLATS ON PAGE 36
#20210896
#60

John L. L.
John L. L.
REGISTER OF DEEDS OF SULLY COUNTY
200 E. 5TH STREET, SUITE 201
SIOUX FALLS, SD 57105
(605) 339-4157 office
(605) 339-4175 fax
c/c.com
ENGINEERING
PAGE 2 OF 2



April 28, 2022

Eric Gronlund
State of South Dakota
Department of Natural Resources
Water Rights
523 E Capital Ave
Pierre, SD 57501-3182

Dear Mr. Gronlund,

Enclosed please find an Application for a *Permit to Appropriate Water Within the State of South Dakota* from Big Watt Digital SD LLC. We are requesting a permit to drill a water well on a site Big Watt is leasing from Oahe Electric Coop. The site is adjacent to the Sully Buttes Substation, a map is attached for reference. Our contact at Oahe Elect Coop is Jordan Lamb, General Manager (605-962-6243).

Big Watt is planning a computer data center on the five-acre site. The data center computer servers are cooled via a system that uses adiabatic air coolers that use air and some water evaporation during peak hot periods. The well water use will be recycled in the coolers until it is evaporated so no water is disposed of. In addition to the well, the site will use Mid Dakota Rural Water supply for the restrooms in the office and warehouse. A septic system will be installed to handle the wastewater from the restrooms.

We plan to use Tom Rathjen at Stretch's Well Service, Inc. to drill the well (605-266-2128). Tom has provided the details included in our application regarding well depth and the aquifer.

A check for \$1,150 is included for the 300gpm permit. Please let me know what additional information we can provide.

Kind regards,

A handwritten signature in blue ink, appearing to read "David Schuil", is written over the typed name.

David Schuil, CEO
Big Watt Digital SD LLC
david@bigwattdigital.com
+1 619-823-1679



DL219600

ARTICLES OF ORGANIZATION

DOMESTIC LIMITED LIABILITY COMPANY
SDCL 47-34A-203, 212

Secretary of State
500 E. Capitol Ave
Pierre, SD 57501-5070
(605) 773-4845

Filing Fee: \$150

Total Fee: \$150

Please Type or Print Clearly In Ink
Please submit one Original
Make payable to the SECRETARY OF STATE

Article I

The name of the Company: **Big Watt Digital SD LLC**

Article II

The address of the initial designated office in or out of the State of South Dakota where the company conducts its business.

Actual Street Address

**10120 S EASTERN AVE
SUITE 224
HENDERSON, NV 89052**

Mailing Address

**10120 S EASTERN AVE
SUITE 224
HENDERSON, NV 89052**

Article III

SDCL 59-11-6

The South Dakota Registered Agent's Name:

South Dakota law permits the registered agent to be either (a) a noncommercial registered agent or (b) a commercial registered agent.

(b) The South Dakota Commercial Registered Agent's name & CRA#

CRA: **INCorp SERVICES, INC. (0000010)**

Actual Street Address in this State

**400 N MAIN AVE
STE 206
SIOUX FALLS, SD 57104-5979**

Mailing Address in this State

Article IV

The name and address of each organizer

Name

Address

Big Watt Digital LLC

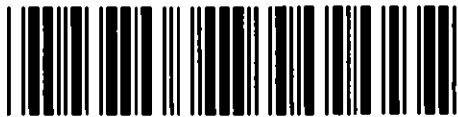
295 Palmas Inn Way, Suite C9, Humacao, PR 00791

Article V

The duration of the company if other than perpetual is: **Perpetual**

If the document is not to be effective upon filing by the Secretary of State, the delayed effective date is: **February 1, 2022**

30207-8971 01/31/2022 4:58PM Rec'd by SD SOS



30207-8972 01/31/2022 4:58PM Rec'd by SD SOS

Article VI

☐ Member-Managed ☒ Manager-Managed

Name

Address

Big Watt Digital LLC

295 Palmas Inn Way, Suite c9, Humacao, PR 00791

Article VII

Beneficial Owners (optional): A beneficial owner is a person who has or in some manner controls an equity security. Please consult an attorney for legal advice if you have any questions concerning this entry. Any question under this heading is considered a request for legal advice and the secretary of state's office is, by statute, not permitted, to provide legal advice.

Signature/Authorization

The Articles of Organization must be executed by the organizers

No person may execute this report knowing it is false in any material respect. Any violation may be subject to a criminal penalty (SDCL 22-39-36).

David Schuil

David Schuil

Operations

01/31/2022

PRINTED NAME

SIGNATURE

TITLE

DATED

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Agriculture and Natural Resources

Date May 9, 2022

RECEIVED OF USGC PR LLC/Novalea Nichele 295 Palmas Inn Way, Ste C9, Humacao, PR 00791

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

Fee for Application for Permit No. <u>8635-3</u> to Appropriate Water, to construct and to put water to beneficial use	\$ <u>950.00</u>
Fee for Application for Permit No. _____ to Appropriate Water for Future use	\$ _____
Fee to retain Future Use Permit No. <u>8635-3</u> after period of seven years.	\$ _____
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. _____	\$ <u>200.00</u>
Fee for Filing Transfer Form _____	\$ _____
Fee for _____	\$ _____
Fee for Issuing New Well Driller's License No. _____	\$ _____
Fee for Renewal of Well Driller's License No. _____	\$ _____
Fee for Issuing Well Pump Installer's License No. _____	\$ _____
Fee for Renewal of Well Pump Installer's License No. _____	\$ _____
(Any Other Work Provided by Law) TOTAL	\$ <u>1150.00</u>

By Eric Gronlund
Chief Engineer
me

Duvall, Ron

From: David Schuil <david@bigwattdigital.com>
Sent: Tuesday, May 24, 2022 1:31 PM
To: Duvall, Ron
Subject: Re: [EXT] Water Permit Application for Big Watt Digital SD LLC
Attachments: Big Watt Digital SD LLC - Well Permit Application 5-24-22.pdf

Ron,
Thank you for your letter requesting clarification of our water well drilling permit application. We completed an in-depth engineering review of our adiabatic cooler design for the entire facility using the local weather data. If we may, attached is a revised application form with adjusted numbers for max flow rate (400 gpm) and max total annual usage (25,000,000 gal). Please let me know if additional data is required or any concerns must be addressed.
Kind regards,

David Schuil
Chief Executive Officer
Big Watt Digital LLC
david@bigwattdigital.com
C: +1 619-823-1679

The information contained in this message is intended only for the confidential use of the persons or entities to whom it is addressed. This message, together with any attachments, is proprietary and confidential, may contain inside information, and may be subject to the attorney-client privilege and/or the attorney work product doctrine. If the reader of this message is not one of the addressees set forth above: (a) the reader has received this message in error and is directed to destroy this message, together with any attachments, and notify the sender and (b) any review, dissemination, use, or distribution of this message or any attachments is prohibited. Thank you.

On Wed, May 11, 2022 at 2:55 PM Duvall, Ron <Ron.Duvall@state.sd.us> wrote:

Mr. Schuil,

As we discussed on the phone concerning the flow rate (gallons per minute) and the annual volume in gallons, we do need both values identified on your application. The flow rate specified on the application should be the maximum gallons per minute rate needed to supply your facility. Since it is a maximum flow rate, the number should not be underestimated but it should also be reasonable in meeting your needs. Regarding the annual volume of 50,000 gallons per year identified on your application, again, this is a maximum annual volume. Be sure your application reflects the maximum annual usage, not an average value. Again, don't underestimate the annual volume, but don't be unreasonably high either.

The application fee submitted is also too high so eventually a \$450.00 refund will be coming your way. If you have any further questions, please let me know.

Thank you,

Ron Duvall

Dept. of Agriculture & Natural Resources
Office of Water, Water Rights Program

605.773.3352

danr.sd.gov



DANR
SOUTH DAKOTA

**Water Rights Program
File Documentation**

NAME OF PERSON OR FILE: David Schuil, CEO Big Watt Digital SD LLC

DATE: May 31, 2022

TELEPHONE: 619-823-1679

RE: Application Water Source and Well Construction

COMMENTS:

Called David to discuss the desired water source for the application and the required well construction. David had spoken with Stretch, Tom Rathjen, of Stretch's Well Service. Stretch had told him the aquifer name, Sundance, and well depth, 2,250 feet, that were put on the application. Furthermore, Stretch had informed David that it would be the "serious" full well construction. I informed David the Water Rights Program calls the "Sundance" aquifer as identified by Stretch the Inyan Kara aquifer. I also informed David the well would need to be full construction to the total depth and that a slim-hole well would not be permissible.



Adam Mathiowetz

Natural Resources Engineer

DANR-Water Rights Program



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 8635-3, Big Watt Digital SD LLC**

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. 8635-3, Big Watt Digital SD LLC, 295 Palmas Inn Way, Ste C9, Humacao PR 00791.

The Chief Engineer is recommending APPROVAL of Application No. 8635-3 because 1) there is reasonable probability that there is unappropriated water available for the applicant's proposed use, 2) the proposed diversion can be developed without unlawful impairment of existing domestic water uses and water rights, 3) the proposed use is a beneficial use and 4) it is in the public interest as it pertains to matters of public interest within the regulatory authority of the Water Management Board with the following qualifications:

1. The well approved under Water Permit No. 8635-3 is located near domestic wells and other wells which may obtain water from the same aquifer. Water withdrawals shall be controlled 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. 8635-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. The Permit holder shall report to the Chief Engineer annually the amount of water withdrawn from the Inyan Kara aquifer.
4. Water Permit No. 8635-3 authorizes a total annual diversion of 76.7 acre feet of water.

