

WATER PERMIT NO. 2020-1

Name of Applicant: Bear Butte Valley Water Inc.

Address: PO Box 351, Sturgis SD 57785

Phone: 605 206-0703

Amount of Water Claimed: 1.4 add'l cfs

Total Acres: NA

Source of Water Supply: groundwater

Water to be used for: rural water system use

County: Meade

Type of Waste Disposal System:

Location: approximately 3 miles east of Sturgis

PRIORITY

Date Received: 5-26-22

Application/License Fee: \$ 950

Corrected Application Received:

Period of Annual Use: January 1 - December 31

Remarks: Add'l diversion point and increasing the amount of water claimed to allow simultaneous operation of the two wells. Existing permit is No. 1997-1

Diversion Point: SW 1/4 NW 1/4 Sec 5-T5N-R6E

Land to be Irrigated: NA

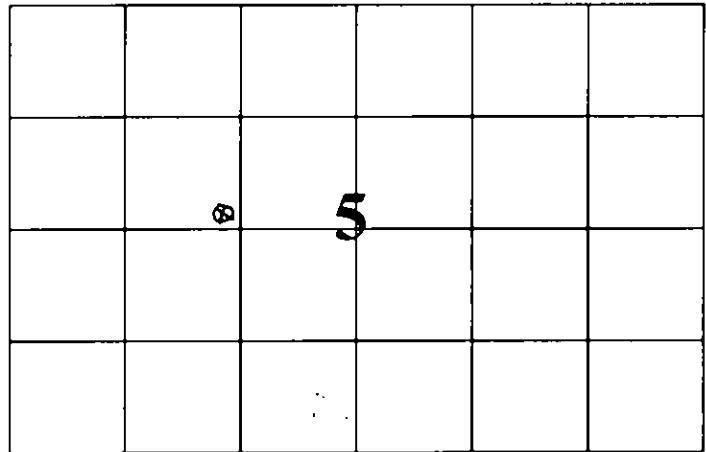
Depth of Well: 3625 feet deep

Well Driller:

Remarks:

Type of Map: aerial

Prepared by:



Reviewed and the Number Assigned on: 5-31-22

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____

**SOUTH DAKOTA
WATER PERMIT NO. 2020-1**

Date of first receipt of application May 26, 2022.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 2020-1 to Bear Butte Valley Water Inc., PO Box 351, Sturgis SD 57785 authorizing the construction of the water use system and the placing of water to beneficial use subject to the following limitations, conditions and qualifications:

1. Water Permit No. 2020-1 appropriates an additional 240 acre-feet of water annually and an additional pump rate of 1.40 cubic feet of water per second (cfs) from one well to be completed into the Madison Aquifer (approximately 3,625 feet deep) located in the SW 1/4 NW 1/4 Section 5 and one existing Madison Aquifer well in the NW 1/4 SW 1/4 Section 5; all in T5N-R6E. Water Right No. 1928-1 and Water Permit No. 1997-1, combined, currently authorize 200 acre-feet of water annually at a maximum pump rate of 1.40 cfs from the existing well. This permit, Water Right No. 1928-1, and Water Permit No. 1997-1 will allow simultaneous operation of the two wells for a, combined, total appropriation of 440 acre-feet of water annually and a maximum, combined, pump rate of 2.80 cfs for rural water system use. This site is located approximately 3 miles east of Sturgis SD.
2. The water appropriated shall be used for the purpose of rural water system 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. 2020-1 is August 1, 2022.
5. The date from which applicant may claim right is May 26, 2022 (240 acre-feet).
6. One-fifth of the construction is to be completed on or before February 1, 2025.
7. All construction is to be completed on or before August 1, 2027.
8. Water is to be put to beneficial use on or before August 1, 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. In accordance with SDCL 46-1-14 and 46-2A-20, Permit No. 2020-1 is issued for a twenty-year term. Pursuant to SDCL 46-2A-21, the twenty-year term may be deleted at any time during the twenty-year period or following its expiration. If the twenty-year term is not deleted at the end of the term, the permit may either be cancelled or amended with a new term limitation of up to twenty years. Permit No. 2020-1 may also be cancelled for nonconstruction, forfeiture, abandonment or three permit violations pursuant to SDCL 46-1-12, 46-5-37.1 and ARSD 74:02:01:37.
2. The wells will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner, under these Permits shall control withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.

(continued)

3. The new well authorized by Permit No. 2020-1 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
4. The Permit holder shall report to the Chief Engineer annually the amount of water withdrawn from the Madison aquifer.
5. Water Right No. 1928-1, Water Permit No. 1997-1, and this Permit appropriate a maximum, combined, 440 acre-feet of water annually with a maximum, combined, pump rate of 2.80 cubic feet of water per second from two wells.

WATER MANAGEMENT BOARD

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

AUG 22 2022
date



RECEIVED

SD EForm - 1585LD V5

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

MAY 26 2022

OFFICE OF
WATER

PAID

MAY 26 2022

Ck# 031734

Rec't#

Mail to: DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	(office use only)	
	No. 2020-1	Hydrologic Unit 10120202
	Basin Belle Fourche R	
	Newspaper Faith Independent	
	Black Hills Pioneer	

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.)

Constructing a new well for an added diversion point and increasing the amount of water claimed to allow simultaneous operation of the two wells. Total amount of water claimed is 2.8 cfs (1.4 additional) and 440 acre-feet (240 additional).

- Name to Appear on Water Permit Bear Butte Valley Water, Inc.
Mailing Address P.O. Box 351 Sturgis SD 57785
(Address) (City) (State) (Zip Code)
Phone 605-206-0703 Mobile _____ Email dennisk.bbvwater@gmail.com
2.8
440
- Amount of water claimed (1.4 addnl) *CFS or **GPM and (240 addnl) ***AF or _____ 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)
- Source of water supply Madison Formation Aquifer (groundwater)
- Location of point of diversion SW 1/4 NW 1/4 Sec 5-T5N-R6E County Meade
(example: 3 wells in SW1/4 NE1/4 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: NW1/4 section 12-T104N-R53W)
- County or counties where water will be used Meade
- Annual period during which water is to be used January 1 - December 31
- Give a description of the project. When available include any preliminary engineering report or other reports or information that will help explain the project. (Attach sheet if more space is needed)

BBVW is an active, growing, rural water system. The application is to increase water rights to allow for a system expansion adding in new customers. See attached water rights memo.

I, Bruce Waynick _____, 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.

2015-10

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

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) 3625' Depth to Top of Water Bearing Material 3080' Depth to Water from Surface 200'

d) Distance to nearest domestic well on applicant's property 600' Property owned by others _____

2. Wastewater Disposal System Information

a) Type of System (i.e. septic tank, drain field) _____

b) System Capacity (gallons) _____ Year Constructed _____

c) Connected to the City of _____ Sanitary System

3. Dugout Information

a) Surface Dimensions _____ Depth _____

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

4. Water Storage Dams

If the proposed water use system contains one or more storage dams, please furnish the information requested below for each dam. The locations of the dams need to be shown on the map submitted with the application.

a) If a private engineering firm or government agency was involved in the design of this dam, please give their name and address: _____

b) Freeboard _____

c) Crest Width _____

Crest Length _____

d) Height _____

e) Primary Outlet Capacity _____

If pipe, diameter _____

f) Secondary Spillway Capacity _____

Spillway Width _____

g) X & Y Slope (e.g. 3 to 1 is a typical slope)

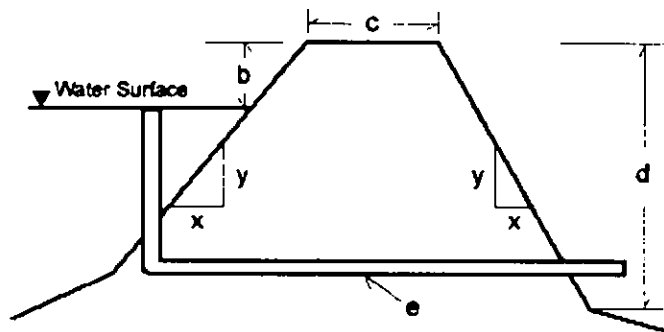
Upstream _____

Downstream _____

h) Surface Area of Impoundment _____

i) Storage _____ Acre Feet

j) Drainage Area Above Dam _____ Acres



Plot Date: 10/10/2023 10:10 AM

1:\064604\064604\064604 SITE PLAN.DWG



DGR ENGINEERING	Project Manager: DDN	DDN	NAB	804003	(712) 472-2331
	Designer:				
Sheet					
2					

DEEP WELL #2 PROJECT
BEAR BUTTE VALLEY WATER, INC.
STURGIS, SD

SITE PLAN

REV: 1.00: 10/10/23

6N 6E
Section: 31

6N 6E
Section: 32

6N 6E
Section: 33

5N 6E
Section: 06

5N 6E
Section: 05

5N 6E
Section: 04

5N 6E
Section: 07

5N 6E
Section: 08

5N 6E
Section: 09



Memo



TO: Bear Butte Valley Water, Inc.

FROM: DGR

DATE: May 12, 2022

RE: Summary and Recommendations for Bear Butte Valley Water, Inc. Water Rights

Existing Permits

Table 1: Summary of the existing BBVW's beneficial water right permits.

Permit No.	Approval	Additional Diversion Rate	Additional Annual Appropriation
1928-1	2012	.51 cfs	-
1997-1	2020	.89 cfs	200 ac-ft
		1.40 cfs = 628 gpm = 0.754 MGD for a 20 hr production day	200 ac-ft = 65,165,760 gal = 178,536 GPD average

Growth

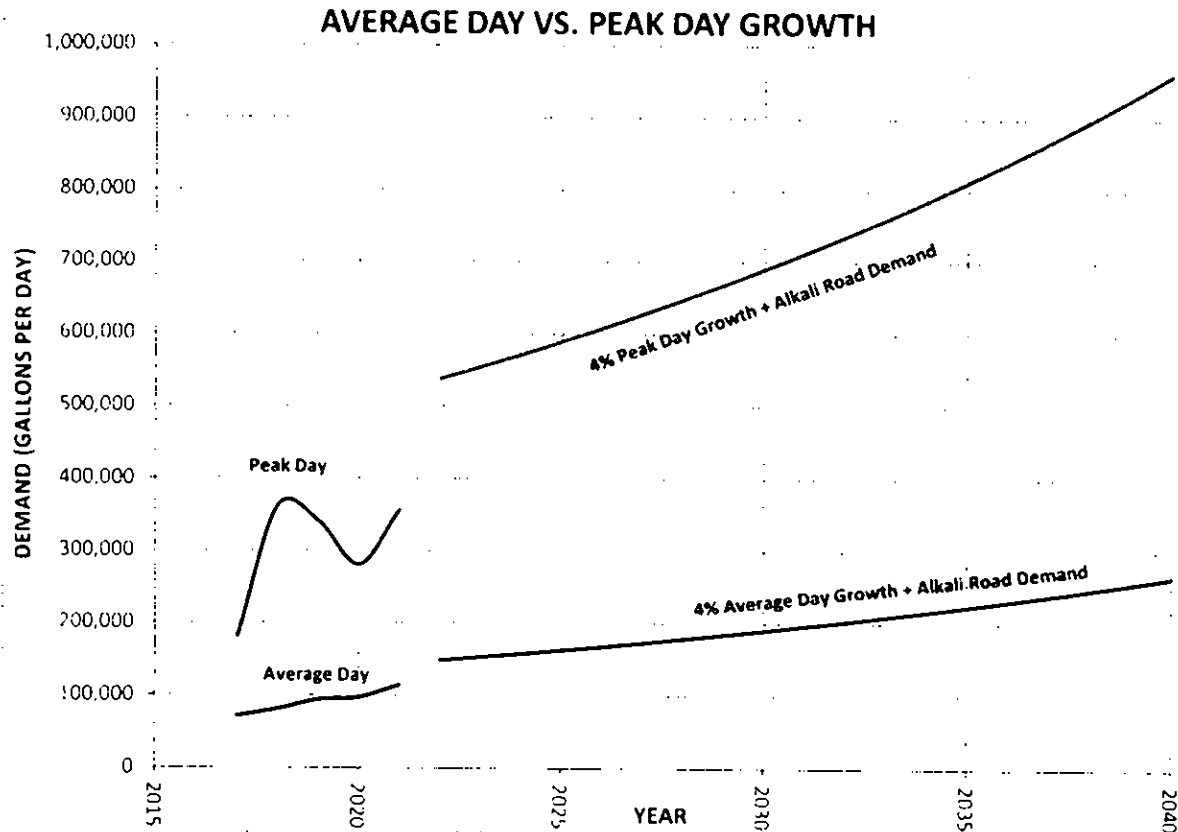


Figure 1: Projected Average Day Demand and Peak Day Demand of Growth of BBVW.

