

WATER PERMIT NO. 8418-3

Name of Applicant: DeSmet School District 38-2

Address: 405 3rd St SW, DeSmet SD 57231 Phone: 605 854-3963

Amount of Water Claimed: 0.11 cfs Total Acres: 3 acres

Source of Water Supply: groundwater (one well)

Water to be used for: irrigation County: Kingsbury

Type of Waste Disposal System:

Location: within city limits of DeSmet

PRIORITY Date Received: 12-6-19

Application/License Fee: \$ 700

Corrected Application Received: 12-12-19

Period of Annual Use: March 1 – November 30

Remarks: Watering athletic field

Diversion Point: SW 1/4 SE 1/4 Sec 28-T111N-
R56W

Land to be Irrigated: SW 1/4 SE 1/4 Sec 28-
T111N-R56W

Depth of Well: 100 feet deep

Well Driller:

Remarks:

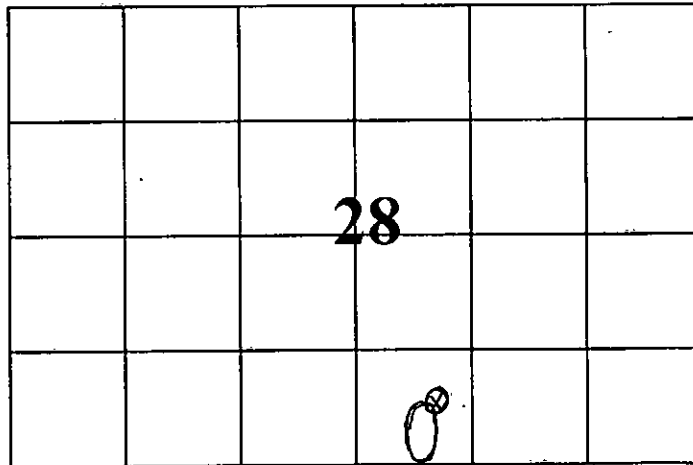
Type of Map: aerial

Prepared by:

Reviewed and the Number Assigned on: 12-12-19

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____



**SOUTH DAKOTA
WATER PERMIT NO. 8418-3**

Date of first receipt of application December 6, 2019.

Date of return to applicant for corrections, amendments or changes December 6, 2019.

Date of receipt of corrected application December 12, 2019.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 8418-3 to DeSmet School District 38-2, 405 3rd St SW, DeSmet SD 57231 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. 8418-3 appropriates 0.11 cubic feet of water per second (cfs) from one well to be completed into the Vermillion East Fork Aquifer (100 feet deep) located in the SW 1/4 SE 1/4 Section 28 to irrigate 3 acres of the athletic field located in the SW 1/4 SE 1/4 Section 28; all in T111N-R56W within the city limits of De Smet SD.
2. The amount of the appropriation may not exceed 2 acre feet annually for each acre of land to which water is actually and beneficially applied for irrigation. The water is to be used during the following described annual period: March 1 – November 30.
3. The date from which applicant may claim right is December 6, 2019.
4. The date of approval of Permit No. 8418-3 is March 9, 2020.
5. One-fifth of the construction is to be completed on or before September 9, 2022.
6. All construction is to be completed on or before March 9, 2025.
7. Water is to be put to beneficial use on or before March 9, 2029.
8. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

1. The well approved under Permit No. 8418-3 will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The well authorized by Permit No. 8418-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. Pursuant to SDCL 46-5-6 which allows a greater diversion rate if the method of irrigation, time constraints, or type of soils so requires, Permit No. 8418-3 authorizes a maximum diversion rate of 0.11 cfs for the irrigation of 3 acres with an annual volume not to exceed 2 acre feet of water per acre per year.
4. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

WATER MANAGEMENT BOARD

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

MAR 27 2020

date



FORM 2: Application for irrigation in South Dakota
(type or print)

PAID

DEC - 6 2019

Ck# 12344

RECEIVED

DEC 06 2019

WATER RIGHTS
PROGRAM

Mail to: DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>8418-3</u>	(office use only) Hydrologic Unit <u>10170103</u>
	Basin <u>Vermillion River</u>	
	Newspaper <u>DeSmet News</u>	
	<u>Plainsman</u>	

Application For Permit To Appropriate Water For Irrigation

Type of Application: ☒ New ☐ Vested Right ☐ Amendment/Correction to Permit No. _____
(Use predates Mar 2, 1955)

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

1. Name to Appear on Irrigation Permit De Smet School District 38-2

Note: The "Name to Appear on Irrigation Permit" must be the name in which the property to be irrigated is held in.

Mailing Address 405 3rd ST SW De Smet SD 57231
(Address) (City) (State) (Zip Code)

Phone 605-854-3963 Mobile _____ Email _____

2. Amount of water claimed 0.11 *CFS or 50 **GPM ***AF Total Acreage 3
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)

3. Source of water supply Ground

4. Location of point of diversion 1 Well SW 1/4 SE 1/4
(example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W)

Section 28 - T111N-R56W County Kingsbury

5. County or counties where water will be used Kingsbury County

6. Annual period during which water is to be used March - November

7. List below each forty acre division, or lot, or fraction thereof and show number of acres to be irrigated in each.
(Attach sheet if more space is needed)

Land Description	Acres	Land Description	Acres
section 28 - T111N - R56W <u>SW 1/4 SW 1/4</u>	<u>3</u>		

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

The school district would like to drill and utilize a well for the watering of the athletic field.

Applicant requesting diversion rate greater than statutory limit.

I, Abi Van Regenmorter Superintendent, the applicant, certify under
Name of Person Title (if applicable)

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

Supplemental Information

(type or print)

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

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

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

For either Existing or Proposed Wells:

☒ c) Well Depth (required) 100 Depth to Top of Water Bearing Material _____ Depth to Water from Surface _____

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

2. Wastewater Disposal System Information

a) Type of System (i.e. septic tank, drain field) None

b) System Capacity (gallons) _____ Year Constructed _____

c) Connected to the City of _____ Sanitary System

3. Dugout Information

a) Surface Dimensions None Depth _____

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

4. Water Storage Dams

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:
None

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)

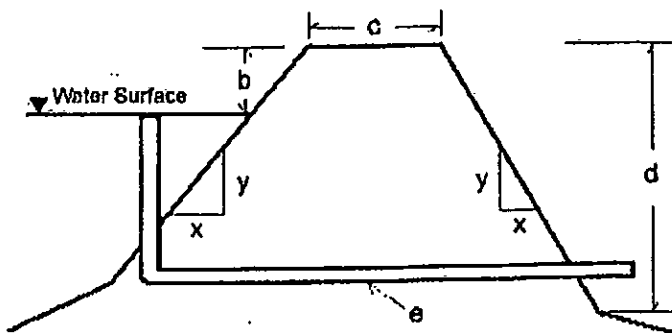
Upstream _____

Downstream _____

h) Surface Area of Impoundment _____

i) Storage _____ Acre Feet

j) Drainage Area Above Dam _____ Acres



DeSmet School District's Water Permit Application



Section 28
T111N-R56W



1,000 500 0 1,000 Feet

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date December 6, 2019

RECEIVED OF DeSmet School Dist No. 38-2 PO Box 157 De Smet SD 57231-0157

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

Fee for Application for Permit No. <u>8418-3</u> to Appropriate Water, to construct and to put water to beneficial use	500	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>8418-3</u>	200	00
Fee for Filing Transfer Form _____		
Fee for _____		
Fee for Issuing New Well Driller's License No. _____ for C.Y. _____		
Fee for Renewal of Well Driller's License No. _____ for C.Y. _____		
Fee for Issuing Well Pump Installer's License No. _____ for C.Y. _____		
Fee for Renewal of Well Pump Installer's License No. _____ for C.Y. _____		
(Any Other Work Provided by Law)	TOTAL	800 00

No. **09262**

By Jeanne Goodman
Chief Engineer ym



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

December 6, 2019

DeSmet School District 38-2
Abi Van Regenmorter, Supt
405 3rd St SW
DeSmet SD 57231

Dear Ms. Van Regenmorter:

Thank you for submitting the *Application for a Permit to Appropriate Water* for irrigation of the athletic field. In order to complete the application, the following is required.

- Enclosed is the Form 2A, Supplemental Information. On Item No. 1 regarding the Well Information, please complete c) Well Depth. Your well driller should be able to give you an estimate depth for the proposed well location.

If you have any questions, please contact me.

Sincerely,

Karen Schlaak

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

enclosures

Schlaak, Karen

From: Schlaak, Karen
Sent: Thursday, December 12, 2019 9:29 AM
To: Van Regenmorter, Abi
Subject: RE: De Smet Application

Abi,
Thanks for returning the form. You do not have to mail it. I believe you have visited with Eric Gronlund. I don't know if he explained the permitting process or not. We now have a complete application which will be given to one of our engineers who will prepare a report and recommendation. Once that is complete, it will be time for the public notice. We will send you a letter explaining what needs to be done at that time. We have 60 days to complete the report so don't expect anything from us until the later part of January.

Let me know if you have any questions. Merry Christmas!
Karen

From: Van Regenmorter, Abi <Abi.VanRegenmorter@k12.sd.us>
Sent: Thursday, December 12, 2019 9:17 AM
To: Schlaak, Karen <Karen.Schlaak@state.sd.us>
Subject: De Smet Application

Hi Karen,
I've attached Form 2A with the missing information completed for the De Smet School District application. Please let me know if you need anything else or if you prefer me to put it in the mail.
Thanks!
Abi

Abi Van Regenmorter
De Smet School District
Superintendent/Elementary Principal

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From: LIW Copier <DeSmetLIWTeachers@k12.sd.us>
Sent: Thursday, December 12, 2019 10:02 AM
To: Van Regenmorter, Abi
Subject: [EXT] Send data from Service 12/12/2019 10:02

Scanned from Service.
Date: 12/12/2019 10:02
Pages:1
Resolution:200x200 DPI



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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<http://denr.sd.gov>

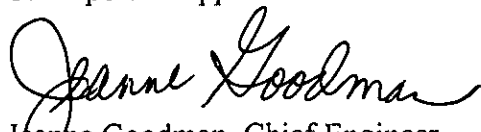
**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 8418-3, DeSmet School District 38-2**

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Program, Department of Environment and Natural Resources concerning Water Permit Application No. 8418-3, DeSmet School District 38-2 c/o Abi Van Regenmorter, Superintendent, 405 3rd Street SW, DeSmet SD 57231.

