

WATER PERMIT NO. 7855-3

Name of Applicant: William Poppen

Address: 20535 434th Ave, DeSmet SD 57231 Phone: 605 854-3497

Amount of Water Claimed: 0.89 cfs Total Acres: 40

Source of Water Supply: groundwater (one well)

Water to be used for: irrigation County: Kingsbury

Type of Waste Disposal System:

Location: 1/2 mile northeast of DeSmet

PRIORITY Date Received: 4-17-13

Application/License Fee: \$ 700

Corrected Application Received: 7-8-13

Period of Annual Use: April 1 – October 31

Remarks:

Diversion Point: SW 1/4 NE 1/4 Sec 22-T11N-
R56W

Land to be Irrigated: SW 1/4 NE 1/4 Sec 22-T11N-
R56W

Depth of Well: 50 feet deep

Well Driller: Huron Drilling

Remarks:

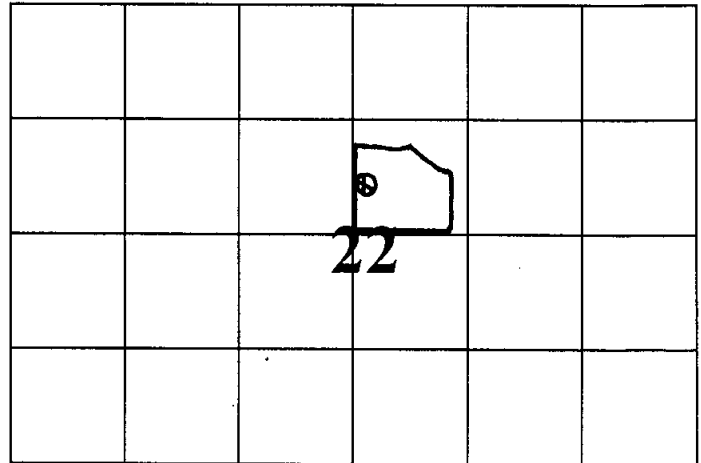
Type of Map: aerial

Prepared by:

Reviewed and the Number Assigned on: 7-8-13

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>7855-3</u> (office use only)	Hydrologic Unit <u>10170103</u>
	Basin <u>Normillion River</u>	<u>605-854-3331</u>
	Newspaper <u>DeSmet News Box 69 57231</u>	<u>605-352-6401</u>
	<u>Plainsman Box 1278 Huron 57350</u>	

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APR 17 2013

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

(name and complete address if different than above name)

Mailing Address 20535 434th Ave DeSmet SD 57231
(Address) (City) (State) (Zip Code)Home Phone 854-3497 Cell _____ Email _____2. Amount of water claimed 0.89*CFS or 400 **GPM ***AF Total Acreage 40
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)3. Source of water supply Well4. Location of point of diversion 1 well SW 1/4, NE 1/4 Section 22
(example - 3 wells in SW 1/4 NE 1/4 section 12-T104N-R53W)T111N, R56W County Kingsburg5. County or counties where water will be used Kingsburg6. Annual period during which water is to be used April - Oct 307. 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
SW 1/4 NE 1/4 Sec 22 T111 S6	40		

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

Irrigate growing cropsplan on using a Irrigation Gun Needing 400 GpmI, William Poppen, the applicant, certify that I have read this application, have examined the attached map, and that the matters stated are true.

Supplemental Information

(type or print)

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

- a) If new wells, how many ____ Have test holes been drilled ☐ Yes ☐ No Drilled by ____
(if yes, please provide copies of logs)
- b) If existing wells, how many 1 Provide copy of log(s), if available. Drilled by Put in 1975 Huron Well Drilling
- c) Well Depth 50 Depth to Top of Water Bearing Material 15 Depth to Water from Surface 15
- d) Distance to nearest existing domestic well:
- On applicant's property _____ On property owned by others 1/2 mile