The average and peak demands for the next 20 years were projected using a 4% growth rate (see Figure 1). Peak day factors were calculated (peak day demand divided by average day demand) and were 2.5 in 2017, 4.5 in 2018, 3.6 in 2019, and 2.9 in 2020, respectively. A conservative peaking factor of 3.6 was selected to project the future peak demands. The growth rate for the system was estimated from user additions and water production and consumption records between 2017 to 2020. The system experienced growth from approximately 250 original users to 281 users or 10.3 users per year for an annual growth of 4% per year.

A peak demand of 125,000 gpd for the new Alkali Road users (2022 / 2023 Construction) were estimated based on the type and number of taps and demand requirements of livestock. The solid blue line in Figure 2 shows the projected peak day demand including the new Alkali Road users' daily demand.

Recommendations:

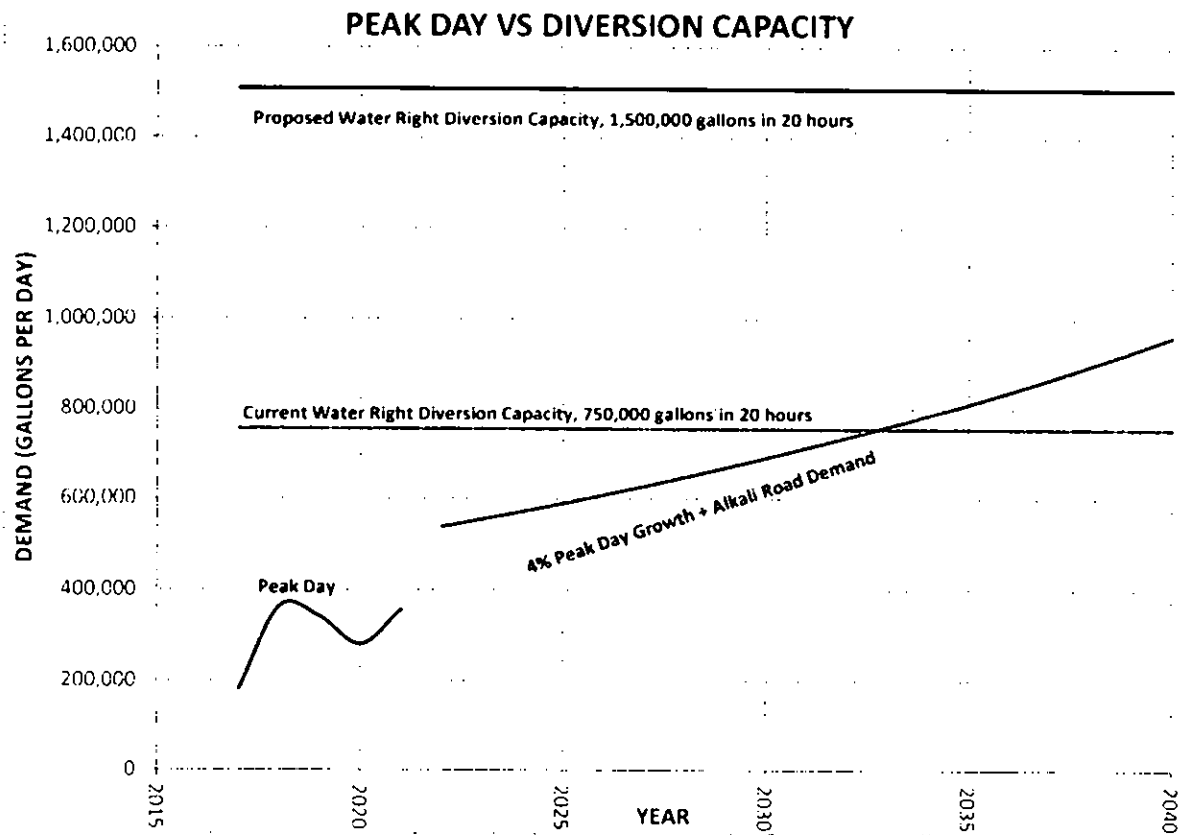


Figure 2: Projected peak day growth and the current diversion capacity for BBVW.

The current water right diversion capacity in place for the Bear Butte Valley Water, Inc allows for withdrawals of approximately 750,000 gallons per day if the well pump is operated for 20-hours. At the current annual appropriation, the projected peak day growth will exceed current limits within 10 years.

Recommendation:

- 1.) DGR recommends adding an additional 1.4 cfs. This will double the current diversion rate which will allow BBVW to operate both wells at the same time. It will also provide water rights to meet future needs.

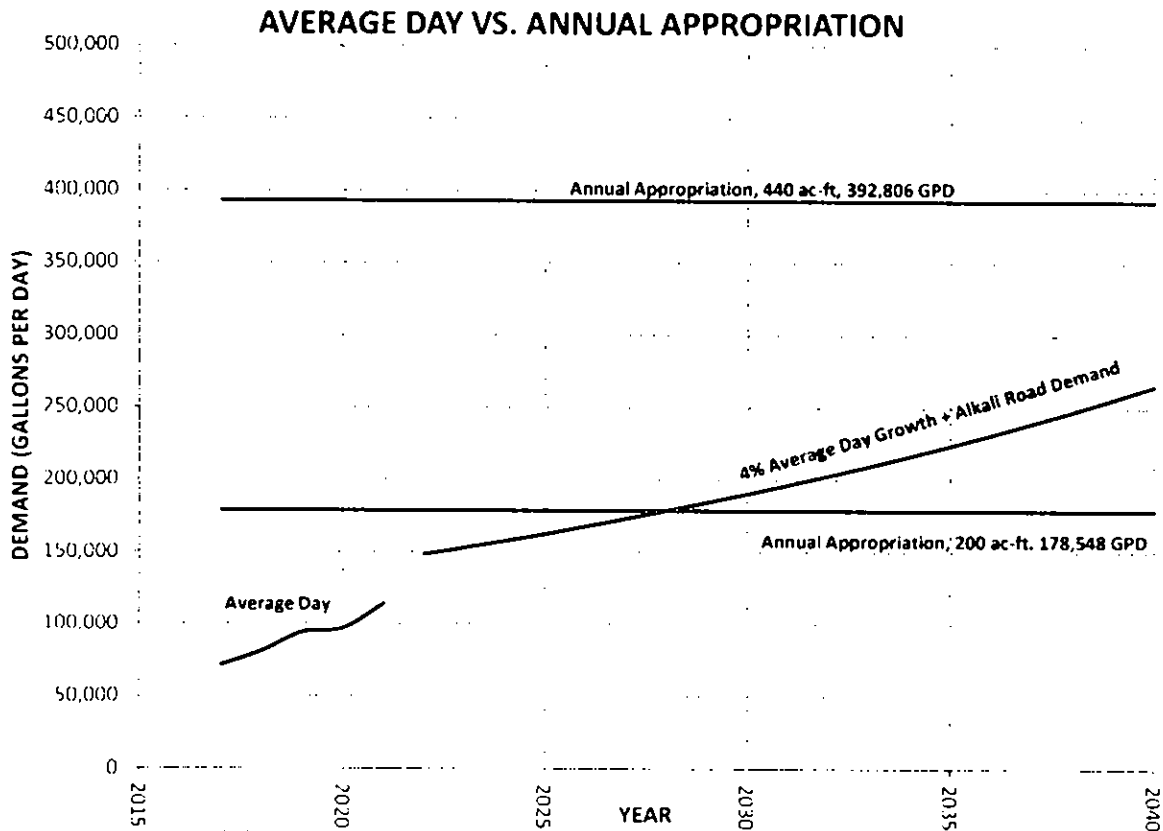


Figure 3: Projected average daily growth of Alkali Road Expansion and the annual appropriation of BBVW.

At the current annual appropriation of 200 ac-ft, the projected average daily growth is set exceed current limits by 2028. By increasing the annual appropriation, BBVW can accommodate the forecasted growth of the new users to the Alkali Road Expansion Project, but must expand the annual appropriation limit to accommodate projected demand growth.

Recommendation:

- 2.) DGR recommends increasing the annual appropriation to 240 ac-ft to meet the needs of current and projected users.

Bear Butte Valley Water Well

Lithologic Log

Depth (feet)		Geologic Unit	Principal Lithology	Description (listed in order of decreasing abundance; cuttings logged wet)	Comments
From	To				
0	70	Belle Fourche Shale		No sample	
70	100		Shale	Olive-black firm, calcareous shale	
100	130		Shale	Olive-black firm, calcareous shale	
130	154		Shale	Olive-black firm, moderately calcareous shale	
154	183		Shale	Olive-black firm, moderately calcareous shale	
183	213		Shale	Olive-black firm shale	
213	245		Shale	Olive-black soft shale	
245	276		Shale	Olive-black firm, weakly calcareous shale	
276	307		Shale	Olive-black hard, weakly calcareous shale	
307	338		Shale	Olive-black and olive-gray soft shale	
338	369		Shale	Sample missing	
369	400		Shale	Olive-black soft, fissile shale	
400	437		Shale	Olive-black soft, fissile shale	
437	463		Shale	Olive-black soft, fissile shale	
463	494		Shale	Olive-black soft, fissile shale	
494	526		Shale	Olive-black soft, fissile shale	
526	557		Shale	Olive-black soft, fissile shale	
557	587		Shale	Olive-black soft fissile shale; brown-gray soft, fissile shale	
587	620		Shale	Olive-black soft fissile shale; brown-gray soft, fissile shale	
620	651		Shale	Olive black firm shale; light olive-gray soft shale	
651	681		Shale	Olive black firm, splintery shale; light olive-gray soft shale	
681	713	Mowry Shale	Shale	Olive black firm shale; light olive-gray soft shale	
713	744		Shale	Olive-black soft, fissile shale	
744	773		Shale	Olive-black and minor brown-gray soft, fissile shale	
773	805		Shale	Olive-black soft shale	

