

WATER PERMIT NO. 7565-3

Name of Applicant: Helen Ryken

Address: PO Box 157, Gayville SD 57031 Phone: 605 267-4184

Amount of Water Claimed: 1.89 cfs Total Acres: 160

Source of Water Supply: groundwater (one well)

Water to be used for: irrigation County: Yankton

Type of Waste Disposal System:

Location: 3 miles southwest of Gayville

PRIORITY Date Received: 12-19-12 Application/License Fee: \$ 1050

Corrected Application Received: Period of Annual Use: May 1 – September 30

Remarks:

Diversion Point: center of NE 1/4 Sec 27-T93N-R54W

Land to be Irrigated: NE 1/4 Sec 27-T93N-R54W

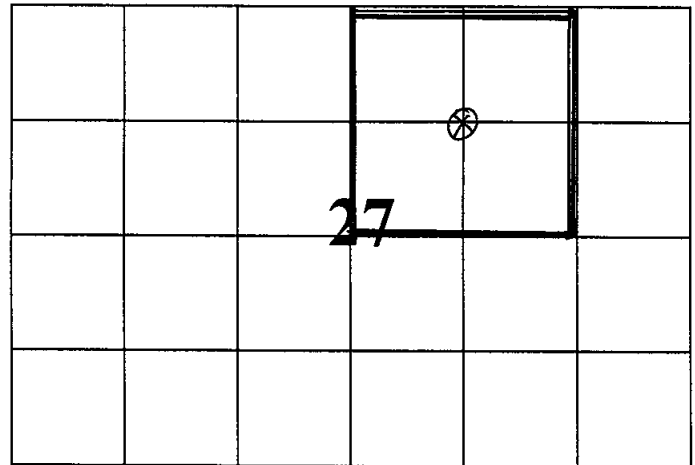
Depth of Well: 100 feet deep

Well Driller:

Remarks:

Type of Map: aerial

Prepared by:



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

By: Karen Schlaak

Notice of Hearing - date to intervene: _____

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

Mail to: PMB 2020 DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>7565-3</u> (office use only) Hydrologic Unit <u>10170101</u>
	Basin <u>Vermillion River</u>
	Newspaper <u>Daily Press & Dakotan</u>
	<u>319 Walnut Yankton 57078 605-665-7811</u>

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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 Helen Ryken

(check one) ☒ Owner ☐ Tenant/lessee ☐ Owner's Legal Agent

(name and complete address if different than above name)

Mailing Address PO Box 157 Geyville SD 57031
(Address) (City) (State) (Zip Code)

Home Phone 605-267-4184 Cell _____ Email _____

2. Amount of water claimed 1.89*CFS or 850**GPM ***AF Total Acreage 160
(*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 into Missouri? Elk Point aquifer

4. Location of point of diversion 1 well in NE 1/4 sec 27 T93N-S4W
(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 May 1 - September 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
NE 1/4 NE 1/4 Sec 27 T93N-S4W	40		
NW 1/4 NE 1/4 Sec 27 T93N-S4W	40		
SE 1/4 NE 1/4 Sec 27 T93N-S4W	40		
SW 1/4 NE 1/4 Sec 27 T93N-S4W	40		

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

Establish new irrigation in the NE 1/4 of Sec 27 T93N-R54W

I, Helen Ryken, the applicant, certify that I have read this application, have examined the attached map, and that the matters stated are true.

**SOUTH DAKOTA
WATER PERMIT NO. 7565-3**

Date of first receipt of application December 19, 2012.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 7565-3 to Helen Ryken, PO Box 157, Gayville SD 57031 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. 7565-3 appropriates 1.89 cubic feet of water per second from one well to be completed into the Missouri:Elk Point Aquifer (100 feet deep) located in the approximate center of the NE 1/4 Section 27 for irrigation of 160 acres located in the NE 1/4 Section 27; all in T93N-R54W.
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: May 1 – September 30.
3. The date from which applicant may claim right is December 19, 2012.
4. The date of approval of Permit No. 7565-3 is March 4, 2013.
5. One-fifth of the construction is to be completed on or before September 4, 2015.
6. All construction is to be completed on or before March 4, 2018.
7. Water is to be put to beneficial use on or before March 4, 2022.
8. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

1. The well approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The well authorized by Permit No. 7565-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

WATER MANAGEMENT BOARD

By: *Jeanne Goodman*

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

APR 26 2013

date



Supplemental Information

(type or print)

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

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

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

c) Well Depth 100 Depth to Top of Water Bearing Material 50 Depth to Water from Surface 20

d) Distance to nearest existing domestic well:

On applicant's property N/A On property owned by others 1400 ft

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)

