

WATER PERMIT NO. 1975-1

Name of Applicant: Wink Cattle Company

Address: PO Box 137, Howes SD 57748 Phone: 605 490-1410

Amount of Water Claimed: 0.069 cfs Total Acres: NA

Source of Water Supply: 1 existing Inyan Kara Aquifer well

Water to be used for: commercial County: Meade

Type of Waste Disposal System:

Location: 1mile east of Howes

PRIORITY Date Received: 2-20-18 Application/License Fee: \$ 300

Corrected Application Received: Period of Annual Use: January 1 – December 31

Remarks: Increase the diversion rate authorized by Water Right No. 1855-1

Diversion Point: NE 1/4 NE 1/4 Sec 28-T8N-R17E

Land to be Irrigated: NA

Depth of Well: 3385 feet deep

Well Driller: Weston Engineering

Remarks:

Type of Map: plat

Prepared by:

Reviewed and the Number Assigned on: 2-20-18

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____

			28		

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

Mail to: DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>1975-1</u> (office use only) Hydrologic Unit <u>10120/12</u>
	Basin <u>Lower Cheyenne</u>
	Newspaper <u>Faith Independent</u> <u>Rapid City Journal</u>

RECEIVED
FEB 20 2018
WATER RIGHTS
PROGRAM

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

Check use(s) of water:

☐ Municipal	☐ Water Distribution System	☐ Recreational	☐ Institutional
☐ Rural Water System	☒ Commercial	☐ Fish & Wildlife	☐ Geothermal
☒ Domestic (over 18 gpm)	☐ Industrial	☒ Other temporary man	

Type of Application:

(check one)

☒ New	☐ Vested Right (Use predates Mar 2, 1955)	☐ Future Use Reservation
☐ Place to Beneficial Use Water Reserved by Future Use Permit No. <u>1855-1</u>		
☒ Amendment/Correction to Permit No. <u>1855-1</u>		

Description of amendment/correction: (i.e. change diversion point(s), add diversion point(s), change use, etc.)
Add use by a temporary man camp to the existing uses

- Name to Appear on Water Permit Wink Cattle Company
Mailing Address PO Box 137 Howes SD 57748
(Address) (City) (State) (Zip Code)
Phone 605 985-5240 Mobile 605 490-1410 Email dwink@gwco.net
31 add
- Amount of water claimed 0.069 *CFS or total **GPM and ***AF or Gallons
Flow rate and volume are both required. (*Cubic Feet per Second) (**Gallons per Minute) (***Acre Feet - storage capacity of dam/dugout or annual use)
- Source of water supply inyan kara
- Location of point of diversion EXISTING well (NE1/4 NE1/4 sec 28-T8N-R1E) County meade
(example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W)
- If not a public water supply (e.g. municipal), will water be used outside of the area described above? ☒ Yes ☐ No
If "Yes," where will water be used? LIVESTOCK IN
(example - NW1/4 section 12-T104N-R53W)
- County or counties where water will be used meade
- Annual period during which water is to be used Jan 1 - Dec 31
- Give a description of the project. When available include any preliminary engineering report or other reports or information that will help explain the project. (Attach sheet if more space is needed)
No. 1855-1 from 39 gpm to 70 gpm and add temporary man camp as a use for the existing water

I, Dean Wink, President, 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.

Contact Information:

Dean Wink - Wink Cattle Co

605-985-5240

605-490-1410 cell

dwink@qwtc.netx

I'm working with Ron Duvall on this
so he may also be of assistance.
Thx

SOUTH DAKOTA
WATER PERMIT NO. 1975-1

Date of first receipt of application February 20, 2018.

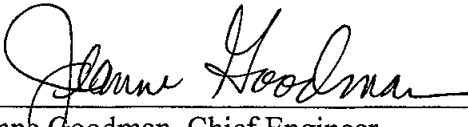
The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 1975-1 to Wink Cattle Company, c/o Dean Wink, PO Box 137, Howes SD 57748 authorizing the construction of the water use system and the placing of water to beneficial use subject to the following limitations, conditions and qualifications:

1. Water Permit No. 1975-1 authorizes an additional 0.069 cubic feet of water per second (cfs) by increasing the diversion rate authorized by Water Right No. 1855-1. Water Right No. 1855-1 appropriates 0.087 cfs from one well completed into the Inyan Kara Aquifer (3,385 feet deep) located in the NE 1/4 NE 1/4 Section 28-T8N-R17E for commercial and domestic use located approximately one mile northwest of Howes SD. This permit authorizes an additional 0.069 cfs from the existing well for uses authorized by No. 1855-1 plus use at a temporary man camp to be located in the W 1/2 Section 22-T8N-R17E. Water Right No. 1855-1 is also being amended to allow use of water at the temporary man camp. This permit and Water Right No. 1855-1 will authorize a total diversion rate of 0.156 cfs (70 gallons per minute).
2. The water appropriated shall be used for the purpose of commercial and domestic use and may not exceed the amount of water needed for beneficial use.
3. The water is to be used during the following described annual period: January 1 – December 31.
4. The date of approval of Permit No. 1975-1 is May 14, 2018.
5. The date from which applicant may claim right is February 20, 2018 (0.069 cfs).
6. One-fifth of the construction is to be completed on or before November 14, 2020.
7. All construction is to be completed on or before May 14, 2023.
8. Water is to be put to beneficial use on or before May 14, 2027.
9. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

1. The well approved under Water Right No. 1855-1 and Water Permit No. 1975-1 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 Permit holder shall report to the Chief Engineer annually the amount of water withdrawn from the Inyan Kara aquifer.