Depth (feet)		Geologic Unit	Principal Lithology	Description (listed in order of decreasing abundance; cuttings logged wet)	Comments
From	To				
805	836	Mowry Shale	Shale	Olive-black firm shale	
836	868		Shale	Olive-black fissile shale	
868	890	Skull Creek Shale	Shale	Olive-black fissile shale; minor yellow-brown fissile shale	
890	900		Shale	Olive-black to olive-gray fissile shale	
900	915		Shale	Olive-black to olive-gray splintery, fissile shale	
915	930		Shale	Olive-black firm shale	
930	961		Shale	Olive-black hard shale	
961	976		Shale	Olive-black to olive-gray weakly calcareous, splintery shale	
976	993		Shale	Olive-black to olive-gray weakly calcareous, splintery shale	
993	1025	Fall River Formation	Shale and Sandstone	Olive-black to olive-gray weakly calcareous, splintery shale; light olive-gray very fine-grain, weakly cemented, silty sandstone	
1025	1055		Shale and Sandstone	Olive-black to olive-gray weakly calcareous, splintery shale; light olive-gray fine-grain, bedded, calcite cemented, subangular, subrounded sandstone	
1055	1086		Shale and Siltstone	Black splintery shale; light olive-gray bedded siltstone; light olive-gray fine-grain, bedded, calcite cemented, subangular, subrounded sandstone	
1086	1118		Shale	Black splintery shale; light gray weakly cemented, fine-grain, silty sandstone and sandy siltstone, moderate red-brown shale; rare light gray medium-grain, friable, rounded, quartz sandstone	
1118	1149	Lakota Formation	Siltstone and Shale	Pale yellow-gray soft, bedded siltstone; black splintery shale; rare moderate red-brown shale	
1149	1181		Siltstone and Shale	Pale yellow weakly calcareous, soft bedded siltstone; black fissile shale; pale olive-gray mudstone; rare moderate red-brown shale	
1181	1212		Shale and Siltstone	Black splintery fissile shale; yellow-gray finely bedded, soft siltstone; black carbonaceous shale	
1212	1243		Shale and Mudstone	Black splintery, fissile shale; yellow-gray to brown-gray soft mudstone	
1243	1274		Shale and Sandstone	Gray-black to black splintery, fissile shale; yellow-gray medium-grain (rounded quartz) to very fine-grain, bedded, hard, porous sandstone; minor light brown-gray well indurated siltstone; rare moderate red-brown shale	

Depth (feet)		Geologic Unit	Principal Lithology	Description (listed in order of decreasing abundance; cuttings logged wet)	Comments
From	To				
1274	1304	Lakota Formation	Shale and Sandstone	Brown-black to black to medium light gray shale; yellow-gray fine-grain, rounded, calcite cemented, bedded, quartz sandstone	
1304	1320	Morrison Formation	Shale	Olive-gray, brown-gray, and black calcareous, splintery shale	
1320	1336		Shale	Olive-gray, brown-gray, and black calcareous, splintery shale; white calcite	
1336	1367		Siltstone	Green-gray soft siltstone with very fine-grain sand	
1367	1398		Limestone and Siltstone	Yellow-gray finely bedded, finely crystalline limestone; green-gray bedded siltstone with very fine-grain sand	
1398	1430		Mudstone and Limestone	Moderate red-brown mudstone; olive-gray soft shale; yellow-gray finely bedded, finely crystalline limestone	
1430	1461		Mudstone	Green-gray moderately indurated, calcareous mudstone	
1461	1493		Mudstone	Green-gray moderately indurated, calcareous mudstone; minor moderate red-brown mudstone	
1493	1524		Mudstone	Green-gray moderately indurated, calcareous mudstone	
1524	1556		Siltstone	Olive-gray soft, finely bedded, calcareous siltstone, minor white calcite	
1556	1618		Siltstone	Olive-gray soft, finely bedded, calcareous siltstone; minor white calcite	
1618	1648		Siltstone	Olive-gray soft, finely bedded, calcareous siltstone; light olive-gray soft shale; minor white calcite	
1648	1679		Shale	Olive-gray to dark green-gray splintery, fissile, calcareous shale; rare white calcite; rare moderate red-brown shale	
1679	1710	Sundance Formation	Shale and Sandstone	Olive-gray to dark green-gray splintery, calcareous shale; medium light gray fine-grain, well cemented (calcite), rounded, quartz sandstone, rare moderate red-brown shale	
1710	1742		Sandstone and Shale	Light olive-gray fine-grain, glauconitic, subangular, calcite cemented, bedded, silty sandstone; black splintery shale; light brown soft mudstone	
1742	1774		Shale	Dark green-gray fissile, calcareous shale; moderate red brown soft mudstone	

Depth (feet)		Geologic Unit	Principal Lithology	Description (listed in order of decreasing abundance; cuttings logged wet)	Comments
From	To				
1774	1805	Sundance Formation	Sandstone	Light olive-gray and moderate red-brown, very fine-grained, finely bedded, friable sandstone; white to pink-gray gypsum; dark green-gray fissile, calcareous shale	
1805	1836		Sandstone	Light green-gray fine-grain, glauconitic, calcite cemented, bedded, rounded, quartz sandstone; dark green-gray calcareous, splintery shale; rare light orange gypsum	
1836	1867		Shale	Dark green-gray fissile shale; green-gray calcareous, soft silty shale; rare moderate red-brown shale	
1867	1900		Shale	Light olive-gray fissile, calcareous shale; dark olive-gray splintery shale; red-brown-gray soft fissile shale; minor moderate red-brown shale	
1900	1930		Shale	Light olive-gray fissile, calcareous shale; dark olive-gray splintery shale; red-brown-gray soft fissile shale; white to yellow-gray anhydrite; minor gray-green soft shale; minor moderate red-brown shale	
1930	1961		Shale and Sandstone	Light olive-gray fissile, calcareous shale; dark olive-gray splintery shale; minor gray-green soft shale; light red-brown fine to very fine-grain, bedded sandstone; yellow-gray to white calcite	
1961	1992		Shale and Siltstone	Light olive-gray fissile, calcareous shale; dark olive-gray splintery shale; minor gray-green soft shale; light red-brown bedded siltstone with very fine-grain sand; yellow-gray to white calcite	
1992	2024		Sandstone	Moderate red-brown with minor pale red fine-grain, bedded, friable, silty sandstone; olive-gray soft, fissile shale	
2024	2054	Spearfish Formation	Siltstone	Moderate red-brown, bedded, friable, sandy siltstone; rare pink-gray medium-grain, calcite cemented, rounded, quartz sandstone	Green-gray shale is present in all samples to a depth of 3,100 feet and is not included in sample description below.
2054	2086		Siltstone	Moderate red-brown, bedded, friable, sandy siltstone	
2086	2117		Siltstone	Moderate red-brown, bedded, friable, sandy siltstone with parting and veins of white anhydrite	
2117	2149		Siltstone	Moderate red-brown bedded, calcareous, sandy siltstone with partings of white anhydrite	
2149	2180		Shale	Moderate red-brown calcareous, soft shale with partings and veins of white anhydrite	
2180	2211		Shale	Moderate red-brown calcareous, soft shale with partings and veins of white anhydrite	

Depth (feet)		Geologic Unit	Principal Lithology	Description (listed in order of decreasing abundance; cuttings logged wet)	Comments
From	To				
2211	2243	Spearfish Formation	Shale	Moderate red-brown calcareous, soft shale with partings and veins of white anhydrite	
2243	2274		Shale	Moderate red-brown calcareous, soft shale with partings and veins of white anhydrite	
2274	2306		Shale	Moderate red-brown calcareous, soft shale with minor white anhydrite	
2306	2337		Shale	Moderate red-brown calcareous, soft shale with minor white selenite	
2337	2369		Shale	Moderate red-brown calcareous, soft shale with minor white selenite	
2369	2400		Shale	Moderate red-brown calcareous, soft shale with minor white selenite	
2400	2431	Minnehata Limestone	Limestone	Pale yellow-brown finely crystalline, bedded limestone; moderate red-brown calcareous, soft shale	
2431	2463	Opache Shale	Shale and Limestone	Moderate red-brown, brittle, calcareous shale; pale yellow-brown finely crystalline, bedded limestone	
2463	2494		Shale and Limestone	Moderate red-brown soft, fissile shale; yellow-brown limestone; pale yellow-gray crystalline, bedded limestone	
2494	2526		Shale and Limestone	Moderate red-brown soft, fissile shale; yellow-brown limestone; pale yellow-gray crystalline, bedded limestone	
2526	2557		Shale and Limestone	Moderate red-brown soft, fissile shale; yellow-brown limestone; pale yellow-gray crystalline, bedded limestone	
2557	2589	Minnelusa Formation	Limestone and Shale	Pink-gray finely crystalline limestone; moderate red-brown soft, fissile shale; white anhydrite	
2589	2619		Dolomite	Pink-gray finely crystalline dolomite	Moderate red-brown shale persists in all samples to a depth of 3,100 feet and is not included in sample descriptions below.
2619	2650		Dolomite	Pale red finely crystalline dolomite	
2650	2712			Samples missing	
2712	2744		Limestone	Pale red and pink-gray crystalline limestone; white calcite	
2744	2775		Limestone	Pale red and pink-gray crystalline limestone; white calcite	

Depth (feet)		Geologic Unit	Principal Lithology	Description (listed in order of decreasing abundance; cuttings logged wet)	Comments
From	To				
2775	2800	Minnelusa Formation	Limestone	Pink-gray crystalline limestone; white selenite veins	
2800	2810		Limestone	Pale red and pink-gray crystalline limestone; white calcite	
2810	2820		Dolomite and Limestone	Pale red bedded, finely crystalline to granular dolomite; pink-gray finely crystalline limestone	
2820	2830		Dolomite and Limestone	Pale red bedded, finely crystalline to granular dolomite; pink-gray finely crystalline limestone; moderate brown soft calcareous shale	
2830	2840		Dolomite and Limestone	Pale red bedded, finely crystalline to granular dolomite; pink-gray finely crystalline limestone; moderate brown soft calcareous shale	
2840	2850		Dolomite and Limestone	Pale red shaley dolomite; pink-gray finely bedded, finely crystalline limestone	
2850	2860		Limestone	Pink-gray finely bedded, finely crystalline limestone	
2860	2870		Dolomite	Pink-gray bedded, granular dolomite	
2870	2880		Dolomite	Yellow-gray, bedded, cryptocrystalline dolomite	
2880	2890		Sandstone	Light red-orange fine-grain, well cemented, rounded, frosted quartz sandstone	
2890	2900		Dolomite	Pale red finely bedded dolomite; yellow-gray cryptocrystalline massive dolomite	
2900	2910		Dolomite	Pink-gray, finely bedded, granular dolomite	
2910	2920		Sandstone	Yellow-gray, very fine to fine-grain, calcite cemented, finely bedded, subrounded, quartz sandstone	
2920	2930			Sample missing	
2930	2940		Dolomite	Pale red finely bedded, finely crystalline dolomite	
2940	2950		Dolomite	Pink-gray finely bedded, finely crystalline dolomite	
2950	2960		Dolomite	Pale red finely bedded, granular dolomite, yellow-gray granular dolomite	
2960	2970		Sandstone and Dolomite	Pale red very fine-grain, angular, calcite cemented, bedded sandstone; yellow-gray finely bedded dolomite	
2970	2980		Dolomite	Yellow-gray finely bedded, crystalline dolomite; granular pale yellow-gray calcite	
2980	2990		Dolomite	Yellow-gray very finely bedded, finely granular dolomite	