The Chief Engineer is recommending APPROVAL of Application No. 8418-3 because 1) there is reasonable probability that there is unappropriated water available for the applicant's proposed use, 2) the proposed diversion can be developed without unlawful impairment of existing rights, 3) the proposed use is a beneficial use and 4) it is in the public interest with the following qualifications:

1. The well approved under Permit No. 8418-3 will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The well authorized by Permit No. 8418-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. Pursuant to SDCL 46-5-6 which allows a greater diversion rate if the method of irrigation, time constraints, or type of soils so requires, Permit No. 8418-3 authorizes a maximum diversion rate of 0.11 cfs for the irrigation of 3 acres with an annual volume not to exceed 2 acre feet of water per acre per year.
4. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

See report on application for additional information.


Jeanne Goodman, Chief Engineer
February 19, 2020

REPORT TO THE CHIEF ENGINEER
ON
WATER PERMIT APPLICATION NO. 8418-3
DE SMET SCHOOL DISTRICT
C/O ABI VAN REGENMORTER
FEBRUARY 19, 2020

Water Permit Application No. 8418-3 proposes to appropriate water from an unnamed management unit of the Vermillion East Fork aquifer for the purpose of irrigating 3.0 acres located in the SW $\frac{1}{4}$ SE $\frac{1}{4}$ Sec. 28-T111N-R56W. The applicant intends to divert water from a single 100-foot deep well, also located within the SW $\frac{1}{4}$ SE $\frac{1}{4}$ Sec. 28-T111N-R56W, at a maximum diversion rate of 0.11 cubic feet per second (cfs). The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres. Water Permit Application No. 8418-3 is within the city limits of the City of De Smet, South Dakota.

AQUIFER: Vermillion East Fork

Aquifer Characteristics:

The Vermillion East Fork aquifer is associated with the valley of the East Fork of the Vermillion River and extends from Clark County to Turner County (Hedges et al, 1982). It is a 2 to 4 mile-wide glacial meltwater deposit consisting of medium to very coarse sand and fine gravel with a general direction of groundwater movement from northwest to southeast. It is predominantly an unconfined aquifer with an average thickness of 25 feet. The range for the top of the aquifer is from a surface exposure to 120 feet below the ground surface (Hamilton, 1989). Hedges et al (1982 and 1985), further divided the aquifer into several management units based on hydrogeologic features, such as groundwater flow divides, aquifer constrictions, and surface water connections. In the Findings of Fact, Conclusions of Law, and Final Decision for Water Permit No. 8226-3, the Water Management Board concluded the Vermillion East Fork aquifer is properly divided into management units and recognizes the following management units: the Reid Lake (VEF:RL), the Antelope Lake (VEF:AL), the Willow Lake (VEF:WL), the Spirit Lake (VEF:SL), the Montrose (VEF:M), and an unnamed management unit (Water Rights, 2017). The extent of the Vermillion East Fork aquifer management units are shown in Figure 1. The unnamed management unit, from which this application proposes to withdraw water, is labeled as VEF in Figure 1. For the remainder of this report, the unnamed management unit will be referred to as the Vermillion East Fork aquifer.

The Vermillion East Fork aquifer lies entirely within Kingsbury County. Stonesifer (2013) defined the northern extent at a groundwater flow divide along the T112N and T111N boundary, approximately four miles north of De Smet, SD. By placing the southern limit at the Kingsbury/Miner County line, Stonesifer (2013) estimated an areal extent of 42,500 acres with approximately 127,500 acre-feet (ac-ft) of water in storage. This management unit is hydraulically connected to Lake Thompson and possesses a hydraulic conductivity estimated to range between 200 to 600 ft/day with well yields as high as 1,000 gallons per minute (Hamilton, 1989).

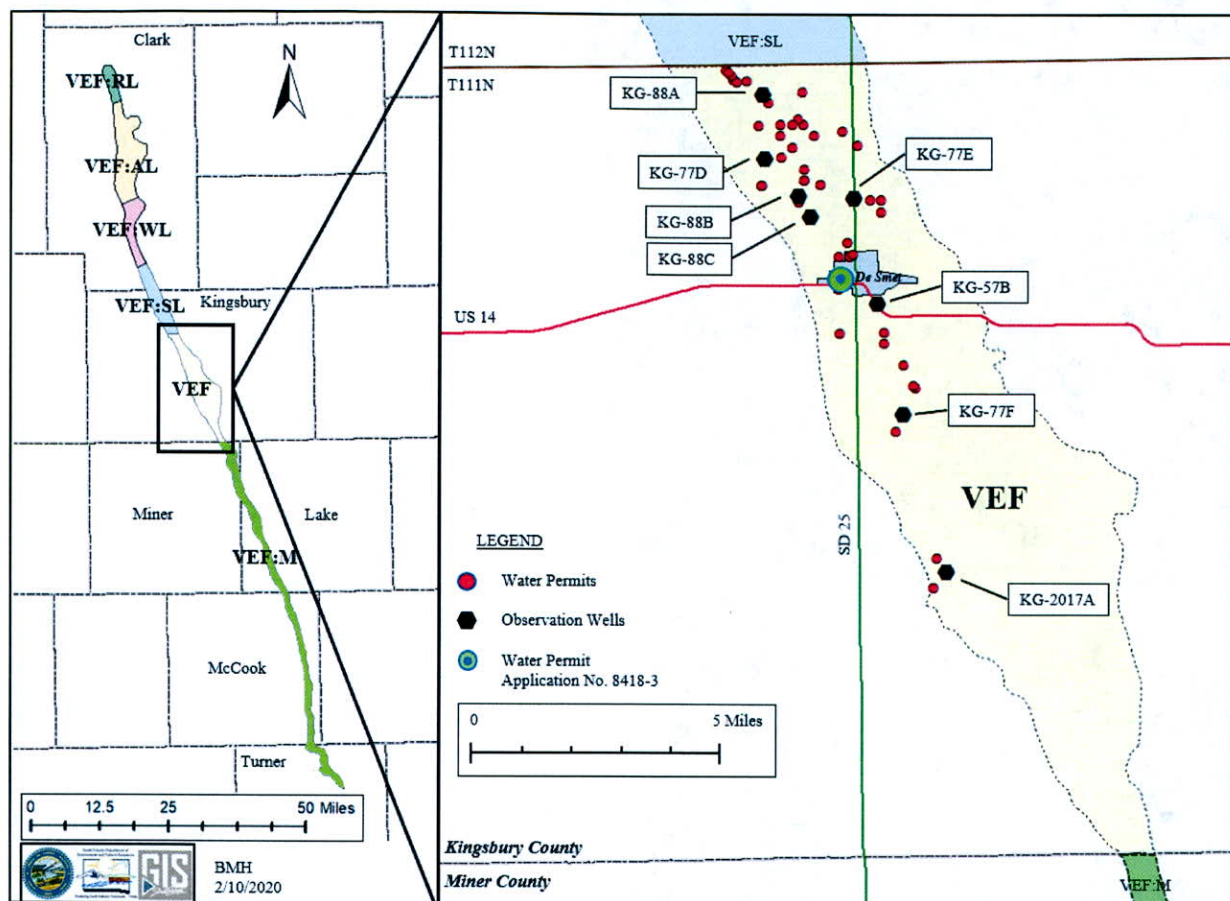


Figure 1. Vermillion East Fork aquifer management units with the proposed well location and DENR water rights/permits and DENR observation well locations completed into the Vermillion East Fork aquifer (modified from Stonesifer, 2013; Water Rights 2020a and 2020b).

SOUTH DAKOTA CODIFIED LAW (SDCL) 46-2A-9

Pursuant to SDCL 46-2A-9, a permit to appropriate water may be issued only if there is reasonable probability that there is unappropriated water available for the applicant's proposed use, that the proposed diversion can be developed without unlawful impairment of existing rights and that the proposed use is a beneficial use and in the public interest. This report will address water availability and potential for unlawful impairment of existing water rights only.

WATER AVAILABILITY:

Water Permit Application No. 8418-3 proposes to appropriate water from the Vermillion East Fork aquifer. The probability of unappropriated water being available from an aquifer can be evaluated by considering SDCL 46-6-3.1 which requires "No application to appropriate groundwater may be approved if, according to the best information reasonably available, it is probable that the quantity of water withdrawn annually from a groundwater source will exceed the quantity of the average estimated annual recharge of water to the groundwater source..." If the source of the water is older or lower than the Greenhorn Formation and a water distribution system has applied for a permit, the Board need not consider the recharge/withdrawal issue. For this application, a water

distribution system is not involved, and the aquifer is not older or lower than the Greenhorn Formation, therefore the withdrawal/recharge issue must be considered.

Observation Well Data:

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

The DENR-Water Rights Program monitors eight total observation wells completed into the Vermillion East Fork aquifer. Figure 1 shows these locations in relation to the proposed well site. Figures 2 through 9 are the hydrographs from each observation well. Figure 2 is the closest to the proposed application site at approximately 1 mile to the southeast. The data points utilized to construct the hydrographs are measurements of the static water level. The observation wells show that water levels have been rising or stable over the period of record.