WATER MANAGEMENT BOARD

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

MAY 17 2018
date



Supplemental Information

(type or print)

1. **Well Information** (check one or both as applicable) ☐ Drilling new well(s) ☒ Using existing well(s) (see log on file)
- 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 ____

For either Existing or Proposed Wells:

- c) Well Depth (required) ____ 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) ____
- b) System Capacity (gallons) ____ Year Constructed ____
- c) Connected to the City of ____ Sanitary System

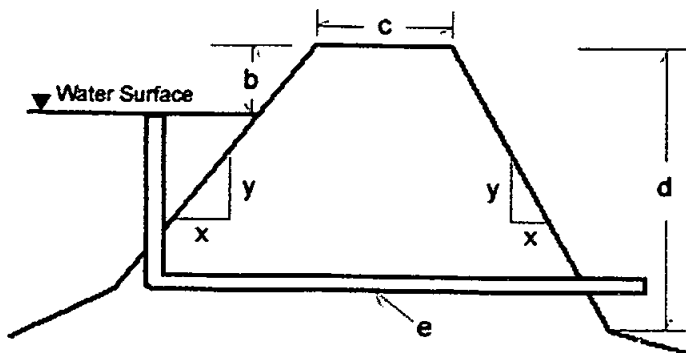
3. Dugout Information

- 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

**LITHOLOGIC LOG FOR DEAN WINK
WINK #1
MEADE COUNTY, SOUTH DAKOTA
NE NE SEC 28, T8N, R17E**

DEPTH	GENERAL LITHOLOGY	SAMPLE DESCRIPTION	COMMENTS
TOP SOIL			
0- 25	Clay	Brown to gray clay	
PIERRE FORMATION			
25-750	Shale	multi-colored silty calcareous clay - chips of pale And grayish yellow green silty clay	
750- 1665	Shale	hard, platy olive black shale interbedded with siltstone	
1665- 1710	Siltstone	olive black siltstone containing abundant sand and Clayey (Marl) interlayers	
1710-1800	Shale	Olive black shale, occasionally iron stained with interbedded Olive black marl, yellowish gray non-calcareous shale and calcareous siltstone	
TOP OF NIOBRARA FORMATION			
1800-1820	Chalk and shale	Calcareous light gray shale with abundant chalk	
TOP OF CARLILE FORMATION			
1820-1890	Shale	Dusky blue, fissile, non calcareous shale, pale-dark yellowish brown noncalcareous shale with streaks of v.f. sand	
1890- 2235	Shale	Grayish black non-calcareous shale and limestone interbedded with gray marl and olive gray sandstone	
TOP OF GREENHORN LIMESTONE			
2235- 2285	Limestone	Dark gray with rounded white calcareous grains, light gray sandy limestone with fine yellowish gray lime mudstone	
TOP OF BELLE FOURCHE SHALE			
2285- 2365	Shale	Brownish black, slightly fissile shale; abundant bentonite and minor yellowish brown calcareous shale	
TOP OF MOWRY			
2365- 2590	Shale	Brownish black, fossiliferous shale, pyrite and oxidized iron stains; Interbedded with white arkosic/calcareous sandstone, calcite veining and yellowish brown micaceous shale	
TOP OF MUDDY FORMATION			
2590- 2945	Interbedded shale and sandstone	Brown - black shale containing dolomite concretions, pyrite, calcite veining. Finely laminated black and light olive gray shale with bentonite and calcite cemented v.f. sandstone	

TOP OF DAKOTA SANDSTONE

2755-2945	Interbedded Shale and Sandstone	Fine grained, calcite cemented, light gray sandstone, with non-calcareous dark gray shale and iron staining in lower olive black shale. Small amount of pyrite. Mostly shale.
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TOP OF FUSON SHALE

2945- 3055	Shale	Dark gray shale with minor amounts of yellowish brown siltstone, pyrite, and light gray sandstone, intermingled reddish and yellowish sandstone
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TOP OF LAKOTA SANDSTONE

3015- 3055	Sandstone	Light gray v.f. to med. grained sub-angular to sub-rounded quartz sandstone Silica cemented sand friable
3055-3150	Shale interbedded sand	Dark gray calcareous-non-calcareous shale intermingled with white clay light gray fine grained sandstone, intermingled with white clay with black streaks
3135- 3150	Sandstone	Light olive gray v.f. to med. grained sub-angular to sub-rounded quartz sandstone

TOP OF MORRISON FORMATION

3150-3225	Shale	Dark gray-green shale, white bentonite clay
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TOP OF SUNDANCE FORMATION

3225- 3385	Sandstone and Interbedded Shale	Light gray v.f. to med. grained sub-angular sandstone. Silica cemented sand friable Dark gray to black calcareous shale abundant (mostly shale). Some red to orange clay and siltstone
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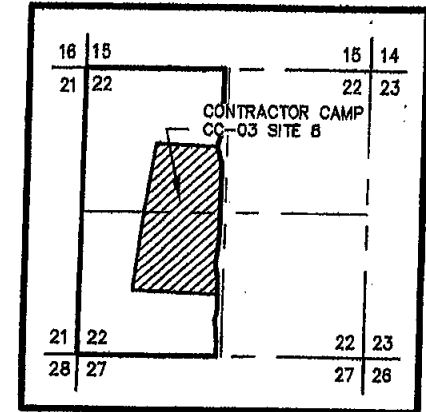
Exhibit A