Depth (feet)		Geologic Unit	Principal Lithology	Description (listed in order of decreasing abundance; cuttings logged wet)	Comments
From	To				
2990	3000	Minnelusa Formation	Shale and Dolomite	Moderate red-brown soft, fissile shale, yellow-gray very finely bedded, finely granular dolomite; white calcite	
3000	3010		Limestone and Shale	Yellow-gray massive limestone; moderate red-brown soft, fissile shale;	
3010	3020		Shale	Moderate red-brown to pale yellow-orange soft, fissile shale	
3020	3030		Shale	Moderate red-brown to pale yellow-orange soft, fissile shale; moderate orange gypsum	
3030	3040		Shale	Moderate red-brown to pale yellow-orange soft, fissile shale; moderate orange gypsum	
3040	3050		Shale	Moderate red-orange to moderate red-brown soft, fissile shale; pale red splintery shale	
3050	3060	Madison Limestone	Limestone	Pale yellow-gray bedded, granular limestone; rare pale red finely crystalline dolomite	
3060	3070		Limestone	Yellow-gray finely bedded, finely crystalline limestone; minor white bedded gypsum	
3070	3080		Limestone	Yellow-gray and pale brown-gray finely bedded, finely crystalline limestone; minor white bedded gypsum; rare pale red finely bedded dolomite	
3080	3085		Limestone	Yellow-gray and pale brown-gray finely bedded, finely crystalline limestone, minor white bedded gypsum; rare pale red finely bedded dolomite	
3085	3090		Limestone	Yellow-gray and pale brown-gray finely bedded, finely crystalline limestone; minor white bedded gypsum; rare pale red finely bedded dolomite	
3090	3100		Limestone	Yellow-gray finely bedded, crystalline limestone	
3100	3280		Limestone	No samples	
3280	3311		Limestone	Pale yellow-gray granular limestone	Sample is ground into coarse sand
3311	3343		Limestone	Pale yellow-gray granular limestone	Sample is ground into coarse sand
3343	3374		Limestone	Pale yellow-gray granular limestone	Sample is ground into coarse sand
3374	3405		Limestone	Pale yellow-gray with minor pale brown-gray granular limestone; white calcite	Sample is ground into coarse sand
3405	3436		Limestone	Pale yellow-gray with minor pale brown-gray finely granular limestone; white calcite	Sample is ground into coarse sand

Depth (feet)		Geologic Unit	Principal Lithology	Description (listed in order of decreasing abundance; cuttings logged wet)	Comments
From	To				
3436	3520	Madison Limestone	Limestone	No sample	
3520	3530		Limestone	Pale yellow to white finely granular limestone with white calcite	Sample is ground into fine to coarse sand
3530	3540		Limestone	Pale yellow to white finely granular limestone with white calcite	Sample is ground into fine to coarse sand
3540	3550		Limestone	Pale yellow finely granular limestone with abundant white calcite	Sample is ground into fine to coarse sand
3550	3560		Limestone	Pale yellow finely granular limestone with abundant white calcite	Sample is ground into fine to coarse sand
3560	3570		Limestone	Pale yellow finely granular limestone with abundant white calcite	Sample is ground into fine to coarse sand
3570	3580		Limestone	Pale yellow finely granular limestone with abundant white calcite	Sample is ground into fine to coarse sand
3580	3590		Limestone	Pale yellow finely granular limestone with abundant white calcite	Sample is ground into fine to coarse sand
3590	3600		Limestone	Pale yellow and minor gray-orange finely granular limestone with abundant white calcite	Sample is ground into fine to coarse sand
3600	3610	Englewood Formation	Limestone	Pale yellow, gray-orange, and minor pink-gray finely granular limestone with abundant white calcite	Sample is ground into fine to coarse sand
3610	3623		Limestone	Gray-red finely bedded, finely crystalline limestone; pink gray and yellow-gray finely granular limestone; white calcite	Sample is ground into fine to coarse sand

Total Depth - 3,623 feet

RECEIVED

MAY 26 2022

OFFICE OF
WATER

DGR
ENGINEERING

Letter of Transmittal

TO: DENR- Water Rights
523 E. Capitol Ave.
Pierre, SD 57501-3182

DATE: May 24, 2022

RE: Alkali Road Expansion Project
Deep Well #2 Permit

DGR PROJECT NO.: 804003

We are sending you attached:

Copies	Description
1	Deep Well #2 Permit - Alkali Road Expansion Project
1	Check for permitting filing fee

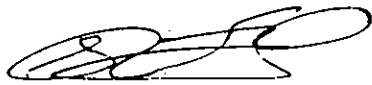
THESE ARE TRANSMITTED as checked below:

- ☐ For approval
☒ For your information/file
☐ As requested

- ☐ For review and comment
☐ For your signature
☐ _____

REMARKS:

DGR Engineering

By 
David Gonzalez

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Agriculture and Natural Resources

Date May 26, 2022

RECEIVED OF Bear Butte Valley Water, Inc. PO Box 511 Rock Rapids IA 51246

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

Fee for Application for Permit No. <u>2020-1</u> to Appropriate Water, to construct and to put water to beneficial use	\$750.00
Fee for Application for Permit No. _____ to Appropriate Water for Future use	\$ _____
Fee to retain Future Use Permit No. _____ after period of seven years.	\$ _____
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. <u>2020-1</u>	\$200.00
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
	\$950.00

By Eric Gronlund
Chief Engineer

um



531261683

ANNUAL REPORT

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

Domestic Nonprofit Corporation
SDCL 47-24-6, 59-11-24

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

Filing Fee: \$10

Total Fee: \$10

2021
FILING YEAR

1. Business ID and Name:

NS014020
BUSINESS ID

BEAR BUTTE VALLEY WATER, INC.
BUSINESS NAME

2. The jurisdiction under whose law it is formed **SOUTH DAKOTA**

3. The address of the principal executive office (business address):

Actual Street Address

20550 HWY 79
STURGIS, SD 57785-6305

Mailing Address

PO BOX 351
STURGIS, SD 57785-6305

4. The South Dakota Registered Agent's Name:

South Dakota law permits the registered agent to be either (a) a noncommercial registered agent, (b) a commercial registered agent, or (c) an office holder.

(a) The South Dakota Noncommercial Registered Agent's name

Name **Clair Rowett**

Actual Street Address in this State

20373 GRAVEL ROAD
STURGIS, SD 57785

Mailing Address in this State

20373 GRAVEL ROAD
STURGIS, SD 57785

5. The names and addresses of its principal officers.

Title	Name	Address
President	Bruce Weyrich	20080 145TH AVENUE, STURGIS, SD, 57785
Vice President	Ed Blair	19599 Bear Butte Road, Sturgis, SD 57785
Secretary	Bob Kaufman	12324 Crackerjack Road, Whitewood, SD 57793
Treasurer	Bob Kaufman	12324 Crackerjack Road, Whitewood, SD 57793

6. The names and addresses of its directors (governors).

Name	Address
Clair Rowett	20373 Gravel Road, Sturgis SD 57785
Randy Hallock	1745 Davenport Street, Sturgis, SD 57785
Brook Loobey	12907 Big Horn Road, Whitewood, SD 57793
RICH GROSCH	19958 AVALANCHE ROAD, WHITEWOOD, SD, 57793



7. 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.

No person may execute this report knowing it is false in any material respect. Any violation may be subject to a civil and/or criminal penalty (SDCL 47-1A-129; 22-39-36).

07/02/2021

Dated

Email (Optional)

Clair D Rowett

Signature of an Authorized Person

Clair D Rowett

Printed Name

B0185-4965 07/02/2021 4:05PM Rec'd by SD SOS



**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. 2020-1, Bear Butte Valley Water, Inc.**

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Program, Department of Agriculture and Natural Resources concerning Water Permit Application No. 2020-1, Bear Butte Valley Water, Inc., PO Box 351, Sturgis SD 57785.

The Chief Engineer is recommending APPROVAL of Application No. 2020-1 with a twenty-year term pursuant to SDCL 46-1-14 and 46-2A-20 because 1) although evidence is not available to justify issuing this permit without a 20 year term limitation, there is reasonable probability that there is unappropriated water available for the applicant's proposed use, 2) the proposed diversion can be developed without unlawful impairment of existing rights, 3) the proposed use is a beneficial use and, 4) it is in the public interest with the following qualifications:

1. In accordance with SDCL 46-1-14 and 46-2A-20, Permit No. 2020-1 is issued for a twenty-year term. Pursuant to SDCL 46-2A-21, the twenty-year term may be deleted at any time during the twenty-year period or following its expiration. If the twenty-year term is not deleted at the end of the term, the permit may either be cancelled or amended with a new term limitation of up to twenty years. Permit No. 2020-1 may also be cancelled for nonconstruction, forfeiture, abandonment or three permit violations pursuant to SDCL 46-1-12, 46-5-37.1 and ARSD 74:02:01:37.
2. The wells will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner, under these Permits shall control withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
3. The new well authorized by Permit No. 2020-1 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
4. The Permit holder shall report to the Chief Engineer annually the amount of water withdrawn from the Madison aquifer.
5. Water Right No. 1928-1, Water Permit No. 1997-1, and this Permit appropriate a maximum, combined, 440 acre-feet of water annually with a maximum, combined, pump rate of 2.80 cubic feet of water per second from two wells.

See report on application for additional information.

Eric Gronlund, Chief Engineer
July 11, 2022

**Report to the Chief Engineer on
Water Permit Application No. 2020-1**

Bear Butte Valley Water, Inc
28 June 2022

Water Permit Application No. 2020-1 seeks to appropriate an additional 240 acre-feet of water annually (ac-ft/yr) and an additional diversion rate authority of 1.40 cubic feet of water per second (cfs) from one new well to be completed into the Madison aquifer (approximately 3,625 feet deep) located in the SW $\frac{1}{4}$ NW $\frac{1}{4}$ Section 5 and one existing Madison aquifer well in the NW $\frac{1}{4}$ SW $\frac{1}{4}$ Section 5; all in T5N-R6E, Black Hills Meridian. Water Right No. 1928-1 and Water Permit No. 1997-1 currently authorize a combined 200 ac-ft/yr at a combined maximum diversion rate of 1.40 cfs from the existing well. If this application is approved, this permit, Water Right No. 1928-1, and Water Permit No. 1997-1 would allow simultaneous operation of the two wells for a combined total appropriation of 440 ac-ft/yr and a combined maximum diversion rate of 2.80 cfs for rural water system use. This site is located approximately 3 miles east of Sturgis, South Dakota.

Aquifer: Madison (MDSN)

Hydrogeologic Characteristics

The Madison Group in South Dakota is a Lower Mississippian and Upper Devonian group of formations that in the Black Hills consists of the Englewood and Pahasapa Limestone formations [1]. The Pahasapa Limestone is a “white, light-gray to tan, fine- to medium-grained limestone and dolomite containing brown to gray chert [2].” The Englewood Limestone is a “pink to lavender to light-gray, thin- to medium-bedded, fine- to medium-grained, argillaceous, dolomitic limestone [2].” The Madison aquifer consists of the permeable and porous portions of the Madison Group that are sufficiently saturated to deliver useful quantities of water. The Madison aquifer extends over more than 210,000 square miles in Montana, Wyoming, North Dakota, South Dakota, and Nebraska [3], although it may not be suitable as a source of water in all of those areas due to extreme depth to the aquifer and low water quality far from the outcrops [4]. It crops out in the Black Hills and is buried elsewhere in South Dakota [3]. The Madison aquifer may be hydrologically connected to the Deadwood aquifer underlying it in some locations [5]. It is also connected to the Minnelusa aquifer overlying it in some areas of the aquifer [5]. There are other bedrock aquifers that receive natural discharge from the Madison aquifer further away from the Black Hills where confining layers between the Madison aquifer and those aquifers are absent. The hydraulic head of the Madison aquifer is higher than land surface in many places around the Black Hills, causing some wells completed into the aquifer to flow without a pump [6]. Numerous springs and seeps in the Black Hills flow with water that has been determined to come from the Madison aquifer [7].

The applicant submitted a well completion report for a well completed on October 16, 2014 for Water Right No. 1928-1 and Water Permit No. 1997-1. The driller reported encountering the Madison Limestone from 3,050 to 3,600 feet below grade and the Englewood Limestone from 3,600 to the total depth of 3,623 feet. The well was cased to a depth of 3,095 and left as an open hole below that point. The static water level at the time the well was completed was 197 feet below grade. The proposed new well would be located approximately 700 feet northeast of the

existing well, so it is likely the geology encountered in that well would be similar to the geology at the existing well.

