

WATER PERMIT NO. 8483-3

Name of Applicant: Frank Kralicek Jr & Frank Kralicek

Address: 43792 306th St, Yankton SD 57078 Phone: 605 660 0846

Amount of Water Claimed: 2.22 cfs Total Acres: 400

Source of Water Supply: groundwater (2 wells)

Water to be used for: irrigation County: Yankton

Type of Waste Disposal System:

Location: 5 miles northwest of Yankton

PRIORITY Date Received: 1-29-21

Application/License Fee: \$ 1,450

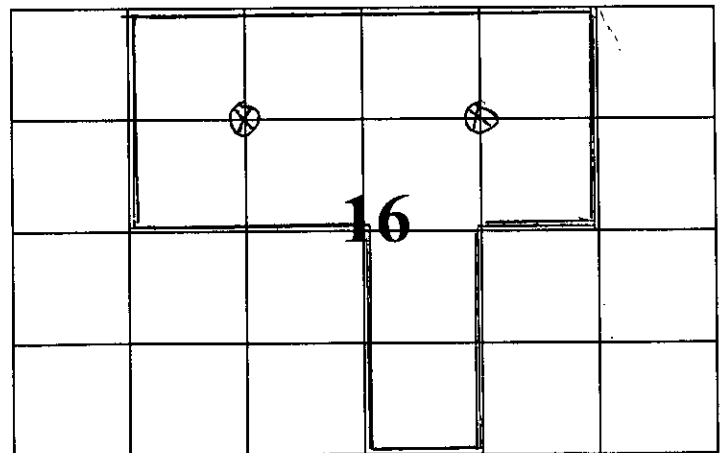
Corrected Application Received: 2-1-21

Period of Annual Use: April 1 – September 30

Remarks:

Diversion Point: N 1/2 Sec 16-T94N-R56W

Land to be Irrigated: N 1/2, W 1/2 SE 1/4 Sec 16-T94N-R56W



Depth of Well: 200 feet deep

Well Driller:

Remarks:

Type of Map: aerial

Prepared by:

Reviewed and the Number Assigned on: 2-1-21

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____

**SOUTH DAKOTA
WATER PERMIT NO. 8483-3**

Date of first receipt of application January 29, 2021.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 8483-3 to Frank Kralicek Jr. and Frank Kralicek, 43792 306th St, Yankton SD 57078 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. 8483-3 appropriates 2.22 cubic feet of water per second from two wells to be completed into the Lower James Missouri Aquifer (approximately 200 feet deep) located in the N 1/2 Section 16 for irrigation of 400 acres located in the N 1/2, W 1/2 SE 1/4 Section 16; all in T94N-R56W. This site is located approximately 5 miles northwest of Yankton 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: April 1 – September 30.
3. The date from which applicant may claim right is January 29, 2021.
4. The date of approval of Permit No. 8483-3 is April 5, 2021.
5. One-fifth of the construction is to be completed on or before October 5, 2023.
6. All construction is to be completed on or before April 5, 2026.
7. Water is to be put to beneficial use on or before April 5, 2030.
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 wells approved under Water Permit No. 8483-3 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 wells authorized by Permit No. 8483-3 shall be constructed by a licensed well driller and construction of the wells and installation of the pumps 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. 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 Agriculture and Natural Resources

APR 19 2021
date



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

Mail to: DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>8483-3</u> (office use only) Hydrologic Unit <u>10160011</u>
	Basin <u>James River</u>
	Newspaper <u>Press & Dakotan, Yankton</u>

RECEIVED**JAN 29 2021****WATER RIGHTS
PROGRAM****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 Frank Kralicek Jr & Frank T Kralicek

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

 Mailing Address 43792 306th Yankton SD 57078
 (Address) (City) (State) (Zip Code)
 Phone 605 660 0846 Mobile 605 660 0846 Email frankkralicekjr@gmail.com

 2. Amount of water claimed 2.22 *CFS or 1000 **GPM ***AF Total Acreage 400
 (*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable

 3. Source of water supply well Nebraska

 4. Location of point of diversion 2 well N 1/2 section 16-94N-56W
 (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W)

 County Yankton

 5. County or counties where water will be used Yankton

 6. Annual period during which water is to be used April 1 - Sept 30

 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
<u>N 1/2 section 16-94N-56W</u>	<u>320</u>		
<u>W 1/2 SE 1/4 S 16-94N-56W</u>	<u>80</u>		

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

 I, M J M L owner, 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.

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 ____ 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 See Attachment

For either Existing or Proposed Wells:

c) Well Depth (required) 200 Depth to Top of Water Bearing Material 150 Depth to Water from Surface ____d) Distance to nearest domestic well on applicant's property ____ Property owned by others ____
See Attachment**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)

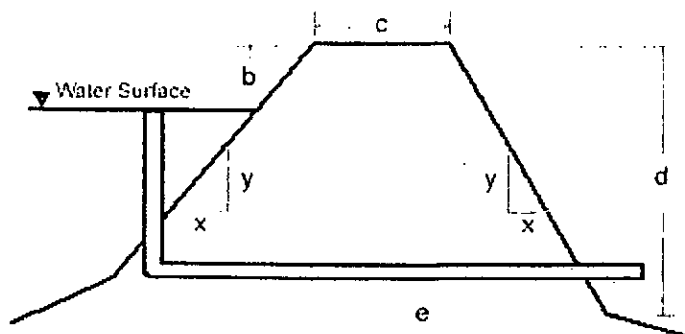
Upstream ____

Downstream ____

h) Surface Area of Impoundment ____

i) Storage ____ Acre Feet

j) Drainage Area Above Dam ____ Acres



Petersen Ag Systems Inc.