MEADE COUNTY, SOUTH DAKOTA

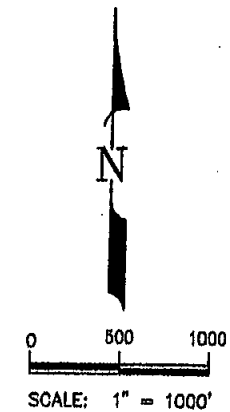
LEGEND

P. PROPERTY LINE
 S. SECTION LINE
 D.R.M.C.S.D. DEED RECORDS OF MEADE COUNTY, SOUTH DAKOTA

T-8-N, R-17-E, SECTION 22
 CC03-SD-ME-11090.000



VICINITY MAP
N.T.S.



TRACT LEGAL DESCRIPTION:
 W/2 SECTION 22, LESS & EXCEPT
 HIGHWAY RIGHT OF WAY, T-8-N, R-17-E

NOTE:

THIS SKETCH DOES NOT MEET THE MINIMUM
 STANDARDS FOR PROPERTY BOUNDARY SURVEYS.
 IT WAS NOT DERIVED FROM AN ON THE GROUND
 SURVEY BUT IS INTENDED FOR RIGHT OF WAY
 PURPOSES ONLY.

WINK CATTLE CO.

W/2 SECTION 22, LESS &
 EXCEPT HIGHWAY RIGHT OF WAY
 VOLUME 581,
 PAGE 182 & 183
 D.R.M.C.S.D.

SECTION 21
SECTION 22

PROPOSED
 3" TIE IN
 AND 10'
 TEMPORARY
 WATERLINE
 EASEMENT

EXISTING 3" WATERLINE

CONTRACTOR CAMP
 CC-03 SITE 8
 86.7± ACRES

SR 73

40' ROAD ENTRANCE

WINKS RD

SECTION 22
SECTION 27

EXISTING WATER WELL



EXISTING 2" WATERLINE
 TO BE UPGRADED TO
 A 3" WATERLINE WITHIN
 A 10' PROPOSED TEMPORARY
 WATERLINE EASEMENT



KEYSTONE XL PROJECT

CONTRACTOR CAMP CC-03 SITE 8
 ON THE PROPERTY OF
 WINK CATTLE CO.
 CC03-SD-ME-11090.000

PROJECT XL
 EXHIBIT A

APPROVED BY
 ALS

DRAWING NUMBER

4366-08-ML-SK-713

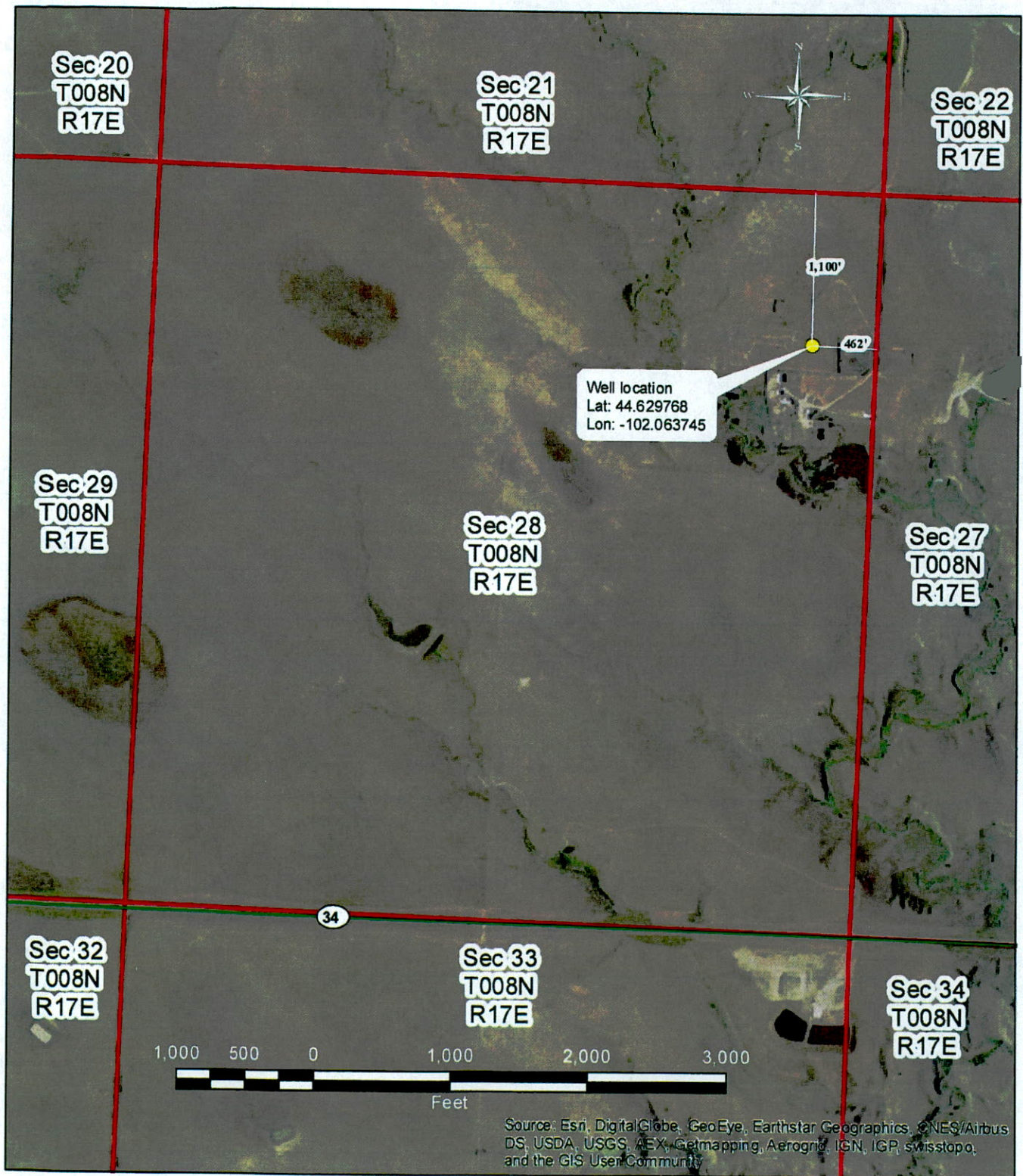
NO. REVISION DATE
 1 REVISED BOUNDARY 08/18/10