See report on application for additional information.

Eric Gronlund, Chief Engineer
June 30, 2022

NOTE: Please note as stated in qualification No. 2 that the well must be constructed in compliance with South Dakota Well Construction Standards, specifically Administrative Rules of South Dakota (ARSD) Chapter 74:02:04:28. The alternative construction of certain Inyan Kara wells for domestic use allowed under ARSD 74:02:04:36 is NOT applicable to the new well to be drilled if this application is approved. Please see "Special Consideration: Adequate Well Required" on page 15 of the report.

Report to the Chief Engineer

On Water Permit Application No. 8635-3

Big Watt Digital SD LLC

June 30, 2022

Water Permit Application No. 8635-3 proposes to appropriate an amount of water not to exceed 76.7 acre-feet annually at a maximum instantaneous diversion rate of 0.89 cubic feet per second (cfs) from one well to be completed into the Inyan Kara aquifer (approximately 2,250 feet deep) located in the NE ¼ NE ¼ of Section 10-T114N-R79W for commercial use to cool computer servers in a computer data center. The site of interest is located in Sully County approximately twelve miles west of Onida, SD.

AQUIFER: Inyan Kara (INKR)

HYDROGEOLOGY:

The Inyan Kara aquifer exists in the saturated portions of the permeable materials that make up the Inyan Kara Group. The Inyan Kara Group is comprised of the Lower Cretaceous aged, Fall River and Lakota Formations (Downey, 1986). The Inyan Kara aquifer is a regional, bedrock aquifer that underlies most of the northern great plains in Montana, North Dakota, South Dakota, and Wyoming and extends up into Canada (Downey, 1986). Generally, the Lakota Formation constitutes approximately the lower two thirds of the Inyan Kara Group, and the Fall River Formation constitutes approximately the upper one third (Gott et al., 1974). The contact of these two formations is a transgressive disconformity of regional extent marking the initial incursion of the (early) Cretaceous Sea (Waage, 1959), which deposited the materials that make up the Fall River Formation (Downey, 1986). The Fall River Formation consists of a “variegated brown, red and gray to purple, calcareous, well-sorted, fine-grained sandstone, siltstone and shale containing mica,” and is estimated to be 100 to 200 feet thick (Martin et al., 2004). The Lakota Formation consists of a “yellow, brown, red-brown, and gray to black claystone, silty pebble conglomerate, and massive to thin-bedded, cross-bedded sandstone,” that can be locally interbedded with fresh-water limestone and bituminous coal beds (Martin et al., 2004). The estimated thickness of the Lakota Formation ranges from 35 to 500 feet (Martin et al., 2004). For the purpose of appropriations, the Water Management Board and the SD DNR-Water Rights Program consider the Inyan Kara Group as one aquifer.

The Inyan Kara aquifer is sometimes locally called the Sundance aquifer (Water Rights, 2022d). However, it should not be confused with the Sundance aquifer as defined by the SD DNR-Water Rights Program, which is an aquifer deposited during the Jurassic Period sandstone that does not extend into Sully County (Water Rights, 2022c and 2022d).

The Inyan Kara Group outcrops in the Black Hills but is otherwise buried in South Dakota (Martin et al., 2004). In South Dakota, the Inyan Kara aquifer is primarily under confined conditions, except where it outcrops in the Black Hills (Water Rights, 2022b and 2022d). Most of the Inyan Kara aquifer is overlain by the Skull Creek Shale, which serves as a relatively

impermeable barrier between the Inyan Kara and Dakota aquifers (Schoon, 1971). Where the Skull Creek Shale is not present, the Inyan Kara aquifer discharges into the Dakota aquifer (Schoon, 1971). Below most of the Inyan Kara aquifer, the Morrison Shale acts as an impermeable barrier between the Inyan Kara aquifer and the underlying aquifers below it (Schoon, 1971).

The proposed diversion point for this application is located in eastern South Dakota in Sully County where the top of the Inyan Kara aquifer varies approximately 1,900 to 2,100 feet below the ground surface within approximately five miles of the site of interest (Water Rights, 2022d). In Sully County, the Inyan Kara aquifer underlies approximately 1,058 square miles, or 677,120 acres (Hedges et al., 1982). A hydrological investigation report has not been completed for Sully County at this time. In neighboring Hughes County, which the proposed diversion point for this application is near, the thickness of the Inyan Kara aquifer averages approximately 130 feet, with a documented maximum thickness of approximately 180 feet (Hamilton, 1986).

No water well completion report was submitted with Water Permit Application No. 8635-3. Water well completion reports on file with the DNR-Water Rights Program for wells completed into the Inyan Kara aquifer within approximately ten miles of the proposed diversion point for this application have saturated aquifer thicknesses ranging from approximately 135 to 365 feet, with the depth to the top of aquifer materials ranging from approximately 1,900 to 2,100 feet below the ground surface, and static water levels at well completion generally flowing at the ground surface (SDGS, 2022; Water Rights, 2022b and 2022d). The Inyan Kara aquifer is expected to be under confined conditions near the proposed diversion point based on the water well and test hole completion reports, and lithologic logs on file for nearby observation wells (SDGS, 2022; Water Rights, 2022b and 2022d).

South Dakota Codified Law (SDCL) 46-2A-9

Pursuant to SDCL 46-2A-9, "A permit to appropriate water may be issued only if there is a reasonable probability that there is unappropriated water available for the applicant's proposed use, that the diversion point can be developed without unlawful impairment of existing domestic water uses and water rights, and that the proposed use is a beneficial use and in the public interest as it pertains to matters of public interest within the regulatory authority of the Water Management Board as defined by SDCL 46-2-9 and 46-2-11." This report will address the availability of unappropriated water and the potential for unlawful impairment of existing domestic water uses and water rights within the Inyan Kara aquifer.

WATER AVAILABILITY:

Water Permit Application No. 8635-3 proposes to appropriate water from the Inyan Kara aquifer. The probability of unappropriated water being available from the aquifer can be evaluated by considering SDCL 46-6-3.1, which requires "No application to appropriate groundwater may be approved if, according to the best information reasonably available, it is probable that the quantity of water withdrawn annually from a groundwater source will exceed the quantity of the average estimated annual recharge of water to the groundwater source. An application may be approved, however, for withdrawals of groundwater from any groundwater formation older than

or stratigraphically lower than the greenhorn formation in excess of the average estimated annual recharge for use by water distribution systems.” The Inyan Kara aquifer is older than and stratigraphically lower than the Greenhorn Formation (Fahrenbach et al., 2010); however, the applicant’s proposed use is not for use in a water distribution system as defined in SDCL 46-1-6 (17). Therefore, the average annual recharge and average annual withdrawal rates to and from the Inyan Kara aquifer must be considered.

HYDROLOGIC BUDGET:

Recharge

Recharge to the Lower Cretaceous aquifer (includes the Inyan Kara aquifer) is from the infiltration of precipitation at the edges of small basins in central Montana, at the western edge of the Power River basin, and at the edge of the Black Hills uplift (Lobmeyer, 1985). Additionally, in south-central North Dakota and across South Dakota, the Lower Cretaceous aquifer appears to be receiving water from underlying bedrock units (Hamilton, 1986; Lobmeyer, 1985); such as, the Madison Limestone, Minnelusa Formation, and Englewood Formation (Gott et al., 1974; Hamilton, 1986). The Lower Cretaceous aged geologic units include the Muddy Sandstone/Newcastle Sandstone, the Skull Creek Shale, the Fall River Formation, and the Lakota Formation (listed youngest to oldest) (Driscoll and Carter, 2001). The Fall River Formation and the Lakota Formation constitute the Inyan Kara Group (Downey, 1986).

Precipitation data for the Black Hills (in South Dakota) from 1950 to 1998 was analyzed to estimate a total recharge yield for the Inyan Kara aquifer. On average during this period, the Inyan Kara outcrop received approximately 17.84 inches of precipitation per year and lost approximately 17.05 inches of precipitation per year to evapotranspiration (Driscoll and Carter, 2001). By subtracting these values, an estimated total recharge yield of 0.79 inches of precipitation per year over the Inyan Kara outcrop in the Black Hills was calculated. A recharge factor of 0.80 was used for the Inyan Kara aquifer because the formation contains more shale layers than the Madison, Minnelusa, and Minnekahta Formations, which are predicted to experience direct runoff and are assumed to have a recharge factor of 1.0 (Driscoll and Carter, 2001). By multiplying the estimated total recharge yield of 0.79 inches per year by a recharge factor of 0.8, it is expected 0.63 inches of precipitation per year contributes to recharge of the Inyan Kara aquifer on the Black Hills outcrop. The remaining 0.16 inches per year are assumed to contribute to runoff. The Inyan Kara outcrop overlies approximately 219,700 acres in the Black Hills and when multiplied by the recharge estimate of 0.63 inches per year, the average annual recharge rate to the Inyan Kara aquifer is approximately 11,600 acre-feet per year (Driscoll and Carter, 2001). This is a conservative estimate that accounts for precipitation losses to evapotranspiration and runoff. Additional recharge is likely occurring due to upward leakage from underlying aquifers, areas other than the Black Hills (in South Dakota) where the Inyan Kara aquifer outcrops, and groundwater inflow from out of state.