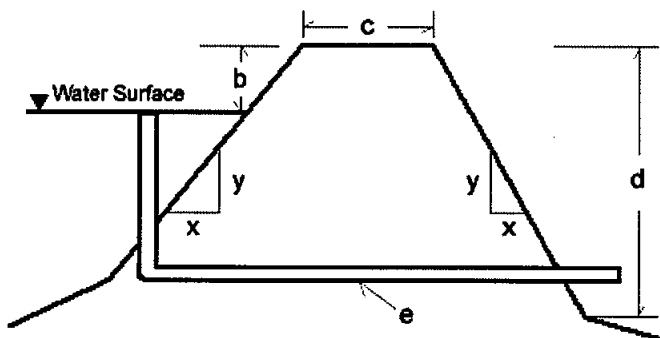
Upstream

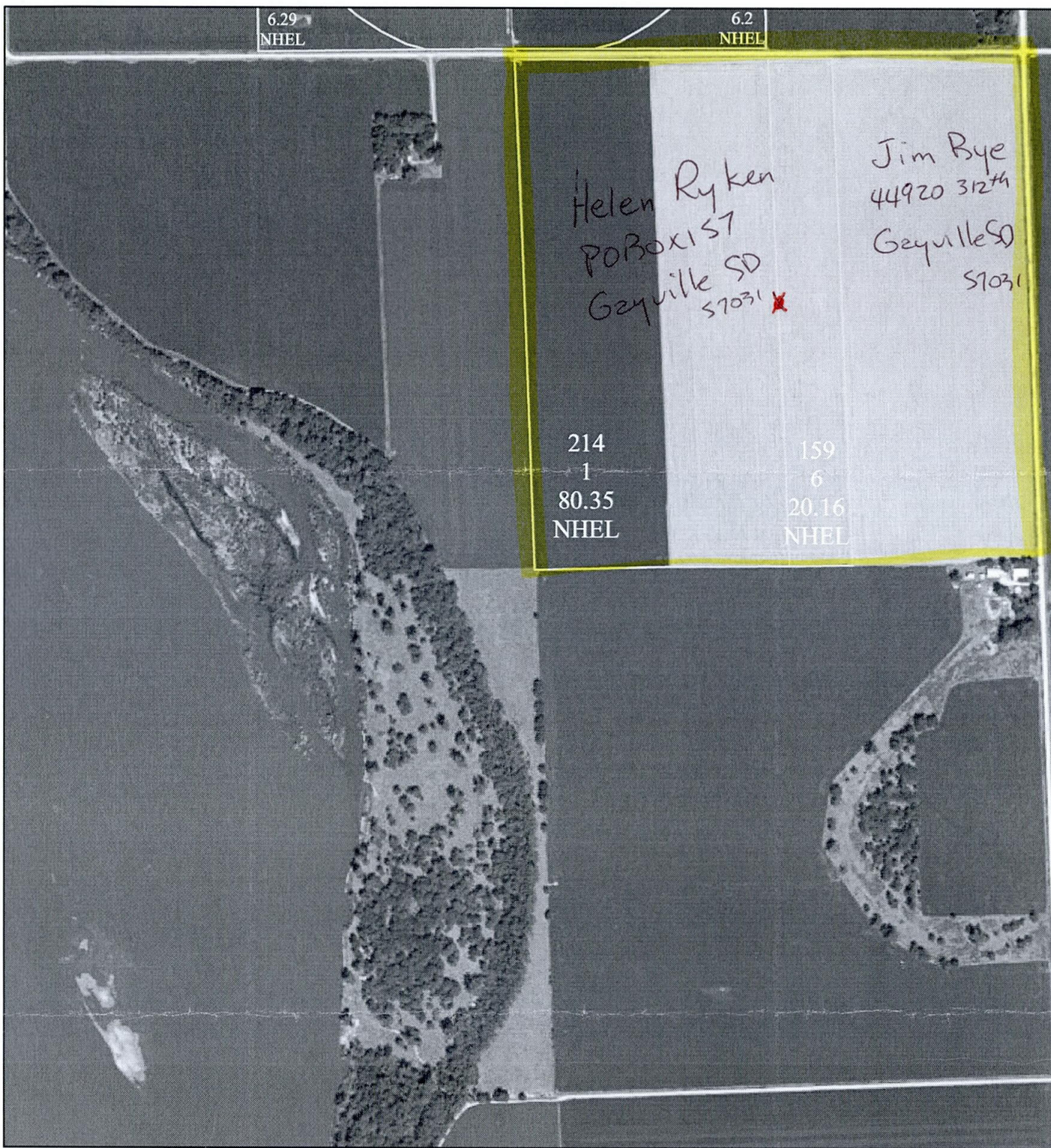
Downstream

h) Surface Area of Impoundment

i) Storage Acre Feet

j) Drainage Area Above Dam Acres





United States Department of Agriculture
Farm Service Agency

PLSS: 27_93_54
Farm: 5463

Yankton County, SD
1:10,491

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February 11, 2011

Wetland Determination Identifiers
 ● Restricted Use
 ▽ Limited Restrictions
 ■ Exempt from Conservation Compliance Provisions
 □ Common Land Units

Disclaimer: Wetland identifiers do not represent the size, shape or specific determination of the area.
Refer to your original determination (CPA-026 and attached maps) for exact wetland boundaries and determinations, or contact NRCS.

Yankton County FSA
Office.

2010 Ortho-Photography - Not to Scale

Mike Reifenshuth - Yankton County PT 12/14/2012

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

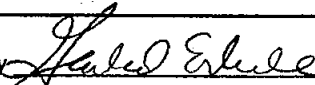
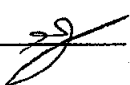
Date 12/19, 20 12

RECEIVED OF Helen Ryken PO Box 157 Gayville SD 57031

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

Fee for Application for Permit No. <u>7565-3</u> to Appropriate Water, to construct and to put water to beneficial use	850	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>7565-3</u>	200	00
Fee for Filing Transfer Form _____		
Fee for _____		
Fee for Issuing New Well Driller's License No. _____ for C.Y. _____		
Fee for Renewal of Well Driller's License No. _____ for C.Y. _____		
Fee for Issuing Well Pump Installer's License No. _____ for C.Y. _____		
Fee for Renewal of Well Pump Installer's License No. _____ for C.Y. _____		
(Any Other Work Provided by Law)	TOTAL	1050 00

No. **05782**

By 
Chief Engineer 



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 7565-3, Helen Ryken**

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. 7565-3, Helen Ryken, PO Box 157, Gayville SD 57031.

The Chief Engineer is recommending APPROVAL of Application No. 7565-3 because 1) there is reasonable probability that there is unappropriated water available for the applicant's proposed use, 2) the proposed diversion can be developed without unlawful impairment of existing rights, 3) the proposed use is a beneficial use and 4) it is in the public interest with the following qualifications:

1. The well approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The well authorized by Permit No. 7565-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

See on application for additional information.

Garland Erbele, Chief Engineer
February 12, 2013

REPORT TO THE CHIEF ENGINEER
ON
WATER PERMIT APPLICATION NO. 7565-3
HELEN RYKEN
February 12, 2013

Water Permit Application No. 7565-3 proposes to appropriate up to 320 acre-feet annually (ac-ft/yr) at a maximum diversion rate of 1.89 cubic feet of water per second (cfs) from one well to be completed into the Missouri: Elk Point aquifer. The well will be located approximately one half mile west and 0.13 miles south of the NE ¼ of Section 27, T93N-R54W and is expected to be approximately 100 feet deep. This application proposes to irrigate 160 acres located in the NE ¼ of Section 27, T93N-R54W in Yankton County.