SCALE DATE DRAWN BY CHECKED BY
 1" = 1000' 08/07/10 CAB ALH

AREA OF CONTRACTOR CAMP: 86.7± ACRES

Exhibit A

Water Right # 1855-1
Wink Cattle Co.
7/6/2017



Steven Quissell

Steven Quissell
Water Rights Inspector
DNR Water Rights Program



RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date February 20, 20 18

RECEIVED OF Wink Cattle Co Inc PO Box 137 Howells, SD 57748-0137

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

Fee for Application for Permit No. <u>1975-1</u> to Appropriate Water, to construct and to put water to beneficial use	100	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>1975-1</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	300 00

No. **08603**

By

Jeanne Goodman
Chief Engineer

1971



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 1975-1 AND TO AMEND WATER RIGHT NO. 1855-1
Wink Cattle Company**

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Program, Department of Environment and Natural Resources concerning Water Permit Application No. 1975-1 and to amend Water Right No. 1855-1, Wink Cattle Company, c/o Dean Wink, PO box 137, Howes SD 57748.

The Chief Engineer is recommending APPROVAL of Application No. 1969-1 including amendment to Water Right No. 1855-1 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 Water Right No. 1855-1 and Water Permit No. 1975-1 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 Permit holder shall report to the Chief Engineer annually the amount of water withdrawn from the Inyan Kara aquifer.

See report on application for additional information.

Jeanne Goodman, Chief Engineer
April 24, 2018

REPORT TO THE CHIEF ENGINEER
Water Permit Application No. 1975-1
and Amendment to Water Right No. 1855-1
Wink Cattle Company
April 16, 2018

Water Permit Application No. 1975-1 seeks to appropriate an additional 0.069 cubic feet per second (cfs) for commercial, domestic, and temporary man camp uses by increasing the diversion rate authorized by Water Right No. 1855-1. Water Right No. 1855-1 appropriates 0.087 cfs from one well completed into the Inyan Kara aquifer (INKR) for commercial and domestic use. This application is also seeking to amend Water Right No. 1855-1 to allow water to be used for a temporary man camp in addition to the existing commercial and domestic uses.

The existing well is completed to a depth of 3,385 feet and is located in the NE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 28, T8N-R17E. The combined maximum diversion rate of this application, if approved, and Water Right No. 1855-1 is 0.156 cfs (70 gallons per minute). The water from this application will be used for commercial and domestic uses in the area, including a temporary man camp to be located in the W $\frac{1}{2}$ Section 22, T8N-R17E. The diversion point is located approximately one mile northwest of the unincorporated community of Howes, SD.

AQUIFER: Inyan Kara (INKR)

HYDROGEOLOGY

The Inyan Kara Group is comprised of two unconformable geologic formations: the Fall River Formation and the underlying Lakota Formation. The Fall River Formation is a brown to reddish-brown, fine-grained sandstone, with bedding ranging from thin at the top, to massive at the bottom (Carter and Driscoll, 2003). The Lakota Formation consists of lenticular beds of yellow, brown, and reddish-brown sandstone, pebble conglomerate, siltstone, and claystone (Robinson et al., 1964). According to Robinson et al (1964), the Lakota Formation has “the most varied composition of any formation in the area, and the composition changes rapidly both laterally and vertically”. The Inyan Kara aquifer is comprised of the sandstones within the Inyan Kara Group (Kyllonen and Peter, 1987).

The Inyan Kara aquifer is areally extensive and underlies 23,239,040 acres in western South Dakota with 324,169,440 acre-feet of recoverable water in storage (Allen et al., 1985). In Meade County, the Inyan Kara underlies nearly the entire county, with an area of 2,107,520 acres and 36,354,720 acre-feet of recoverable water in storage (Allen et al., 1985).

Information from the lithologic log submitted with this application shows that the well is screened in the Lakota Formation. The thickness of the Inyan Kara Group at this location was estimated by Buhler (2006) as being 395 feet thick from the lithologic log, with the top of the formation at a depth of 2,755 feet below grade. At the time of completion (08/26/2004), this well had a static water level of 75 feet, indicating that the aquifer in this location is under confined conditions.