Bredehoeft and others (1983) attempted to model flows between the Madison Group, Inyan Kara Group, Dakota/Newcastle Sandstone, and confining shale units; however, the model is based on dated information when newer information is available that could modify the flow analysis

results. The flow model computed by Bredehoeft and others (1983) estimated that approximately 22.7 cfs, or roughly 16,000 acre-feet per year, flows from the Madison Group to the Inyan Kara aquifer, which is currently the only estimate of recharge to the Inyan Kara aquifer from the underlying aquifers available.

Collectively, the estimated average annual recharge to Inyan Kara aquifer is approximately 27,600 acre-feet per year (Bredehoeft et al., 1983; Driscoll and Carter, 2001).

Discharge

Discharge from the Lower Cretaceous aquifer (includes the Inyan Kara aquifer) occurs where streams cross the outcrop areas in Montana and Wyoming, by leakage through overlying sediments in eastern North Dakota and South Dakota, and through well withdrawals for irrigation, non-irrigation, and domestic users (Hamilton, 1986; Water Rights, 2022c, 2022d and 2022f).

Uncontrolled, flowing wells are discharging water from the Inyan Kara aquifer at ground surface, and it is expected water from the aquifer is also being discharged to other aquifers if wells completed into the Inyan Kara aquifer have experienced casing failure. It is currently unknown how much water is being discharged from the Inyan Kara aquifer through uncontrolled, flowing wells. The Water Management Board has previously determined water being discharged through uncontrolled, flowing wells from the Dakota aquifer is not a beneficial use and does not constitute appropriation pursuant to SDCL 46-6-3.1 (Water Rights, 1987). Since discharge from uncontrolled flowing wells is likely to continue until water levels in the aquifer decline to being at or below ground surface, continuing to allow beneficial pumping to occur reduces the amount of water being discharged to waste. Therefore, the Water Management Board has allowed development of the Dakota and Inyan Kara aquifers to continue.

Currently, there are 205 water rights/permits authorized to withdraw water from the Inyan Kara aquifer, plus one application held in abeyance (Water Permit Application No. 2686-2 for Powertech (USA)) requesting 274.2 acre-feet of water annually from the Inyan Kara aquifer (Water Rights, 2022c). Four additional water rights/permits (Nos. 6011-3, 6091-3, 6128-3 and 6257-3) are included in this analysis as they are authorized to withdraw from the Dakota and Inyan Kara aquifers; however, for this analysis these water rights/permits are assumed to withdraw only from the Inyan Kara aquifer (Water Rights, 2022c). Additionally, there is one future use permit (Future Use Permit No. 1780-2, held by the Town of New Underwood) reserving 142 acre-feet of water annually from the Inyan Kara aquifer (Water Rights, 2022c).

The average annual withdrawal rate from the Inyan Kara aquifer by the 209 water rights/permits was estimated by: 1) averaging the annual usage for irrigation permits/rights required to report over the period of record (1982 to 2020 and 2011 to 2020) and by assuming an application rate of 12 inches per permitted/licensed acre for newer irrigation permits and irrigation rights/permits not required to report; 2) calculating the approximate Concentrated Animal Feeding Operations (CAFO) annual usage by multiplying the number of permitted animals by the average daily use for each type of animal permitted; 3) using the average volume for non-irrigation appropriations required to report their usage and withdraw a similar volume each year; 4) assuming the non-

irrigation water rights/permits limited by an annual volume, and not required to report annual usage, will withdraw the entire annual volume every year; and 5) assuming the non-irrigation water rights/permits limited only by a diversion rate, and not required to report annual usage, are estimated to pump at their maximum permitted diversion rate for 60 percent of the time.

There are domestic wells completed into the Inyan Kara aquifer that do not require a water right/permit, so the withdrawal amount for domestic use is unknown (Water Rights, 2022d). Since the introduction of rural water systems, many domestic wells are likely no longer in use or are not being used as primary water sources. Due to their relatively low diversion rates and the availability of rural water, withdrawals from domestic wells are not considered to be a significant portion of the hydrologic budget for the Inyan Kara aquifer.

Eleven municipal or suburban housing development water rights/permits are known by the DANR to be on standby for emergency use because they are obtaining their water from a rural water system or are supplied by a municipality (Table 1) (Drinking Water Program, 2022; Water Rights, 2022c). As such, the average annual water use for these water rights has been estimated to be zero acre-feet per year on Table 5.

Table 1. Inyan Kara municipal or suburban housing development water rights/permits with wells on stand-by (Drinking Water Program, 2022; Water Rights, 2022c)

Permit No.	Status	Name	Use Type	Authorized Diversion Rate (cfs)	Served By:
1360-2	LC	Aladdin Investments Inc	SHD	0.15	Supplied by Rapid City
2224-3	LC	Sunshine Acres Water System	SHD	0.22	Mid Dakota RWS
2279-3	LC	Camelot Land	SHD	0.22	Supplied by City of Pierre
2442-2	LC	Rainbow Water Co Inc	SHD	0.09	Supplied by Rapid City
473-1	LC	Town of Fruitdale	MUN	1	Butte-Meade RWS
595-3	LC	City of Onida	MUN	1.11	Mid Dakota RWS
1198-3	LC	Town of Mound City	MUN	0.17	WEB RWS
1647-2	LC	Town of Quinn	MUN	0.2	West River/Lyman Jones RWS
1712-3	LC	City of Ipswich	MUN	0.19	WEB RWS
2263-2	LC	Town of Belvidere	MUN	0.17	West River/Lyman Jones RWS
6735-3	LC	City of Eureka	MUN	1.48	WEB RWS

LC Licensed Water Right, SHD Suburban Housing Development, MUN Municipal, RWS Rural Water System

There are 17 water rights/permits currently authorized to appropriate water from the Inyan Kara aquifer for irrigation use (Water Rights, 2022c). Generally, irrigation water rights/permits are required to report their annual water usage. Currently, 10 out of the 17 irrigation water rights/permits are required to report their annual water usage. Table 2 lists 7 water rights/permits currently as reporting because Water Permit Nos. 1961-1 and 1973-1 did not submit an irrigation questionnaire summary and Water Permit No. 8455-3 is still within its construction period (Water Rights, 2022a and 2022c). The average annual withdrawal rate for irrigation appropriations for the Inyan Kara aquifer (that have reported) over the period of record (1982-2020) is approximately 80.4 acre-feet per year (Table 2) (Water Rights, 2022a). To reflect the current development of irrigation water rights/permits more accurately, the estimated average annual withdrawal rate for the irrigation appropriations from 2012 to 2021 is approximately 128 acre-feet per year (Table 2) (Water Rights, 2022a).

The eight irrigation water rights/permits that are not required to report or are still within their construction period are assumed to apply twelve inches of water (compared to maximum allowable volume of two acre-feet per year) over the 643 acres permitted/licensed, which results in a withdrawal rate of approximately 643 acre-feet per year (Water Rights, 2022c). Generally, irrigators in South Dakota apply less than one foot of water per acre per year. However, to account for the fluctuation in wet and dry cycles from year to year, the one foot of water per acre per year application rate will be used to somewhat overestimate the annual withdrawal rate for these irrigation water rights/permits. The collective estimated average annual withdrawal rate for the irrigation appropriations from 2012 to 2021 (128 acre-feet/year), plus the estimated average annual withdrawal rate for the irrigation water rights/permits that are not required to report or are still within their five-year construction period (643 acre-feet/year), is approximately 771 acre-feet/year (Table 5) (Water Rights, 2022a and 2022c). However, it is expected irrigation water rights/permits will withdraw less than 771 acre-feet per year as eight of these irrigation water rights/permits have assumed withdrawal rates based on a set volume per permitted/licensed acres rather than actual reported usage.

Table 2. Reported historic irrigation use from the Inyan Kara aquifer (Water Rights, 2022a)

Year	No. of Permits Reporting	Reported Pumpage (ac-ft)
1982	5	2.53
1983	7	33.17
1984	8	4.5
1985	8	224.6
1986	7	4
1987	6	38
1988	6	54.10
1989	8	18.82
1990	8	33.5
1991	9	25.12
1992	9	26
1993	9	36.41
1994	9	30.56
1995	10	37.42
1996	8	19.81
1997	8	6
1998	8	20.75
1999	6	14.18
2000	6	25.27
2001	6	53.23
2002	7	87.83
2003	6	111.90
2004	7	143.48
2005	7	132.51
2006	8	136.04
2007	8	141.86
2008	9	130.51
2009	9	98.93
2010	9	112.57
2011	9	129.79
2012	9	188.76
2013	9	146.48
2014	9	112.25
2015	7	105.82
2016	7	177.81
2017	8	183.55
2018	9	99.92
2019	10	70.61
2020	11	95.46
2021	7	103.33
Min	5	2.53
Max	11	224.6
Avg	7.9	80.4
Avg (2012 to 2021)	9	128

The average annual withdrawal rate for the fourteen Inyan Kara aquifer water rights/permits who operate a CAFO was estimated by multiplying the number of permitted animals by the average daily use for each type of animal permitted (Ag-Info Centre, 2009; Drennon, 2021; Water Rights, 2022c) (Table 3). However, if that estimated withdrawal rate was higher than the annual limit authorized by the water right/permit, the annual volume limit was assumed to be the estimated use for that user. Water Right/Permit Nos. 6011-3, 6091-3, 6128-3 and 6257-3 are authorized to withdraw from the Dakota and Inyan Kara aquifers; however, for this analysis these water rights/permits are assumed to withdraw their full amount from the Inyan Kara aquifer (Water Rights, 2022c). Overall, the average annual withdrawal rate for the Inyan Kara aquifer water rights/permits who operate a CAFO is approximately 1,089 acre-feet per year (Ag-Info Centre, 2009; Drennon, 2021; Water Rights, 2022c) (Tables 3 and 5).