AQUIFER: Elk Point management unit of the Missouri Aquifer (M: EP)

GEOLOGY AND AQUIFER CHARACTERISTICS:

Bugliosi (1986) refers to the Elk Point management unit of the Missouri aquifer as the southern portion of the Lower James- Missouri aquifer. For water management purposes, the Water Management Board and the SD DENR-Water Rights Program refer to this aquifer as the Missouri: Elk Point. The aquifer is an alluvium mantled glacial outwash composed of fine sand to coarse gravel material (Bugliosi, 1986). The aquifer generally lies below the flood plains of the Missouri River, lies directly over and is hydraulically connected to the Dakota aquifer, and is hydraulically connected to the northern portion of the Lower James Missouri and the Lower Vermillion Missouri aquifers as well as the Missouri and Vermillion Rivers (Bugliosi, 1986). The aquifer can be under either water-table or artesian conditions, but is under water-table conditions in the area of this application. The Elk Point management unit of the Missouri aquifer encompasses regions of Clay, Union, and Yankton Counties. The Missouri: Elk Point aquifer underlies approximately 45,000 acres of Yankton County alone and contains an estimated 675,000 acre-feet of recoverable water in storage in the county (Hedges and others, 1982). The saturated thickness of the aquifer in the region ranges from approximately 50-150 feet thick (Bugliosi, 1986). The transmissivity of the aquifer ranges from 20,700 to 24,700 square feet per day (ft²/d) (Bugliosi, 1986). The specific capacity of the aquifer ranges from approximately 124 to 173 gallons per minute per foot ((gal/min)/ft) (Bugliosi, 1986).

SDCL 46-2A-9

In accordance with SDCL 46-2A-9, a permit may be issued to appropriate water only if there is reasonable probability that there is unappropriated water available for the applicant's proposed use, that the proposed diversion can be developed without unlawful impairment of existing rights and that the proposed use is a beneficial use and in the public interest. This report will review the availability of unappropriated water and existing rights within the Missouri: Elk Point aquifer.

WATER AVAILABILITY:

This application proposes to appropriate 320 ac-ft/yr from the Missouri: Elk Point aquifer. If this application is approved, it is likely that the actual water use will be less than the appropriated amount. The probability of unappropriated water available from the aquifer can be evaluated using SDCL 46-6-3.1 which requires "No application to appropriate groundwater may be

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.”

Recharge versus Discharge:

Recharge:

Recharge to the Missouri: Elk Point aquifer occurs through seepage from streams and by infiltration of precipitation (Bugliosi, 1986). Recharge is also provided to the aquifer from the Big Sioux, Lower Vermillion-Missouri, and Dakota aquifers as well as during times of high flow, from the Missouri River. The average annual recharge rate to the Missouri: Elk Point aquifer is estimated to be 3.8 in/yr based on observation well analysis (Hedges and others, 1985). Given the area of the management unit in Yankton County of 45,000 acres, average annual recharge to the aquifer in Yankton County alone is estimated to be 14,250 ac-ft/yr.

Discharge:

Discharge from the Missouri: Elk Point aquifer is by evapotranspiration, discharge to the Big Sioux and Missouri Rivers and underlying Dakota aquifer, and withdrawal from wells (Bugliosi, 1986). There are a number of completion reports on file with the SD DENR-Water Rights Program for domestic use wells completed into the Missouri: Elk Point aquifer (Water Rights, 2013b) and there are currently 507 water rights/permits appropriating water from the Missouri: Elk Point aquifer (Water Rights, 2013c). There are 92 water rights/permits appropriating water from this aquifer in Yankton County alone (Water Rights, 2013c). The distribution of these appropriations and their types are shown in Table 1.

Water Rights/Permits	Number
Commercial	4
Fish & Wildlife Propagation	4
Industrial	3
Irrigation	77
Municipal	2
Suburban Housing Development	2

Table 1. Water Rights from the Missouri: Elk Point aquifer in Yankton County (Water Rights, 2013c).

The amount of water that can be expected to be withdrawn through water rights/permits authorizing water use for non-irrigation purposes at the current appropriation level can be estimated by assuming:

1. Water rights/permits limited by an annual volume will pump the entire volume appropriated.
2. Water rights/permits limited only by diversion rate will pump at the maximum permitted diversion rate 60 percent of the time.

The expected water use for non-irrigation purposes, including that reserved for future use, from the Missouri: Elk Point aquifer in Yankton County is less than 5,000 ac-ft/yr based on current water appropriations.

The annual reported water use from the Missouri: Elk Point aquifer for irrigation purposes is displayed in Table 2.

YEAR	NO. OF PERMITS	APPROPRIATION (AC-FT/YR)	PUMPAGE REPORTED (AC-FT/YR)
2011	431	159700.8	12107.55
2010	419	155905.4	2723.87
2009	410	155245.4	6120.97
2008	396	151130.4	16261.88
2007	366	139826.6	30482.84
2006	353	136491.6	27974.54
2005	335	130046.6	23964.5
2004	322	126955.8	23862.25
2003	314	125379.8	26734.67
2002	315	125555.8	23547.22
2001	313	125537.4	19071.88
2000	309	124852.2	26640.12
1999	308	125225.6	14748.02
1998	313	127862.6	11127.24
1997	305	126518.2	17182
1996	296	124606.2	9412.78
1995	292	121644.25	18320.24
1994	295	122975.05	10221.43
1993	298	125576.3	1475.2
1992	295	125256.68	1881.95
1991	300	126471.68	18798.6
1990	297	127965.68	19425
1989	292	126354.68	25651.9
1988	282	123601.48	28184.55
1987	281	123601.68	13163.7
1986	286	125320.68	6252.1
1985	282	124546.68	13718.5
1984	281	126221.56	9194.3
1983	273	121483.08	10834.04
1982	269	122297.78	18822.35
1981	297	134477.62	13096
1980	262	124404.88	14586
1979	259	122980.02	9859
MIN	259	121483.08	1475.20
MAX	431	159700.80	30482.84
AVE	313.52	129879.40	15922.64

Table 2. Irrigation from the Missouri: Elk Point aquifer (Water Rights, 1979-2011)

In 2011, the reported pumpage for irrigation was 3,015.21 ac-ft/yr in Yankton County (Water Rights, 1979-2011). Comparison of the estimated average annual withdrawal with the estimated average annual recharge for the aquifer in Yankton County indicated that in general the average annual withdrawals from the aquifer do not exceed the average annual recharge to the aquifer. More recharge can be induced with more pumping in particular from the Missouri River because it is hydraulically connected to the aquifer. Therefore, there is reasonable probability that unappropriated water is available from the Missouri: Elk Point aquifer for the 320 acre-feet appropriation proposed by this application.