South Dakota Codified Law 46-2A-9

Pursuant to SDCL 46-2A-9, a permit to appropriate water may be issued only if there is a reasonable probability that there is unappropriated water available for the applicant's proposed use, that the 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 existing rights within the Inyan Kara aquifer.

WATER AVAILABILITY

The probability of unappropriated water 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 than or stratigraphically lower than the Greenhorn Formation and a water distribution system as defined in SDCL 46-1-6 (17) has applied for a permit, the Board need not take into consideration the balance of aquifer recharge and withdrawal. Although the Inyan Kara aquifer is older or stratigraphically lower than the Greenhorn Formation, the proposed use may not meet the definition of a water distribution system and the discussion on recharge/withdrawals from the aquifer is included below.

Hydrologic Budget

Recharge

Recharge to the Inyan Kara aquifer is through infiltration of precipitation where it outcrops around the Black Hills, and there is some evidence of leakage from the underlying Paleozoic aquifer in Central South Dakota (Driscoll and Carter, 2001). The average annual recharge to the Inyan Kara aquifer has not been quantified, however the precipitation component of the recharge from the Black Hills outcrop area in South Dakota was estimated to be 11,600 acre-ft per year by Driscoll and Carter (2001) using data from 1950-1998. This estimate was only for the Inyan Kara aquifer that outcrops in South Dakota, so there may be additional recharge in other parts of the Inyan Kara aquifer from precipitation at outcrops in other states.

Discharge

Currently there are 185 water rights/permits appropriating water from the Inyan Kara aquifer in South Dakota, with one future use permit for the city of New Underwood, SD (Water Rights, 2018a). Buhler (2012) estimated the average annual withdrawal from the Inyan Kara aquifer in South Dakota to be 10,700 ac-ft/yr in his report dated November 2, 2012. This estimate was based on: 1.) annual water use reported in the latest public water system survey for municipal, suburban housing development, and rural water system appropriations where applicable; 2.) calculated annual use based on permitted animals and rates of 20 gallons per day (gpd) for beef cattle, 5 gpd for swine, 15 gpd per 100 turkeys, and 9 gpd per 100 chickens for large confinement operations permitted by the DENR; 3.) irrigation questionnaire reporting for irrigation permits when available; 4.) the most current water use reported for non-irrigation appropriations that are required to report, and 5.) assuming unreported water rights/permits limited to an annual volume will be used to the maximum and water rights/permits limited by diversion rate will be used 60% of continuous pumping at the maximum diversion rate for their annual use period.

In the years since Buhler (2012) estimated the average annual withdrawal, there have been 10 additional water rights/permits approved and one pending application for the Inyan Kara aquifer. Using the same withdrawal parameters as Buhler (2012), these additional appropriations are estimated to increase the average annual withdrawal by 547 ac-ft/yr. Pending Application No. 2686-2 proposes to use up to 274.2 ac-ft/yr. In addition to the additional water rights/permits issued, there have been 9 water rights/permits that have been canceled since Buhler's estimate in 2012. Mathiowetz (2018) estimated the average annual withdrawal of these canceled permits in a fashion similar to Buhler (2012) in order to determine a more accurate estimate of the current average annual withdrawal. Two of these cancellations were not identified as using the Inyan Kara aquifer at the time of Buhler's report and were excluded from the calculations in this report, reducing the estimate made by Mathiowetz (2018). Mathiowetz estimated the average annual withdrawal from these cancelled permits to equal approximately 1,200 acre-ft/yr and removal of the two unaccounted cancellations results in a reduction of the estimated average annual withdrawal to approximately 1,100 acre-ft/yr. Considering the new permits and cancellations since Buhler's (2012) usage estimate, the estimated average annual withdrawal from the Inyan Kara aquifer in South Dakota is 10,147 acre-ft/yr.

This application is proposing to appropriate water at a maximum diversion rate of 0.069 cfs. Pumping at this diversion rate for 60% of the time results in an estimated average annual withdrawal of 30 ac-ft/year. Pending Application No. 2686-2 proposes to use up to 274.2 ac-ft/yr. This application, if approved, and the pending application will increase the estimated average annual withdrawal from the Inyan Kara aquifer in South Dakota to approximately 10,451.2 acre-ft/yr.

Hydrologic Budget

The estimated annual recharge to the Inyan Kara aquifer from precipitation on the outcrop in South Dakota is 11,600 acre feet per year, and the estimated annual discharge is 10,451.2 acre feet per year. These estimates show that discharge is less than recharge, indicating that there is a reasonable probability that unappropriated water is available in the Inyan Kara aquifer to support the proposed application.

Observation Well Data

The Water Rights Program monitors nine observation wells completed in the Inyan Kara aquifer (Water Rights, 2018c). The nearest observation well is PE-95E, located approximately 67 miles to the southwest of the well location. PE-95E is located near the outcrop of the Inyan Kara aquifer and may not be representative of the aquifer near the applicant's location. An observation well that was monitored by the USGS from 1963 to 1989 is located approximately 17 miles west-southwest of the applicant's location and is shown in Figure 1. Observation well ED-85B is located approximately 172 miles to the east-northeast of the applicant's location and shown in Figure 2. The well that was monitored by the USGS and ED-85B are both under confined conditions and are reflective of the Inyan Kara aquifer at a distance far from the outcrop.