Table 3. Estimated annual water use for the Inyan Kara aquifer water rights/permits who operate CAFO (Ag-Info Centre, 2009; Drennon, 2021; Water Rights, 2022c)

Permit No.	Status	Name	Authorized Diversion Rate (cfs)	County	Annual Limit (acre-feet/year)	Estimated Livestock Needs (acre-feet/year)	Estimated Use (acre-feet/year)
2178-2	LC	Fall River Feed Yard LLC	0.62	FR	448.9	280.2	280.2
4965-3	LC	Dakota Feeding Company LLC	0.33	SU	238.9	168	168
5890-3	LC	Evergreen Colony	0.14	FA	101.4	28	28
6011-3	LC	Plainview Colony Htm	0.22	ED	159.3	29.6	29.6
6091-3	PE	Brentwood Colony	0.1	FA	72.4	34	34
6128-3	LC	Deerfield Htm Brethren	0.27	ED	195.5	44.8	44.8
6257-3	PE	Thunderbird Colony	0.2	FA	144.8	77.4	77.4
6376-3	LC	LDL Cattle Company	0.22	ED	159.3	112.1	112.1
6377-3	LC	LDL Cattle Company	0.27	ED	195.5		
6619-3	PE	PJ Werdell & Sons	0.33	HD	238.9	112.1	112.1
6851-3	LC	Todd Cowan	0.15	HY	108.6	99.5	99.5
7034-3	LC	Vogel & Sautner Farms	0.123	PT	89.1	44.8	44.8
7098-3	LC	Mike & Jessie Fulker	0.04	SU	29.0	53.8	29.0
7209-3	LC	Paul Oberlitrer	0.04	PT	29	61.6	29
LC: Licensed Water Right; PE: Water Permit							
FR: Fall River; PT: Pennington; SU: Sully; FA: Faulk; ED: Edmunds; HY: Hyde; HD: Hand						TOTAL :	1,089

There are 42 non-irrigation water rights/permits required to report their annual water usage from the Inyan Kara aquifer each year. Of those 42 non-irrigation water rights/permits, 22 withdraw a consistent volume from the Inyan Kara aquifer each year. As such, the reported volume of water withdrawn by these users was averaged over the respective period of record for each water right/permit (Water Rights, 2022f) (Table 4). The remaining 20 non-irrigation water rights/permits required to report their annual usage have had less consistent withdrawals over their respective period of record or are still undergoing development of their permit (Water Rights, 2022c). As such, these non-irrigation water rights/permits limited by an annual volume are assumed to withdraw the entire appropriated volume every year and those limited by only by a diversion rate are estimated to pump at their maximum permitted diversion rate for 60 percent of the time (Water Rights, 2022c) (Table 4). Overall, the average annual withdrawal rate for the Inyan Kara non-irrigation water rights/permits that are required to report their annual volume withdrawn is approximately 3,560 acre-feet per year (Tables 4 and 5).

Report on Water Permit Application No. 8635-3

Table 4. Estimated annual water use for the Inyan Kara aquifer water rights/permits who are required to report their annual usage (Water Rights, 2022c and 2022f)

Permit No.	Name	Status	Use Type	Authorized Diversion Rate (cfs)	Priority Date	Annual Volume (acre-feet/year)	Estimated Use (acre-feet/year)	Estimation Method
1645-2	Hermosa Water Users Assoc.	LC	RWS	0.6	08/17/1978		158	Average
1826-1	Golden Valley Water Company LLC	LC	SHD	0.267	09/01/2004		15.9	Average
1837-1	Guy Mann (Prairie Haven)	LC	SHD	0.22	02/28/2005		1.2	Average
1846-1	Dennis or Anna Mae Beckham	LC	SHD	0.1	05/26/2005		2.1	Average
1857-1	Shade Valley Inc	LC	COM	0.33	03/03/2006		0.75	Average
1874-1	Viewfield Rural Water Assoc.	LC	RWS	0.212	01/03/2007		13.3	Average
1898-1	Viewfield Rural Water Assoc.	LC	RWS	0.394	11/14/2007		28.4	Average
1903-1	Castle Rock Group	LC	DOM	0.11	05/19/2009		15.4	Average
1906-1	City of Sturgis	LC	MUN	0.222	08/21/2009		2.6	Average
1958-1	City of Sturgis	LC	MUN	0.088	04/11/2016	8.1		
1920-1	Elk Valley Ranchettes Homeowners Assoc.	LC	SHD	0.1	01/24/2011		7.34	Average
1968-1	Venckamps LLC	PE	SHD	0.11	04/27/2017	29	29	Volume
1983-1	Continental Resources	PE	IND	0.5	07/10/2018	360	360	Volume
1989-1	Luff Exploration Company	PE	IND	0.1	04/09/2019	58.8	58.8	Volume
2165-2	Tightline Lake Estates Homeowners Assoc. Inc.	LC	COM, SHD, REC, DOM	0.07	02/19/1991		8.12	Average
2285A-2	West River - Lyman Jones	LC	RWS	0.56	05/17/1993		450.6	Average
2464-2	West River - Lyman Jones	LC	RWS	0.76	07/26/2011	360		
2465-2	West River - Lyman Jones	LC	RWS	1	07/26/2011	360		
2797-2	West River - Lyman Jones	PE	RWS	1	04/01/2019	455		
2538-2	JKRK Properties LLC - Timberwood Park	PE	SHD	0.244	08/30/2004		13	Average
2543-2	Southern Black Hills Water System	LC	SHD	0.19	09/30/2004		82.54	60% Pumping Rate
2752-2	Southern Black Hills Water System	PE	RWS	0.33	04/25/2016	170		
2752A-2	Southern Black Hills Water System	PE	RWS	0	04/25/2016	0	170	Volume
2754-2	Steve Simunek	LC	COM	0.1	05/31/2016		16.5	Average
2550-2	Town of Hermosa	LC	MUN	0.22	01/25/2005	162	48.8	Average
2596-2	City of Wall	LC	MUN	0.6	07/24/2006	261	145.6	Average
2601-2	Grandview Land LLC	LC	SHD	0.33	09/01/2006	206	206	Volume
2622-2	Owanka Rural Water Assoc.	LC	RWS	0.39	10/09/2007		21.3	Average
2635-2	Fall River Water Users District	LC	SHD	0.1	07/17/2008		3.3	Average
2819-2	Fall River Water Users District	PE	RWS	0.09	06/01/2021	24.6	24.6	Volume
2778-2	Western Construction Inc	PE	COM	0.17	11/13/2017	31	31	Volume
2832-2	Reel Simple LLC	PE	WDS	0.044	11/08/2021	10	10	Volume
8197-3	Aberdeen Farm LLC	PE	COM	0.16	01/29/2016	72.1	72.1	Volume
8299-3	Aberdeen Energy LLC	PE	IND	1.33	09/28/2018	968	968	Volume
8420-3	Vogel Farms PTR	PE	GEO	0.12	01/28/2020	88.7	88.7	Volume
8607-3	Spring Creek Lutheran Brethren Inc	PE	COM, DOM	0.22	02/15/2022	100	100	Volume
1996-1	Dylan Gingras	PE	SHD	0.133	04/14/2020	48	48	Volume
1999-1	Rafter Properties LLC	PE	WDS	0.17	07/23/2020	74	74	Volume
2841-2	Hwy 79 LLC	PE	COM, WDS	0.89	02/18/2022	217.9	217.9	Volume
1855-1	Wink Cattle Co	LC	COM, DOM	0.087	01/26/2006		38	
1975-1	Wink Cattle Co	PE	COM, DOM	0.069	02/20/2018		30	
1975A-1	Wink Cattle Co	PE	COM, DOM	0	12/03/2018			60% Pumping Rate
						TOTAL:	3,560	

LC: Licensed Water Right; PE: Water Permit; RWS: Rural Water System; SHD: Suburban Housing Development; DOM: Domestic; MUN: Municipal; COM: Commercial; IND: Industrial; GEO: Geothermal; WDS: Water Distribution System

Table 5 summarizes the 205 water rights/permits (plus the four permits authorized to withdraw from both the Inyan Kara and Dakota aquifers, Future Use Permit No. 1780-2, and Water Permit Application No. 2686-2) authorized to withdraw water from the Inyan Kara aquifer and the estimated average annual withdrawal rate.

Table 5. Estimated annual use for the water rights/permits currently authorized to withdraw water from the Inyan Kara aquifer

Inyan Kara Aquifer Water Rights/Permits	No. of Permits	Estimated Withdrawal Rate (acre-feet/year)
Irrigation (required to report) (average 2011 to 2020)	10	128
Irrigation (not required to report)	7	643
CAFO (not required to report) (diversion rate limited)	14	1,089
Standby/Hooked up to RWS (MUN/SHD)	11	0
Non-Irrigation (required to report)	42	3,560
Non-Irrigation (not required to report - volume limited)	3	281
Non-Irrigation (not required to report - diversion rate limited)	122	8,763
Total Number of Permits :	209	
Future Use Permit No. 1780-2		142
Water Permit Application No. 2686-2 - Abeyance		274.2
Water Permit Application No. 8635-3 (<i>if approved</i>)		76.7
Total Withdrawal Rate (acre-feet/year):		14,957

Hydrologic Budget Summary

The estimated average annual recharge to Inyan Kara aquifer is approximately 27,600 acre-feet per year (Bredhoeft et al., 1983; Driscoll and Carter, 2001).