301 W South Street
Hartington, NE 68739
402-254-9557 office

Farm: Spence/Roesler Farm

Grower: Frank Kralicek,

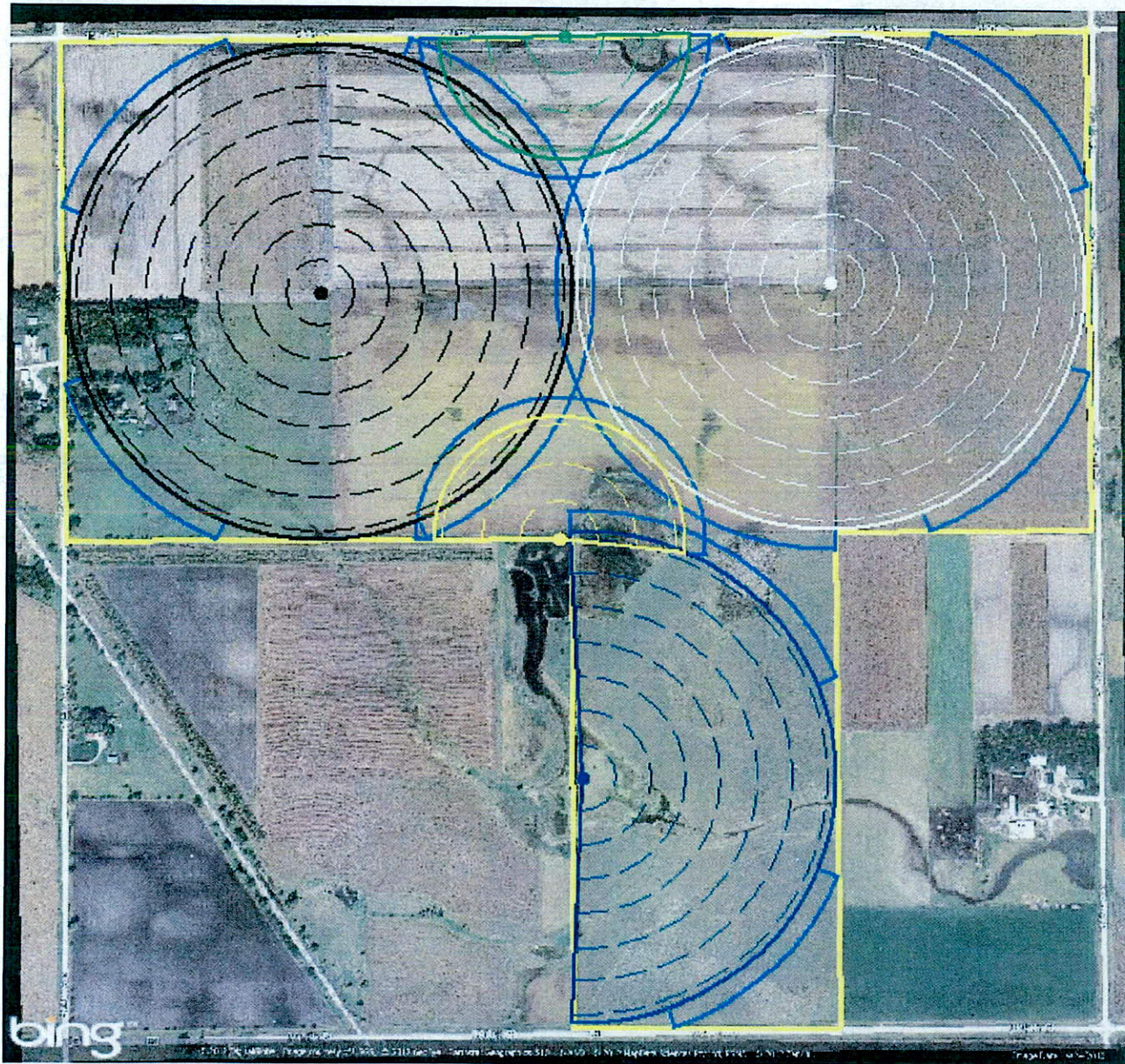
2/3/2014

Systems:	Length	Spans	Total area including endgun
● Pivot 1	1303.67 ft	7 spans + 44 ft o.h.	135.42 acres
○ Pivot 2	1303.67 ft	7 spans + 44 ft o.h.	136.34 acres
● Pivot 3	1303.67 ft	7 spans + 44 ft o.h.	69.56 acres
● Pivot 4	651.58 ft	3 spans + 44 ft o.h.	20.42 acres
● Pivot 5	651.58 ft	3 spans + 44 ft o.h.	21.14 acres

409.8

6.83





Petersen Ag Systems Inc. Designed by Judd D. Keiser Cell 605-661-6941

Pivot 1

Pivot Area: **122.57** acres
 Endgun Area: **12.85** acres
 Total Area: **135.42** acres

System Length: **1303.67** ft
 # of Spans: **7 + overhang**
 Deg. of Sweep: **360.0°**
 Endgun Throw: **100.0** ft

Color on map:



Spans

# of Spans: 7	Span 1 (180.2)	Span 2 (359.1)	Span 3 (538.0)	Span 4 (716.9)	Span 5 (895.8)	Span 6 (1074.8)	Span 7 (1253.7)	Overhang (1303.7)
Length:	179	179	179	179	179	179	179	44 ft
Pipe Size:	6 - 5/8"	6 - 5/8"	6 - 5/8"	6 - 5/8"	6 - 5/8"	6 - 5/8"	6 - 5/8"	5 - 9/16"

Endgun Areas

Endgun 1: (Throw = 100.0 ft)

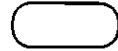
# of Areas: 3	Start / Stop Angle (Deg. from North)	Start / Stop Angle (Deg. from Pivot Start)	Start / Stop Location (Lat/Long)		Area (acres)
Area 1	19.5° / 157.6°	- NA - / - NA -	42° 57' 59.572" -97° 28' 12.215"	42° 57' 35.528" -97° 28' 11.396"	7.49
Area 2	203.1° / 250.7°	- NA - / - NA -	42° 57' 35.590" -97° 28' 24.969"	42° 57' 43.168" -97° 28' 34.629"	2.58
Area 3	289.2° / 340.5°	- NA - / - NA -	42° 57' 51.664" -97° 28' 34.647"	42° 57' 59.576" -97° 28' 23.932"	2.78

Pivot 2

Pivot Area: **122.57** acres
 Endgun Area: **13.77** acres
 Total Area: **136.34** acres

System Length: **1303.67** ft
 # of Spans: **7 + overhang**
 Deg. of Sweep: **360.0°**
 Endgun Throw: **100.0** ft

Color on map:



Spans

# of Spans: 7	Span 1 (180.2)	Span 2 (359.1)	Span 3 (538.0)	Span 4 (716.9)	Span 5 (895.8)	Span 6 (1074.8)	Span 7 (1253.7)	Overhang (1303.7)
Length:	179	179	179	179	179	179	179	44 ft
Pipe Size:	6 - 5/8"	6 - 5/8"	6 - 5/8"	6 - 5/8"	6 - 5/8"	6 - 5/8"	6 - 5/8"	5 - 9/16"

Endgun Areas

Endgun 1: (Throw = 100.0 ft)

# of Areas: 3	Start / Stop Angle (Deg. from North)	Start / Stop Angle (Deg. from Pivot Start)	Start / Stop Location (Lat/Long)		Area (acres)
Area 1	22.5° / 69.4°	- NA - / - NA -	42° 57' 59.574" -97° 27' 36.254"	42° 57' 52.209" -97° 27' 26.559"	2.54
Area 2	110.4° / 159.1°	- NA - / - NA -	42° 57' 43.185" -97° 27' 26.539"	42° 57' 35.645" -97° 27' 36.722"	2.64
Area 3	179.3° / 337.5°	- NA - / - NA -	42° 57' 34.799" -97° 27' 42.761"	42° 57' 59.580" -97° 27' 49.672"	8.58

Pivot 3

Pivot Area: **63.08** acres
 Endgun Area: **6.48** acres
 Total Area: **69.56** acres

System Length: **1303.67** ft
 # of Spans: **7 + overhang**
 Deg. of Sweep: **185.3°**
 Endgun Throw: **100.0** ft

Color on map:



Spans

# of Spans: 7	Span 1 (180.2)	Span 2 (359.1)	Span 3 (538.0)	Span 4 (716.9)	Span 5 (895.8)	Span 6 (1074.8)	Span 7 (1253.7)	Overhang (1303.7)
Length:	179	179	179	179	179	179	179	44 ft
Pipe Size:	6 - 5/8"	6 - 5/8"	6 - 5/8"	6 - 5/8"	6 - 5/8"	6 - 5/8"	6 - 5/8"	5 - 9/16"

Endgun Areas

Endgun 1: (Throw = 100.0 ft)

# of Areas: 2	Start / Stop Angle (Deg. from North)	Start / Stop Angle (Deg. from Pivot Start)	Start / Stop Location (Lat/Long)		Area (acres)
Area 1	357.7° / 68.3°	0.0° / 70.6°	42° 57' 34.976" -97° 28' 1.008"	42° 57' 26.873" -97° 27' 44.016"	3.83
Area 2	112.0° / 160.9°	114.3° / 163.2°	42° 57' 17.285" -97° 27' 44.047"	42° 57' 9.937" -97° 27' 54.567"	2.65

Pivot 4

Pivot Area: **15.37** acres
 Endgun Area: **5.05** acres
 Total Area: **20.42** acres

System Length: **651.58** ft
 # of Spans: **3 + overhang**
 Deg. of Sweep: **180.7°**
 Endgun Throw: **100.0** ft

Color on map:



Spans

# of Spans: 3	Span 1 (201.3)	Span 2 (401.4)	Span 3 (601.6)	Overhang (651.6)
Length:	201	201	201	44 ft
Pipe Size:	6 - 5/8"	6 - 5/8"	6 - 5/8"	5 - 9/16"

Endgun Areas

Endgun 1: (Throw = 100.0 ft)

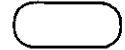
# of Areas: 1	Start / Stop Angle (Deg. from North)	Start / Stop Angle (Deg. from Pivot Start)	Start / Stop Location (Lat/Long)		Area (acres)
Area 1	90.0° / 269.7°	1.0° / 180.7°	42° 58' 0.494" -97° 27' 52.292"	42° 58' 0.468" -97° 28' 9.823"	5.05

Pivot 5

Pivot Area: **15.90** acres
 Endgun Area: **5.25** acres
 Total Area: **21.14** acres