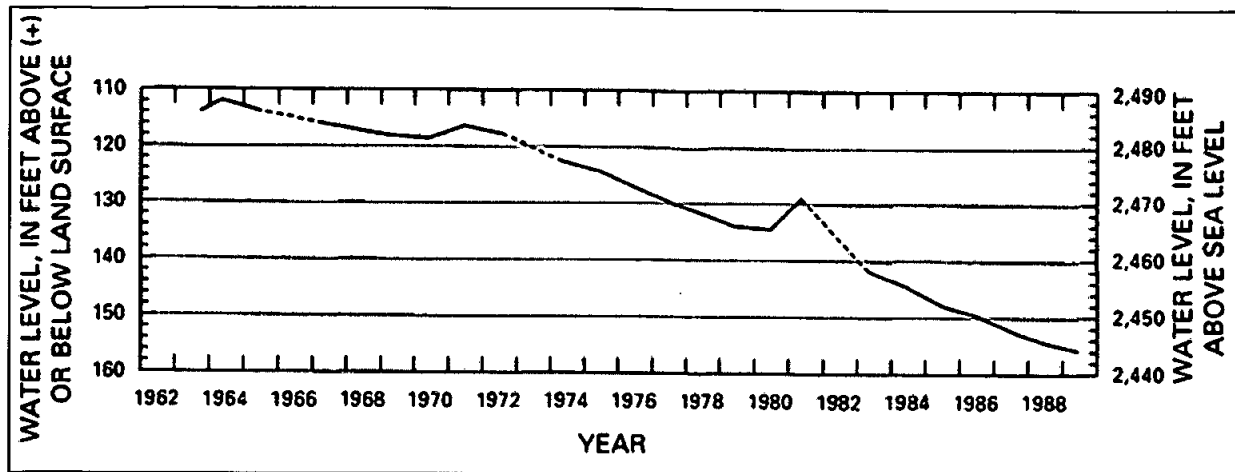


Figure 1: Hydrograph for Well 7N14E25BDD (from Winter, 1994)

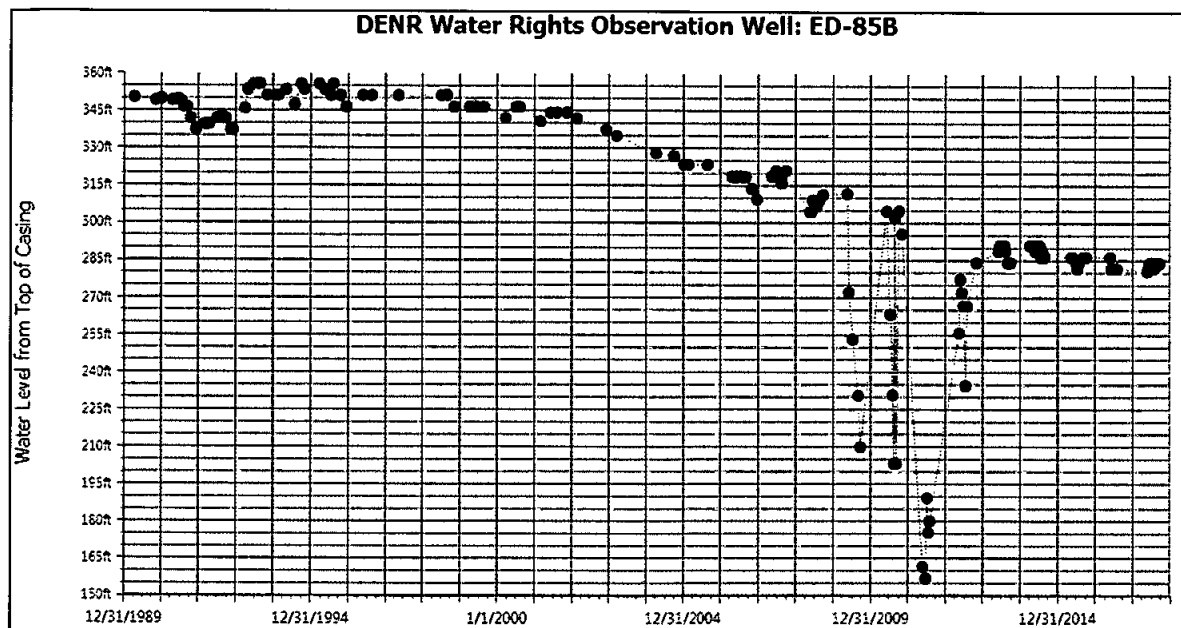


Figure 2: Hydrograph for Observation Wells ED-85B (Water Rights, 2018c)

These two hydrographs show that over their period of record, the artesian head pressure near the area of the observations wells has gradually declined. This decline may be due to a similar mechanism that is causing the decline in the Dakota aquifer, and the aquifer has yet to reach a new equilibrium state. Davis et al. (1961) noted that many drillers identified a “second flow” from the Dakota aquifer in central and eastern South Dakota. This “second flow” was noted by some as being correlated to the Lakota sandstone in the Inyan Kara group (Davis et al., 1961). As such, some of the wells drilled over a century ago into the Dakota aquifer may have actually penetrated the Inyan Kara aquifer and were incorrectly identified as being a Dakota well. It has previously been identified that the uncontrolled flow of these wells and poor construction practices in the past have led to a gradual loss of artesian head pressure as the Dakota aquifer reaches a new state of equilibrium.