The estimated average annual withdrawal rate from the Inyan Kara aquifer is approximately 14,957 acre-feet per year (including Water Permit Application No. 8635-3, if approved) (Table 5). Based on the hydrologic budget, there is a reasonable probability unappropriated water is available from the Inyan Kara aquifer for the proposed appropriation.

OBSERVATION WELL DATA:

Administrative Rule of South Dakota (ARSD) 74:02:05:07 requires that the Water Management Board shall rely upon the record of observation well measurements in addition to other data to determine that the quantity of water withdrawn annually from the aquifer does not exceed the estimated average annual recharge of the aquifer.

Observation wells provide data on how the aquifer reacts to regional climatic conditions and local pumping. The DNR-Water Rights Program monitors nine observation wells completed into the Inyan Kara aquifer (Water Rights, 2022b); however, observation well MD-99A has had a history of leakage and maintenance issues and has been temporarily plugged to prevent further outflow (Water Rights, 2022b). These observation wells provide data on how the aquifer reacts to regional climatic conditions and local pumping. The observation wells used for this analysis and their respective distances from the proposed diversion point are ED-85B (approximately 93 miles northeast), PE-95E (approximately 148 miles southwest), and PE-95B (approximately 149 miles southwest) (Water Rights, 2022b and 2022c). The hydrographs for these observation wells are displayed in Figures 1 to 3 (Water Rights, 2022b). The data points utilized to construct the hydrographs are measurements of the static water level in the observation wells from the top of the well casing. It is worth noting the hydrograph titles display DENR Water Rights Observation Well on the hydrographs when the titles should display DNR Water Rights Observation Well on the hydrographs.

Between 2009 to 2013, observation well ED-85B displays significant fluctuations in water levels that have not happened historically in other Inyan Kara observation wells, which was likely caused by withdrawals from cancelled Water Right No. 6953-3, held by Aberdeen Energy, L.L.C., authorizing a maximum instantaneous diversion rate of 1.33 cfs from one well completed into the Inyan Kara aquifer, located approximately 2.5 miles west of observation well ED-85B (Water Rights, 2022b and 2022c). Following the cessation of withdrawals previously authorized by Water Right No. 6953-3, the water levels in observation well ED-85B have equilibrated to a similar trend (Water Rights, 2022b and 2022c).

Observation well PE-95E is approximately 1.2 miles from the closest Inyan Kara outcrop, which is a primary recharge area for the Inyan Kara aquifer. As such, the hydrograph for PE-95E is more reactive to the magnitude of recharge occurring on the outcrop than areas downgradient from the outcrop, resulting in observation wells near the outcrop showing greater fluctuations to seasonal recharge and withdrawals than observation wells further away. Additionally, a decline in water levels (as seen on the hydrograph for observation well PE-95E) in a confined aquifer does not necessarily indicate a significant decrease in water stored in the aquifer, as water levels above the top of the aquifer materials are representative of the hydraulic head (water pressure) inside the aquifer. As development of the Dakota aquifer increased, the decline in hydraulic head in the aquifer created a pressure variance between the Dakota and Inyan Kara aquifers, which causes water to flow from the Inyan Kara aquifer to the Dakota aquifer. If there is a difference in hydraulic head between the two aquifers, flow will continue between the two. In the future, it is possible flows between the Dakota and Inyan Kara aquifers will reach a state of equilibrium. The Water Management Board has previously determined that it is better to allow the Dakota aquifer

water to be put to beneficial use than it is to allow it to flow to waste (Water Rights, 1987). That conclusion is expected to apply to the Inyan Kara aquifer as well.

The water level readings on the hydrograph for observation well PE-95B display stable to increasing water levels over its period of record. The effects of climatic conditions are clear on the hydrographs because water levels are rising during wetter periods (early spring snowmelt and precipitation) and slowly declining to a stable water level during drier periods. The hydrographs show the aquifer consistently recovers seasonally is finished and the stable to rising water levels in observation wells shows the aquifer is not being stressed by pumping. Aquifer recovery indicates that climatic conditions and therefore, recharge to and natural discharge from the aquifer govern changes in the water level of the Inyan Kara aquifer rather than pumping. That means recharge to and natural discharge from the aquifer greatly exceeds withdrawals. By recognizing that both recharge to and natural discharge from an aquifer can be captured for pumping, the observation well hydrographs demonstrate there is a reasonable probability unappropriated water is available for the proposed appropriation.

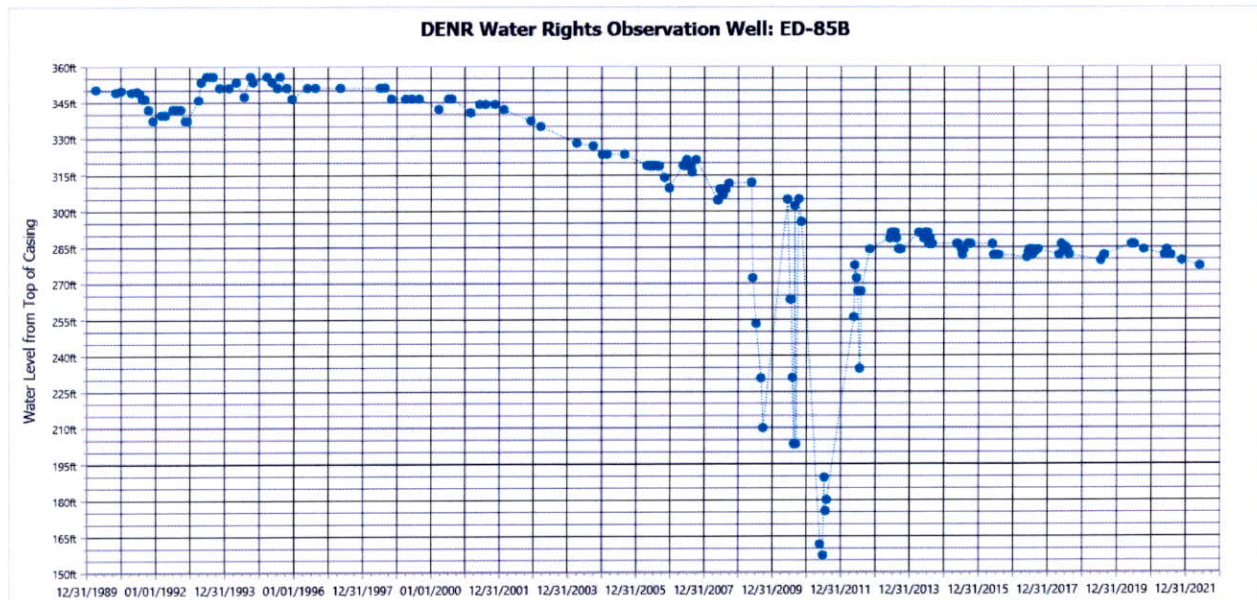


Figure 1. Hydrograph for observation well ED-85B (Water Rights, 2022b)

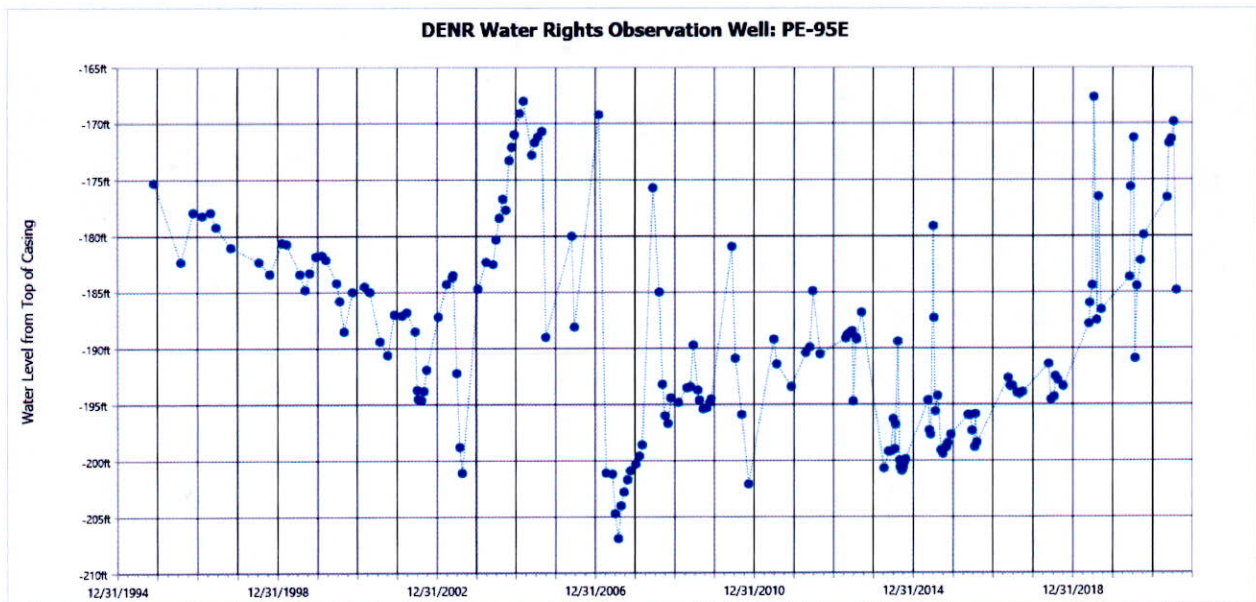


Figure 2. Hydrograph for observation well PE-95E (Water Rights, 2022b)