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 to determine that the quantity of water withdrawn annually from the aquifer does not exceed the estimated average annual recharge to the aquifer”.

The DENR-Water Rights Program monitors 37 observation wells completed into the Missouri: Elk Point aquifer with two of these observation wells located within four miles of the well site proposed by this application (Water Rights, 2013b). Hydrographs for these wells are shown in Figures 1 and 2.

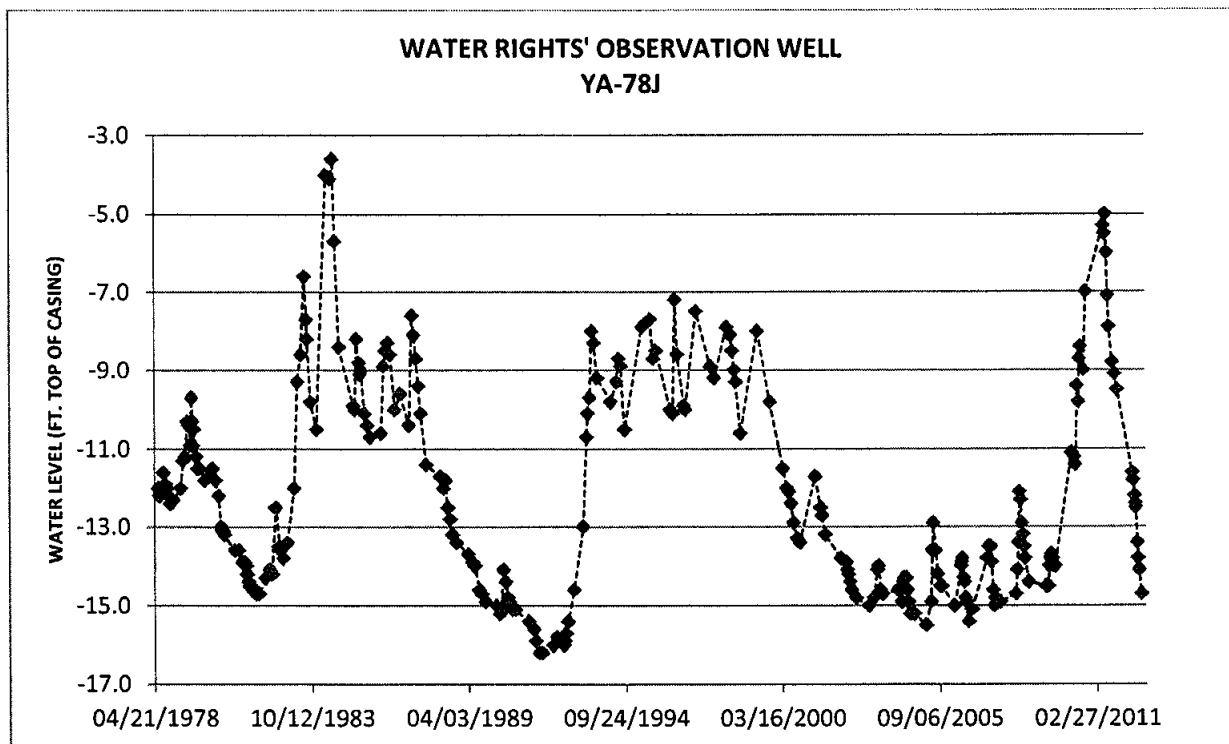


Figure 1. Hydrograph for DENR-Water Rights Observation Well YA-78J completed into the Missouri: Elk Point aquifer approximately 3.6 miles northwest of the well site proposed by Application No. 7565-3 (Water Rights, 2013a).

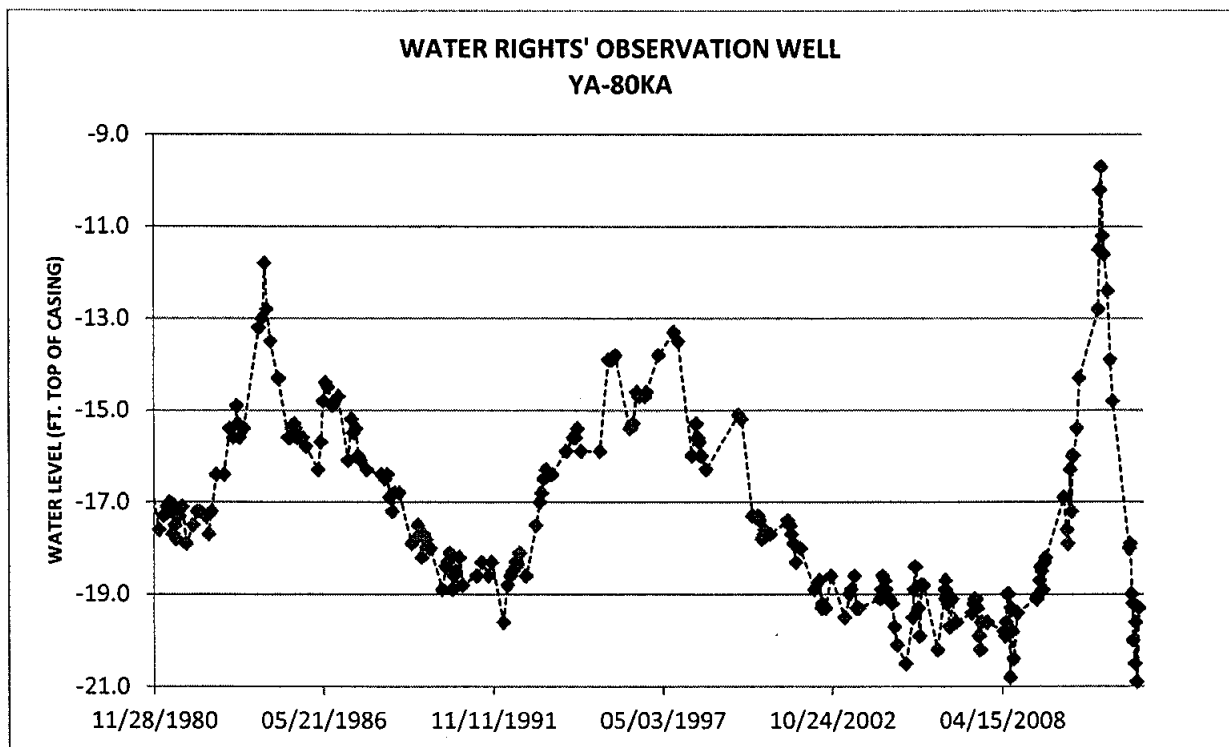


Figure 2. Hydrograph for DENR- Water Rights Observation Well YA-80KA completed into the Missouri: Elk Point aquifer approximately 1.9 miles southeast of the well site proposed by Application No. 7565-3 (Water Rights, 2013a).