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

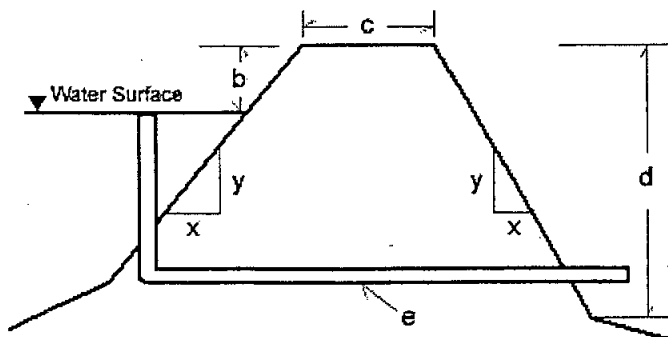
- a) Surface Dimensions _____ Depth _____
- b) Depth to water (ground surface to water level) _____

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



SOUTH DAKOTA
WATER PERMIT NO. 7855-3

Date of first receipt of application April 17, 2013.

Date of return to applicant for corrections, amendments or changes April 17, 2013.

Date of receipt of corrected application July 8, 2013.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 7855-3 to William Poppen, 20535 434th Ave, DeSmet SD 57231 authorizing the construction of the water use system and the placing of water to beneficial use subject to the following limitations, conditions and qualifications:

1. Water Permit No. 7855-3 appropriates 0.89 cubic feet of water per second from one well to be completed into the Vermillion:East Fork Aquifer (50 feet deep) located in the SW 1/4 NE 1/4 Section 22 for irrigation of 40 acres located in the SW 1/4 NE 1/4 Section 22; all in T111N-R56W.
2. The amount of the appropriation may not exceed 2 acre feet annually for each acre of land to which water is actually and beneficially applied for irrigation. The water is to be used during the following described annual period: April 1 – October 31.
3. The date from which applicant may claim right is July 8, 2013.
4. The date of approval of Permit No. 7855-3 is September 16, 2013.
5. One-fifth of the construction is to be completed on or before March 16, 2016.
6. All construction is to be completed on or before September 16, 2018.
7. Water is to be put to beneficial use on or before September 16, 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. 7855-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. Pursuant to SDCL 46-5-6 which allows a greater diversion rate if the method of irrigation, time constraints, or type of soils so requires, Permit No. 7855-3 authorizes a maximum diversion rate of 0.89 cfs for the irrigation of 40 acres with an annual volume not to exceed 2 acre feet of water per acre per year.
4. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