System Length: **651.58** ft
 # of Spans: **3 + overhang**
 Deg. of Sweep: **186.9°**
 Endgun Throw: **100.0** ft

Color on map:



Spans

# of Spans: 3	Span 1 (201.3)	Span 2 (401.4)	Span 3 (601.6)	Overhang (651.6)
Length:	201	201	201	44 ft
Pipe Size:	6 - 5/8"	6 - 5/8"	6 - 5/8"	5 - 9/16"

Endgun Areas

Endgun 1: (Throw = 100.0 ft)

# of Areas: 1	Start / Stop Angle (Deg. from North)	Start / Stop Angle (Deg. from Pivot Start)	Start / Stop Location (Lat/Long)		Area (acres)
Area 1	270.4° / 97.0°	0.3° / 186.9°	42° 57' 34.613" -97° 28' 10.451"	42° 57' 33.790" -97° 27' 52.988"	5.25

North east corner of ~~Section~~
Section

Location Information

Legal Location: NW NE NE NE SEC. 16, T. 094 N., R. 56 W.
County: YANKTON Location: 094N56W16AAAB
Latitude: 42.966760
Hydrologic Unit Code: 10160011 Longitude: -97.458385
Land Owner: Ground Surface Elev. (ft.): 1360 T

Project Information

Project: YANKTON COUNTY STUDY
Drill Date: 04/20/1982 Geologist: S. BURCH
Company: SDGS Geologist's Log:
Drilling Method: ROTARY Driller: M. THOMPSON/C.
SCHMIG
Test Hole Number: R2-82-1 Driller's Log: X
Total Drill Hole Depth (ft.): 174.0

Well Information

SDGS Well Name: R2-82-1 Aquifer: NIOBRARA
Water Rights Well: Management Unit:
Other Well Name: Casing Top Elev. (ft.):
Casing Type: PVC Casing Diameter (in.): 2.0
Screen Type: PVC, MFG. Screen Length (ft.): 5.0
Total Casing and Screen (ft.): 175.0 Casing Stick-up (ft.): 0.00

Geophysical Information

E-logs Available: YES

Notes

THIRD DRILLER: M. JARRET. BACKFLUSHED WELL. LOGGED HOLE TO 178 FEET.

Lithologic Information

<u>Elevation (ft.)</u>	<u>Depth (ft.)</u>	<u>Description</u>
1360.0 - 1359.0	0.0 - 1.0	TOPSOIL, BLACK
1359.0 - 1329.0	1.0 - 31.0	CLAY, YELLOW-BROWN, SILTY, PEBBLY; CALCAREOUS (OXIDIZED TILL)
1329.0 - 1292.0	31.0 - 68.0	CLAY, GRAY, SILTY, PEBBLY; CALCAREOUS (TILL)
1292.0 - 1261.0	68.0 - 99.0	GRAVEL, VERY FINE TO MEDIUM, WITH COARSE TO VERY COARSE SAND, CALCAREOUS(?)
1261.0 - 1259.0	99.0 - 101.0	CLAY, GRAY
1259.0 - 1207.0	101.0 - 153.0	GRAVEL, MEDIUM TO COARSE, WITH COARSE TO VERY COARSE SAND, MANY PINK GRAINS OF ORTHOCLASE MIXED IN WITH SAMPLE
1207.0 - 1186.0	153.0 - 174.0	CLAY, LIGHT-GRAY TO WHITE; CALCAREOUS, SOME SHALE APPEARS IN SAMPLES, LOST WATER AND CIRCULATION TO FORMATION AT 174 FEET (NIOBRARA FORMATION)

10/13/2012 11:12 FAX

Elevation 1324 ft - 187 ft east well - static 7459-3
- 191 ft west well - static @002

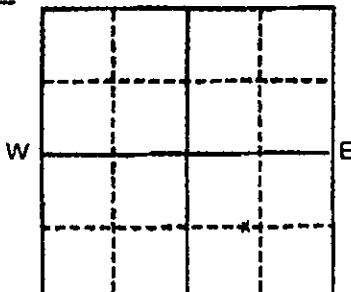
SD EForm - 1621LD V1

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location nw 1/4 se 1/4 Sec 10 Twp 94n Rg 56wCounty Yankton

North

Please mark well
location with an "X"

Well Completion Date

October 10, 2012

1 Mile

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

1,500.0 ft. from septic tank

(Identify source)

PROPOSED USE:

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

METHOD OF DRILLING:

Direct rotary

CASING DATA:

☐ Steel ☒ Plastic ☐ Other
If other describe sdr 21

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	12.00 IN	0.0 FT	178.0 FT	18.00 IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
bent grout	12	9.6 lb/gal	0.0 Ft	170.0 Ft
		lb/gal	Ft	Ft

Describe grouting procedure
tremie

SCREEN:

☐ Perforated pipe ☒ Manufactured
Diameter 12.00 inches Length 60.0 FeetMaterial pvcSlot Size 0.60 Set From 178.0 Feet to 238.0 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? na
 Lab to which water
quality sample sent for analysis
Well Owner: David Sternhagen

Business Name:

Address: 30455 438th AveCity, State, Zip: YanktonSD 57078

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
Silt, yellow brn, Loess	0	7
Clay, yellow brn to gray, silty, pebbly	7	94
Chalk, gray, silty,	94	129
Clay, gray, silty, pebbly	129	155
gravel, coarse, rocky	155	170
Sand, coarse, pebbly	170	248
Silt, gray, clayey	248	262

STATIC WATER LEVEL

144.0 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: not yet completed
☐ Bailed

☐ Other

Pumping Level Below Land Surface

 Ft. After Hrs. pumped GPM

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

REMARKS

This well was drilled under license # 666 and this report is true and accurate.Drilling firm: Hammond Wetmore Drilling

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

Date: 10/12/2012

North west of Section

Location Information

Legal Location:	SW SW SW SW SEC. 09, T. 094 N., R. 56 W.	Location:	094N56W09CCCC
County:	YANKTON	Latitude:	42.966880
Hydrologic Unit Code:	10160011	Longitude:	-97.476339
Land Owner:		Ground Surface Elev. (ft.):	1365 T

Project Information

Project:	YANKTON COUNTY STUDY	Geologist:	G. JOHNSON
Drill Date:	07/18/1980	Geologist's Log:	X
Company:	SDGS	Driller:	T. CONNER
Drilling Method:	ROTARY	Driller's Log:	
Test Hole Number:	YN-62-80	Total Drill Hole Depth (ft.):	500.0

Well Information

SDGS Well Name:	YN-62-80	Aquifer:	
Water Rights Well:		Management Unit:	
Other Well Name:		Casing Top Elev. (ft.):	
Casing Type:	PVC	Casing Diameter (in.):	1.5
Screen Type:	PVC, MFG.	Screen Length (ft.):	5.0
Total Casing and Screen (ft.):	400.0	Casing Stick-up (ft.):	0.00

Geophysical Information

E-logs Available: NO

Notes

THE LOWER 6 TO 8 FEET OF CASING IS SLOTTED. BEDROCK APPARENTLY NOT REACHED.