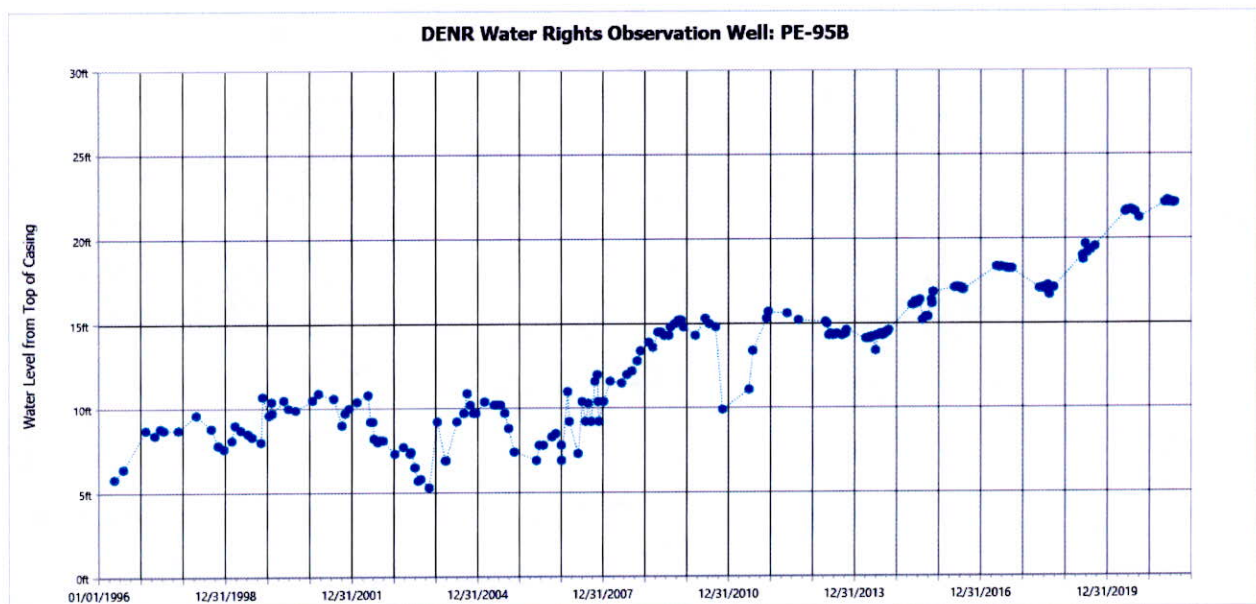


Figure 3. Hydrograph for observation well PE-95B (Water Rights, 2022b)

POTENTIAL FOR UNLAWFUL IMPAIRMENT OF EXISTING WATER RIGHTS:

Currently, there are 209 water rights/permits authorized to appropriate water from the Inyan Kara aquifer, including Water Right/Permit Nos. 6011-3, 6091-3, 6128-3 and 6257-3 as they are authorized to withdraw from the Dakota and Inyan Kara aquifers (Water Rights, 2022c). The closest water right/permit to the proposed diversion point is Water Right No. 5879-3, which is held by Danbred Production Partnership. The diversion point for Water Right No. 5879-3 is located approximately 8.2 miles east of the proposed diversion point for this application (Water Rights, 2022c).

There are domestic wells on file with the DNR-Water Rights Program that are completed into the Inyan Kara aquifer, with the closest domestic well on file (not held by the applicant) approximately 1.8 miles southwest of the proposed diversion point (Water Rights, 2022d). There could potentially be other domestic wells completed into the Inyan Kara aquifer near the proposed diversion point that are not on file with the DNR-Water Rights Program.

The Inyan Kara aquifer is expected to be under confined conditions at the applicant's proposed diversion point based on the nearby well and test hole completion reports and the lithologic logs on file for nearby observation wells (SDGS, 2022; Water Rights, 2022b). Since the Inyan Kara aquifer is expected to be confined at the proposed diversion point, drawdown can extend some distance but the exact drawdown behavior of a well cannot be known without an aquifer performance test. However, observation wells completed into the Inyan Kara aquifer near permitted/licensed diversion points can provide some insight on how the aquifer responds to pumping.

Observation well PE-95E (approximately 148 miles southwest of proposed diversion point) has three high-yield (assumed to be a well with an authorized diversion rate greater than 0.2 cfs) wells within approximately three miles of it (Water Rights, 2022b and 2022c). The drawdown from pumping can be seen on the hydrograph for PE-95E, along with the aquifer returning to pre-pumping conditions seasonally (Figure 2) (Water Rights, 2022b). The lithologic log on file for PE-95E noted the well was drilled approximately 1,450 feet below the ground surface with the top of aquifer materials approximately 1,080 feet below grade (SDGS, 2022). The lowest recorded static water level on the hydrograph is approximately 207 feet below grade, which indicates there was still approximately 875 feet of artesian head pressure in PE-95E even during a drier period when wells are expected to be pumping more water (Water Rights, 2022b).

In neighboring Hughes County, which the proposed diversion point for this application is near, the thickness of the Inyan Kara aquifer averages approximately 130 feet, with a documented maximum thickness of approximately 180 feet (Hamilton, 1986). Within approximately ten miles of the applicant's proposed diversion point, the Inyan Kara aquifer has a saturated aquifer thicknesses ranging from approximately 135 to 365 feet (Water Rights, 2022d). This would generally allow for enough thickness for a pump to be placed 20 feet below the top of the aquifer, which is required for the well to be considered adequate under ARSD 74:02:04:20(6). Any drawdown as a result of the diversion for this application is not expected to unlawfully impair nearby adequate wells. In Hughes and Sully Counties, there are no substantiated

complaints on file with the DNR-Water Rights Program regarding well interference for adequate wells completed into the Inyan Kara aquifer (Water Rights, 2022e).

The Water Management Board recognizes that putting water to beneficial use requires a certain amount of drawdown to occur. The Board has developed rules to allow water to be placed to maximum beneficial use without the necessity of maintaining artesian head pressure for domestic use. The Water Management Board defined an “adversely impacted domestic well” in ARSD 74:02:04:20(7) as:

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

The Water Management Board considered the delivery of water by artesian head pressure versus maximum beneficial use during the issuance of Water Right No. 2313-2 for Coca-Cola Bottling Company of the Black Hills. The Board adopted the Findings of Facts and Conclusions of Law that noted the reservation of artesian head pressure for delivery of water would be inconsistent with SDCL 46-1-4 which states, “general welfare requires that the water resources of the state be put to beneficial use to the fullest extent of which they are capable...” (Water Rights, 1995). Furthermore, the Water Management Board found if increased cost or decreased production as a result of impacts on artesian head pressure by legitimate users is to be considered as an unlawful impairment, it would also conflict with SDCL 46-1-4 (Water Rights, 1995). With that in mind, some existing well owners may need to install or lower pumps depending on the specific characteristics of the Inyan Kara aquifer at their location. However, when considering the statutes (SDCL 46-1-4 and 46-6-6.1) and ARSD 74:02:04:20 (6) and (7), the estimated saturated thickness of the Inyan Kara aquifer near the applicant’s proposed diversion point, the artesian head pressure in observation wells near permitted/licensed diversion points, and the lack of well interference complaints, any drawdown created from the proposed diversion is not expected to cause an unlawful impairment on existing water rights/permits or domestic users with adequate wells. Therefore, there is a reasonable probability that any interference from the proposed appropriation will not impose unlawful impairments on existing users with adequate wells.

Special Considerations: Adequate Well Required

ARSD 74:02:04:36 provides alternative well construction standards for certain Inyan Kara aquifer wells that will be used for “private and reasonable domestic use and for noncommercial livestock watering.” Wells constructed according to those standards do not meet the ARSD 74:02:04:20(6) definition of an adequate well because a pump cannot be placed in the formation using that construction method. This application is not for private reasonable domestic use or for noncommercial livestock watering, so the applicant must have an adequate well drilled to develop this application and may not use the alternative well construction method previously mentioned.

CONCLUSIONS:

1. Water Permit Application No. 8635-3 proposes to appropriate an amount of water not to exceed 76.7 acre-feet annually at a maximum instantaneous diversion rate of 0.89 cfs from one well to be completed into the Inyan Kara aquifer (approximately 2,250 feet deep) for commercial use to cool computer servers in a computer data center. The site of interest is located in Sully County approximately twelve miles west of Onida, SD.
2. Based on the hydrologic budget and observation well data, there is a reasonable probability that unappropriated water is available from the Inyan Kara aquifer to supply the proposed appropriation.
3. There is a reasonable probability that the proposed diversion by Water Permit Application No. 8635-3 will not unlawfully impair adequate wells for existing water rights/permits and domestic users.
4. The applicant must have an adequate well drilled to develop this application and may not use the alternative well construction method mentioned in ARSD 74:02:04:36.



Nakaila Steen
Natural Resources Engineer II
SD DANR - Water Rights Program

Reviewed by:



Adam Mathiowetz, PE
Natural Resources Engineer IV
SD DANR - Water Rights Program

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Water Rights, 2022f. "2003-2020 Non-Irrigation Yearly Reports", SD DANR-Water Rights Program, Joe Foss Building, Pierre, SD.