WATER MANAGEMENT BOARD

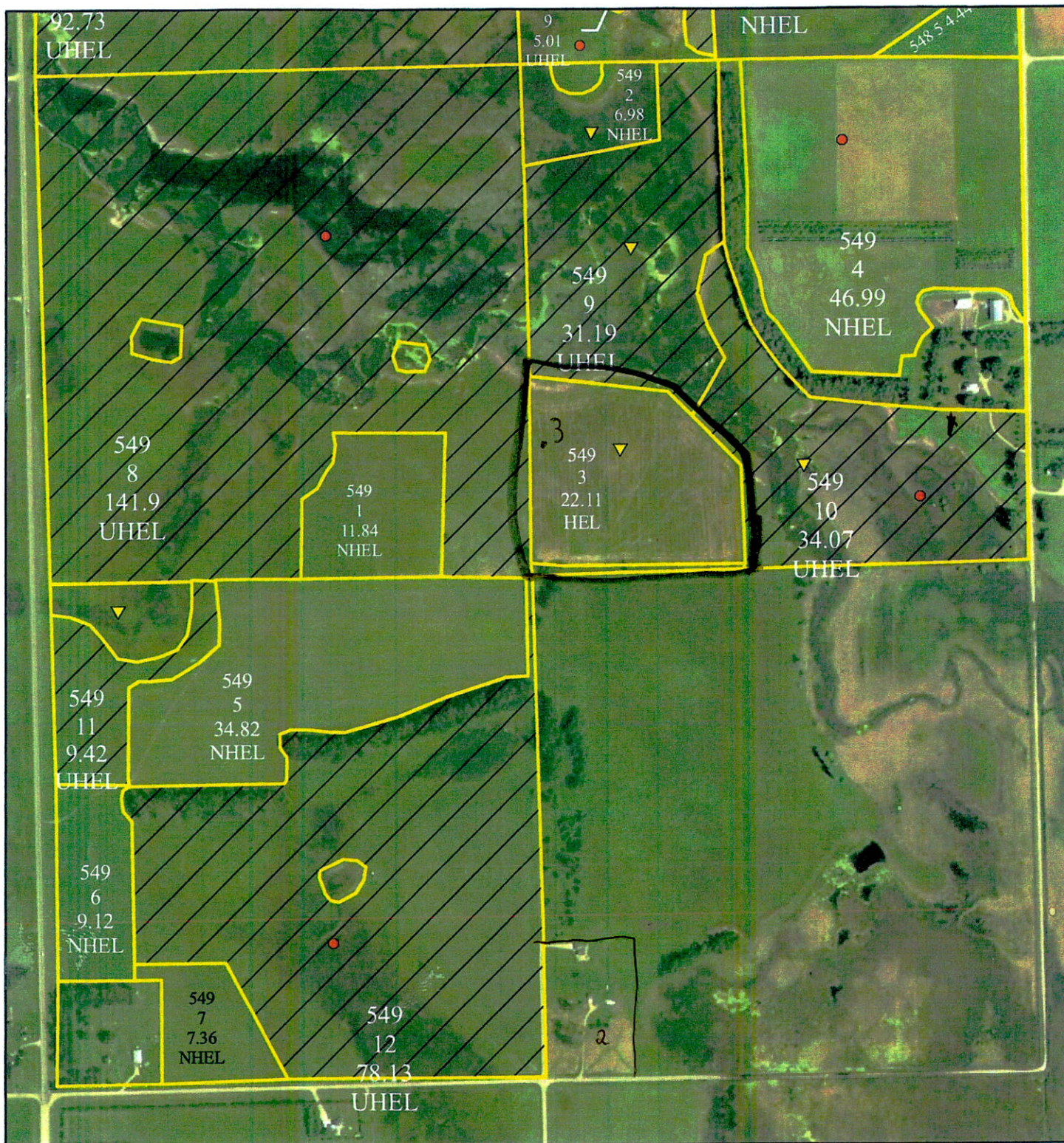
By: _____

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

OCT 09 2013

date





United States Department of Agriculture
Farm Service Agency

May 30, 2012

PLSS: 22_111N_56W
Farm: 587

Kingsbury County
1:8,519



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Wetland Determination Identifiers
 ● Restricted Use
 ▼ Limited Restrictions
 ■ Exempt from Conservation Compliance Provisions

Common Land Units

Non Cropland

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.

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2010 Ortho-Photography - Not to Scale

RECEIPT
WATER RIGHTS PROGRAM
South Dakota Department of Environment and Natural Resources

Date 4/17, 20 13

RECEIVED OF Norman Koehlmoos (Poppen) 43480 205th St DeSmet SD 57231

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

Fee for Application for Permit No. <u>7855-3</u> to Appropriate Water, to construct and to put water to beneficial use	500	00
Fee for Application for Permit No. _____ to Appropriate Water for Future use		
Fee to retain Future Use Permit No. _____ after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. _____		
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	500 00

No. **06306**

By *James L. Landman*
Chief Engineer

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 7/8, 20 13

RECEIVED OF William A Poppen 20535 434th Ave DeSmet SD 57231

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	200	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>7855-3</u>		
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	200 00

No. **06365**

By Jeanne Goodman
Chief Engineer

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On FSA map.
Sec 22 111 N 56 W

1. Location of House well of owner

2. Location of House well of Nearest Neighbor

Glen + Janet Davis
43354 206th St
DeSmet

3. Location of well for Irrigation

Dug in 1975 Never Put in USE

Norman Koehlman
DeSmet SD 57231
Home Phone 854-3524
Cell 2030809



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DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

April 17, 2013

William Poppen
20535 343th Ave
DeSmet SD 57231

Dear Mr. Poppen:

Thank you for submitting the *Application for a Permit to Appropriate Water* for irrigation in Kingsbury County. In order to complete the application, the following is required.