EXISTING WATER RIGHTS

The nearest existing water right/permit completed in the Inyan Kara aquifer is located approximately 10 miles to the southwest of the applicant's location (Water Rights, 2018a). This is Water Right No. 1856-1 for Arlie Radway and is used for rural water system and domestic uses at a maximum diversion rate of 0.33 cfs (50 gpm). The next nearest water rights/permits in the Inyan Kara aquifer are located approximately 21 and 25 miles away. There are eight water wells on record with the Water Right Program within 10 miles of the applicant's location that have a depth of over 2000 feet. However, the lithologic information on most of these wells is sparse and it is unknown if they are completed into the Dakota aquifer or the Inyan Kara aquifer (Water Rights, 2018b).

Given the distance to this well and the relatively low diversion rate, the drawdown affecting nearby water rights/permits and domestic users as a result of pumping is not expected to be significant. The existing well for Water Right No. 1855-1 was permitted in 2006 and has been using water without a history of complaints.

The Inyan Kara aquifer is generally an artesian aquifer, and due to the physics of artesian head pressure, the drawdown from pumping may extend a considerable distance from the pumped well. SDCL 46-6-6.1 does not protect artesian head pressure as a means of delivery and the Water Management Board has consistently recognized that to place water to maximum beneficial use, a certain amount of drawdown may occur. In order to balance interests between irrigation use and delivery of water by artesian pressure, 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"

Depending on the specific characteristics of the Inyan Kara aquifer at the well site proposed by this application, some existing well owners may need to lower their pumps to accommodate for deeper water levels.

CONCLUSIONS

1. This application proposes to appropriate water at a maximum diversion rate of 0.069 cfs for commercial, domestic, and temporary man camp uses from a well (3385 feet deep) completed in the Inyan Kara aquifer.
2. This application also seeks to amend Water Right No. 1855-1 to allow the authorized 0.087 cfs to be used for temporary man camp use in addition to the existing commercial and domestic uses.
3. The Inyan Kara aquifer is a viable aquifer and is found under confined conditions in the area of the existing well.

4. There is a reasonable probability that the withdrawals proposed by this application will not adversely impact adequate wells for existing water rights and domestic users.
5. Based on the observation well data and the hydrologic budget, there is a reasonable probability that unappropriated water is available from the Inyan Kara aquifer for this application.



John Farmer
SD DENR – Water Rights Program

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RECEIVED

MAY 14 2018

WATER RIGHTS
PROGRAM

PUBLISHER'S AFFIDAVIT OF PUBLICATION

STATE OF SOUTH DAKOTA }

}SS

COUNTY OF MEADE }

Kris Stocklin-Johnson of said County and State, being duly sworn on oath says: THE FAITH INDEPENDENT is a weekly newspaper of general circulation, published in FAITH, in said County and State and has been such newspaper during the times thereafter mentioned; that the said THE FAITH INDEPENDENT is a legal newspaper and has been in existence for more than one year immediately preceding the first publication herein mentioned; and has more than 200 bonafide subscribers; that I, the undersigned, am Office Manager of said newspaper, and have personal knowledge of all facts stated in this affidavit; and that the advertisement headed:

Notice of Application - Appropriate Water
Wink Cattle Company

A printed copy of which is hereto attached, was printed and published in said newspaper for one successive issue, the first publication being on the 2nd day of May, 2018, and the last publication on the 2nd day of May, 2018, that \$30.06 being the full amount of the fee for publication of the annexed notice insures solely to the benefit of the publishers of the said newspaper; that no arrangement or understanding for a division thereof has been made with any person and that no part thereof has been agreed to be paid to any other person whomsoever.

x Kris Stocklin - Johnson

Subscribed and sworn to me before this 2nd day of May, 2018.

Tamara Ravellette

Notary Public, State of South Dakota
My Commission Expires
Jan. 24th, 2020

NOTICE OF
APPLICATION

NO. 1975-1 to
Appropriate Water and
to Amend Water Right
No. 1855-1

Notice is given that Wink Cattle Company, c/o Dean Wink, PO Box 137, Howes SD 57748 has filed an application for a water permit to appropriate an additional 0.069 cubic feet of water per second (cfs) by increasing the diversion rate authorized by Water Right No. 1855-1. Water Right No. 1855-1 appropriates 0.087 cfs from one well completed into the Inyan Kara Aquifer (3,385 feet deep) located in the NE 1/4 NE 1/4 Section 28-T8N-R17E for commercial and domestic use located approximately one mile northwest of Howes SD. This application proposes to divert an additional 0.069 cfs from the existing well for uses authorized by No. 1855-1 plus use at a temporary man camp to be located in the W 1/2 Section 22-T8N-R17E. Water Right No. 1855-1 is also being amended to allow use of water at the temporary man camp. This application, if approved, and Water Right No. 1855-1 will authorize a total diversion rate of 0.156 cfs (70 gallons per minute).

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 1975-1 including amendment to Water Right No. 1855-1 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 May 14, 2018.

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.

Steven M. Pimer, Secretary, Department of Environment and Natural Resources.

Steven M. Pimer,

Secretary, Department of Environment and Natural Resources

Published May 2, 2018 at the total approximate cost of \$30.06.