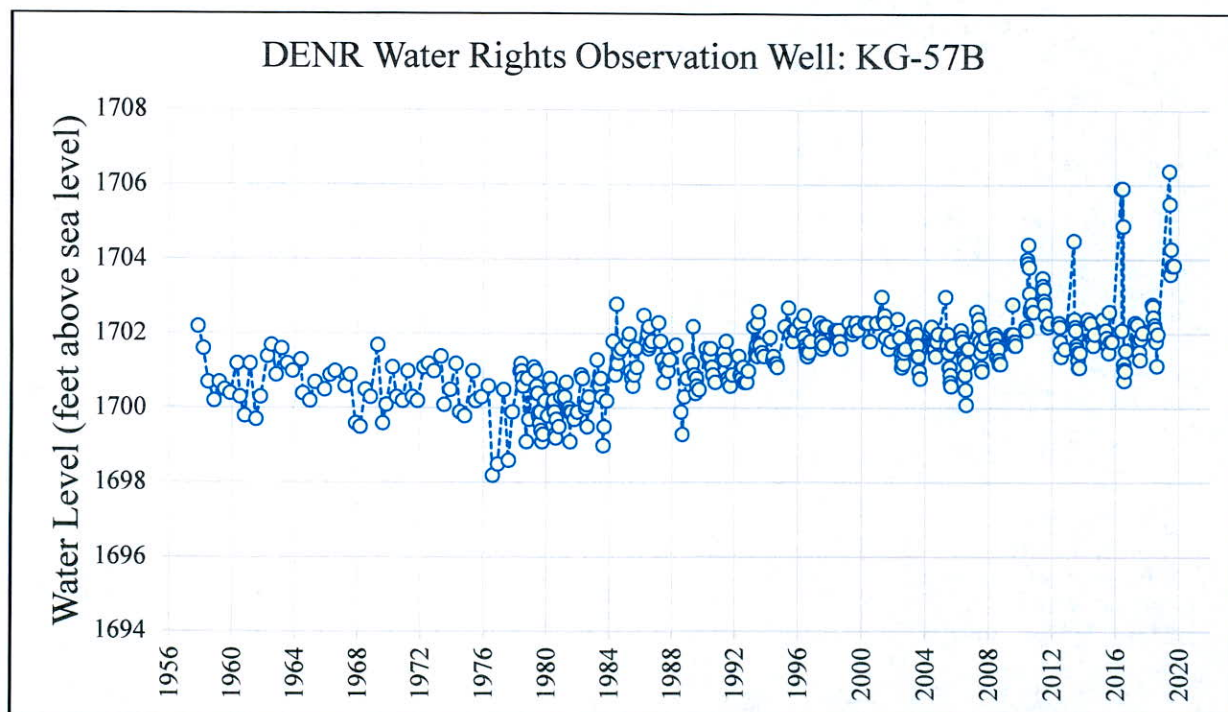


Figure 2. Hydrograph for observation well KG-57B. It is the closest well, approximately 1 mile southeast of the proposed well location for Water Permit Application No. 8418-3 (Water Rights, 2020a).

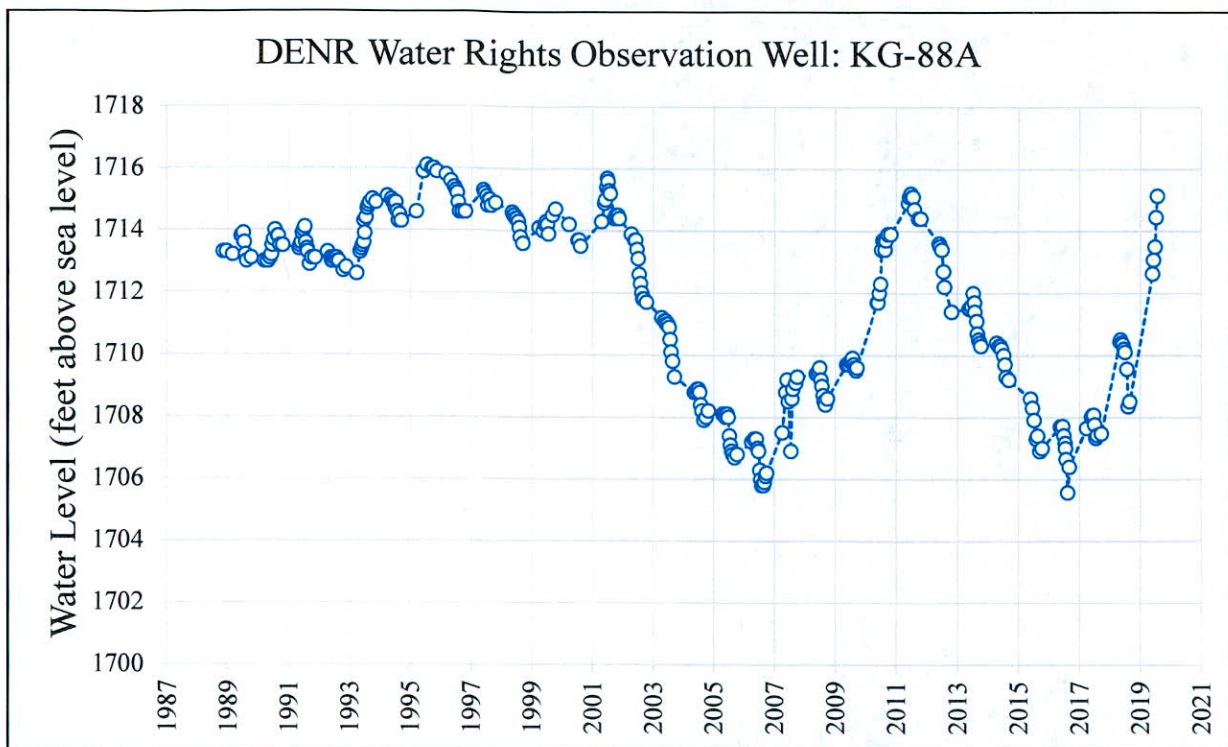


Figure 3. Hydrograph for observation well KG-88A, located approximately 4.5 miles northeast of the proposed well location for Water Permit Application No. 8418-3 (Water Rights, 2020a).

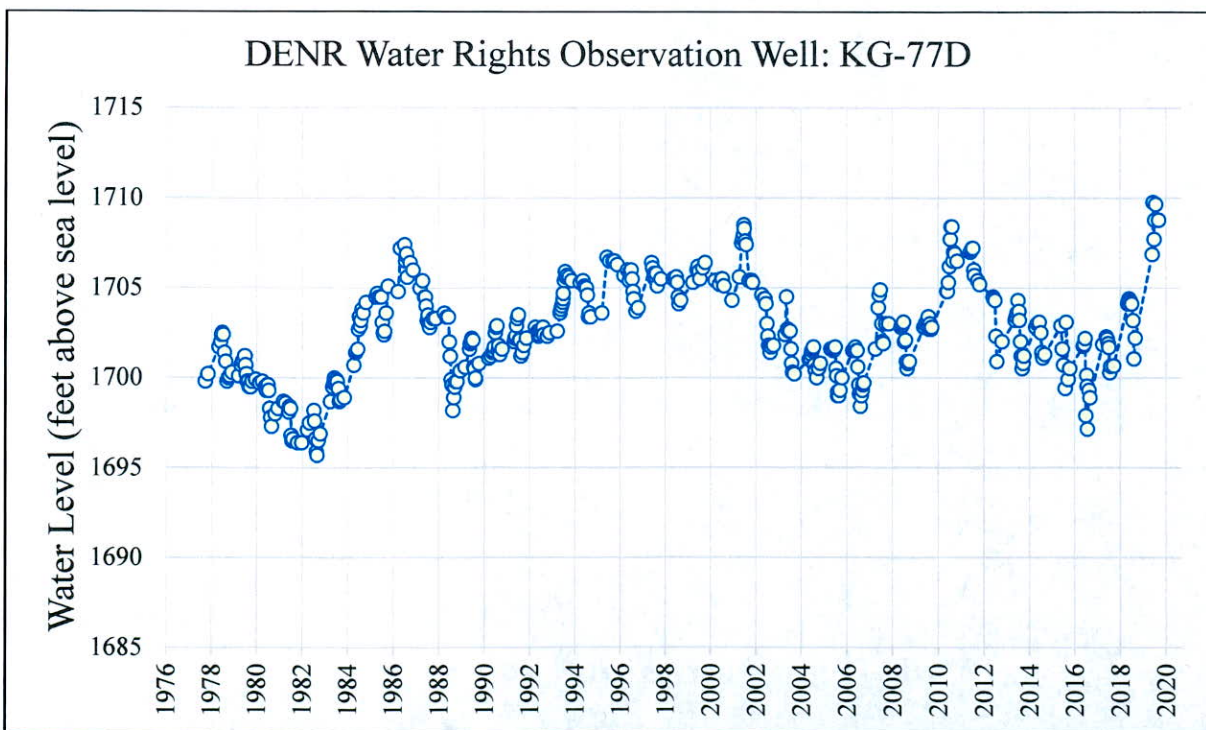


Figure 4. Hydrograph for observation well KG-77D, located approximately 3.2 miles northeast of the proposed well location for Water Permit Application No. 8418-3 (Water Rights, 2020a).