The observation well data shows the aquifer responds well to climatic conditions with rising water levels during wet years and gradually declining water levels during dry years. The observation well data shows that at the current level of development, climatic conditions mask the temporal effects of well withdrawals. The observation well data documents the hydraulic connection between the Missouri: Elk Point aquifer and the Missouri River (e.g. in particular, record high groundwater levels associated with flooding in 2011). Linear trend lines for the hydrographs do show a general gradual decline. This gradual decline may be attributed to either entrenching the Missouri River (Goodman, 2007) or controlling the flow of the Missouri River by the Gavins Point Dam, which no longer allows inundating of the floodplain (Stephens, 1967).

Because of this obvious hydraulic connection between Missouri: Elk Point aquifer and the Missouri River and the availability of water in the Missouri River, there is a reasonable probability that additional recharge to the Missouri: Elk Point will be induced with additional pumping. Recognizing that natural discharge from the aquifer can be captured for pumping. Therefore, there is reasonable probability that unappropriated water is available from the aquifer to support this appropriation.

EXISTING WATER RIGHTS:

The well site proposed by this application is located approximately 0.60 miles east of the Missouri River in a portion of the Missouri: Elk Point aquifer that extends east of the Missouri River for approximately 11.5 miles to the edge of the aquifer. There are three water rights/permits that have diversion points within a one mile radius from the proposed well site.

The two nearest water rights/permits are Water Permit No. 4846-3 for the same applicant, Helen Ryken, and Water Permit No. 6775-3 for James and Brian Ryken both at the same location over 2,200 feet north and up-gradient from the proposed well site (Water Rights, 2013c). Based on the observation well data and the relatively high transmissivity expected, drawdown is not expected to be significant nor likely to cause adverse impacts to existing water rights.

CONCLUSIONS:

1. This application proposes to appropriate up to 320 acre-feet annually for irrigation from the Missouri: Elk Point aquifer.
2. There is a reasonable probability that unappropriated water is available from the Missouri: Elk Point aquifer to supply this proposed appropriation.
3. The Missouri: Elk Point aquifer is under unconfined (water-table) conditions in this area, and drawdown from pumping is not expected to be significant very far from a production well.
4. There is a reasonable probability that the well proposed by this application will not adversely impact existing water rights.



Nicole Van Dyk
SD DENR-Water Rights Program

Approved by



Ken Buhler
SD DENR-Water Rights Program

REFERENCES:

- Bugliosi, E.F., 1986, Water Resources of Yankton County, South Dakota: U.S. Geological Survey Water-Resources Investigations Report 84-4241, 41 p.
- Goodman, J.A. 2007. Report on Water Permit Application No. 6869-3 for Lewis and Clark RWS: SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, SD.
- Hedges, L.S., Burch, S.L., Iles, D.L., Barari, R.A., Schoon, R.A., 1982, Evaluation of Ground-Water Resources Eastern South Dakota and Upper Big Sioux River, South Dakota and Iowa, Task 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
- 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
- Water Rights, 1979-2011, Irrigation Questionnaire Summaries 1979-2011, SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.
- Water Rights, 2013a, Observation Well Files, SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.
- Water Rights, 2013b, Water Well Completion Reports, SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.
- Water Rights, 2013c, Water Right/Permit Files, SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.

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FEB 22 2013

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AFFIDAVIT OF PUBLICATION

YANKTON DAILY PRESS AND DAKOTAN

Department of Environment and Natural Resources
PMB 2020
Joe Foss Building
523 East Capitol
Pierre, SD 57501-3182

STATE OF SOUTH DAKOTA
COUNTY OF YANKTON

KELLY HERTZ BEING FIRST DULY SWORN ON OATH DEPOSES
AND SAYS THAT 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
Notice of Application No. 7565-3

TAKEN FROM THE PAPER, IN WHICH IT WAS LAST PUBLISHED IN THE
NEWSPAPER ON THE 20th DAY OF February 2013
THAT THE FULL AMOUNT OF THE FEE CHARGED FOR THE PUBLICATION
OF SAID NOTICE TO WIT \$25.48 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: 2/20/2013

FILED ON: 2/20/2013

SUBSCRIBED AND SWORN TO BEFORE ME THIS 20th DAY OF February 2013

Tanya D. Schell
NOTARY PUBLIC, SOUTH DAKOTA

MY COMMISSION EXPIRES

8/19/2015

Notice is given that Helen Ryken, PO Box 157, Gayville SD 57031 has filed an application for a water permit to appropriate 1.89 cubic feet of water per second from one well to be completed into the Missouri:Elk Point Aquifer (100 feet deep) located in the approximate center of the NE 1/4 Section 27 for irrigation of 160 acres located in the NE 1/4 Section 27; all in T93N-R54W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 7565-3 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. In accordance with SDCL 46-2A-23, the Chief Engineer will act on this application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. 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.

Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by March 4, 2013.

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. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application. Steven M. Pirner, Secretary, Department of Environment and Natural Resources.

Published once at the total approximate cost of \$25.48.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

February 13, 2013

Press & Dakotan
319 Walnut
Yankton SD 57078

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 7565-3 to Appropriate Water. Please publish the notice once on February 20, 2013. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352.

The applicant must verify to you that the notice is to be published and arrange for payment. **Please BILL the APPLICANT for the cost of publication.** The APPLICANT is Helen Ryken, PO Box 157, Gayville SD 57031 (Ph # 605-267-4184).

Please send the Water Rights Program an affidavit or the enclosed Proof of Publication form immediately.

The applicant pays the cost of publication, but the Water Rights Program records require an affidavit or Proof of Publication. Delays in receiving the affidavit can be costly to the applicant.