Applicable South Dakota Codified Law (SDCL)

Pursuant to SDCL 46-2A-9, a permit to appropriate water may be issued if there is reasonable probability that there is unappropriated water available for the applicant's proposed use, that the proposed diversion can be developed without unlawful impairment of existing 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. This report will only assess the availability of water and possibility of developing this application without unlawful impairment of existing domestic water uses and water rights.

Pursuant to SDCL 46-6-3.1, 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 estimated average annual recharge of the water to the groundwater source. An exception allows water distribution systems to withdraw from groundwater sources older or stratigraphically lower than the Greenhorn Formation regardless of the results of a hydrologic budget. The Madison aquifer is older and stratigraphically lower than the Greenhorn Formation and the applicant is a water distribution system as defined in SDCL 46-1-6(17). Therefore, the Water Management Board's authority to approve this application is not restricted by whether or not average annual recharge exceeds average annual withdrawals. However, a statewide and local hydrologic budget is included in this report for the information of the Chief Engineer and the Water Management Board.

Pursuant to SDCL 46-2A-20:

Notwithstanding §§ 46-1-14 and 46-2A-7, no water permit for construction of works to withdraw water from the Madison formation in Butte, Fall River, Custer, Lawrence, Meade and Pennington counties may be issued for a term of more than twenty years, unless the Water Management Board determines, based upon the evidence presented at a hearing that:

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

This application proposes to withdraw water from the Madison aquifer in one of the counties listed above. Therefore, in addition to the other requirements, the Water Management Board must consider the effect this application may have on nearby Madison aquifer wells and springs and this application is subject to a 20-year term limit.

Availability of Water

Statewide Hydrologic Budget

Statewide Recharge

The Madison aquifer receives recharge from infiltration of precipitation and streamflow on the outcrop area and may also receive inflow from the underlying Deadwood aquifer [8]. There are several reports available estimating recharge to the Madison aquifer.

Woodward-Clyde Consultants [9] estimated recharge to the outcrop of the Madison aquifer in the Black Hills as part of an environmental impact statement for the ETSI Coal Slurry Pipeline Project. The upper-bound estimate of recharge in the Woodward-Clyde Consultants report is approximately 400,000 ac-ft/yr, assuming almost all of the precipitation that falls on the outcrop infiltrates into the aquifer [9]. Woodward-Clyde Consultants produced a lower-bound recharge estimate of 140,000 ac-ft/yr based on the Rahn and Gries [7] report [9]. However, the Rahn and Gries report estimated recharge for all Paleozoic limestone in the Black Hills, which includes the Madison Group, the Minnelusa Formation, and the Minnekahta Formation [7]. Rahn and Gries [7, p. 15] reported that 146.14 cfs was their minimum estimated recharge rate for the Paleozoic limestone from infiltration of precipitation, which converts to approximately 106,000 ac-ft/yr for all Paleozoic formations. The Woodward-Clyde Consultants report did not acknowledge the fact that the Rahn and Gries [7] report estimated minimum recharge for a larger group of formations than the Woodward-Clyde Consultants report covers, and therefore is likely to overestimate recharge to the Madison aquifer [9].

Carter, Driscoll, and Hamade [8] analyzed streamflow and precipitation data from water years 1931 to 1998 in the Black Hills area in South Dakota and Wyoming to determine the average annual recharge to the Madison and Minnelusa aquifers. They estimated a combined average annual recharge to both aquifers to be 344 cfs, or approximately 249,000 ac-ft/yr, not including possible flow from the Deadwood aquifer [8]. Carter, Driscoll, and Hamade [8] estimate that approximately 55% of the recharge goes to the Madison aquifer, so the total estimated average annual recharge to the Madison aquifer from the outcrop in the Black Hills is 137,000 ac-ft/yr, not including possible inflow from adjacent aquifers. The Carter, Driscoll, and Hamade [8] report uses more years of data, more recent data, and better assumptions than the Woodward-Clyde Consultants [9] and Rahn and Gries [7] reports. Therefore, the best estimate of recharge to the Madison aquifer is based on the Carter, Driscoll, and Hamade [8] report.

Statewide Discharge

Discharge from the Madison aquifer in South Dakota is mainly by outflow to other aquifers when the hydraulic head in the Madison aquifer is higher than those aquifers, outflow to springs and seeps, and by withdrawals by domestic and appropriative wells [10]. Due to the presence of overlying aquifers and water distribution systems in many areas of the aquifer, domestic well withdrawals are a negligible portion of the hydrologic budget of the Madison aquifer. There are 159 water rights/permits currently authorized to withdraw from the Madison aquifer and 10 future use water rights/permits reserving water from the Madison aquifer. Table 1 shows the future use permits reserving water from the Madison aquifer [11].

Of the 159 active water rights/permits, 94 are primarily for some type of water distribution system (rural water system, municipal, etc), 31 primarily for irrigation, 14 for commercial use,

11 for industrial use, 4 for domestic use, 2 for geothermal use, 2 for institutional use, and one for recreation [11]. Estimated withdrawals for irrigation use are shown in Table 2. When there were more than 10 years of irrigation reports available, the average reported irrigation was used to estimate irrigation withdrawals. When there were fewer than 10 years of irrigation reports available, withdrawals are assumed to equal 2 acre-feet per acre although actual usage is likely less for non-turf irrigation. Non-irrigation withdrawals from permit holders with irrigation as a permitted use are assumed to withdraw at their maximum instantaneous diversion rate 60% of the time. In the case of Water Right No. 1885-1, that would have caused the total estimated withdrawal to exceed the rate they were physically capable of withdrawing, so their total estimated withdrawal is 100% of their maximum instantaneous diversion rate. Water Right Nos. 858-2 and 2286-2 indicated “use abandoned” in their 2021 irrigation questionnaire and may be subject to cancellation but will be included in the hydrologic budget until they are cancelled.

Table 1: Future Use Permits from the Madison aquifer [11]

Permit No.	Name/Business	County	Use	Priority Date	Amount Reserved (ac-ft/yr)
369-1	City of Belle Fourche	LA	MUN	12/10/1958	620
2086-2	City of Rapid City	PE	MUN	05/18/1989	4,075
439-2	City of Rapid City	PE	MUN	09/22/1956	3,367
1872-1	City of Spearfish	LA	MUN	11/13/2006	2,704
2560-2	Fall River Water Users District	FR	RWS	05/16/2005	358
2560A-2	Fall River Water Users District	FR	RWS	05/16/2005	0
2560B-2	Fall River Water Users District	FR	RWS	05/16/2005	0
2580-2	Southern Black Hills Water System	FR	RWS	03/02/2006	1,474
1833-2	Weston Heights Home Owners	MD	RWS	02/18/1983	211
1995-1	Black Hawk Water User District	MD	RWS	04/15/2020	1,300
Total					14,109
FR – Fall River, LA – Lawrence, MD – Meade, PE – Pennington					
MUN – Municipal, RWS – Rural Water System					

Water Right/Permit Nos. 1096-1, 1096A-1, 1496-1, and 1670-1 are all authorized to withdraw from the same well and one dam. Water Right Nos. 1096-1, 1096A-1, 1670-1 authorize diversion of water for irrigation use and Water Right No. 1096A-1 and Water Permit No. 1496-1 authorize diversion of water for rural water system use. Documentation in the administrative file for Water Right No. 1670-1 indicates that the well is not valved such that it can be shut off when not in use for the beneficial uses listed on the permits. A letter dated September 9, 1998 indicates that when the water for that well is not being used for the beneficial uses described in the permits, it is used for fish and wildlife propagation. The person writing the letter indicated they would prefer the Water Management Board not order the well to be shut off when not used for irrigation or rural water system withdrawals. It is likely the well continues to flow uncontrolled; thus, at the flow rate listed in Water Right No. 1096A-1 of 1.33 cfs, that well withdraws approximately 964 ac-ft/yr from the Madison aquifer.

Water Right No. 1650-1 does not require the water right holder to report annual withdrawals and allocates no acreage. It provides supplemental water supply from a flowing well for Water Right No. 1231-1. Water Right No. 1231-1 permits a 110 acre-ft dam to provide water for a commercial livestock operation and irrigation of 134 acres. Water Right No. 1650-1 allows for direct irrigation from a Madison aquifer well of up to 2 acre-ft per acre for the land permitted by

Report on Water Permit App. No. 2020-1

Water Right No. 1231-1. Kilts estimated that Water Right No. 1650-1 withdraws 55.9 ac-ft/yr [12].

There are 36 water rights/permits that have an annual volume limit listed in their permit or have had their total annual withdrawal limited by a subsequent water right/permit held by the same person/entity. While many of those water rights/permits are required to report their withdrawals, they may develop their permits further to withdraw up to the limit on their permit, so the annual volume limit listed on their permits is assumed to be their total annual appropriation. The total volume limit listed by such permits is 20,892 ac-ft/yr.

Table 2: Permits with irrigation listed as one beneficial use, or are connected to an irrigation permit [11] [13]

Permit No.	Name/Business	Diversion rate (cfs)	Acres Licensed/ Permitted	Average Report (ac-ft/yr)	Years of Irrigation Reports	Estimated average irrigation (ac ft/yr)	Est. Non-irr. Use (ac-ft/yr)	Total Est. Withdrawal (ac-ft/yr)
2773-2	Arrowhead Country Club	1.110	100.00	0.0	4	200.0	0.0	200.0
1096-1	Bar Bar V Livestock LLC	1.880	216.00	65.3	29	*	*	963.5
1670-1		3.610	253.00	47.5	24	*	*	*
1635-1	Black Hills National Cemetery	0.820	54.50	94.8	26	94.8	356.4	451.2
1452-1	Black Hills State College	3.330	25.44	20.3	33	20.3	1,447.5	1,467.8
1096A-1	Butte Meade Sanitary Dist	1.330	0.00	N/A	0	*	*	*
2458-2	City of Rapid City	0.800	107.00	104.4	21	104.4	0.0	104.4
2002-1	City of Spearfish	1.330	40.00	0.0	1	80.0	0.0	80.0
2313-2	Coca-Cola Bottling	0.330	3.00	7.3	27	7.3	143.4	150.7
1899-1	Davis Ranches Inc	1.430	100.00	0.0	13	0.0	0.0	0.0
2673-2	Diocese of Rapid City	0.120	7.00	8.0	9	14.0	0.0	14.0
1009-1	Donald F/Ann J Brady	0.780	53.73	30.4	40	30.4	0.0	30.4
1185-1		0.380	22.52	110.3	40	110.3	***	110.3
2286-2	Donald Konechne	0.100	38.50	10.2	28	10.2	0.0	10.2
1707A-1	Elkhorn Ridge @ Frawley Ranches LLC	3.705	100.00	0.0	4	200.0	1,610.5	1,810.5
1707E-1		0.000	0.00	9.1	15	**	**	
1931-1		0.170	3.30	3.2	9	6.6	73.9	80.5
1650-1	Foothill Land & Cattle LLC	0.890	0.00	N/A	0	*	*	55.9
1945-1	Frawley Ranches LLC	1.110	265.00	50.7	8	530.0	0.0	530.0
1858-1	Glencoe Camp Resort II LLC	0.860	34.00	0.0	16	0.0	373.8	373.8
2593-2	Hart Ranch Development	0.490	72.50	19.9	15	19.9	213.0	232.9
1911-2	Hart Ranch Development Co	0.880	124.00	120.1	28	120.1	382.5	502.6
1725-2	Janice R Crowser	1.070	75.10	1.0	23	1.0	0.0	1.0
2012-1	Jesse Horstmann	0.500	43.50	N/A	0	87.0	0.0	87.0
1923-1	Jim Montieth	0.110	3.00	1.0	10	6.0	47.8	53.8
858-2	John & Heidi McBride	9.360	655.75	6.7	38	6.7	0.0	6.7
1885-1	John T & Veronica Widdoss	0.110	22.00	16.8	5	44.0	35.7	79.7
1223-1	Montana Dakota Land LLC	0.670	263.00	195.4	40	195.4	0.0	195.4
1960-1	One Diamond Inc	1.280	150.00	148.9	6	300.0	556.4	856.4
1363-1	Spearfish Canyon Cntry Cl	0.900	80.10	63.3	35	63.3	0.0	63.3
2106-2	Stuart Rice	0.080	2.80	0.8	30	0.8	34.8	35.6
1842-1	Tom C Davis	0.440	330.00	0.0	17	0.0	0.0	0.0
2741-2	Tubbs Land & Cattle LLC	3.340	567.00	149.5	3	1,134.0	0.0	1,134.0
419-2	Wind Cave National Park	0.150	6.00	N/A	0	12.0	65.2	77.2
Total		43.465	3817.74			3,398.7	5,340.8	9,758.9

* Discussed in text. ** gives additional time to develop 1707A-1. *** Reports all use types in irrigation report

There are 89 non-irrigation water rights/permits that do not have an annual volume limit listed in their permit and are not discussed above. They are estimated to withdraw up to their maximum instantaneous diversion rate 60% of the time, for a total estimated withdrawal of 16,897 ac-ft/yr. Based on Water Rights Staff experience, this estimate is likely to be higher than the actual withdrawals by those water rights/permits.