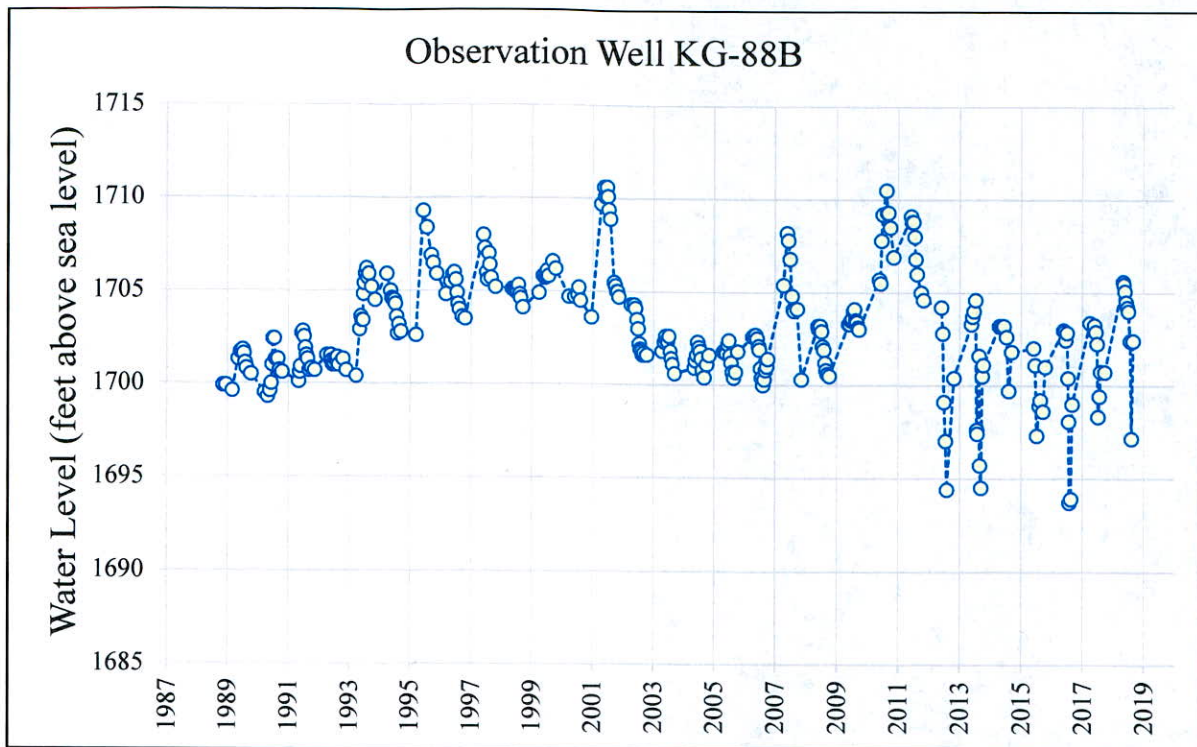


Figure 5. Hydrograph for observation well KG-88B, located approximately 2.1 miles northeast of the proposed well location for Water Permit Application No. 8418-3 (Water Rights, 2020a).

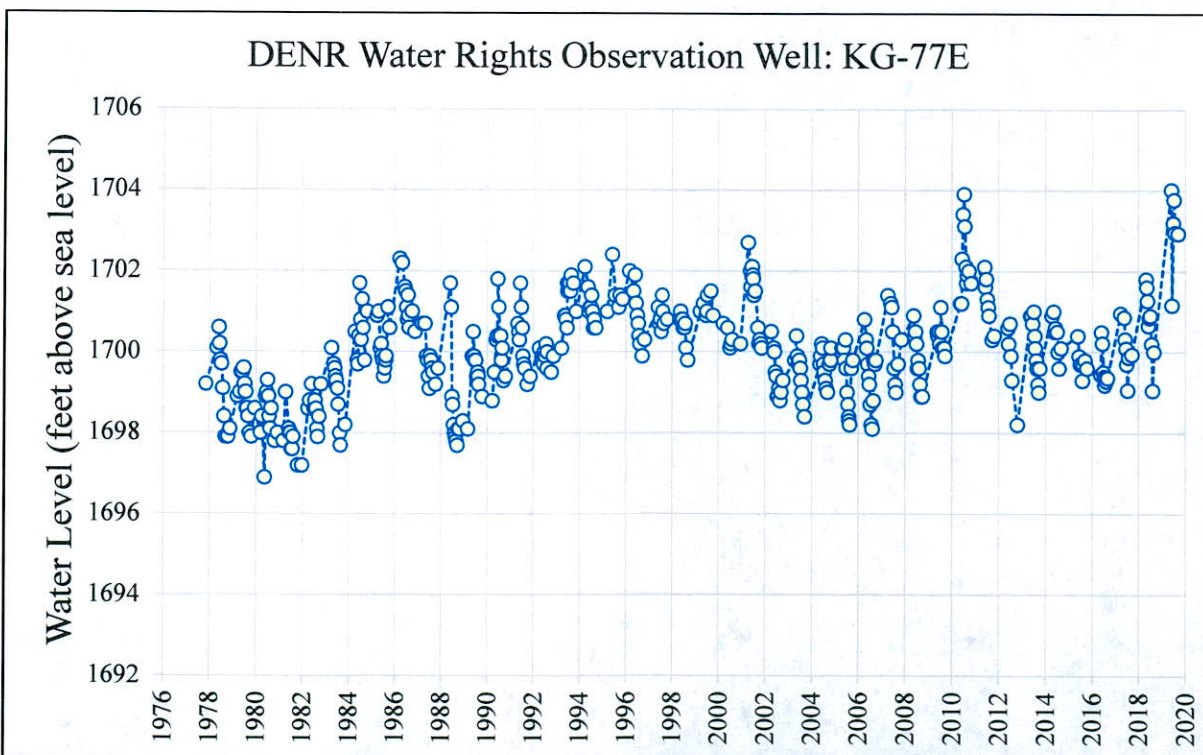


Figure 6. Hydrograph for observation well KG-77E, located approximately 1.8 miles north of the proposed well location for Water Permit Application No. 8418-3 (Water Rights, 2020a).

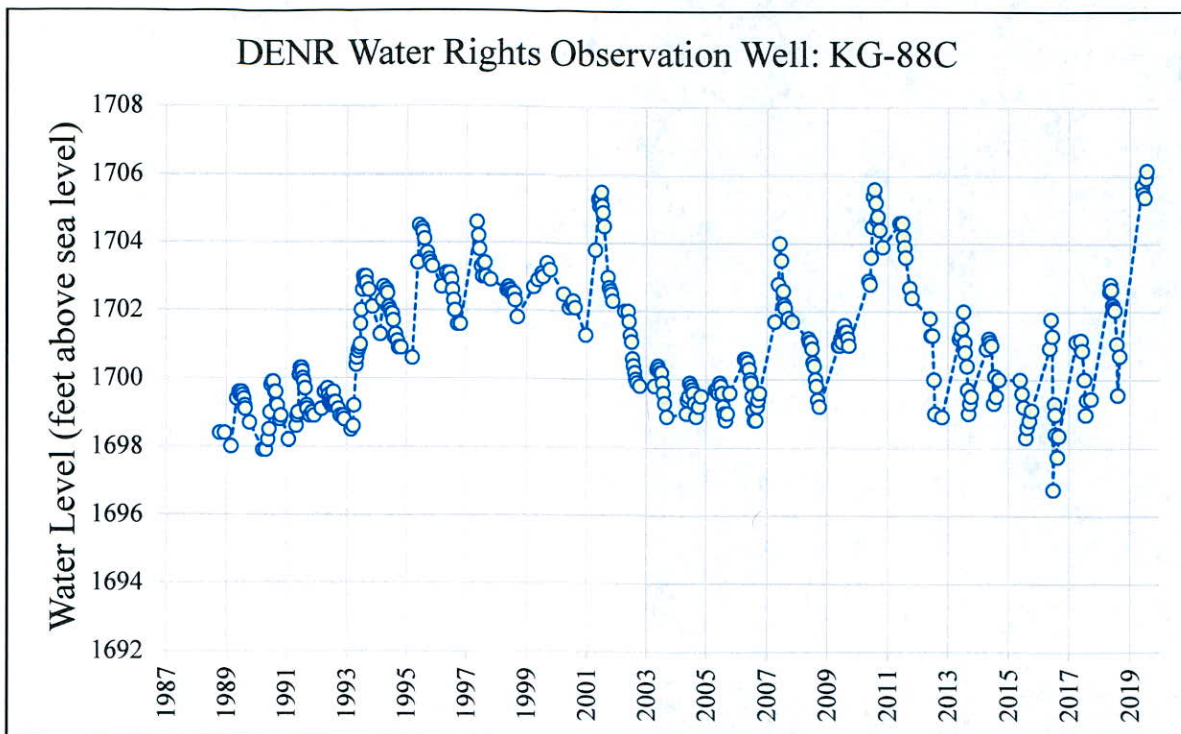


Figure 7. Hydrograph for observation well KG-88C, located approximately 1.6 miles northeast of the proposed well location for Water Permit Application No. 8418-3 (Water Rights, 2020a).

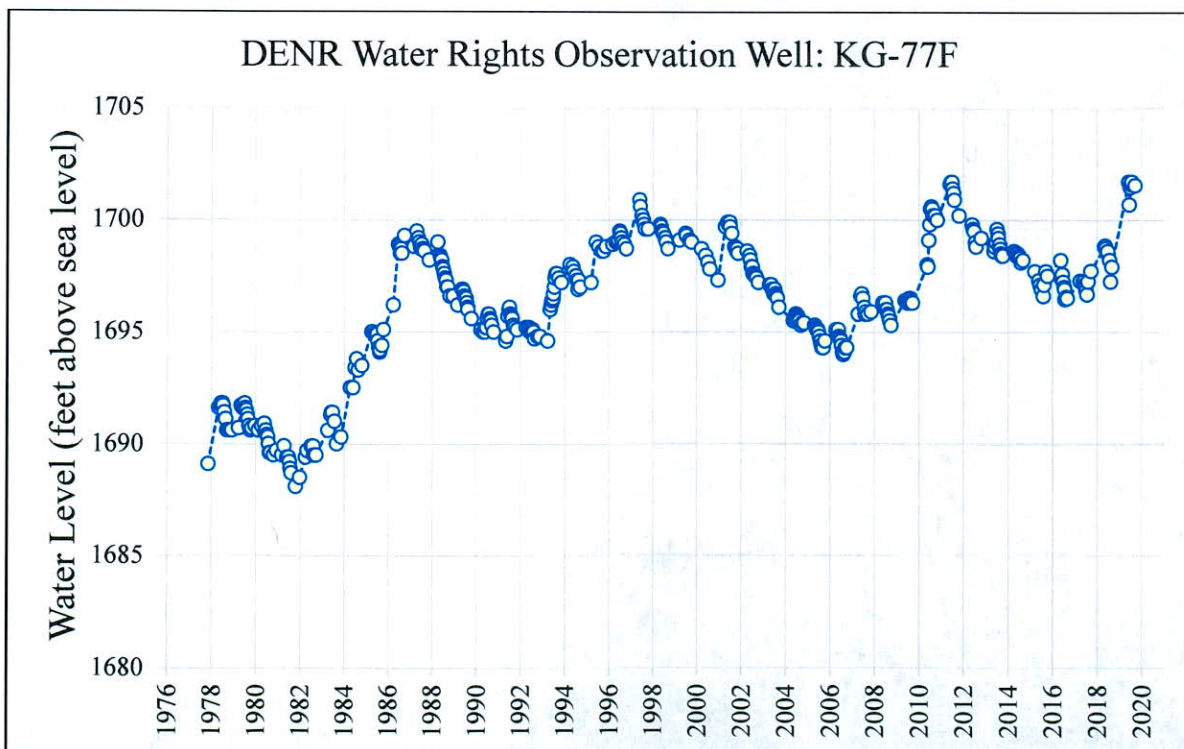


Figure 8. Hydrograph for observation well KG-77F, located approximately 3.4 miles southeast of the proposed well location for Water Permit Application No. 8418-3 (Water Rights, 2020a).