May 2 L21081739

**NOTICE OF APPLICATION
NO. 1975-1 to Appropriate Water
and to Amend Water Right
No. 1855-1**

Notice is given that Wink Cattle Company, c/o Dean Wink, PO Box 137, Howes SD 57748 has filed an application for a water permit to appropriate an additional 0.069 cubic feet of water per second (cfs) by increasing the diversion rate authorized by Water Right No. 1855-1. Water Right No. 1855-1 appropriates 0.087 cfs from one well completed into the Inyan Kara Aquifer (3,385 feet deep) located in the NE 1/4 NE 1/4 Section 28-T8N-R17E for commercial and domestic use located approximately one mile northwest of Howes SD. This application proposes to divert an additional 0.069 cfs from the existing well for uses authorized by No. 1855-1 plus use at a temporary man camp to be located in the W 1/2 Section 22-T8N-R17E. Water Right No. 1855-1 is also being amended to allow use of water at the temporary man camp. This application, if approved, and Water Right No. 1855-1 will authorize a total diversion rate of 0.156 cfs (70 gallons per minute).

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

(Published once at the total approximate cost of \$72.54)

Affidavit of Publication

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MAY 11 2018

WATER RIGHTS
PROGRAM

STATE OF SOUTH DAKOTA

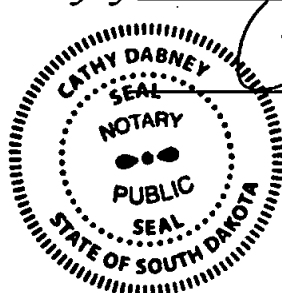
County of Pennington

SS:

Sheri Sponder being first duly sworn, upon his/her oath says: That he/she is now and was at all time hereinafter mentioned, an employee of the RAPID CITY JOURNAL, a corporation of Rapid City, South Dakota, the owner and publisher of the RAPID CITY JOURNAL, a legal and daily newspaper printed and published in Rapid City, in said County of Pennington, and has full and personal knowledge of all the facts herein stated as follows: that said newspaper is and at all of the times herein mentioned has been a legal and daily newspaper with a bonafide paid circulation of at least Two Hundred copies daily, and has been printed and published in the English language, at and within an office maintained by the owner and publisher thereof, at Rapid City, in said Pennington County, and has been admitted to the United States mail under the second class mailing privilege for at least one year prior to the publication herein mentioned; that the advertisement, a printed copy of which, taken from said Rapid City Journal, the paper in which the same was published, is attached to this sheet and made a part of this affidavit, was published in said paper once each day for one successive day, the first publication there of being on the 2nd day of May 2018 that the fees charged for the publication there of are 72 dollars and 54 cents.

Sheri Sponder

Subscribed and sworn to before me this 9th day of May, 2018.



Cathy Dabney
Notary public

4-16-2024

My commission expires

Schlaak, Karen

From: Schlaak, Karen
Sent: Tuesday, April 24, 2018 10:14 AM
To: RCY Legals (legals@rapidcityjournal.com)
Subject: 1975-1, Wink Cattle Company
Attachments: 1975-1public.short.docx; FORM8.FRM.doc

Attached is a notice to be published on May 2, 2018.

Wink Cattle Company c/o Dean Wink, PO box 137, Howes SD 57748 (605 985-5240 or 605 490-1410) 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: Tuesday, April 24, 2018 10:13 AM
To: faithind@faithsd.com
Subject: 1975-1, Wink Cattle Company
Attachments: 1975-1public.short.docx; FORM8.FRM.doc

Attached is a notice to be published on May 2, 2018.

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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 NEWSPAPER(S) RIGHT AWAY.**

April 24, 2018

Wink Cattle Company
c/o Dean Wink
PO Box 137
Howes SD 57748

Dear Mr. Wink:

Water Permit Application No. 1975-1 for commercial and domestic use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Faith Independent printed at Faith SD (Ph # 605-967-2161) and the Rapid City Journal printed at Rapid City SD (Ph # 605-394-8300). You will need to contact the newspaper(s) 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(s) to authorize publication of your Notice and to arrange for payment. Early contact with the paper(s) 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. 1975-1 to Appropriate Water and to Amend Water Right No. 1855-1

Notice is given that Wink Cattle Company, c/o Dean Wink, PO Box 137, Howes SD 57748 has filed an application for a water permit to appropriate an additional 0.069 cubic feet of water per second (cfs) by increasing the diversion rate authorized by Water Right No. 1855-1. Water Right No. 1855-1 appropriates 0.087 cfs from one well completed into the Inyan Kara Aquifer (3,385 feet deep) located in the NE 1/4 NE 1/4 Section 28-T8N-R17E for commercial and domestic use located approximately one mile northwest of Howes SD. This application proposes to divert an additional 0.069 cfs from the existing well for uses authorized by No. 1855-1 plus use at a temporary man camp to be located in the W 1/2 Section 22-T8N-R17E. Water Right No. 1855-1 is also being amended to allow use of water at the temporary man camp. This application, if approved, and Water Right No. 1855-1 will authorize a total diversion rate of 0.156 cfs (70 gallons per minute).

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Steven M. Pirner, Secretary, Department of Environment and Natural Resources. Published once at the total approximate cost of _____.



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

MAY 17 2018

Wink Cattle Company
c/o Dean Wink
PO Box 137
Howes SD 57748

Dear Mr. Wink:

Enclosed is Water Permit No. 1975-1 authorizing construction of the water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

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

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

Sincerely,

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

enclosures