In addition to the potential withdrawals by future use permits described above, six other applications are deferred, held in abeyance, or pending review by the Water Management Board. Water Permit Application No. 2585-2 for Southern Black Hills Water System seeks to appropriate 1,600 ac-ft/yr but is deferred for further study. Water Permit Application No. 2685-2 for Powertech, Inc is held in abeyance pending federal permitting and seeks to appropriate 889 ac-ft/yr. Pending Water Permit Application No. 2013-1 for Santa Maria Land and Cattle Company seeks to appropriate 2.22 cfs to irrigate 460 acres, for a maximum possible withdrawal of 920 ac-ft/yr. Pending Water Permit Application No. 2016-1 for Ellsworth Development Authority seeks to appropriate 1,600 ac-ft/yr at a maximum diversion rate of 2.67 cfs for a water distribution system. Pending Water Permit Application No. 2018-1 for Monarch Ridge Development seeks to appropriate 118.5 ac-ft/yr at a maximum diversion rate of 1.11 cfs. Pending Water Permit Application No. 2848-2 for Rapid Valley Sanitary District seeks to appropriate 720 ac-ft/yr at a maximum diversion rate of 1.56 cfs for a water distribution system.

Summary of Statewide Hydrologic Budget

The best available estimate of average annual recharge to the Madison aquifer in South Dakota is approximately 137,000 ac-ft/yr. The estimated average annual withdrawals as described in the Statewide Discharge section are summarized in Table 3. The total estimated withdrawal, including withdrawals reserved for future use and held, or deferred applications is approximately 67,504 ac-ft/yr. This application may withdraw up to 240 additional ac-ft/yr, if approved. Therefore, based on the statewide hydrologic budget, there is reasonable probability unappropriated water is available for this application.

Table 3: Summary of withdrawals from Madison aquifer rounded to the nearest 1 acre-foot.

Type	Count	Est. Rate (ac-ft/yr)
Irrigation (Table 2)	34	9,759
Volume limit	36	20,892
Diversion Rate limit	89	16,897
<i>Subtotal (authorized to withdraw)</i>	<i>159</i>	<i>47,548</i>
Future use (Table 1)	10	14,109
Deferred/held/pending	6	5,848
Grand total	175	67,504

Local Hydrologic Budgets

One study was conducted that analyzed a local hydrologic budget on the Madison and Minnelusa aquifers in the area of this application. Carter, et al. [10] divided the whole Black Hills into nine subareas which were delineated to minimize flow across subarea boundaries. The hydrologic budget area for that study is shown in Figure 1 [10].

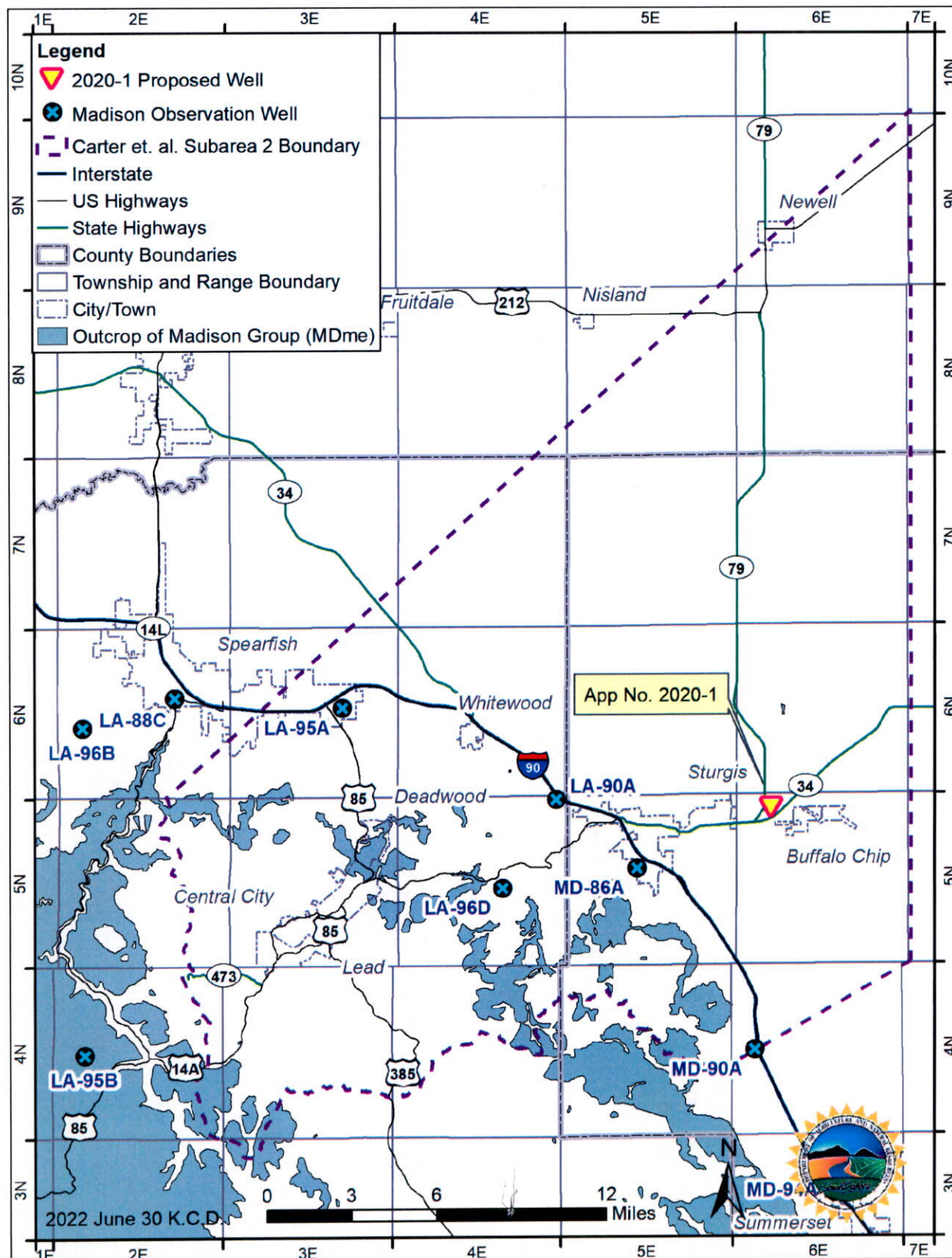


Figure 1: Local hydrologic budget boundary [10] [4]

Carter, et al. [10]

Carter, et al. [10] divided the area around the Black Hills into nine subareas and used streamflow, precipitation, spring flow, estimated ground water flow, and well withdrawal data from 1987 to 1996 for the hydrologic budgets. This application is in Subarea 2 of their report. The boundaries of the Carter et al. [10] subareas were made to minimize estimated flow across subarea boundaries. Carter et al. [10] estimated the total recharge to the Madison and Minnelusa aquifers in Subarea 2 was 37.9 cfs. Assuming 55% of the recharge goes to the Madison aquifer, the estimated recharge in Subarea 2 is 20.85 cfs, or approximately 15,101 ac-ft/yr [8] [10]. Carter, et al. [10] do not provide values for the recharge area of the Madison and Minnelusa formations for each subarea in their report, so it is possible the proportion of recharge area to those two aquifers is different within each subarea. Following the same methods as the Statewide Discharge section, withdrawals from the Carter et al. [10] Subarea 2 are shown in Table 4. The total estimated appropriation including water reserved for future use is approximately 10,684 ac-ft/yr [11] [13]. This application seeks to withdraw up to 240 additional ac-ft/yr, if approved. It is likely that the water use estimated for permits limited only by their diversion rate limit is higher than the actual withdrawals by those permits. Therefore, based on the local hydrologic budget in combination with other information available, there is reasonable probability unappropriated water is available for this application.

Table 4: Madison withdrawals estimated within Carter et al. [10] Subarea 2 [11] [13] rounded to the nearest 1 acre-foot.

Type	Count	Est. Rate (ac-ft/yr)
Irrigation	9	3,467
Volume limit	9	2,079
Diversion rate limit	19	2,434
<i>Subtotal (authorized to withdraw)</i>	37	7,980
Future use	1	2,704
Pending/deferred/held	0	0
Grand total	38	10,684

Observation Wells

Administrative Rule of South Dakota 74:02:05:07 requires that the Water Management Board rely upon the record of observation wells, in addition to other information, to determine that recharge exceeds withdrawals to approve an application. The Water Rights Program maintains 25 observation wells completed into the Madison aquifer [14]. The nearest observation well to this application is MD-86A, located approximately 5.3 miles southwest of this application [14]. Figure 2 shows water levels in Observation Well MD-86A over the period of record (1991-2022) [14]. In general, measured water levels in the Madison observation wells show water levels rise during periods of higher-than-average rainfall and decline during periods of lower-than-average rainfall. This means that recharge and natural discharge are the dominant effects in the aquifer and natural discharge is available for capture. Therefore, based on observation well analysis, there is reasonable probability unappropriated water is available for this application.