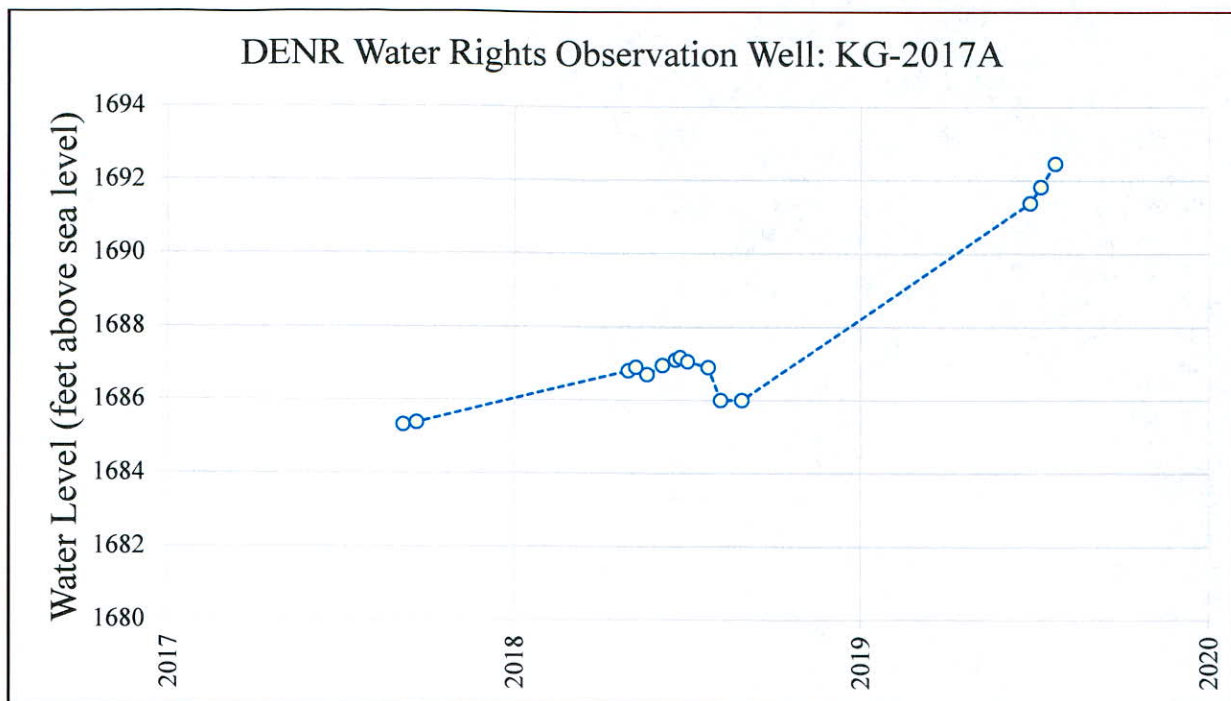


Figure 9. Hydrograph for observation well KG-2017A, located approximately 6.3 miles southeast of the proposed well location for Water Permit Application No. 8418-3 (Water Rights, 2020a).

Figures 2 through 9 demonstrate that the aquifer responds in a predictable pattern to climatic precipitation changes by rising during wet periods and declining during drier periods. The observation well hydrographs also show the aquifer consistently recovers its water level after the irrigation season is finished. This indicates that climatic conditions rather than pumping dominate water level in the aquifer. As a result, recharge to and natural discharge from the aquifer exceed withdrawals. Because natural discharge can be captured for pumping, the observation well hydrographs show there is reasonable probability unappropriated water is available for this proposed appropriation.

Hydrologic Budget:

Recharge:

Recharge to the Vermillion East Fork aquifer occurs through infiltration of precipitation, hydrologic connection with adjoining management units, and leakage from adjacent and underlying till (Hamilton, 1989). Recharge specifically to the unnamed management unit of the aquifer has not been quantified. However, Hedges and others (1985) estimated the recharge rate for the other management units with observation well analysis. Due to the similar geography, aquifer characteristics, and proximity to the Spirit Lake management unit, Stonesifer (2013), Capen (2015), and Buhler (2016) all adopted the Spirit Lake management unit estimated recharge rate of 4.0 inch per year (in/yr) to apply to the Vermillion East Fork management unit. Therefore, applying the area (42,500 acres) the estimated recharge rate for the Vermillion East Fork aquifer is approximately 14,167 acre-feet per year (ac-ft/yr).

Discharge:

Discharge occurs through evapotranspiration, well withdrawal, and outflow to adjacent till material and local lakes (Hamilton, 1989). As shown in Table 1, there are currently 28 water rights/permits appropriating water and two future use permits reserving water from the Vermillion East Fork aquifer. Considering that rural water has replaced many domestic wells as a primary source and the relatively low amount of water used by a typical domestic well, the annual water withdrawn for domestic use is not included because it is not a significant portion of the hydrologic budget (Stonesifer, 2013; Buhler, 2014; Capen 2015).

PERMIT NUMBER	NAME	PRIORITY DATE	STATUS	USE	CFS	ACRES
4795-3	CITY OF DESMET	01/01/1922	LC	MUN	2.11	N/A
524-3	CITY OF DESMET	03/09/1958	FU	MUN	N/A	N/A
1533-3	RUSTIN E & AUSTIE LEE ALBRECHT	11/09/1967	LC	IRR	2.66	293
1456A-3	H T ALBRECHT & SONS INC	11/09/1967	LC	IRR	1.33	124
1487-3	IRA ALBECK	12/29/1967	LC	IRR	1.85	130
1652-3	CITY OF DESMET	12/24/1968	LC	MUN	2.22	N/A
2037-3A	TIM SULLIVAN	12/17/1973	LC	IRR	1.89	132
3312-3	CLARENCE STUBBE	12/07/1976	LC	IRR	1.88	132
3478-3	FARRON PRATT	12/10/1976	LC	IRR	1.33	110
3499A-3	WILLIAM POPPEN	12/28/1976	LC	IRR	1.77	132
3822-3	JOAN A JENCKS	02/15/1977	LC	IRR	1.34	126
3825-3	SHIRLEY ALLEN	03/04/1977	LC	IRR	1.31	92
4137-3	KINGBROOK RWS INC	03/04/1977	LC	RWS	1.06	N/A
3960-3	WALLUM FARMS INC	03/09/1977	LC	IRR	0.94	66
4245-3	ALAN AUGHENBAUGH	02/27/1978	LC	IRR	1.77	205
5186-3	KINGBROOK RWS INC	03/29/1988	LC	RWS	0.7	N/A
5209-3	KINGBROOK RWS INC	08/15/1988	FU	RWS	N/A	N/A
5426-3	KINGBROOK RWS INC	08/15/1988	LC	RWS	1.4	N/A
5258-3	KINGSBURY CO COUNTRY CLUB	12/07/1988	LC	IRR	0.52	37
6731-3	KINGBROOK RWS INC	06/05/2006	LC	RWS	2.6	N/A
6759-3	CITY OF DESMET	09/27/2006	LC	MUN	0.004	N/A
7279-3	H T ALBRECHT & SONS INC	11/17/2011	PE	IRR	1.92	135
7307-3	WESLEY TOEWS FAMILY TRUST	01/17/2012	PE	IRR	4	296
7674-3	BOB TIMP	01/24/2013	PE	IRR	4.44	360
7855-3	WILLIAM POPPEN	07/08/2013	PE	IRR	0.89	40
7981-3	FARRON PRATT	03/06/2014	PE	IRR	0.58	24
8050-3	RONALD BENSON	09/19/2014	PE	IRR	2.22	172
8168-3	NORMAN LEE	06/09/2015	PE	IRR	2.49	195.6
8169-3	LYLE ANDERSON	06/09/2015	PE	IRR	0.85	67.3
8226-3	JEFFERY ALBRECHT	05/25/2016	PE	IRR	1.78	102.5

LC = Water Right, PR = Water Permit, FU = Future Use, MUN = Municipal, IRR = Irrigation, RWS = Rural Water System

Table 1. Water rights/permits appropriating water and future use permits reserving water from the Vermillion East Fork aquifer (Water Rights, 2020b).

Appropriations from the Vermillion East Fork aquifer for uses other than irrigation include: four water rights/permits for rural water system use, three municipal water rights, and two future use

permits. For withdrawal calculation purposes, each Status and Use (Table 1) designation is treated differently. For non-irrigation water rights/permits (LC, PE, MUN, and RWS), expected withdrawals are assumed to pump 60 percent of the time at their authorized diversion rate if limited only by diversion rate or will pump their full permitted appropriation if limited by an annual volume. Future use (FU) includes the total amount reserved because they are assumed to be fully developable permits. Irrigation water rights/permits (IRR) volume is the average annual pumpage determined from annual irrigation questionnaire summaries.