Lithologic Information

<u>Elevation (ft.)</u>	<u>Depth (ft.)</u>	<u>Description</u>
1365.0 - 1342.0	0.0 - 23.0	CLAY, LIGHT-BROWN TO BROWN, SILTY, SANDY (OXIDIZED TILL)
1342.0 - 1332.0	23.0 - 33.0	CLAY, BLUE-GRAY, SILTY, SANDY (TILL)
1332.0 - 1328.0	33.0 - 37.0	SAND AND GRAVEL, FINE GRAVEL
1328.0 - 1185.0	37.0 - 180.0	CLAY, BLUE-GRAY, SILTY TO GRAVELLY; HARD LAYER OR ROCK AT 95 TO 96 FEET, OCCASIONAL THIN STRINGERS OF SAND AND GRAVEL, CALCAREOUS CHIPS FROM 95 TO 125 FEET (TILL)
1185.0 - 1180.0	180.0 - 185.0	GRAVEL, MEDIUM TO COARSE
1180.0 - 1150.0	185.0 - 215.0	CLAY, GRAY, SILTY, VERY SANDY AND GRAVELLY; THIN GRAVEL STRINGERS (TILL)
1150.0 - 1122.0	215.0 - 243.0	CLAY, GRAY, SILTY; GRITTY, CALCAREOUS, SOMETIMES SMOOTH AND LESS CALCAREOUS, DRILLS SLOWER, HIGHER PUMP PRESSURE (TILL)
1122.0 - 950.0	243.0 - 415.0	SAND AND GRAVEL, MEDIUM SAND TO MEDIUM GRAVEL; INTERBEDDED WITH THIN LAYERS OF SANDY CLAY
950.0 - 865.0	415.0 - 500.0	CLAY, GRAY, SILTY, SANDY; SOMEWHAT CALCAREOUS, STRINGERS OF SAND AND GRAVEL (TILL)

Elevation - 1350

148-east well - static
202-west well - static

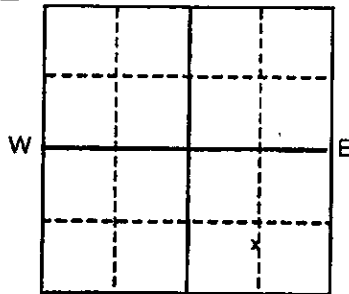
SD Form - 1621LD V1

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location sw ¼ se ¼ Sec 15 Twp 94n Rg 56wCounty Yankton

North

Please mark well
location with an "X"

Well Completion Date

9/22/12

1 Mile

Distance to nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)?
1,500.0 ft. from feed lot (identify source)

PROPOSED USE:

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

METHOD OF DRILLING:

rotary

CASING DATA:

☐ Steel ☒ Plastic ☐ Other

If other describe

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	12.00 IN	0.0 FT	189.0 FT	18.00 IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
bentonite	24	Lb/gal	0.0 Ft	180.0 Ft
		Lb/gal	Ft	Ft

Describe grouting procedure
tremie method

SCREEN:

☐ Perforated pipe ☒ Manufactured
Diameter 12.00 inches Length 60.0 FeetMaterial PVCSlot Size .060 Set From 189.0 Feet to 249.0 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? NA
 Lab to which water quality sample sent for analysis
Well Owner: Frank Kralicek

Business Name:

Address: 43792 306th StreetCity, State, Zip: Yankton SD 57078

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
Clay, brown, silty, pebbly, till	0	34
Clay, gray, silty, pebbly, Till	34	155
Clay, gray, silty, pebbly, till	155	185
gravel, medium, sandy	185	252
claystone, gray, silty	252	270

STATIC WATER LEVEL

181.0 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 lift development, 5 hours
☐ Bailed

☒ Other

Pumping Level Below Land Surface

192.0 Ft. After 3.0 Hrs. pumped 710.0 GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: 640.0 GPM

REMARKS

RECEIVED

FEB - 1 2013

WATER RIGHTS
PROGRAMThis well was drilled under license # 666 and this report is true and accurate.Drilling firm: Hammond-Wetmore Drilling

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

Date: 12-12-12

Southwest of section

Location Information

Legal Location: NE NE NE NE SEC. 21, T. 094 N., R. 56 W.
County: YANKTON Location: 094N56W21AAAA
Hydrologic Unit Code: 10160011 Latitude: 42.952187
Land Owner: Ground Surface Elev. (ft.): 1380 T
Longitude: -97.457028

Project Information

Project: YANKTON COUNTY STUDY
Drill Date: 09/19/1979 Geologist: G. JOHNSON
Company: SDGS Geologist's Log: X
Drilling Method: ROTARY Driller: E. KOGLIN
Test Hole Number: YN-39-79 Driller's Log:
Total Drill Hole Depth (ft.): 195.0

Geophysical Information

E-logs Available: NO

Notes

E-LOG PROBE STUCK AT 80 FEET, THEREFORE NOT LOGGED.

Lithologic Information

<u>Elevation (ft.)</u>	<u>Depth (ft.)</u>	<u>Description</u>
1380.0 - 1336.0	0.0 - 44.0	CLAY, TAN TO BROWN, SILTY, SANDY, PEBBLY (OXIDIZED TILL)
1336.0 - 1298.0	44.0 - 82.0	CLAY, MEDIUM-GRAY, SILTY, SANDY (TILL)
1298.0 - 1285.0	82.0 - 95.0	SAND, FINE TO MEDIUM; SOME COARSE SAND TO FINE GRAVEL
1285.0 - 1229.0	95.0 - 151.0	CLAY, LIGHT-BROWN-GRAY, SILTY, GRAVELLY; SAND AND GRAVEL STRINGERS (TILL)
1229.0 - 1205.0	151.0 - 175.0	SAND, MEDIUM TO COARSE; SOME GRAVEL
1205.0 - 1185.0	175.0 - 195.0	CLAY, LIGHT-BROWN-GRAY; CALCAREOUS (CHALK) (NIOBRARA FORMATION)

LOST CIRCULATION AT 195 FEET. COAL AT 70 FEET. POSSIBLE OXIDIZATION ZONE IN 100 TO 120 FOOT INTERVAL.

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date February 1, 2021

RECEIVED OF Frank D Kralicek Jr. 43792 306th St Yankton SD 57078

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

Fee for Application for Permit No. <u>8483-3</u> to Appropriate Water, to construct and to put water to beneficial use	\$1500.00
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>8483-3</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	\$1700.00

By Eric Bronlund
Chief Engineer

um

Refund \$250.00

Schlaak, Karen

From: frank kralicekjr <frankkralicekjr@gmail.com>
Sent: Friday, January 29, 2021 3:31 PM
To: Schlaak, Karen
Subject: Re: [EXT] New water permit application

1000 gals minute we hope

Yes April till September

Yes I mailed check today it be their Monday

Thank you
Frank kralicek jr
6056600846

Sent from my iPhone

On Jan 29, 2021, at 11:22 AM, Schlaak, Karen <Karen.Schlaak@state.sd.us> wrote:

Mr. Kralicek:

Your water permit application has been forwarded to me. Just a couple of questions.

Item No. 2 of the application states the amount of water claimed as 100 gpm. I'm sure this is incorrect. What is the amount of water to be claimed?

Also, what is the period of annual use. I looked at your existing permit and the period of annual use is April 1 – September 30. Do you want to use those dates?

The application/license filing fee to irrigate 400 acres will be \$1,450.00. Please submit a check for this amount.

If you have questions, please let me know and I will get back to you on Monday morning.

Karen Schlaak
Water Rights Program
(605) 773-3352
<image002.jpg>

Schlaak, Karen

From: Schlaak, Karen
Sent: Thursday, February 4, 2021 8:22 AM
To: frankkralicekjr@gmail.com
Subject: FW: New water permit application

Good Morning,

I got your phone message. Your permit application is now complete. We have 60 days to prepare a report on water availability and for the chief engineer to make a recommendation. Once that is done, you will be notified and given instructions regarding the public notice process.

If you have further questions, let me know.

Karen Schlaak
Water Rights Program
(605) 773-3352



**Water Rights Program
File Documentation**

NAME OF PERSON OR FILE: Frank Kralikcek Jr; Water Permit Application No. 8483-3

DATE: March 15, 2021 TELEPHONE: 605-660-0846

RE: Proposed aquifer for irrigation application

COMMENTS:

I called Frank to determine which aquifer, the Lower James Missouri or Niobrara, he intended to use for Application No. 8483-3. Frank said his driller, Sam Heine, thought they would be able to get good water from the sand and gravel (Lower James Missouri aquifer). I confirmed with Frank that he meant the Lower James Missouri aquifer. We discussed well locations and the chance of instead finding the Niobrara aquifer. I informed Frank that if a well was completed into the Niobrara that another application would be required before it could be used for this irrigation project if we proceeded with this application for the Lower James Missouri aquifer. Frank stated that he understood.



Adam Mathiowetz
Natural Resources Engineer
DENR-Water Rights Program



DENR
SOUTH DAKOTA

**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 8483-3, Frank Jr. and Frank T. Kralicek**

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. 8483-3, Frank Jr. and Frank T. Kralicek, 43792 306th St, Yankton SD 57078.