Sincerely,

Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

NOTE: TO BE SURE OF PUBLICATION ON
THE CORRECT DATE, CONTACT
THE NEWSPAPER(S) RIGHT AWAY.

February 13, 2013

Helen Ryken
PO Box 157
Gayville SD 57031

Dear Ms. Ryken:

Water Permit Application No. 7565-3 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 # 605-665-7811). 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.

Instruction to Newspaper - Publish the Notice on February 20, 2013. The applicant is responsible for payment. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352 or email: Karen.schlaak@state.sd.us.

NOTICE OF APPLICATION NO. 7565-3 to Appropriate Water

Notice is given that Helen Ryken, PO Box 157, Gayville SD 57031 has filed an application for a water permit to appropriate 1.89 cubic feet of water per second from one well to be completed into the Missouri:Elk Point Aquifer (100 feet deep) located in the approximate center of the NE 1/4 Section 27 for irrigation of 160 acres located in the NE 1/4 Section 27; all in T93N-R54W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 7565-3 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. In accordance with SDCL 46-2A-23, the Chief Engineer will act on this application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. 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.

Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by March 4, 2013.

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. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application. Steven M. Pirner, Secretary, Department of Environment and Natural Resources.

Published once at the total approximate cost of _____.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

APR 26 2013

Helen Ryken
PO Box 157
Gayville SD 57031

Dear Ms. Ryken:

Enclosed is Water Permit No. 7565-3 authorizing construction of your 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

AUG - 5 2013

WATER RIGHTS
PROGRAMNOTICE OF COMPLETION OF WORKS AND
APPLICATION OF WATER TO BENEFICIAL USEDate August 1, 2013TO: Water Rights Program, DENR
523 E. Capitol
Pierre, SD 57501-3181

FROM:

Helen Ryken
(name)PO Box 151

(address)

Gayville, SD 57031
(city, state, zip)605-267-4184
(phone)

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

Water Permit No. 7565-3 states that the water use system is to be constructed by March 4, 2018, and water is to be put to beneficial use by March 4, 2022.
(date) (date)

The water use system was completed on July 23, 2013.
(date)

Applying the water to beneficial use was completed on July 24, 2013.
(date)

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

Helen Ryken
(signature)





**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
PMB 2020
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3182
<http://denr.sd.gov>

August 6, 2013

7565-3

Helen Ryken
PO Box 157
Gayville SD 57031 0157

Dear Mr. Ryken:

I am writing to acknowledge receipt of the "Notice of Completion of Works" form that you sent in to let us know that you are completed with your irrigation system.

The system is now ready for inspection. Inspections are done on a county-by-county basis as staff time permits. You have done everything you need to do and the intervening time between the completion of your project and the staff inspection has no bearing on your water permit.

Someone from our office will contact you prior to the inspection to set up a time that is convenient for you. If you have any questions, please contact me.

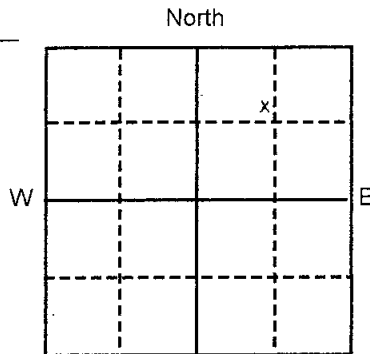
Sincerely,

A handwritten signature in black ink that reads "Genny McMath". The signature is written in a cursive, flowing style.

Genny McMath
Water Rights Program
(605) 773-3352
email: genny.mcmath@state.sd.us

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location NW ¼ NE ¼ Sec 27 Twp 93N Rg 54WCounty YanktonPlease mark well
location with an "X"

Well Completion Date

July 11, 2013

Distance to nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)?
1,400.0 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

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	<u>16.00</u> IN	<u>0.0</u> FT	<u>80.0</u> FT	<u>22.00</u> IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
<u>Bentonite</u>	<u>20</u>	<u>9.5</u> Lb/gal	<u>0.0</u> Ft	<u>70.0</u> Ft
		Lb/gal	Ft	Ft

Describe grouting procedure
Tremie

SCREEN:

☐ Perforated pipe ☒ Manufactured
 Diameter 16.00 Inches Length 40.0 Feet
 Material PVC
 Slot Size .085 Set From 80.0 Feet to 120.0 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?
Lab to which water
quality sample sent for analysisWell Owner: Helen Ryken

Business Name:

Address: POB 157City, State, Zip: Gayville SD 57031

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
Silty Brown Clay	0	16
Brown Fine Sand	16	68
Gravel	68	70
Gray Clay	70	74
Coarse Gravel	74	85
Rock	85	86
Coarse Gravel	86	119
Gray Siltstone	119	120

STATIC WATER LEVEL

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:☐ Bailed☐ Other

Pumping Level Below Land Surface

Ft. After Hrs. pumped GPM

Ft. After Hrs. pumped GPM

If pump installed, pump rate: GPM

REMARKS

RECEIVED

OCT - 4 2013

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

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

Date:

9/28/13



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

October 27, 2016

4846-3
7565-3

James Ryken
31321 451st Ave
Gayville SD 57031 6515

Dear Mr. Ryken:

Thank you for the email correspondence concerning the need for an ownership change on Water Right No. 4846-3 and Water Permit No. 7565-3. I have included copies of both of them for your records.

Enclosed are partially completed Notice of Transfer of Ownership forms for filing the ownership changes. Upon completion, please sign and return the forms to our office with a required filing fee of \$50.00 each (total of \$100). The check or money order for the fee can be made payable to the Water Rights Program.

I have also enclosed the 2016 irrigation questionnaires for Nos. 4846-3 and 7565-3. Please complete and return those along with the transfer forms and fees prior to December 1st. If you have any questions concerning the enclosed materials, please give me a call.