The City of De Smet has three non-irrigation water rights authorizing a diversion rate of 4.334 cfs and one future use permit reserving 625 ac-ft/yr. By assuming pumping 60% of the time at the permitted diversion rate added with the future use amount, approximately 2,508 ac-ft/yr can be expected to be withdrawn for these appropriations.

Kingbrook Rural Water System, Inc., has four non-irrigation water rights authorizing a diversion rate of 5.76 cfs and one future use permit reserving 1,100 ac-ft/yr. However, because the four water rights are limited to a combined annual volume of 1,350 ac-ft/yr, the maximum permitted use plus future use reservation is estimated to be 2,450 ac-ft/yr for these appropriations.

Historic irrigation water use from the Vermillion East Fork aquifer, developed from reported irrigation questionnaire summaries, is displayed in Table 2. The average annual irrigation pumpage is approximately 954 ac-ft/yr (Water Rights, 1980-2019).

Water Balance:

The annual average withdrawal from the Vermillion East Fork aquifer through current appropriations plus development of this application, is expected to be approximately 5,918 ac-ft/yr. Expected average annual usage includes: (1) City of De Smet water rights and future use permit (2,508 ac-ft/yr), (2) Kingbrook RWS water rights and future use permit (2,450 ac-ft/yr), (3) average annual irrigation withdrawals from Table 2 (954 ac-ft/yr), and (4) maximum development of Water Permit 8418-3 at 6 ac-ft/yr. The average annual recharge is estimated to be 14,167 ac-ft/yr. Irrigation water rights are limited to two ac-ft/yr of water per acre. Because this application proposes to irrigate three acres, this application requests 6 ac-ft/yr. The request for an appropriation of 6 ac-ft/yr for this application does not result in an exceedance of the estimated average annual recharge of this aquifer. Therefore, there is a reasonable probability that unappropriated water is available to support the proposed appropriation.

Year	Number of Permits Reporting	Appropriation (acre-feet/year)	Pumpage (acre-feet/year)
1979	23	10193.0	1553.36
1980	23	10193.0	1531.92
1981	23	10193.0	982.46
1982	22	8691.6	393.15
1983	22	8691.6	710.13
1984	21	9783.8	694.00
1985	20	9303.8	865.00
1986	21	9500.6	485.00
1987	21	9270.6	661.00
1988	21	9270.6	973.00
1989	22	9270.6	1147.60
1990	22	9270.6	1969.00
1991	22	8696.6	877.00
1992	17	6147.7	619.60
1993	17	6192.1	146.20
1994	16	5602.1	439.12
1995	16	5602.1	253.59
1996	16	5602.1	835.64
1997	16	5582.1	802.00
1998	16	5602.1	850.36
1999	16	5602.1	588.69
2000	16	5602.1	950.39
2001	16	5602.1	891.71
2002	16	5416.1	985.08
2003	16	5416.1	1141.42
2004	15	5152.1	839.32
2005	15	5152.1	966.60
2006	15	5152.1	1090.45
2007	14	4966.1	1178.74
2008	14	4966.1	1253.00
2009	14	4966.1	464.11
2010	14	4966.1	277.89
2011	14	4966.1	517.48
2012	16	5828.1	1644.78
2013	17	6548.1	1603.63
2014	19	6676.1	1229.64
2015	21	6840.1	1478.10
2016	21	7365.9	1586.45
2017	22	7570.6	1337.29
2018	21	7922.8	1114.86
Maximum:	23	10193.0	1969.00
Minimum:	14	4966.1	146.20
Average:	18.2	7011.8	953.43

Table 2. Reported historic irrigation use from the Vermillion East Fork Aquifer (Water Rights, 1980-2019).

EXISTING WATER RIGHTS

The Vermillion East Fork aquifer is predominantly under unconfined conditions. In unconfined conditions, drawdown due to pumping is not significant at a distance from a production well, and interference is not expected to be a concern. As a result, existing water rights/permits, future

permits, and domestic wells further than one mile are not expected to be influenced from appropriation at the proposed location. Table 3 lists the water rights and future use permits within one mile of the proposed well location. There are a number of domestic wells on file with the DENR-Water Rights Program within approximately one mile of the proposed well location that appear to be completed into the Vermillion East Fork aquifer (Water Rights, 2020c). There are likely other domestic wells not on file with the Water Rights Program within one mile of the proposed well location that are completed into the Vermillion East Fork aquifer.

PERMIT NUMBER	NAME	PRIORITY DATE	STATUS	USE	CFS	Distance (ft)
4795-3	CITY OF DESMET	01/01/1922	LC	MUN	2.11	3,400
524-3	CITY OF DESMET	03/09/1958	FU	MUN	0	2,900
1652-3	CITY OF DESMET	12/24/1968	LC	MUN	2.22	4,000
5258-3	KINGSBURY CO COUNTRY CLUB	12/07/1988	LC	IRR	0.52	1,300

LC = Water Right, FU = Future Use, MUN = Municipal, IRR = Irrigation

Table 3. Water rights and future use permits of the Vermillion East Fork aquifer within one mile of Water Permit Application No. 8418-3, (Water Rights, 2020b).

Conditions can occur where withdrawal exceeds recharge to the aquifer. A decline of water levels during an extended drought combined with the cumulative impact of well withdrawals may result in reduced yields of wells completed into thinner portions of the Vermillion East Fork aquifer. Adverse impact may occur if the saturated thickness is reduced to the extent that water rights/permits can no longer pump at their developed or historically established diversion rates. This result could require this application, if approved, and other water rights/permits with newer priority dates to cease pumping in favor of water rights/permits with older priority dates and domestic users with adequate wells.

Observation well KG-88B is within one mile of several high capacity irrigation and rural water system wells (Water Rights, 2020a and 2020b). The hydrograph for KG-88B is shown in Figure 5. The hydrograph shows that while there is drawdown in the well during the most intensive pumping periods, during the irrigation season, that amount of drawdown would not likely be considered adverse as defined in Administrative Rule of South Dakota (ARSD) 74:02:04:20(7). The Water Management Board defined an “adversely impacted domestic well” in ARSD 74:02:04:20(7) as:

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

Nearby adequate wells are not expected to be adversely impacted as defined in ARSD 74:02:04:20(7). Furthermore, the Vermillion East Fork aquifer does not have a history of well interference complaints despite the aquifer having had increased development for irrigation in recent years (Water Rights, 2020d). When considering the unconfined nature of the aquifer, the limited proposed diversion rate for this application, the lack of well interference complaint history,

and the close proximity development of several high capacity wells without issue in areas of this aquifer, there is reasonable probability that the proposed diversion can be developed without unlawfully impairing existing appropriative or domestic water users with adequate wells.

SDCL 46-5-6:

Pursuant to SDCL 46-5-6, the diversion rate for an irrigation appropriation cannot be in excess of one cfs for every 70 acres, or “the equivalent thereof.” The statute does provide that: “The Water Management Board may allow a greater diversion, in volume or rate or both, if the method of irrigation, any time constraints on diversion of water, or the type of soil so requires....” Water Permit Application No. 8418-3 proposes to divert water at a maximum rate of 0.11 cfs for the irrigation of 3 acres or at a rate of 2.57 cfs per 70 acres. The applicant did not provide a reason for the request. This application is to irrigate athletic fields. It has been generally accepted that turf has greater water demand and often there are time constraints for application of water that requires a greater diversion rate than the statutory limit. The request by the applicant is reasonable.

CONCLUSIONS:

1. Water Permit Application No. 8418-3 proposes to authorize the appropriation of water at a maximum diversion rate of 0.11 cfs from the Vermillion East Fork aquifer for the irrigation of 3 acres by the De Smet School District.
2. Based on the observation well data and the hydrologic budget, there is reasonable probability that unappropriated water is available for this proposed appropriation.
3. There is a reasonable probability this proposed diversion can be made without unlawfully impairing existing appropriative and domestic users with adequate wells.
4. Application No. 8418-3 has requested a diversion rate in excess of the statutory limit of one cfs per 70 acres. This application is for irrigating turf and may require a greater rate of diversion due to water demand or time constraint on irrigation. This is a reasonable request that has been accepted in the past by the Water Management Board.



Blaise M. Hansen
SD DENR – Water Rights Program

Reviewed by:



Adam Mathiowetz, PE
SD DENR – Water Rights Program



John Farmer
SD DENR – Water Rights Program

REFERENCES:

- Buhler, K.A. 2014. Report to the Chief Engineer on Water Permit Application No. 8050-3, Ronald Benson, October 18, 2014, SD DENR-Water Rights Program, Joe Foss Building, Pierre, South Dakota.
- Buhler, K.A. 2016. Report to the Chief Engineer on Water Permit Application No. 8226-3, Jeffery Albrecht, December 19, 2016, SD DENR-Water Rights Program, Joe Foss Building, Pierre, South Dakota.
- Capen, B., 2015, Report to the Chief Engineer Water Permit Application Nos. 8168-3 and 8169- 3, Norman Lee and Lyle Anderson C/O Kevin Toews, July 31, 2015, SD DENR-Water Rights Program, Joe Foss Building, Pierre, South Dakota.
- Hamilton, L.J., 1989, Water Resources of Brookings and Kingsbury Counties, South Dakota: U.S. Geological Survey Water-Resources Investigations Report 88-4185.
- Hedges, L.S., Burch, S.L., Iles, D.L., Barari, R.A., Schoon, R.A., 1982, Evaluation of Ground- Water Resources Eastern South Dakota and Upper Big Sioux River, South Dakota and Iowa, Task I: Bedrock Topography and Distribution, Task 2: Extent of Aquifers, Task 3: Ground-Water Storage, Task 4: Computerized Data Base, Final Report; U.S. Army Corps of Engineers Contract DACW 45-80-C-0185.
- Hedges, L.S., Allen, J., and Holly, D.E., 1985, Evaluation of Ground-Water Resources Eastern South Dakota and Upper Big Sioux River, South Dakota and Iowa, Task 7: Ground Water Recharge, Final Report; U.S. Army Corps of Engineers Contract DACW 45-80-C-0185.
- Stonesifer, J.R., 2013, Report to the Chief Engineer, Water Permit Application No. 7855-3, William Poppen, August 2, 2013, SD DENR-Water Rights Program, Joe Foss Building, Pierre, South Dakota.