The Chief Engineer is recommending APPROVAL of Application No. 8483-3 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 wells approved under Water Permit No. 8483-3 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 wells authorized by Permit No. 8483-3 shall be constructed by a licensed well driller and construction of the wells and installation of the pumps 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. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

See report on application for additional information.

Eric Gronlund, Chief Engineer
March 18, 2021

REPORT TO THE CHIEF ENGINEER
ON
WATER PERMIT APPLICATION NO. 8483-3
FRANK KRALICEK JR & FRANK T KRALICEK
JANUARY 19, 2021

Water Permit Application No. 8483-3 proposes to divert water at a maximum instantaneous diversion rate of 2.22 cubic feet of water per second (cfs) from two wells to be completed into Lower James Missouri aquifer (approximately 200 feet deep) for the irrigation of up to 400 acres. The wells are to be located in the N ½ Sec. 16 and the land to be irrigated is located in the N ½, W ½ SE ¼ Sec. 16; all in T94N-R56W in Yankton County. This site is located approximately 5 miles northwest of Yankton, SD.

AQUIFER: Lower James Missouri (LJM)

HYDROGEOLOGY

The well locations proposed by this application are just outside, 0.75 miles, of the historically mapped boundaries of the Lower James Missouri aquifer (Hedges et al, 1982). Review of well completion reports (Water Rights, 2021d), observation well data (Water Rights, 2021b), and lithologic logs (SDGS, 2021) in the area as well as various published reports (Bugliosi, 1986; Jorgensen, 1960; Lindgren and Hansen, 1990) regarding aquifers in Yankton County, the first occurrence of aquifer materials map (McCormick, K.A., 2003) and the geologic bedrock map (Tomhave and Schulz, 2004) indicate that the local sand and gravel material in the 150 to 200 foot depth range is a portion of the Lower James Missouri aquifer. Figure 1 shows a map of the area with the historically mapped aquifer boundary (Hedges et al, 1982), and observation wells (Water Rights, 2021c) and water rights/permits (Water Rights, 2021c) for the Lower James Missouri aquifer.

The Lower James Missouri aquifer is a glacial outwash aquifer that underlies portions of Clay, Hutchinson, and Yankton Counties at an approximate areal extent of 191,700 acres with an estimated 2,795,400 million acre-ft (ac-ft) of recoverable water in storage (Hedges et. al, 1982). The Lower James Missouri aquifer is contiguous with the Elk Point management unit of the Missouri aquifer, and the boundary between the two aquifers closely follows the line delineating the flood plain from the upland as presented by Jorgensen (1960). The Elk Point management unit of the Missouri aquifer underlies the flood plain, and the Lower James Missouri aquifer underlies the upland. The Lower James Missouri aquifer is also hydraulically connected to the Scotland management unit of the Lower James Missouri aquifer, the Choteau, Niobrara, and Dakota aquifers, and the James and Missouri Rivers (Bugliosi, 1986; Lindgren and Hansen, 1990).

The aquifer can be found under both confined and unconfined conditions (Bugliosi, 1986; Lindgren and Hansen, 1990). The aquifer being under confined conditions is more common than the unconfined conditions (Water Rights, 2021b and 2021d). Unconfined conditions are generally along the James River where the aquifer is not buried by glacial till (Water Rights, 2021b and 2021d). The general direction of water movement in the aquifer is to the south and toward the James River (Hedges et. al, 1982; Lindgren and Hansen, 1990).

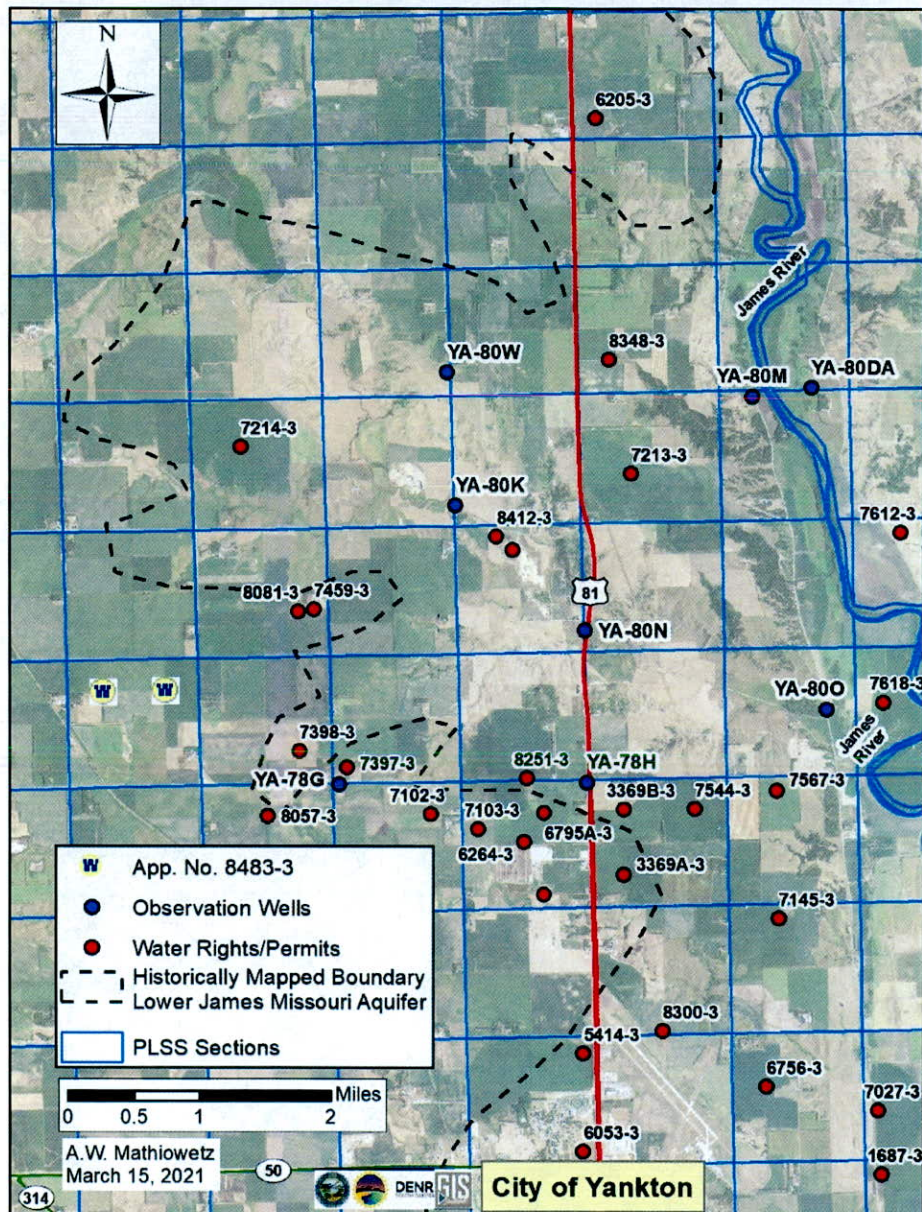


Figure 1-Map of area near Application No. 8483-3 with Lower James Missouri (LJM) aquifer water rights/permits (Water Rights, 2021c), observation wells (Water Rights, 2021b), and the historic mapped boundary of the aquifer (Hedges et al, 1982)

Included with the application were copies of lithologic logs from the DENR-Geological Survey Lithologic Logs Database (SDGS, 2021). Review of the lithologic logs, nearby well completion reports (Water Rights, 2021d), and observation well data (Water Rights, 2021b), indicates the Lower James Missouri aquifer is likely under confined conditions at the location for the applicant's proposed wells with a static water level between 100 and 175 feet below land surface. Review of the lithologic logs (SDGS, 2021), and the bedrock map for eastern South Dakota (Tomhave and Schulz, 2004), indicate the proposed well locations for this application are near the western edge of the Lower James Missouri aquifer and that the Niobrara Formation can be found within 150 feet of land surface. At this location, the Lower James Missouri aquifer may be of limited saturated thickness due to its proximity to the edge of the aquifer.