Thank you in advance,

Sincerely,

Genny McMath
Water Rights Program
(605) 773-3352
email: genny.mcmath@state.sd.us

enclosures

RECEIVED

NOV 17 2016

WATER RIGHTS
PROGRAM

NOTICE OF TRANSFER OF OWNERSHIP

To: Chief Engineer
Water Rights Program, DENR
523 E. Capitol
Pierre, SD 57501-3181

No. 7565-3

Date: 11/14/16

I/We request that Water Permit No. 7565-3

formerly owned by: Helen Ryken

be transferred to: (name & address) James Ryken, 31321 451st Ave,
Gayville, SD 57031

Telephone No. 605-267-4128

Title to the following described land(s)/property has been transferred as described above:

160 acres – NE ¼ Section 27, T93N, R54W

I/We understand that the validity of Water Permit No. 7565-3 has not been determined by this transfer action. If I/We have any questions on validity, I/We understand that only the Water Management Board has the authority to determine if a water permit/right is valid (see note).

You are requested to file this "Notice of Transfer" in the appropriate file with the Water Rights Program, as evidence of the change of ownership.

A fee of Fifty Dollars (\$50.00) is required to cover the filing fees as required under SDCL 46-2-13. This form must be signed by the new owner.

I/We James Ryken, the new owner, certify that the above information is true and correct.


(Signed by new owner)

NOTE: Water permits may be cancelled for nonconstruction after the five year construction period has expired. Once a water permit is developed and the water used, the permit becomes a right. A water right may be lost for three reasons:

1. Abandonment - no intent to use water and use is abandoned.
2. Forfeiture - no use of water for three year period without legal excuse.
3. For a third violation of a condition of a water permit/right.

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 11/17, 20 16

RECEIVED OF Helen Ryken Revocable Trust 31321 451st Ave Gayville SD 57031

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

Fee for Application for Permit No. _____ to Appropriate Water, to construct and to put water to beneficial use	50	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. _____		
Fee for Filing Transfer Form <u>7565-3</u>		
Fee for _____		
Fee for Issuing New Well Driller's License No. _____ for C.Y. _____	50	00
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	50 00

No. **07953**

By

Jeanne Goodman
Chief Engineer

7565-3



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

November 17, 2016

4846-3
7565-3

James Ryken
31321 451st Ave
Gayville SD 57031 6515

Dear Mr. Ryken:

I am writing to acknowledge receipt of the transfer forms and filing fees for changing ownership on Water Right No. 4846-3 and Water Permit No. 7565-3.

The ownership changes have been completed. Nos. 4846-3 and 7565-3, formerly listed in the name of Helen Ryken are now listed in your name.

Thank you for including the irrigation questionnaires with the transfer forms. Everything is up to date for another year.

Enclosed for your records are Receipt No. 07952 and 07953 in the amount of \$50 each.

Sincerely,

Genny McMath
Water Rights Program
(605) 773-3352
email: genny.mcmath@state.sd.us

enclosures

Report of Examination of Works and/or Application of Water to Beneficial Use For Permit No. 7565-3

I have this day, **October 28, 2016**, made a thorough examination of the water use system constructed by **James Ryken, 31321 451st Ave, Gayville SD 57031** of Permit No. **7565-3**, bearing the priority of **December 19, 2012** authorizing the diversion of **1.89** cu. ft. per second of the waters of **Missouri:Elk Point Aquifer** for **irrigation** purposes, of **160** acres, in **Yankton** County.

Inspection contact & relationship **James Ryken, permit holder & Jim Bye, owner of E 60 acres**
to permit holder, if applicable:

A. Works used to divert the water:

Well Information:

- 1) Well Drilling Firm: **Hammond-Wetmore Drilling, LLC**
- 2) No. of Wells **1**
- 3) Depth(s) **120** feet
- 4) Well log is available **Yes**

Casing:

- 1) Diameter **16** inches
- 2) Length **80** feet
- 3) Type **PVC**

Screen:

- 1) Type **PVC Manufactured**
- 2) Length **40** feet
- 3) Static water level **Unknown** feet

Pump:

- 1) Make **Grundfos Submersible**
- 2) Model **800s400-2aa**
- 3) Capacity **850** GPM

Motor:

- 1) Make **Grundfos**
- 2) Model No. **Submersible**
- 3) Horsepower rating **40** hp

C. Works used to apply water to beneficial use:

Center pivot:

- 1) Make Valley 8000
- 2) Overall length 1307 feet
- 3) Number of towers 7
- 4) End gun Yes
- 5) Capacity 850 GPM

Chemigation Equipment:

- 1) Does chemigate No

D. Compliance with Permit Requirements:

- 1) Permit qualifications being abided by Yes
- 2) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period Yes, began irrigating in 2013.
- 3) Exceptions to compliance are: None

E. Condition and Location:

1. The system is in good condition with the point(s) of diversion located as follows: West 1340', South 1310' from NE Corner of Sec 27-T93N-R54W; Lat 42.84845/Long -97.20532; approximate center of NE ¼ Sec 27-T93N-R54W.
2. The works are capable of diverting and conveying to the place of use 1.89 cfs or 850 gpm of water which is to be used for irrigation. Water has been put to beneficial use to the maximum extent as follows:
All land is located in Sec 27-T93N-R54W.

<u>NW ¼ NE ¼ - 34 ac</u>	<u>NE ¼ NE ¼ - 34 ac</u>
<u>SW ¼ NE ¼ - 35 ac</u>	<u>SE ¼ NE ¼ - 33 ac</u>

comprising a total of 136 acres of land and the license should be issued for 1.89 cfs or 850 gpm.
3. All structures, wells and lands on map Yes

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

Provide detailed explanation when multiple permits are involved or any discrepancy between what the permit was issued for and what was developed.