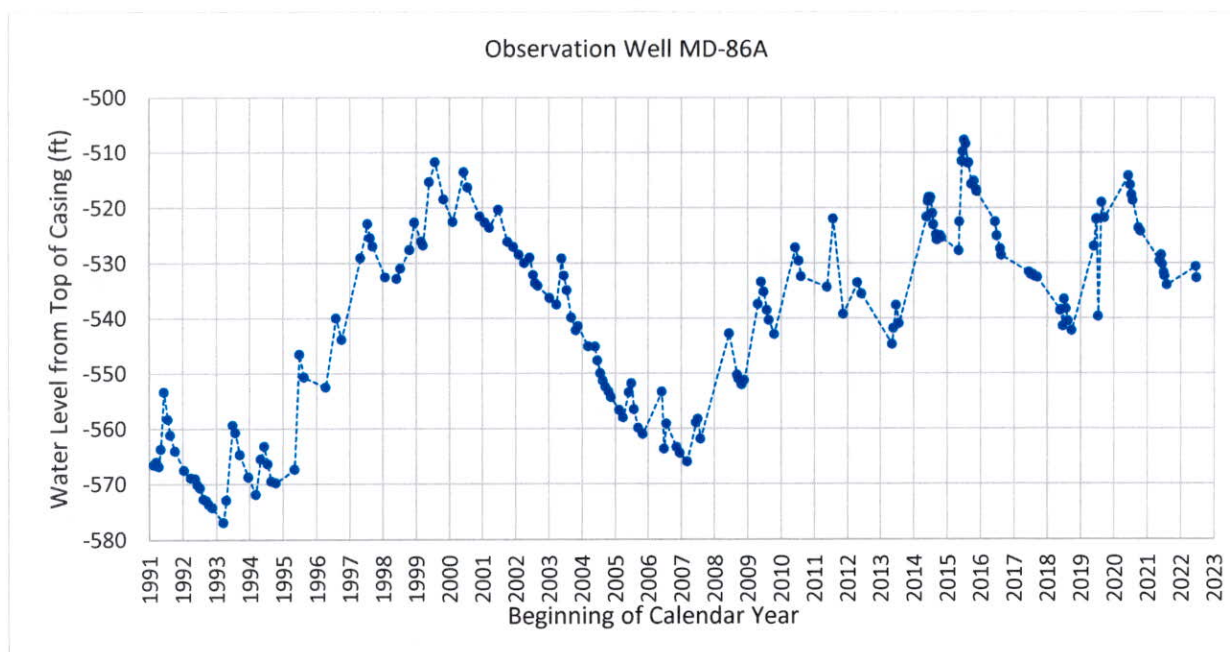


Figure 2: Water levels in Observation Well MD-86A [14]

Possibility of Unlawful Impairment of Existing Water Rights/Permits

The nearest water right/permit to this application that is completed into the Madison aquifer is Water Right No. 1858-1, located approximately 0.7 miles west of the proposed well and existing well for this application. There are no domestic wells on file with the Water Rights Program completed into the Madison aquifer that are nearer to this application than the nearest appropriative withdrawal from the same aquifer [6]. The Water Rights Program has historically interpreted an unlawful impairment of existing water rights to occur if a junior water right/permit causes a nearby adequate well with a senior water right/permit to become unable to withdraw at the rate it is entitled to or, if a domestic well is impacted, a water right/permit causes an adequate domestic well to be unable to withdraw at the rate needed to supply reasonable domestic use of water. Administrative Rule of South Dakota 74:02:04:20(6) defines an adequate well as:

...a well constructed or rehabilitated to allow various withdrawal methods to be used, to allow the inlet to the pump to be placed not less than 20 feet into the saturated aquifer or formation material when the well is constructed, or to allow the pump to be placed as near to the bottom of the aquifer as is practical if the aquifer thickness is less than 20 feet

In the hearing for Water Permit Application No. 2313-2 for Coca-Cola Bottling Company, the Water Management Board determined that to put the waters of the state to maximum beneficial use, hydraulic head would not be protected as a means of water delivery [15]. Some drawdown from this application is likely to occur and nearby well owners may need to lower their pumps or install pumps to access the water in the aquifer. Exact aquifer behavior cannot be known without an aquifer performance test. The applicant must control their withdrawals so that nearby water rights/permits and adequate domestic wells are able to withdraw necessary water. There is no record of well interference complaints from the Madison aquifer in Meade County [16]. Observation wells completed into this aquifer near larger appropriative wells show limited

drawdown when the large appropriative wells are in use [14]. Given the lack of well interference complaints in this aquifer in Meade County, limited drawdown shown in observation wells completed near larger appropriations, and the abundance of hydraulic head in the aquifer in the area of this application, there is reasonable probability this application can be developed without unlawful impairment of existing water rights.

Springs

The nearest large springs to this application are Elk Creek Springs, located approximately 12 miles south of the proposed well for this application [17]. Upon considering the deferral of Water Permit Application No. 2585-2 for Southern Black Hills Water System, the Water Management Board adopted a conclusion of law stating in part, "... The only protection South Dakota law provides when considering an application for an underground water permit for flow from an artesian spring is under the public interest criteria" [18]. Given the distance between the proposed well site and the nearest springs, there is reasonable probability this application can be developed without noticeably impacting flow from the springs.

Conclusions

1. Water Permit Application No. 2020-1 seeks to appropriate an additional 240 ac-ft/yr and an additional diversion rate authority of 1.40 cfs from one new well to be completed into the Madison aquifer located in the SW $\frac{1}{4}$ NW $\frac{1}{4}$ Section 5 and one existing Madison aquifer well in the NW $\frac{1}{4}$ SW $\frac{1}{4}$ Section 5; all in T5N-R6E. Water Right No. 1928-1 and Water Permit No. 1997-1 currently authorize a combined 200 ac-ft/yr at a combined maximum diversion rate of 1.40 cfs from the existing well.
2. If this application is approved, this permit, Water Right No. 1928-1, and Water Permit No. 1997-1 would allow simultaneous operation of the two wells for a combined total appropriation of 440 ac-ft/yr and a combined maximum diversion rate of 2.80 cfs for rural water system use.
3. Based on the hydrologic budget and observation well data, there is reasonable probability unappropriated water is available for this application.
4. There is reasonable probability this application can be developed without unlawful impairment of existing water rights/permits and domestic uses.
5. There is reasonable probability this application can be developed without noticeably impacting flow from springs in the Black Hills.
6. This application is subject to a 20-year term limit.



Kimberly. C. Drennon, E.I.

Natural Resources Engineer II – DANR Water Rights Program

References

- [1] M. D. Fahrenbach, F. V. Steece, J. F. Sawyer, K. A. McCormick, G. L. McGillivray, L. D. Schulz and J. A. Redden, "South Dakota Stratigraphic Correlation Chart," SD DANR Geological Survey Program, Vermillion, South Dakota, 2010. Oil and Gas Investigation 3.
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- [11] SD DANR Water Rights Program, "Water right permit file database," SD DANR Water Rights Program, Pierre, South Dakota, 2022.
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- [13] SD Water Rights, "Irrigation reports," SD DANR Water Rights Program, Joe Foss Bldg., Pierre, South Dakota, 2021.
- [14] SD DANR Water Rights Program, "Observation wells," Pierre, South Dakota, 2022.
- [15] South Dakota Water Management Board. *On the Matter of Water Permit Application No. 2313-2 for Coca Cola Bottling Company*, 1995.
- [16] SD DANR Water Rights Program, "County Files," SD DANR Water Rights Program, Joe Foss Bldg., Pierre, South Dakota, 2022.
- [17] C. A. Naus, D. G. Driscoll and J. M. Carter, "Geochemistry of the Madison and Minnelusa aquifers in the Black Hills area, South Dakota," United States Geological Survey, Rapid City, South Dakota, 2001. Water-Resources Investigations Report 01-4129.
- [18] South Dakota Water Management Board. *Finding of Facts, Conclusions of Law, and Final Decision on the Matter of Water Permit Application No. 2585-2*, 1997.

Schlaak, Karen

From: Schlaak, Karen
Sent: Monday, July 11, 2022 11:11 AM
To: 'dennisk.bbvwater@gmail.com'
Subject: Application No. 2020-1, Bear Butte Valley Water
Attachments: 3696.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 Schlaak

DANR - Water Rights Program

(605) 773-3352

Website: <https://danr.sd.gov>



RECEIVED

JUL 27 2022

OFFICE OF
WATER

Form 8

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
) SS
County of Meade)

I, Kris Stocklin-Johnson

certify that the attached printed Notice was taken

from the Faith Independent

printed and published in Faith

County of Meade and

state of South Dakota. The notice was published

in the newspaper on the following date:

07/20/2022

Cost of Printing \$41.16

Kris Stocklin-Johnson
(Signature)

Editor
(Title)

07/22/2022
(Date Signed)

14 • The Faith Independent • July 20, 2022 Public N

**NOTICE OF
APPLICATION
NO. 2020-1 to
Appropriate Water**

Notice is given that Bear Butte Valley Water, Inc., c/o Bruce Weynch, PO Box 351, Sturgis SD 57785 has filed an application for a water permit to appropriate an additional 240 acre-feet of water annually and an additional pump rate of 1.40 cubic feet of water per second (cfs) from one well to be completed into the Madison Aquifer (approximately 3,625 feet deep) located in the SW 1/4 NW 1/4 Section 5 and one existing Madison Aquifer well in the NW 1/4 SW 1/4 Section 5, all in T5N-R6E. Water Right No. 1928-1 and Water Permit No. 1997-1, combined, currently authorize 200 acre-feet of water annually at a maximum pump rate of 1.40 cfs from the existing well. This permit, if approved, Water Right No. 1928-1, and Water Permit No. 1997-1 will allow simultaneous operation of the two wells for a combined, total appropriation of 440 acre-feet of water annually and a maximum, combined, pump rate of 2.80 cfs for rural water system use. This site is located approximately 3 miles east of Sturgis SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2020-1 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 August 1, 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 August 1, 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 July 20, 2022 at the approximate cost of \$41.16 and may be viewed free of charge at www.sdpublicnotices.com.

RECEIVED

JUL 27 2022

OFFICE OF
WATER

Affidavit of Publication

STATE OF SOUTH DAKOTA:

COUNTY OF LAWRENCE:

Letitia Lister of said County and State being first duly sworn, on her oath says: That the BLACK HILLS PIONEER is a legal daily newspaper of general circulation, printed and published in the City of Spearfish, in said County and State by Letitia Lister, and has been such a newspaper during the times hereinafter mentioned; and that said newspaper has a bonafide circulation of at least 200 copies weekly, and has been published within said County in the English language for at least one year prior to the first publication of the notice herein mentioned, and is printed in whole or in part in an office maintained at the place of publication; and that I, Letitia Lister, the undersigned, am the Publisher of said newspaper and have personal knowledge of all the facts stated in this affidavit; and that the advertisement headed:

Notice OF Application

No. 2020-1 to

Appropriate Water

a printed copy of which is hereto attached, was printed and published in said newspaper for 1 successive and consecutive weeks, the first publication being made on the 20th day of July, 2022, and the last publication on the _____ day of _____, that the full amount of fees charged for publishing same, to-wit: The sum of \$ 44.16, insures solely to the benefit of the publisher of the BLACK HILLS PIONEER, that no agreement or understanding for a division thereof has been made with any person and that no part thereof has been agreed to be paid to any other person whomsoever.



Subscribed and sworn to before me this 25th day of July, 2022



Notary Public, Lawrence County, South Dakota

My commission expires: 7-18-2025

**NOTICE OF
APPLICATION
NO. 2020-1 to
Appropriate Water**

Notice is given that Bear Butte Valley Water, Inc., c/o Bruce Weyrich, PO Box 351, Sturgis SD 57785 has filed an application for a water permit to appropriate an additional 240 acre-feet of water annually and an additional pump rate of 1.40 cubic feet of water per second (cfs) from one well to be completed into the Madison Aquifer (approximately 3,625 feet deep) located in the SW 1/4 NW 1/4 Section 5 and one existing Madison Aquifer well in the NW 1/4 SW 1/4 Section 5; all in T5N-R6E. Water Right No. 1928-1 and Water Permit No. 1997-1, combined, currently authorize 200 acre-feet of water annually at a maximum pump rate of 1.40 cfs from the existing well. This permit, if approved, Water Right No. 1928-1, and Water Permit No. 1997-1 will allow simultaneous operation of the two wells for a combined, total appropriation of 440 acre-feet of water annually and a maximum, combined, pump rate of 2.80 cfs for rural water system use. This site is located approximately 3 miles east of Sturgis SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2020-1 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 August 1, 2022.

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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

August 1, 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 \$45.61 and can be viewed free of charge at www.sd-publicnotices.com.