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

Pursuant to SDCL 46-2A-9, a permit to appropriate water may be issued only if there is a reasonable probability that there is unappropriated water available for this 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 the availability of unappropriated water and effects on existing water rights from the aquifer that are pertinent to this application.

WATER AVAILABILITY

This application proposes to appropriate water from the Lower James Missouri aquifer. The probability of unappropriated water available from the aquifer can be evaluated by considering SDCL 46-6-3.1, which requires:

“No application to appropriate groundwater may be approved if, according to the best information reasonably available, it is probable that the quantity of water withdrawn annually from a groundwater source will exceed the quantity of the average estimated annual recharge of water to the groundwater source. An application may be approved, however, for withdrawals of groundwater from any groundwater formation older than or stratigraphically lower than the greenhorn formation in excess of the average estimated annual recharge for use by water distribution systems.”

The Lower James Missouri aquifer is not stratigraphically lower/older than the Greenhorn Formation and the applicant is not a water distribution system as defined in SDCL 46-1-6(17). Therefore, it is necessary to consider the relationship between estimated average annual recharge and average annual withdrawals for the Lower James Missouri aquifer.

Hydrologic Budget

Recharge

The Lower James Missouri aquifer is recharged through infiltration of precipitation where the aquifer is at or near land surface in the James River flood plain, upward leakage from the underlying and adjacent bedrock aquifers, inflow from surface water, and inflow from surrounding glacial aquifers (Bugliosi, 1986; Hansen, 1983; Lindgren and Hansen, 1990). As previously stated, the Lower James Missouri aquifer is hydraulically connected to the Choteau, Lower James Missouri: Scotland, Niobrara and Dakota aquifers, and the James and Missouri Rivers.

Hedges and others (1985) estimated a recharge rate of 1.5 inches per year (in/yr.) to the southern portion of the Lower James Missouri aquifer by using a regional flow-net analysis. Applying this recharge rate to their estimated areal extent (191,700 acres), there is an estimated annual recharge to the Lower James Missouri aquifer of 23,963 acre-feet per year (ac-ft/yr). Using observation well analysis, Hedges and others (1985) estimated a recharge rate of 3.9 in/yr. to the unconfined portions of the aquifer. Stonesifer (2014) estimated the areal extent of the unconfined portion of the Lower James Missouri aquifer to be approximately 82,200 acres. Combining that area with Hedges and others' (1985) recharge rate to the unconfined portion of the aquifer (3.9 in/yr.) leads to an estimated recharge to the Lower James Missouri aquifer of 26,715 ac-ft/yr. Stonesifer (2014) also included the unconfined portions of what is identified by Hedges and others (1982) as the

Choteau: East and Plum Creek aquifers. Therefore, it should be considered a likely maximum recharge rate to the aquifer. Furthermore, it should be noted that Hedges and others' (1985) observation well analysis method assumed a rise in water level of an aquifer is the product of recharge only. In actuality, a water level rise is the result of recharge to the aquifer exceeding discharge from the aquifer. Therefore, that method of observation well analysis may be conservative when estimating a recharge rate. Thus, it is likely the recharge rate to the Lower James Missouri aquifer is approximately 23,936 to 26,715 ac-ft/yr.

Discharge

Discharge from the Lower James Missouri aquifer is from seepage to the James River, evapotranspiration where the aquifer is near land surface (primarily in the James River flood plain), minor seepage to the Missouri River just below Gavin's Point dam, groundwater outflow to the Missouri: Elk Point aquifer and well withdrawals for appropriative and domestic wells (Bugliosi, 1986; Lindgren and Hansen, 1990). Due to the development of rural water systems in the area, the low diversion rate allowed for domestic wells, and that domestic well users do not need to report annual use, withdrawal from the Lower James Missouri aquifer by domestic wells is considered negligible to the hydrologic budget of the aquifer.

There are 130 water rights/permits authorized to withdraw water from the Lower James Missouri aquifer. The 8 non-irrigation water rights/permits are assumed to pump at their maximum permitted diversion rate for 60 percent of the time unless limited by an annual volume in the water right/permit, such as Water Right No. 8412-3. The non-irrigation water rights/permits authorized to withdraw water from the Lower James Missouri aquifer are shown in Table 1. The estimated average annual use by non-irrigation water rights/permits from the Lower James Missouri aquifer is approximately 1,595 ac-ft/yr.

Table 1- Estimated annual water use by non-irrigation appropriations (Water Rights, 2021c)

Permit No.	Name	County	Status	Use	Div. Rate (cfs)	Est. Use ^a (ac-ft/yr)
840-3	STUELPNAGELS INC	YA	LC	COM	1.11	482.5
1288-3	NATIONAL FOOD STORES INC	YA	LC	IND	0.16	69.5
4556-3	CONCRETE MATERIALS	YA	LC	COM	0.44	191.2
6264-3	YANKTON LAND & CATTLE CO	YA	LC	COM, LCO	0.56	243.4
6320-3	WOLF CREEK HTRN BRTH	HT	LC	COM, DOM	0.08	34.8
6925-3	TSCHETTER COLONY	HT	LC	COM, LCO	0.07	30.4
7827-3	MAXWELL COLONY	HT	PE	COM, LCO	0.33	143.4
8412-3	CONCRETE MATERIALS COMPANY	YA	LC	IND	7.80	400 ^b
YA= Yankton, HT= Hutchinson, LC= Water Right, PE = Water Permit					Total	1595.3
COM= Commercial, IND= Industrial, LCO= Livestock Confinement Operation, DOM= Domestic, ^a = assuming pumping 60% of the time, ^b = limited by annual volume						

Table 2- Historic irrigation use from the Lower James Missouri aquifer (Water Rights, 2021a)

Year	Number of Permits Reporting	Appropriation (ac-ft/yr)	Pumpage (ac-ft/yr)
2019	127	36,958.4	328.01
2018	126	36,758.4	1,035.87
2017	126	37,142.4	5,727.12
2016	126	37,607.2	5,747.01
2015	127	37,695.2	4,822.86
2014	125	36,286.1	3,347.27
2013	118	33,664.1	7,855.75
2012	93	28,626.7	13,058.45
2011	89	27,367.1	4,147.47
2010	85	25,731.1	665.37
2009	84	25,451.1	1,463.27
2008	79	23,891.7	4,494.03
2007	56	17,477.7	3,425.91
2006	50	15,627.1	3,630.92
2005	48	14,749.1	2,866.63
2004	47	14,525.1	2,886.65
2003	53	17,373.1	2,843.15
2002	53	17,108.1	4,061.52
2001	53	17,208.1	2,940.09
2000	51	17,048.1	3,751.08
1999	50	15,992.1	2,102.15
1998	53	16,915.1	2,787.03
1997	50	17,072.1	2,320.00
1996	49	17,240.1	2,102.99
1995	41	15,088.1	1,483.32
1994	45	17,094.1	1,918.17
1993	45	16,241.9	230.44
1992	45	16,791.9	1,159.00
1991	42	15,497.9	2,599.00
1990	35	12,673.1	2,928.10
1989	31	10,909.1	2,144.80
1988	31	11,769.5	2,744.90
1987	30	11,613.5	1,041.60
1986	30	11,613.5	989.60
1985	27	10,033.1	1,483.00
1984	28	12,283.1	1,360.00
1983	27	9,883.1	1,306.54
1982	23	9,440.1	1,301.25
1981	33	14,407.8	1,834.06
1980	23	11,561.0	1,299.13
1979	22	11,265.0	588.00
Max	127	37,695.24	1,3058.45
Min	22	9,440.1	230.44
Avg.	60.4	19,602.0	2,800.5
Avg. (2012-2019)	60.4	19,620.0	5,240.3

The well withdrawals from the Lower James Missouri aquifer are primarily for irrigation use. Table 2 shows the historic irrigation water use from the aquifer as reported to the DENR-Water Rights Program through annual irrigation questionnaires. Most irrigation water rights east of the Missouri River apply less than 12 inches per year on average. Therefore, it is assumed if this application is approved it will average 400 ac-ft/yr or less. The average annual irrigation use from the Lower James Missouri aquifer is 2,800.5 ac-ft/yr. There was a significant increase in irrigation permits and acres irrigated starting in 2012. The long term average irrigation is likely not that representative of current average use. The average irrigation use from 2012 through 2019 is 5,240.3 ac-ft/yr. That average is more representative of current development and probably future average annual use than the period of record (1979-2019) average use.