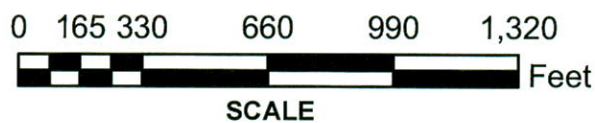
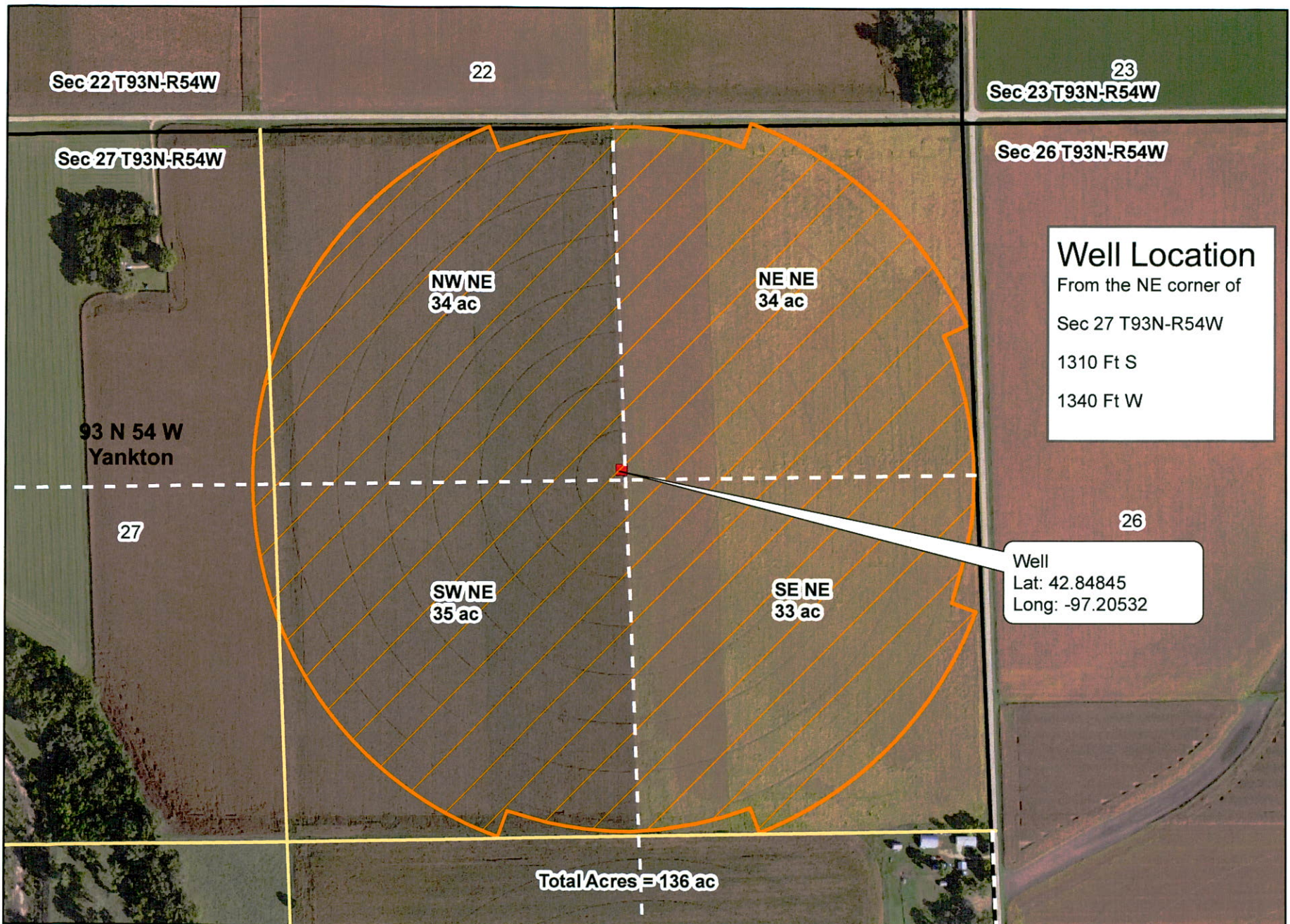
Permit holder stated that E 60 acres NE ¼ Sec 27-T93N-R54W was owned by Jim Bye and they irrigate for him.



Harold Holoch, PE
Staff Engineer
DENR, Water Rights Program

Date report completed: **December 6, 2017**

7565-3



Harold Holoch
Harold Holoch, PE
Staff Engineer
August 16, 2017



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

MAR 19 2018

7565-3

James Ryken
31321 451st Ave
Gayville SD 57031

Dear Mr. Ryken:

Enclosed is Water License No. 7565-3. This is the final water right document completing your process of obtaining a Water Right. Included with your license is a map prepared by the staff engineer who conducted the field investigation.

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

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

Sincerely,

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

enclosures

c: Jim Bye, 44920 312th St, Gayville SD 57031

STATE OF SOUTH DAKOTA

WATER LICENSE NO. 7565-3

(1) Helen Ryken, Gayville SD made Application No. 7565-3, December 19, 2012 for a water permit to divert 1.89 cubic feet of water per second from ground water, one well (Missouri Elk Point Aquifer), Yankton County, South Dakota for irrigation purposes. Permit No. 7565-3, with a priority date of December 19, 2012 was approved March 4, 2013 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before March 4, 2018 and for the application to beneficial use of said water on or before March 4, 2022.

The Permit holder submitted a "*Notice of Completion of Works and Application of Water to Beneficial Use*" on August 5, 2013. The "*Notice*" stated the water use system was completed and the water placed to beneficial use in July, 2013.

On November 17, 2016, Water Permit No. 7565-3 was transferred from Helen Ryken to James Ryken.

(2) It is certified that the permit holder has complied with the provisions of South Dakota State Law relating to completion of the construction of the water supply system and is entitled to divert 1.89 cubic feet of water per second for beneficial use. The location of the diversion point is:

- 1340'W and 1310'S of the NE corner of Section 27, T93N, R54W (approximate center of the NE ¼)
Latitude 42.84845, Longitude -97.20532

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

Section 27, T93N, R54W	NW ¼ NE ¼	34 acres
	SW ¼ NE ¼	35 acres
	NE ¼ NE ¼	34 acres
	SE ¼ NE ¼	33 acres
Total		136 acres

(4) Pursuant to South Dakota Water Law 46-5-30.1 James Ryken, 31321 451st Ave., Gayville SD 57031 the holder and/or owner of Water Right No. 7565-3 is issued a license to appropriate water, the right to use 1.89 cubic feet of water per second from ground water, one well (Missouri Elk Point Aquifer) with a priority date of December 19, 2012 from the location specified in (2) of this license for irrigation purposes.

This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Right No. 7565-3 and subject to the following qualifications:

- The well approved under this Permit 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.

continued

- The well authorized by Permit No. 7565-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with the Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28. *The well was drilled by Hammond-Wetmore Drilling LLC in July, 2013. A copy of the well completion report is on file with the Water Rights Program.*
- This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

Jeanne Goodman

Jeanne Goodman, Chief Engineer

Water Rights Program

Department of Environment and Natural Resources

MAR 19 2018

date