Water Rights, 2017, Findings of Fact, Conclusions of Law, and Final Decision in the Matter of Water Permit Application No. 8226-3, Jeffery Albrecht, SD DENR-Water Rights Program for Water Permit No. 8226-3, Joe Foss Building, Pierre, South Dakota.

Water Rights, 2020a, Observation Well Files, SD DENR-Water Rights Program, Joe Foss Building, Pierre, South Dakota.

Water Rights, 2020b, Water Right/Permit Files, SD DENR-Water Rights Program, Joe Foss Building, Pierre, South Dakota.

Water Rights, 2020c, Water Well Completion Reports, SD DENR-Water Rights Program, Joe Foss Building, Pierre, South Dakota.

Water Rights, 2020d, County Files, SD DENR-Water Rights Program, Joe Foss Building, Pierre, South Dakota.

Water Rights, 1980-2019, "Irrigation Questionnaire Summaries", SD DENR-Water Rights Program, Joe Foss Building, Pierre, South Dakota.

Schlaak, Karen

From: Schlaak, Karen
Sent: Wednesday, February 19, 2020 11:03 AM
To: Van Regenmorter, Abi
Subject: Water Permit Application No. 8418-3
Attachments: 8418-3.pdf

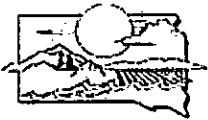
Hi Abi,

Attached is the report, recommendation and information regarding Application No. 8418-3 for irrigation of the athletic field. As stated in the letter, please contact the 2 papers ASAP to authorize publication of the notice and arrange for payment because it is scheduled to be published next week. The text of the notice has been emailed to the papers. This information is being mailed to you today.

If you have questions, please let me know.

Karen Schlaak

SD DENR, Water Rights Program
(605) 773-3352





**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

denr.sd.gov

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

February 19, 2020

De Smet School District 38-2
Abi Van Regenmorter, Supt
405 3rd St SW
De Smet SD 57231

Dear Ms. Van Regenmorter:

Water Permit Application No. 8418-3 for irrigation use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the De Smet News printed at De Smet SD (Ph # 605 854-3331) and the Plainsman printed at Huron SD (Ph # 605 353-7414). 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 publisher has been instructed to publish your notice. The newspaper has also been instructed to send us the Proof of Publication. We must receive Proof of Publication before action can be taken on the application.

Sincerely,

Eric Gronlund
Natural Resources Engineer
(605) 773-3352

enclosures

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

NOTICE OF APPLICATION NO. 8418-3 to Appropriate Water

Notice is given that De Smet School District 38-2, Abi Van Regenmorter, Supt, 405 3rd St SW, De Smet SD 57231 has filed an application for a water permit to appropriate 0.11 cubic feet of water per second (cfs) from one well to be completed into the Vermillion East Fork Aquifer (100 feet deep) located in the SW 1/4 SE 1/4 Section 28 to irrigate 3 acres of the athletic field located in the SW 1/4 SE 1/4 Section 28; all in T111N-R56W within the city limits of De Smet SD. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8418-3 with qualifications because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. The Chief Engineer's recommendation with qualifications, the application, and staff report are available at <http://denr.sd.gov/public> or contact Eric Gronlund for this information, or other information, at the Water Rights Program address provided below.

Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by March 9, 2020.

The petition may be informal, but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

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 _____.

Schlaak, Karen

From: Schlaak, Karen
Sent: Wednesday, February 19, 2020 10:17 AM
To: 'rcrandall@plainsman.com'
Subject: 8418-3, DeSmet School District 38-2
Attachments: 8418-3public.short.docx; FORM8.FRM.doc

Attached is a notice to be published on February 26, 2020.

DeSmet School District 38-2, Abi Van Regenmorter, Supt, 405 3rd St SW, DeSmet SD 57231 (605 854-3963) 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
SD DENR, Water Rights Program
(605) 773-3352



Schlaak, Karen

From: Schlaak, Karen
Sent: Wednesday, February 19, 2020 10:16 AM
To: 'mail@desmetnews.com'
Subject: 8418-3, DeSmet School District 38-2
Attachments: 8418-3public.short.docx; FORM8.FRM.doc

Attached is a notice to be published on February 26, 2020.

DeSmet School District 38-2, Abi Van Regenmorter, Supt, 405 3rd St SW, DeSmet SD 57231 (605 854-3963) 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

SD DENR, Water Rights Program
(605) 773-3352



Proof Of Publication

Huron Plainsman
49 3rd Street SE
Huron, SD 57350
605-353-7402

RECEIVED

MAR 06 2020

WATER RIGHTS
PROGRAM

Legal Notice Number: 0103

I, McKendzie Castillo, being duly sworn on oath say that the Plainsman is a daily paper published at Huron, Beadle County South Dakota, and that said newspaper has a bona fide circulation of at least 250 copies daily; that said newspaper has been published within said county for fifty-two consecutive weeks immediately prior to this date, that said newspaper is printed in whole or in part, in an office maintained at said place of publication; that I am a Legal Advertising Coordinator of said newspaper and know that facts herein state. The annexed notice headed: DESMET SCHOOL DIST- WATER RIGHTS, was published for one day, in said newspaper and not in any supplement of the said newspaper, the publication was on 02/26/20. That the full amount of the fee charged for the publishing \$ 29.03 insures to the benefit of the publisher of said newspaper; that no agreement or understanding for the division thereof has been made with any other person, and that no part thereof has been agreed to be paid to any person whom so ever.

McKendzie Castillo

Subscribed and sworn to me before this date 3/4/20.

[Signature]

Notary Public, South Dakota

My Term Expires 03/11/2022

2000 - Legals

F. P. 02-26-20

NOTICE OF APPLICATION NO. 8418-3 to

Appropriate Water

Notice is given that De Smet School District 38-2, Abi Van Regenmorter, Supt, 405 3rd St SW, De Smet SD 57231 has filed an application for a water permit to appropriate 0.11 cubic feet of water per second (cfs) from one well to be completed into the Vermillion East Fork Aquifer (100 feet deep) located in the SW 1/4 SE 1/4 Section 28 to irrigate 3 acres of the athletic field located in the SW 1/4 SE 1/4 Section 28; all in T11N-R56W within the city limits of De Smet, SD. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8418-3 with qualifications because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. The Chief Engineer's recommendation with qualifications, the application, and staff report are available at <http://denr.sd.gov/public> or contact Eric Gronlund for this information, or other information, at the Water Rights Program address provided below.

Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605-773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by March 9, 2020.

The petition may be informal, but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

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.

No. 0103 (adv.)

Published once at the total approximate cost of \$29.03.

Affidavit of Publication

STATE OF SOUTH DAKOTA,
County of Kingsbury.

SS.

David Tritle of said county being first duly sworn on oath, says that he is the publisher of THE DE SMET NEWS, a weekly newspaper printed and published in De Smet in said County of Kingsbury and has full and personal knowledge of all the facts herein stated; that said newspaper is a legal newspaper and has a bona-fide circulation of a least two hundred copies weekly, and has been published within said County for fifty-two successive weeks next prior to the publication of the notice herein mentioned, and was and is printed wholly or in part in an office maintained at said place of publication; that the

Notice of Application
No. 8418-3 To Appropriate
Water

, a printed copy of which, taken from the paper in which the same was published, is attached to this sheet, and is made a part of this Affidavit, was published in said newspaper at least

once in each week for one successive weeks, on the day of each week on which said newspaper was regularly published, to-wit:

<u>2-26</u>	<u>2020</u>	:	<u>20</u>
<u>20</u>		:	<u>20</u>
<u>20</u>		:	<u>20</u>
<u>20</u>		:	<u>20</u>

that the full amount of the fee charged for the publication of said notice accrues to the benefit of the publisher of said newspaper; that no agreement or understanding for the division thereof has been made with any other person; and that no part thereof has been agreed to be paid to any person whomsoever, and that the fees charged for the publication thereof are

\$29.56

Subscribed and sworn to before me this 11th

day of March A.D. 20 20

Margaret A. Wilde
Notary Public
Kingsbury County, South Dakota

My commission expires May 30, 20 24

NOTICE OF APPLICATION

NO. 8418-3

TO APPROPRIATE WATER

Notice is given that De Smet School District 38-2, Abi Van Regenmorter, Supt. 405 3rd St. S.W., De Smet, SD 57231, has filed an application for a water permit to appropriate 0.11 cubic feet of water per second (cfs) from one well to be completed into the Vermillion East Fork Aquifer (100 feet deep) located in the SW 1/4 SE 1/4 Section 28 to irrigate 3 acres of the athletic field located in the SW 1/4 SE 1/4 Section 28; all in T11N-R56W within the city limits of De Smet SD. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8418-3 with qualifications because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. The Chief Engineer's recommendation with qualifications, the application, and staff report are available at <http://denr.sd.gov/public> or contact Eric Gronlund for this information, or other information, at the Water Rights Program address provided below.

Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by March 9, 2020.