Schlaak, Karen

From: Schlaak, Karen
Sent: Tuesday, July 5, 2022 11:49 AM
To: david@bigwattdigital.com
Subject: Water Permit Application No. 8635-3
Attachments: 3649.pdf

Attached is a copy of the report, chief engineer recommendation and information regarding the public notice for your water permit application. As stated in the letter, please contact the paper(s) as soon as possible to authorize publication and arrange for payment. This information is being mailed to you today.

Karen.Schiaak
DANR - Water Rights Program
(605) 773-3352
Website: <https://danr.sd.gov>



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AFFIDAVIT OF PUBLICATION

AUG 01 2022

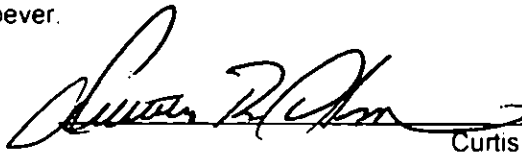
STATE OF SOUTH DAKOTA
COUNTY OF SULLY

OFFICE OF
) WATER
)

Curtis R. Olson of said County and State, being first duly sworn on his oath, says that the **ONIDA WATCHMAN** is a weekly newspaper of general circulation, published in the English language in the City of Onida, in said County and State, by said Curtis R. Olson, and has been admitted to the United States mail under the second class mailing privilege at all times hereinafter mentioned, and that all of said times has had more than 200 bona fide paid subscribers; that I, the undersigned, am the publisher of said newspaper, in charge of the legal/display advertising department thereof, and have personal knowledge of all the facts stated in the affidavit, and that the advertisement headed:

**NOTICE OF APPLICATION NO. 8635-3 TO
APPROPRIATE WATER**

A printed copy of which is hereto attached, was printed and published in said newspaper for **ONE** successive issues, the first publication made **2022** the **14th** day of **JULY**, and the last publication on **2022** the -- day of --, and that **\$41.70** being the full amount of the fee for publication of the annexed notice insured solely to the benefit of the publisher of said newspaper; that no arrangements or understanding for a revision thereof has been made with any person, and that no part thereof has been agreed to be paid to any other person whatsoever.

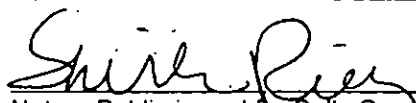

Curtis R. Olson

Subscribed and Sworn to me this

27th Day of July, 2022

(SEAL)

My commission expires February 26, 2026


Notary Public in and for Sully County, South Dakota

**NOTICE OF
APPLICATION
NO. 8635-3 TO
APPROPRIATE
WATER**

Notice is given that Big Watt Digital SD LLC, c/o David Schuil, 295 Palmas Inn Way, Ste C9, Humacao PR 00791, has filed an application for a water permit to appropriate an amount not exceeding 76.7 acre-feet of water annually at a maximum pump rate of 0.89 cubic feet of water per second from one well to be completed into the Inyan Kara Aquifer (approximately 2,250 feet deep) located in the NE 1/4 NE 1/4 Section 10-T114N-R79W for commercial use to cool computer servers in a computer data center. This site is located approximately 12 miles west of Onida SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8635-3 with qualifications because 1) unappropriated water is available, 2) existing domestic water uses and water rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest as it pertains to matters within the regulatory authority of the Water Management Board. The Chief Engineer's recommendation with qualifications, the application, and staff report are available at <https://danr.sd.gov/public> or contact Ron Duvall for this information, or other information, at the Water Rights Program address provided below.

Any person interested in opposing this application or recommendation shall allege that the application, upon approval, will cause injury to the person that is unique from any injury suffered by the public in general. The injury must concern a matter either within the regulatory authority found in SDCL 46-2A-9 for approval or denial of the application, or other matter concerning the application within the regulatory authority of the board to act upon as defined by SDCL 46-2-9 and 46-2-11, or both. Any person meeting the petitioner requirements and wishing to be a party of record in a contested case hearing shall file a written petition to oppose the application with

BOTH the applicant and Chief Engineer. A petition opposing the application shall be filed on a form provided by the Chief Engineer. The petition form is available online at <https://danr.sd.gov/public> or by contacting the Chief Engineer. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501" or call (605) 773-3352. The applicant's mailing address is given above. If contesting the Chief Engineer's recommendation, the applicant shall also file a petition. A petition filed by either an interested person or the applicant must be filed by July 25, 2022.

The petition shall include a statement describing the unique injury upon approval of the application on the petitioner, the petitioner's reasons for opposing the application, and the name and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

Any interested person may file a comment on the application with the Chief Engineer. The comment shall be filed on a form provided by the Chief Engineer and is available online at <https://danr.sd.gov/public> or by calling (605) 773-3352 or writing the Chief Engineer at the address provided above. Filing a comment does not make the commenter a party of record or a participant in any hearing that may be held. Any comment must be filed by July 25, 2022.

If the applicant does not contest the recommendation of the Chief Engineer and no petition to oppose the application is received, the Chief Engineer shall act on the application pursuant to the recommendation with no hearing held before the Water Management Board. 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.

Published once at the total approximate cost of \$41.70 and may be viewed for free of charge at www.sdpublicnotices.com

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Aberdeen News
Watertown Public Opinion

PO Box 630567 Cincinnati, OH 45263-0567

PROOF OF PUBLICATION

Sd Dept Of Environment
Sd Dept Of Environment
WATER RIGHTS PROGRAM
523 E. CAPITOL
Pierre SD 57501

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JUL 18 2022

OFFICE OF
WATER

STATE OF SOUTH DAKOTA, COUNTY OF BROWN

The AMERICAN NEWS is a daily newspaper of general circulation, printed and published in Aberdeen, Brown County, South Dakota, and has been such a newspaper during the times hereinafter mentioned; and personal knowledge of the facts herein state that the notice hereto annexed was Published in said newspapers in the issue dated.

07/14/2022

That said newspaper is a legal newspaper published five days or more each week; with a bona fide circulation of more than two hundred copies daily; published in the English language within the said county of Brown for more than one year prior to the first publication of said notice; and printed in whole in an office maintained at the place of publication of said newspaper.
Sworn to and subscribed before on 07/14/2022

Legal Clerk

Notary, State of WI, County of Brown

My commission expires

Publication Cost: \$48.40

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Customer No: 561450

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Please do not use this form for payment remittance

SARAH BERTEUSEN
Notary Public
State of Wisconsin

**NOTICE OF
APPLICATION NO. 8635-3
to Appropriate Water**

Notice is given that Big Watt Digital SD LLC, c/o David Schuil, 295 Palmas Inn Way, Ste C9, Humacao PR 00791 has filed an application for a water permit to appropriate an amount not exceeding 76.7 acre-feet of water annually at a maximum pump rate of 0.89 cubic feet of water per second from one well to be completed into the Inyan Kara Aquifer (approximately 2,250 feet deep) located in the NE 1/4 NE 1/4 Section 10-T114N-R79W for commercial use to cool computer servers in a computer data center. This site is located approximately 12 miles west of Onida SD.

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<https://danr.sd.gov/public> or contact Ron Duvall for this information, or other information, at the Water Rights Program address provided below.

Any person interested in opposing this application or recommendation shall allege that the application, upon approval, will cause injury to the person that is unique from any injury suffered by the public in general. The injury must concern a matter either within the regulatory authority found in SDCL 46-2A-9 for approval or denial of the application, or other matter concerning the application within the regulatory authority of the board to act upon as defined by SDCL 46-2-9 and 46-2-11, or both. Any person meeting the petitioner requirements and wishing to be a party of record in a contested case hearing shall file a written petition to oppose the application with BOTH the applicant and Chief Engineer. A petition opposing the application shall be filed on a form provided by the Chief Engineer. The petition form is available online at <https://danr.sd.gov/public> or by contacting the Chief Engineer. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501" or call (605) 773-3352. The applicant's mailing address is given above. If contesting the Chief Engineer's recommendation, the applicant shall also file a petition. A petition filed by either an interested person

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**OFFICE OF
WATER**

or the applicant must be filed by July 25, 2022.

The petition shall include a statement describing the unique injury upon approval of the application on the petitioner, the petitioner's reasons for opposing the application, and the name and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

Any interested person may file a comment on the application with the Chief Engineer. The comment shall be filed on a form provided by the Chief Engineer and is available online

at <https://danr.sd.gov/public> or by calling (605) 773-3352 or writing the Chief Engineer at the address provided above. Filing a comment does not make the commenter a party of record or a participant in any hearing that may be held. Any comment must be filed by July 25, 2022.

If the applicant does not contest the recommendation of the Chief Engineer and no petition to oppose the application is received, the Chief Engineer shall act on the application pursuant to the recommendation with no hearing held before the Water Management Board. 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.

Published once at the total approximate cost of \$48.40
July 14, 2022

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Schlaak, Karen

From: Schlaak, Karen
Sent: Tuesday, July 5, 2022 9:16 AM
To: Aberdeen News Legals (aan-legals@aberneennews.com)
Subject: 8635-3, Big Watt Digital SD LLC
Attachments: 8635-3public.short_final.docx; FORM8.FRM.doc

Attached is a notice to be published on July 14, 2022.

Big Watt Digital SD LLC, c/o David Schuil, 295 Palmas Inn Way, Ste C9, Humacao PR 00791 (619-823-1679) has been notified to contact you to authorize publication and arrange for payment.