Hydrologic Budget

The estimated average annual recharge rate range to the Lower James Missouri aquifer is 23,936 to 26,715 ac-ft/yr. The estimated average annual use, using the 2012 to 2019 average irrigation use, combined with non-irrigation use is 6,835.6 ac-ft/yr. Therefore, there is a reasonable probability unappropriated water is available for this proposed appropriation.

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 maintains 33 observation wells completed into the Lower James Missouri aquifer (Water Rights, 2021b). A number of the observation wells completed into the aquifer document a stable to slightly declining linear trend line for their respective water level data. The declining trend lines of water levels in the northern portion of the aquifer were attributed to recent development of the aquifer for appropriative uses (within the last 10 years), and the declining water levels in the southern end of the aquifer were attributed to the hydraulic connection between the Lower James Missouri aquifer and the Missouri: Elk Point aquifer by Stonesifer (2014). The Missouri: Elk Point aquifer has a significant hydraulic connection to the Missouri River, and the Missouri River has entrenched. Thus, the water levels of the hydraulically connected aquifers have also declined.

However, the water levels as shown in the hydrographs for the four observation wells nearest to the applicants proposed diversion points (see Figure 2) as well as the other observation wells completed into the Lower James Missouri aquifer document the changes in water level are governed more by climatic conditions than well withdrawals. In general, the water levels in the observation wells rise during wetter periods and slowly decline during drier periods. This means recharge to and natural discharge from the aquifer significantly exceeds well withdrawals from the aquifer. Recognizing that recharge and natural discharge from an aquifer can be captured for pumping, the observation well data shows there is a reasonable probability there is unappropriated water available for this proposed appropriation.

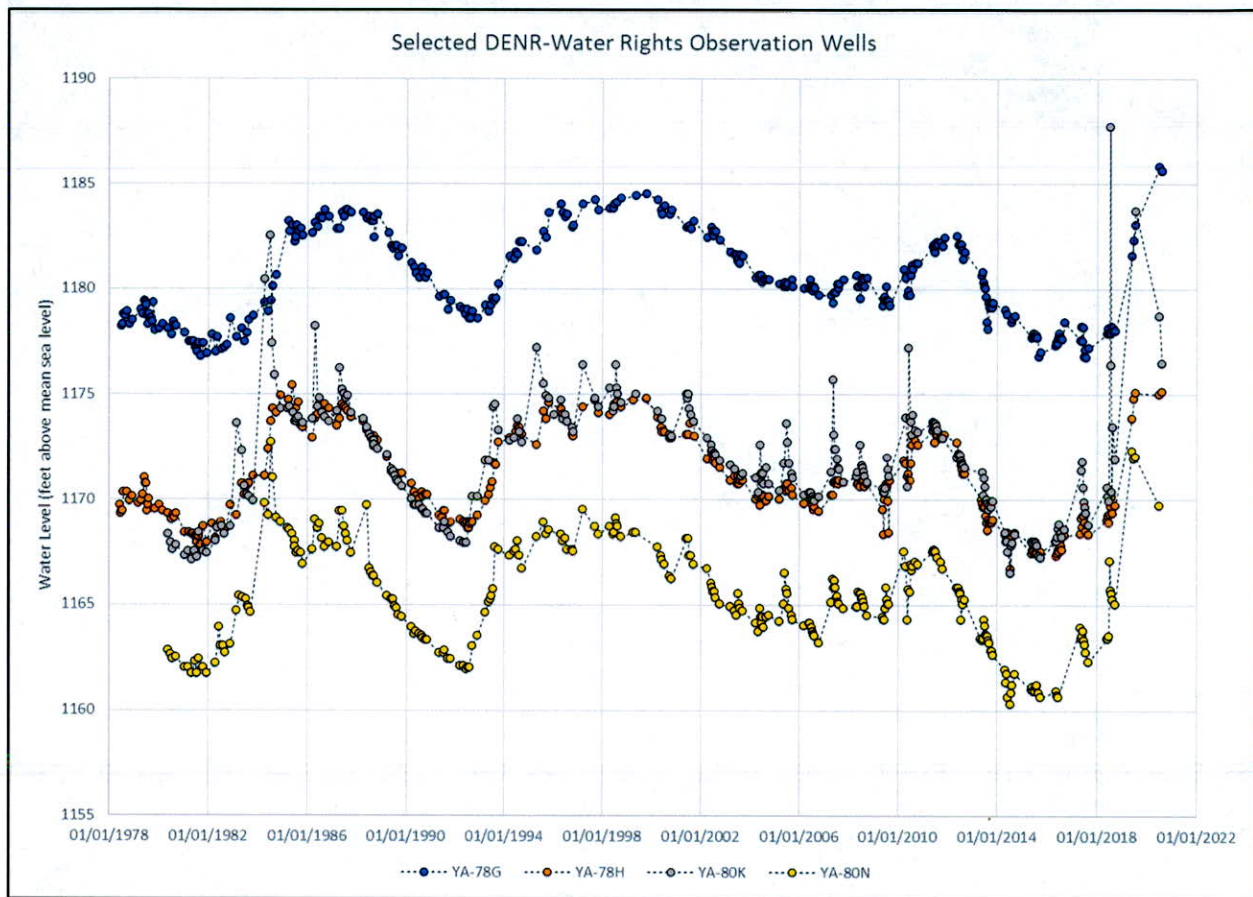


Figure 2- Hydrograph of Selected Lower James Missouri aquifer observation wells (Water Rights, 2021b)

POTENTIAL FOR UNLAWFUL IMPAIRMENT OF EXISTING WATER RIGHTS

Figure 1 shows water rights/permits in the vicinity of the applicants proposed well locations. The nearest water rights/permits are all more than 1 mile away with Water Right No. 7398-3 held by one of the applicants the closest at approximately 1.1 miles east-southeast of the easternmost proposed well location (Water Rights, 2021c). The nearest domestic well on file that appears to be completed into the aquifer is approximately 1 mile southeast of the nearest of the proposed well locations (Water Rights, 2021d). There are rural dwellings within approximately 0.3 miles of the proposed well sites that may have wells completed into the Lower James Missouri aquifer.

There has been a recent (within the last 10 years) increase in high capacity wells as well as a substantial history of high capacity wells completed into the Lower James Missouri aquifer without a history of well interference issues (Water Rights, 2021e). The applicant's proposed well sites are near the edge of the aquifer. This means any drawdown created by pumping these proposed diversions will be greater than if the proposed wells were in the middle of the aquifer. However, the applicant's two proposed wells are closer to each other than any other appropriative well and the next nearest appropriative well is also held by one of the applicants. It would be in the best interest of the applicant to control their withdrawals so as to not cause adverse impacts between the two wells proposed by this application. Therefore, there is a reasonable probability these

proposed diversions can be developed without unlawfully impairing existing appropriative water rights/permits.

The Water Management Board has defined an adequate well in Administrative Rule of South Dakota (ARSD) 74:02:4:20(6) 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 past the Water Management Board has recognized that to place water to maximum beneficial use, a certain amount of drawdown may occur. To protect domestic users, the Water Management Board defined an “adversely impacted domestic well” in ARSD 74:02:04:20(7) as:

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

The precise drawdown effects caused by pumping a well cannot be determined without conducting an aquifer performance test. However, the Water Management Board considered the delivery of water by artesian head pressure versus maximum beneficial use of water issue for Water Right No. 2313-2 for Coca-Cola Bottling Company of the Black Hills (Water Rights, 1995). The Water Management Board adopted Findings of Facts and Conclusions of Law that noted reservation of artesian head pressure for delivery of water would be inconsistent with SDCL 46-1-4 which states, “general welfare requires that the water resources of the state be put to beneficial use to the fullest extent of which they are capable...” (Water Rights, 1995). Furthermore, the Water Management Board found if increased cost or decreased production as a result of impacts on artesian head pressure by legitimate users is to be considered an adverse impact it would also be in conflict with SDCL 46-1-4 (Water Rights, 1995). With that in mind, some existing well owners may need to lower their pumps to accommodate for deeper water levels. There are no complaints on file with the DENR-Water Rights Program regarding well interference issues from the Lower James Missouri aquifer in Yankton County (Water Rights, 20221d). When considering the statute (SDCL 46-6-6.1), rule (ARSD 74:02:04:20(7)), the likely presence of artesian head pressure, the distance between wells, the proximity of the applicants two proposed wells to other wells, and the history of development without well interference complaints, there is a reasonable probability that any drawdown created by pumping these proposed diversions will not unlawfully impair existing domestic users with adequate wells. Therefore, there is a reasonable probability this application can be developed without unlawfully impairing existing well users with adequate wells.