#802
Jul 20

Schlaak, Karen

From: Schlaak, Karen
Sent: Monday, July 11, 2022 11:05 AM
To: 'faithind@faithsd.com'
Subject: 2020-1, Bear Butte Valley Water Inc
Attachments: 2020-1public.short_final.docx; FORM8.FRM.doc

Attached is a notice to be published on July 20, 2022.

Bear Butte Valley Water Inc., Bruce Weyrich, PO Box 351, Sturgis SD 57785 (605 206-0703) 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: Monday, July 11, 2022 11:06 AM
To: Black Hills Pioneer Spearfish (legals@bhpioneer.com)
Subject: 2020-1, Bear Butte Valley Water Inc
Attachments: 2020-1public.short_final.docx; FORM8.FRM.doc

Attached is a notice to be published on July 20, 2022.

Bear Butte Valley Water Inc., Bruce Weyrich, PO Box 351, Sturgis SD 57785 (605 206-0703) has been notified to contact you to authorize publication and arrange for payment.

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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**

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PIERRE SD 57501-3182
danr.sd.gov

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

July 11, 2022

Bear Butte Valley Water Inc
Bruce Weyrich, President
PO Box 351
Sturgis SD 57785

Dear Mr. Weyrich:

Water Permit Application No. 2020-1 for rural water system use have been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Faith Independent printed at Faith SD (Ph # 605 967-2161) and the Black Hills Pioneer printed at Spearfish SD (Ph # 605 642-2761). 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. 2020-1 to Appropriate Water

Notice is given that Bear Butte Valley Water, Inc., c/o Bruce Weyrich, PO Box 351, Sturgis SD 57785 has filed an application for a water permit to appropriate an additional 240 acre-feet of water annually and an additional pump rate of 1.40 cubic feet of water per second (cfs) from one well to be completed into the Madison Aquifer (approximately 3,625 feet deep) located in the SW 1/4 NW 1/4 Section 5 and one existing Madison Aquifer well in the NW 1/4 SW 1/4 Section 5; all in T5N-R6E. Water Right No. 1928-1 and Water Permit No. 1997-1, combined, currently authorize 200 acre-feet of water annually at a maximum pump rate of 1.40 cfs from the existing well. This permit, if approved, Water Right No. 1928-1, and Water Permit No. 1997-1 will allow simultaneous operation of the two wells for a combined, total appropriation of 440 acre-feet of water annually and a maximum, combined, pump rate of 2.80 cfs for rural water system use. This site is located approximately 3 miles east of Sturgis SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2020-1 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 August 1, 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 August 1, 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.



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

AUG 22 2022

Bear Butte Valley Water Inc.
c/o Bruce Weyrich
PO Box 351
Sturgis SD 57785

Dear Mr. Weyrich:

Enclosed is Water Permit No. 2020-1 authorizing construction of the water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

Form 10, *Notice of Completion of Works and Application of Water to Beneficial Use*, is enclosed. Please return this completed form after you have finished the system and have put the water to beneficial use. An investigation can then be scheduled so the water license may be issued, thus completing the acquisition of a water right.

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

Sincerely,

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

enclosures



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

**Affidavit of Public Notice
on DANR Website**

Pursuant to SDCL § 46-2A-4, public notice of the following application was posted on the DANR web site at <https://danr.sd.gov/public>. The posted public notice is the same notice as published in the pertinent newspaper(s) and a copy of the public notice is maintained in the application file. If the application is contested, the posting is moved to the DANR contested case website at <https://danr.sd.gov/public/ContestedCase.aspx> until final action is taken on the application pursuant to SDCL § 46-2A-4.

Application No.: 2020-1

Name of Applicant: Bear Butte Valley Water, Inc., Bruce Weyrich

Date of Posting: 7/18/2022

Date of Removal: 8/22/2022



Ron Duvall, Water Rights Permitting Administrator

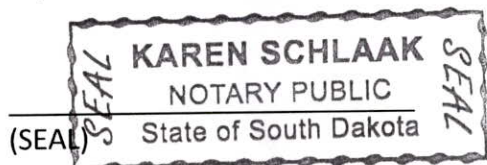
8/22/22

Date

Subscribed and sworn to before me, a notary public, this 22 day of August, 2022.



Notary Public - South Dakota
My commission expires: 4-1-2025



2020-1

Dewell, Amanda

From: Kilts, Whitney (DENR)
Sent: Monday, January 27, 2025 9:47 AM
To: Dewell, Amanda
Cc: Mathiowetz, Adam (DENR)
Subject: FW: [EXT] water sample results for well 2
Attachments: Scan.pdf

Can you add this email to the file for Water Permit No. 2020-1? The well inspection Mark refers to is the water right licensing inspection for one of Bear Butte Valley's older water rights. Bear Butte Valley folks just want to make sure when the licensing inspection for 2020-1 is done, the correct pump capacity is reflected in the inspection.



Whitney Kilts
Office of Water-Water Rights Program
Department of Agriculture and Natural Resources
523 E. Capitol Ave. Pierre SD, 57501
605.773.3352
danr.sd.gov

From: McIntire, Mark <Mark.McIntire@state.sd.us>
Sent: Monday, January 27, 2025 9:37 AM
To: Kilts, Whitney (DENR) <Whitney.Kilts@state.sd.us>; Mathiowetz, Adam (DENR) <Adam.Mathiowetz@state.sd.us>
Subject: FW: [EXT] water sample results for well 2

Whitney,

This is the new well for Bear Butte Valley water we talked about last Friday, that they are going to start up this week. The owner wants to make sure that when the well inspection is being performed that the pump VFD is set at 100% during the test. Last time on Bear Butte Valley's other well the VFD was set at 50%, so the well only produced half as much water as it could, and the water right was then reduced to the 50% pump capacity. Let me know if you have further questions.



Mark McIntire, PE
Administrator
Drinking Water Program
Department of Agriculture and Natural Resources
605.773.6575
danr.sd.gov

From: Dan Nebelsick <dan.nebelsick@dgr.com>
Sent: Friday, January 24, 2025 8:21 PM
To: McIntire, Mark <Mark.McIntire@state.sd.us>
Cc: dburdette.bbv@gmail.com; Travis Featherston <travis.featherston@dgr.com>; dennisk.bbvwater@gmail.com
Subject: FW: [EXT] water sample results for well 2

Mark,

Thanks for the call this afternoon. As I mentioned on the phone, BBVW is planning to placing their new Madison Well #2 into service next week. I've attached a copy of the initial water quality testing that was taken by the well driller, if you don't happen to have it in your records. As we discussed on the phone, this well is finished in the same formation and approximately 700' away from the existing well. Both wells pump to the same well building for chlorination.

Please let me know if you have any questions.

Sincerely,

Dan

Daniel D. Nebelsick, P.E.



1302 South Union Street
Rock Rapids, IA 51246
phone: 712-472-2531
cell: 712-348-4847

www.dgr.com

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From: Doug Burdette <dburdette81@aol.com>

Sent: Friday, January 24, 2025 1:55 PM

To: Dan Nebelsick <dan.nebelsick@dgr.com>

Subject: water sample results for well 2



MIDCONTINENT
TESTING LABORATORIES, INC.

Page 1 of 1

2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

DENNIS KINSLOW
BEAR BUTTE VALLEY WATER
PO BOX 351
STURGIS, SD 57785

Sample Site: New Well - Well 2
Sampled: 11/17/23 at 12:00 PM
by Dennis Kinslow
Sample Matrix: Water

Lab ID#: 20231117905
Received: 11/17/23 at 01:00 PM
by Jennifer Hill
Account: 9385
Bear Butte Valley Water

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Physical Properties							
Electrical Conductivity	1130	µmhos/cm	1	0.168	5.00	SM 2510B	JAM 11/21/23
Total Dissolved Solids	627	mg/L	100ml	13.8	50.0	SM 2540 C	MEM 11/20/23
Non-Metallics							
Alkalinity (CaCO ₃)	219	mg/L	1	0.444	10.0	SM 2320 B	JAM 11/21/23
Chloride (Cl ⁻)	188	mg/L	10	2.30	5.00	SM 4500-Cl E	BLL 11/22/23
Fluoride	0.269	mg/L	1	0.003	0.010	SM 4500 F-C	TMN 11/22/23
Nitrogen, Ammonia (NH ₃)	< 0.050	mg/L	1	0.004	0.050	Timberline-001	AED 11/21/23
Nitrogen, Nitrate (NO ₃)	0.347	mg/L	1	0.007	0.050	SM 4500-NO ₃ F	BLL 11/21/23
Sulfate (SO ₄)	53.1	mg/L	1	0.915	10.0	SM 4500-SO ₄ E	BLL 11/22/23
Metals - Dissolved							
Calcium (Ca)	162	mg/L	5	0.474	5.00	SM 3111 B	GRT 11/29/23
Magnesium (Mg)	33.1	mg/L	1	0.090	0.500	SM 3111 B	GRT 11/29/23
Potassium (K)	2.08	mg/L	1	0.096	0.500	SM 3111 B	GRT 11/29/23
Sodium (Na)	5.42	mg/L	1	0.265	1.00	SM 3111 B	GRT 11/29/23
Metals - Total							
Antimony (Sb)	< 0.005	mg/L	10	0.00014	0.005	EPA 200.8	TNA 11/21/23
Arsenic (As)	< 0.005	mg/L	10	0.000496	0.005	EPA 200.8	TNA 11/20/23
Barium (Ba)	0.111	mg/L	10	0.000138	0.005	EPA 200.8	TNA 11/21/23
Beryllium (Be)	< 0.001	mg/L	10	0.000138	0.001	EPA 200.8	TNA 11/21/23
Cadmium (Cd)	< 0.001	mg/L	10	0.000303	0.001	EPA 200.8	TNA 11/20/23
Chromium (Cr)	< 0.001	mg/L	10	0.000053	0.001	EPA 200.8 DRC	TNA 11/21/23
Iron (Fe)	1.37	mg/L	10	0.002	0.050	EPA 200.8	TNA 11/20/23
Manganese (Mn)	0.070	mg/L	10	0.000142	0.010	EPA 200.8	TNA 11/20/23
Mercury (Hg)	< 0.0002	mg/L	1	0.000033	0.0002	EPA 245.1	GRT 11/30/23
Nickel (Ni)	0.007	mg/L	10			EPA 200.8	TNA 11/20/23
Selenium (Se)	< 0.005	mg/L	10	0.002	0.005	EPA 200.8	TNA 11/20/23
Thallium (Tl)	< 0.001	mg/L	10	0.000033	0.001	EPA 200.8	TNA 11/21/23
Uranium (U)	0.003	mg/L	10	0.000023	0.001	EPA 200.8	TNA 11/20/23

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
<u>Radiological</u>							
Gross Alpha	2.11	pCi/L	1			EPA 900.0	SYS 12/18/23
Radium-226	0.760	pCi/L	1			EPA 903.1	SYS 12/19/23
Radium-228	0.442	pCi/L	1			EPA 904.0	SYS 12/13/23
<u>Precision Data</u>							
Gross Alpha precision	± 1.55	pCi/L	1			SC - Gross Alpha precision	SYS 12/18/23
Radium-226 precision	± 0.476	pCi/L	1			SC-Radium 226 precision	SYS 12/19/23
Radium-228 precision	± 0.312	pCi/L	1			SC-Radium 228 precision	SYS 12/13/23
<u>MDA Data</u>							
Gross Alpha MDA	2.62	pCi/L	1			SC - Gross Alpha MDA	SYS 12/18/23
Radium-226 MDA	0.609	pCi/L	1			SC - Radium 226 MDA	SYS 12/19/23
Radium-228 MDA	0.614	pCi/L	1			SC - Radium 228 MDA	SYS 12/13/23

Approved By:

Steve Disten

Approved On: 12/19/2023 2:51:04 PM