Please send the affidavit or return the attached Proof of Publication form ASAP to the Water Rights Program, 523 E Capitol, Pierre SD 57501.

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

Karen Schlaak

DANR - Water Rights Program
(605) 773-3352
Website: <https://danr.sd.gov>



Schlaak, Karen

From: Schlaak, Karen
Sent: Tuesday, July 5, 2022 9:15 AM
To: Onida Watchman (watchman@venturecomm.net)
Subject: 8635-3, Big Watt Digital SD LLC
Attachments: 8635-3public.short_final.docx; FORM8.FRM.doc

Attached is a notice to be published on July 14, 2022

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

Karen Schlaak
DANR - Water Rights Program
(605) 773-3352
Website: <https://danr.sd.gov>





**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

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

July 5, 2022

Big Watt Digital SD LLC
c/o David Schuil
295 Palmas Inn Way, Ste C9
Humacao PR 00791

Dear Mr. Schuil:

Water Permit Application No. 8635-3 for commercial use have been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Onida Watchman printed at Onida SD (Ph # 605 258-2604) and the American News printed at Aberdeen SD (Ph # 605 225-4100). You will need to contact the newspapers 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 newspapers to authorize publication of your Notice and to arrange for payment. Early contact with the papers can eliminate delays. Upon receiving authorization from you, the publishers have been instructed to publish your notice. The newspapers have 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,

Karen Schlaak

Karen Schlaak
Water Rights Program
(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.

NOTICE OF APPLICATION NO. 8635-3 to Appropriate Water

Notice is given that Big Watt Digital SD LLC, c/o David Schuil, 295 Palmas Inn Way, Ste C9, Humacao PR 00791 has filed an application for a water permit to appropriate an amount not exceeding 76.7 acre-feet of water annually at a maximum pump rate of 0.89 cubic feet of water per second from one well to be completed into the Inyan Kara Aquifer (approximately 2,250 feet deep) located in the NE 1/4 NE 1/4 Section 10-T114N-R79W for commercial use to cool computer servers in a computer data center. This site is located approximately 12 miles west of Onida SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8635-3 with qualifications because 1) unappropriated water is available, 2) existing domestic water uses and water rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest as it pertains to matters within the regulatory authority of the Water Management Board. The Chief Engineer's recommendation with qualifications, the application, and staff report are available at <https://danr.sd.gov/public> or contact Ron Duvall for this information, or other information, at the Water Rights Program address provided below.

Any person interested in opposing this application or recommendation shall allege that the application, upon approval, will cause injury to the person that is unique from any injury suffered by the public in general. The injury must concern a matter either within the regulatory authority found in SDCL 46-2A-9 for approval or denial of the application, or other matter concerning the application within the regulatory authority of the board to act upon as defined by SDCL 46-2-9 and 46-2-11, or both. Any person meeting the petitioner requirements and wishing to be a party of record in a contested case hearing shall file a written petition to oppose the application with BOTH the applicant and Chief Engineer. A petition opposing the application shall be filed on a form provided by the Chief Engineer. The petition form is available online at <https://danr.sd.gov/public> or by contacting the Chief Engineer. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501" or call (605) 773-3352. The applicant's mailing address is given above. If contesting the Chief Engineer's recommendation, the applicant shall also file a petition. A petition filed by either an interested person or the applicant must be filed by July 25, 2022.

The petition shall include a statement describing the unique injury upon approval of the application on the petitioner, the petitioner's reasons for opposing the application, and the name and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

Any interested person may file a comment on the application with the Chief Engineer. The comment shall be filed on a form provided by the Chief Engineer and is available online at <https://danr.sd.gov/public> or by calling (605) 773-3352 or writing the Chief Engineer at the address provided above. Filing a comment does not make the commenter a party of record or a participant in any hearing that may be held. Any comment must be filed by July 25, 2022.

If the applicant does not contest the recommendation of the Chief Engineer and no petition to oppose the application is received, the Chief Engineer shall act on the application pursuant to the recommendation with no hearing held before the Water Management Board. 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.

Published once at the total approximate cost of_

August 9, 2022

PAYMENT REQUEST FORM

PAYEE: Big Watt Digital SD LLC
David Schuil
295 Palmas Inn Way, Ste, C9
Humacao PR 00791

FROM: DANR Water Rights Program
523 E. Capitol Ave
Pierre, SD 57501-3181

DESCRIPTION OF SERVICE, PRODUCE OR TRANSFER

Over Payment of Water Permit Application

AMOUNT: \$450.00

FUNDING SOURCE: WR Fees

GENERAL:

FEDERAL:

OTHER:

COMMENTS:

AUTHORIZATION: *Eve Hummel 8/10/2022*

I declare and affirm under the penalties of perjury that this claim is in all things, true and correct.
I further agree to comply with the provisions of the Civil Rights Act of 1964 and regulations issued thereunder relating to nondiscrimination in federal assisted programs.



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

AUG 10 2022

Big Watt Digital SD LLC
David Schuil
295 Palmas Inn Way, Ste, C9
Humacao PR 00791

Dear Mr. Schuil:

Enclosed is Water Permit No. 8635-3 authorizing construction of the water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

An application filing fee of \$1,150.00 was submitted with the application. The correct fee for this permit is \$700.00. \$450.00 will be refunded to you. The refund check should be received within the next couple of weeks.

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,

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

enclosures

Schlaak, Karen

From: Schlaak, Karen
Sent: Wednesday, August 10, 2022 8:12 AM
To: david@bigwattdigital.com
Subject: Water Permit No. 8635-3
Attachments: 3854.pdf

David,
Attached is a copy of Water Permit No. 8635-3, Big Watt Digital SD LLC. Paper copy is being mailed today.

Karen Schlaak
DANR - Water Rights Program
(605) 773-3352
Website: <https://danr.sd.gov>



8635-3

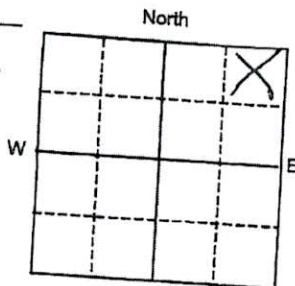
SOUTH DAKOTA WATER WELL COMPLETION REPORT

SD EForm - 1621LD V1

11-02

Location NE 1/4 NE 1/4 Sec 10 Twp 114N Rg 74WCounty Sully

Please mark well location with an "X"



Well Completion Date

12-1-22Distance to nearest potential pollution source (septic tank, abandoned well, feed lot, etc.):
NONE ft. from _____ (Identify source)

PROPOSED USE:

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

METHOD OF DRILLING:

Mud Rotary

CASING DATA:

If other describe ☒ Steel ☐ Plastic ☐ Other

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
<u>5.440</u> LB/FT	<u>8</u> IN	<u>0</u> FT	<u>80</u> FT	<u>11 1/2</u> IN
<u>5.440</u> LB/FT	<u>4</u> IN	<u>0</u> FT	<u>2200</u> FT	<u>6 1/2</u> IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
<u>Portland</u>	<u>200</u>	<u>15</u> Lb/gal	<u>0</u> FT	<u>2200</u> FT

Describe grouting procedure

Pumped Through 4" Pipe

SCREEN:

☒ Perforated pipe ☐ Manufactured
 Diameter 4" Inches Length 50 Feet
Slot Size _____ Set From 2040 Feet to 2200 FeetOther information Gun Perforated 50'

WAS A PACKER OR SEAL USED?

☐ Yes ☐ NoIf so, what material? CementDescribe packer(s) and location 0-2200'

DISINFECTION:

Was well disinfected upon completion?

☒ Yes, How? Chlorine☐ No, Why Not? _____

Lab to which water quality sample sent for analysis _____

 Well Owner: Big Watt Digital LLC
 Business Name: 295 Palms Ean Way
 Address: Palmaria Plaza Suite 9
 City, State, Zip: Humphreys AR 72091

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
<u>Top Soil</u>	<u>0</u>	<u>5</u>
<u>Yellow Clay</u>	<u>5</u>	<u>30</u>
<u>Gravel</u>	<u>30</u>	<u>35</u>
<u>Shale</u>	<u>35</u>	<u>780</u>
<u>Chalk</u>	<u>780</u>	<u>800</u>
<u>Shale</u>	<u>800</u>	<u>1200</u>
<u>Concretion</u>	<u>1200</u>	<u>1220</u>
<u>Shale</u>	<u>1220</u>	<u>1560</u>
<u>Dakota</u>	<u>1560</u>	<u>1700</u>

STATIC WATER LEVEL

 If flowing: closed in pressure _____ FEET
 GPM flow 200 through _____ PSI
 Controlled by ☒ Valve ☐ Reducers ☐ Other _____ Inch pipe
 Reduced flow rate _____ GPM
 Can well be completely shut in? yes

WELL TEST DATA:

☐ Pumped Describe:
☐ Bailed
☐ Other

Pumping Level Below Land Surface

 _____ Ft. After _____ Hrs. pumped _____ GPM
 _____ Ft. After _____ Hrs. pumped _____ GPM
 If pump installed, pump rate: _____ GPM

REMARKS

Goodwell Inc. Lakota 1700-2040
Offette WY. Sundance 2040-2200
This well was drilled under license # 722 and this report is true and accurate.Drilling firm: Stretch's Well Service Inc.

Signature of License Representative:

Tom Stetson

Signature of Well Owner or Equitable Property Holder:

David Selat, CEODate: 12/12/2022

RECEIVED

DEC 12 2022

OFFICE OF
WATER