CONCLUSIONS:

1. Water Permit Application No. 8483-3 proposes to divert water at a maximum instantaneous diversion rate of 2.22 cfs from two wells to be completed into the Lower James Missouri aquifer for the irrigation of 400 acres.
2. There is a reasonable probability unappropriated water is available for this proposed appropriation based on observation well data and a hydrologic budget.
3. There is a reasonable probability this proposed diversion can be made without unlawfully impairing existing appropriated and domestic well users with adequate wells.



Adam Mathiowetz, PE
SD DENR-Water Rights Program

REFERENCES:

- Bugliosi, E.F. 1986. Water Resources of Yankton County, South Dakota. Water Resources Investigations Report 84-4241. U.S. Geological Survey, Huron, South Dakota.
- Hedges, L.S., Allen, J., 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; U.S. Army Corps of Engineers Contract DACW 45-80-C-0185.
- Hedges, L.S., S.L. Burch, D.L. Iles, R.A. Barari, and R.A. Schoon. 1982. Evaluation of Ground-water Resources in Eastern South Dakota and Upper Big Sioux River, South Dakota and Iowa. Task 1: 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.
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Schlaak, Karen

From: Schlaak, Karen
Sent: Thursday, March 18, 2021 1:27 PM
To: 'frankkralicekjr@gmail.com'
Subject: Application No. 8483-3
Attachments: 0920.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 as soon as possible to authorize publication and arrange for payment. This information is being mailed to you today.

Karen Schlaak

Water Rights Program
(605) 773-3352



AFFIDAVIT OF PUBLICATION

YANKTON DAILY PRESS AND DAKOTAN

RECEIVED

MAR 29 2021

WATER RIGHTS
PROGRAM

FRANK T KRALICEK
43792 306TH ST
YANKTON SD 57078

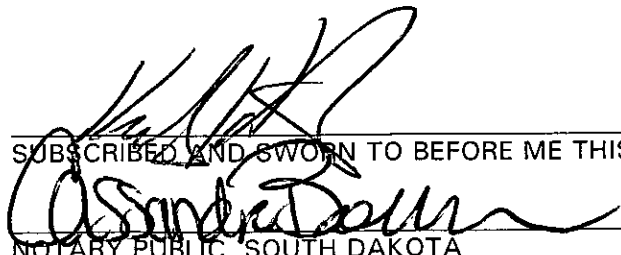
STATE OF SOUTH DAKOTA
COUNTY OF YANKTON

KELLY HERTZ, BEING FIRST DULY SWORN ON OATH DEPOSES
AND SAYS THAT (S)HE IS THE MANAGING EDITOR OF YANKTON
MEDIA INC, A CORPORATION, THE PRINTER AND THE PUBLISHER OF THE
YANKTON DAILY PRESS AND DAKOTAN, A LEGAL DAILY NEWSPAPER
PUBLISHED AND CIRCULATED IN THE CITY OF YANKTON, SAID COUNTY
AND STATE, AND ONE OF THE OFFICIAL NEWSPAPERS OF THE SAID
COUNTY OF FACTS STATED IN THIS AFFIDAVIT; THAT THE ANNEXED
3+25 NOTICE OF APPLICATIO

TAKEN FROM THE PAPER, IN WHICH IT WAS LAST PUBLISHED IN THE
NEWSPAPER ON THE 25th DAY OF March, 2021
THAT THE FULL AMOUNT OF THE FEE CHARGED FOR THE PUBLICATION
OF SAID NOTICE TO WIT \$24.01 ENSURES TO THE
BENEFITS OF THE PUBLISHER OF SAID NEWSPAPER AND THAT NO
AGREEMENT AND 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.

PUBLISHED ON: 03/25/2021

FILED ON: 03/25/2021



NOTARY PUBLIC, SOUTH DAKOTA
MY COMMISSION EXPIRES 07/04/2026

SUBSCRIBED AND SWORN TO BEFORE ME THIS 25th DAY OF March, 2021

Ad text : 3 + 25

NOTICE OF APPLICATION NO. 8483-3 to Appropriate Water

Notice is given that Frank Kralicek Jr. and Frank T Kralicek, 43792 306th St, Yankton SD 57078 have filed an application for a water permit to appropriate 2.22 cubic feet of water per second from two wells to be completed into the Lower James Missouri Aquifer (approximately 200 feet deep) located in the N 1/2 Section 16 for irrigation of 400 acres located in the N 1/2, W 1/2 SE 1/4 Section 16; all in T94N-R56W. This site is located approximately 5 miles northwest of Yankton SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8483-3 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 Engineers recommendation with qualifications, the application, and staff report are available at <http://denr.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 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 April 5, 2021.

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 \$24.01

Schlaak, Karen

From: Schlaak, Karen
Sent: Thursday, March 18, 2021 1:23 PM
To: Jackie Lammers (jackie.lammers@yankton.net)
Subject: 8483-3, Frank Kralicek Jr & Frank Kralicek
Attachments: 8483-3public.short.docx; FORM8.FRM.doc

Attached is a notice to be published on March 25, 2021.

Frank Kralicek Fr, and Frank T Kralicek, 43792 306th St, Yankton SD 57078 (605 660-0846) 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

Water Rights Program
(605) 773-3352





DENR
SOUTH DAKOTA

**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 NEWSPAPER RIGHT AWAY.**

March 18, 2021

Frank Kralicek Jr & Frank T Kralicek
43792 306th St
Yankton SD 57078

Dear Sirs:

Water Permit Application No. 8483-3 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 Press & Dakotan printed at Yankton SD (Ph # 605 886-6901). You will need to contact the newspaper and authorize publication of this notice. For your information, a copy of the notice, the recommendation of the Chief Engineer and report on the application are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

Be sure to contact the above newspaper to authorize publication of your Notice and to arrange for payment. Early contact with the paper can eliminate delays. Upon receiving authorization 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,

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. 8483-3 to Appropriate Water

Notice is given that Frank Kralicek Jr. and Frank T Kralicek, 43792 306th St, Yankton SD 57078 have filed an application for a water permit to appropriate 2.22 cubic feet of water per second from two wells to be completed into the Lower James Missouri Aquifer (approximately 200 feet deep) located in the N 1/2 Section 16 for irrigation of 400 acres located in the N 1/2, W 1/2 SE 1/4 Section 16; all in T94N-R56W. This site is located approximately 5 miles northwest of Yankton SD.

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Published once at the total approximate cost of_

April 19, 2021

PAYMENT REQUEST FORM

PAYEE: Frank Kralicek Jr.
43792 306th St
Yankton SD 57078

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

DESCRIPTION OF SERVICE, PRODUCE OR TRANSFER

Refund-Over Payment for Application/License Fee

AMOUNT: \$250.00

FUNDING SOURCE:

GENERAL: X

FEDERAL:

OTHER:

COMMENTS:

AUTHORIZATION: *Eve Munkund 4/19/2021*

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



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

APR 19 2021

Frank Kralicek Jr and Frank Kralicek
43792 306th St
Yankton SD 57078

Dear Sirs:

Enclosed is Water Permit No. 8483-3 authorizing construction of the water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

An application/license filing fee of \$1,700.00 was submitted with the application. Based on the number of acres irrigated, the fee for this permit should be \$1,450.00. \$250.00 will be refunded to you. The refund check should be received within the next couple of weeks.

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

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

Sincerely,

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

enclosures