The petition may be informal, but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

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DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

MAR 27 2020

DeSmet School District 38-2
Abi Van Regenmorter, Supt
405 3rd St SW
DeSmet SD 57231

Dear Ms. Van Regenmorter:

Enclosed is Water Permit No. 8418-3 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

8418-3

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location N6 $\frac{1}{4}$ N6 $\frac{1}{4}$ Sec 28 Twp 111N Rg 56W

56

County

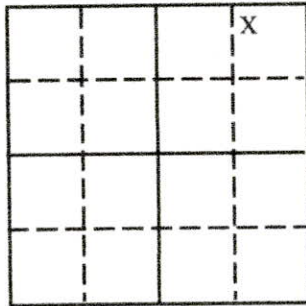
KINGSBURY

North

Please mark well location with an "X"

W

E



Well Completion Date

12-14-2021

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

? _____ ft. from _____ (Identify source)

PROPOSED USE:

☒ Domestic/Stock Irrigation ☐ Municipal Industrial ☐ Business Institutional ☐ Test Holes Monitoring well
METHOD OF DRILLING:
DIRECT ROTARYCASING DATA: Steel ☒ Plastic Other

If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
SCH40 LB/FT	5 IN	+2 FT	20 FT	8.75 IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
GRTWELDF	4	50 Lb/gal	0 Ft	59 Ft
		Lb/gal	Ft	Ft

Describe grouting procedure
PRESSURE PULLSCREEN: Perforated pipe ☒ Manufactured
 Diameter 5 Inches Length 20 Feet
 Material PVC
 Slot Size 25 Set From 59 Feet to 79 Feet
 Other information _____

WAS A PACKER OR SEAL USED? Yes No

If so, what material? _____

Describe packer(s) and location _____

DISINFECTION: Was well disinfected upon completion?

Yes, How? _____

No, Why Not? _____

Lab sample sent to for water quality analysis

NO PUMP UNTIL 2022

Well Owner: _____

Business Name: DESMET SCHOOL DISTRICTAddress: 405 3RD ST SWCity, State, Zip: DESMET SD 57231

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
TOP SOIL	0	1
YELLOW CLAY	1	25
YELLOW MIX GRAVEL	25	38
BLUE CLAY	38	40
YELLOW MIXED GRAVEL	40	53
GREY FINE-MED	53	60
FINE SAND	60	73
MED-COARSE	73	79
BLUE CLAY	79	56

STATIC WATER LEVEL 41 FEET

If flowing: closed in pressure _____ PSI

GPM flow _____ through _____ Inch pipe

Controlled by Valve Reducers Other _____

Reduced flow rate _____ GPM

Can well be completely shut in?

WELL TEST DATA:

☒ Pumped Describe: AIR COMPRESSOR

Bailed

Other

Pumping Level Below Land Surface

62 Ft. After 4 Hrs. pumped 60 GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: _____ GPM

REMARKS

WELL LOCATION
DESMET SCHOOL TRACK
WILDER LANEThis well was drilled under license # 689

And this report is true and accurate.

Drilling firm: KAISER WELL DRILLING INC

Signature of License Representative: _____

Signature of Well Owner or Equitable Property Holder: _____

RECEIVED

Date: _____

JAN 27 2022

WATER RIGHTS
PROGRAM

Report of Examination of Works and/or Application of Water to Beneficial Use For Permit No. 8418-3

I have this day, June 18, 2024, made a thorough examination of the water use system constructed by DeSmet School District 38-2, 405 3rd St SW, DeSmet, SD 57231 of Permit No. 8418-3, bearing the priority of December 6, 2019 authorizing the diversion of 0.11 cu. ft. per second of the waters of the Vermillion East Fork Aquifer for irrigation purposes, in Kingsbury County.

A. Works used to divert the water:

Well Information:

- 1) Well Drilling Firm: Kaiser Well Drilling
- 2) No. of Wells 1
- 3) Depth(s) 79 feet
- 4) Well log is available Y

Casing:

- 1) Diameter 5 inches
- 2) Length 59 feet
- 3) Type Plastic

Screen:

- 1) Type PVC
- 2) Length 20 feet
- 3) Static water level 41 feet

Pump:

- 1) Make Submersible
- 2) Model Goulds
- 3) Size Unknown
- 4) Capacity 60 GPM

Motor:

- 1) Make Unknown
- 2) Model No. Unknown
- 3) Horsepower rating 3 hp

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

- 1) Type Buried PVC
- 2) Size unknown inches
- 3) Length unknown feet

Comments: Well is located right at the corner of the irrigated area

C. Works used to apply water to beneficial use: Buried Pop-Up Rainbird Sprinklers

Chemigation Equipment:

- 1) Does chemigate N

D. Compliance with Permit Requirements:

- 1) Permit qualifications being abided by N
If no, describe: Pumping 0.133 cfs; permitted 0.11 cfs
- 2) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period Y
- 3) Exceptions to compliance are: None

E. Condition and Location:

1. The system is in good condition with the point(s) of diversion located as follows: **WELL LOCATION**
From the SE corner Sec 28 T111N R56W, 715 ft N & 1730 ft W, Lat 44.38510 Long -97.5582 (SW ¼
SE ¼)
2. The works are capable of diverting and conveying to the place of use 0.133 cu. ft. per second of water which is to be used for irrigation. Water has been put to beneficial use to the maximum extent as follows:
legal description/acreage
All land in Sec 28 T111N R56W
SW 1/4 SE 1/4 - 3.0 acres

comprising a total of 3.0 acres of land and the license should be issued for 0.11 cfs

3. All structures, wells and lands on map Y

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

I talked to Mr. Dave Van Regenmorter (605/530-1279), grounds superintendent, during the field visit.

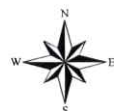
An FSA photo and the ArcGIS software were used to estimate the irrigated acreage.

The mailing address on the permit application materials is current. The phone number for the Business Office is 605/854-3176



Darrell DeBoer
Water Rights Inspector
DENR, Water Rights Program

Date report completed: June 18, 2024



0 385 770 1,540 2,310 3,080 Feet



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

RECEIVED

JUN 24 2024

OFFICE OF
WATER

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

TO: Water Rights Program, DANR
523 E. Capitol Ave.
Pierre, SD 57501-3182
or via email to DANRmail@state.sd.us

Date 6/24/24

FROM: DeSmet School District 38-2
(name)
405 3rd St
(address)
DeSmet SD 57231
(city, state, zip)

605.854.3176
(phone)

abi.vanregenmorter@
(email) K12.sd.us

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

Water Permit No. 8418-3 states that the water use system is to be constructed by

March 9, 2025 , and water is to be put to beneficial use by March 9, 2029
(date) (date)

The water use system was completed on June 1, 2022
(date)

Applying the water to beneficial use was completed on June 1, 2022
(date)

Abi Van Regt
Signature

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



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

JUN 26 2024

8418-3

DeSmet School District 38-2
c/o Abi Van Regenmorter
405 3rd St SW
DeSmet SD 57231

Dear Ms. Van Regenmorter:

Enclosed is Water License No. 8418-3. This is the final water right document completing your process of obtaining a Water Right. Included with your license is a map prepared by the staff engineer who conducted the field investigation.

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

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

Sincerely,

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

NOTE: The inspection found your system to be capable of diverting 0.133 cfs (approx. 60 gpm). Permit No. 8418-3 authorized the diversion of 0.11 cfs (approx. 50 gpm). Diversion of water under this license is limited to 0.11 cfs.

enclosures

STATE OF SOUTH DAKOTA
WATER LICENSE NO. 8418-3

(1) DeSmet School District 38-2, 405 3rd St SW, DeSmet SD 57231, made Application No. 8418-3, December 6, 2019, for a water permit to divert 0.11 cubic feet of water per second from groundwater, one well (Vermillion East Fork Aquifer), Kingsbury County, South Dakota for irrigation purposes. Permit No. 8418-3, with a priority date of December 6, 2019, was approved March 9, 2020, and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before March 9, 2025, and for the application to beneficial use of water on or before March 9, 2029.

The permit holder submitted a Notice of Completion of Works and Application of Water to Beneficial Use form on July 24, 2024. The Notice stated the diversion system was completed and the water was placed to beneficial use on June 1, 2022.

(2) It is certified that the permit holder has complied with the provisions of South Dakota State Law relating to completion of the construction of the water supply system and is entitled to divert 0.11 cubic feet of water per second for beneficial use. The location of the diversion point is:

- 715 ft N & 1,730 ft W of the SE corner Section 28, T111N, R56W (SW $\frac{1}{4}$ SE $\frac{1}{4}$)
(Latitude 44.38510 & Longitude -97.55821)

(3) The amount of appropriation may not exceed 2 acre-feet annually for each acre of land to which water is actually and beneficially applied for irrigation. The water is to be used during the following described annual period: March 1 – November 30.

(4) The permit holder has complied with the provisions of South Dakota State Law relating to the application of water to beneficial use to irrigate to following land:

Section 28, T11N, R56W – SW $\frac{1}{4}$ SE $\frac{1}{4}$ – 3.0 acres

(5) Pursuant to South Dakota Water Law 46-5-30.1 DeSmet School District 38-2, the holder and/or owner of Water Right No. 8418-3 is issued a license to appropriate water, the right to use 0.11 cubic feet of water per second from groundwater, one well (Vermillion East Fork Aquifer), with a priority date of December 6, 2019, from the location specified in (2) of this license for irrigation purposes.

This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Right No. 8418-3 and subject to the following qualifications:

1. The well approved under Permit No. 8418-3 will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The well authorized by Permit No. 8418-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28. *(The well was drilled in 2021 by Kaiser Well Drilling Inc. A copy of the well completion report is on file with the Water Rights Program.)*

continued

3. Pursuant to SDCL 46-5-6, which allows for a greater diversion rate if the method of irrigation, time constraints, of type of soils so requires, Permit No. 8418-3 authorizes a maximum diversion rate of 0.11 cfs for the irrigation of 3 acres with an annual volume not to exceed 2 acre-feet of water per acre per year.
4. This permit is approved subject to the irrigation water use questionnaire being submitted each year.

Eric Gronlund

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

JUN 26 2024

date