- We have received a check for \$500.00. The application/license fee for irrigation of 40 acres is \$700.00. Please submit an additional \$200.00.
- Also, I have reviewed our files and cannot find a well completion report filed by Huron Well Drilling for this well. If you happen to have this, could you send us a copy?

If you have any questions, please contact me.

Sincerely,

Karen Schlaak

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

*This letter had been
mislaid and therefore
the long delay. Thank you!
Bill Poppen*



**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. 7855-3, William Poppen**

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. 7855-3, William Poppen, 20535 434th Avenue, DeSmet SD 57231.

The Chief Engineer is recommending APPROVAL of Application No. 7855-3 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. 7855-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. Pursuant to SDCL 46-5-6 which allows a greater diversion rate if the method of irrigation, time constraints, or type of soils so requires, Permit No. 7855-3 authorizes a maximum diversion rate of 0.89 cfs for the irrigation of 40 acres with an annual volume not to exceed 2 acre feet of water per acre per year.
4. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

See report on application for additional information.

Jeanne Goodman, Chief Engineer
August 26, 2013

REPORT TO THE CHIEF ENGINEER

WATER PERMIT APPLICATION NO. 7855-3

William Poppen

August 2, 2013

Water Permit Application No. 7855-3 proposes to appropriate groundwater at a maximum diversion rate of 0.89 cubic feet per second (cfs) from one well to be completed into the Vermillion East Fork aquifer. The well is expected to be 50 feet deep and located in the SW¼ NE¼ of Section 22, T111N-R56W. Water will be used to irrigate 40 acres located in the SW¼ NE¼ of Section 22, T111N-R56W in Kingsbury County. The applicant is requesting a diversion rate in excess of the statutory limit.

AQUIFER: Vermillion East Fork aquifer (VEF)

HYDROGEOLOGY:

Hedges and others (1982) first estimated the areal extent of the Vermillion East Fork aquifer. However, this was completed with limited data. The Reid Lake, Antelope Lake, Willow Lake, and Spirit Lake management units of the Vermillion East Fork aquifer were determined in Clark and Kingsbury Counties based on hydrogeologic features, such as groundwater flow divides, aquifer constrictions, and surface water connections (Hedges and others, 1982). Due to the isolated nature of the aquifer along the East Fork of the Vermillion River, the Montrose management unit was designated the source aquifer to a group of water rights authorized from the aquifer in the area of the City of Montrose in central McCook County (Water Rights, 2013b).

The Vermillion East Fork aquifer was further examined and mapped in Clark, Kingsbury, Lake, and Turner Counties (Hamilton, 1989; Hamilton, 1986; Hansen, 1986; Lindgren and Hansen, 1993). Because the Vermillion East Fork aquifer is generally a surficial outwash, first occurrence of aquifer materials maps completed in Clark, Kingsbury, Lake, and Miner Counties contribute to further identifying the Vermillion East Fork aquifer (Jensen, 2001; Jensen, 2002a; Jensen, 2002b; Schulz, 2007).

The Vermillion East Fork aquifer constricts beginning in southern Kingsbury County and continues throughout the course of the East Fork of the Vermillion River. Also, groundwater movement divides south of Mud Lake and south of Lake Thompson as shown in Figure 1 (Hamilton, 1989). Due to these hydrogeologic features, this portion of the aquifer can be considered a separate management unit. For the purposes of this report, the Vermillion East Fork aquifer located below Township 112 North (T112N) and above the Miner and Kingsbury County line are referred to as the Lake Thompson management unit.

The Lake Thompson management unit of the Vermillion East Fork aquifer, shown in Figure 2, underlies approximately 42,500 acres located within central Kingsbury County. The Vermillion East Fork: Lake Thompson aquifer is a surficial outwash consisting of sand and gravel that is generally under water table conditions. The aquifer has a hydrologic connection to Lake Thompson. The aquifer is on average 20 feet thick, and the top of the aquifer ranges from ground surface to 120 feet below ground surface (Hamilton, 1989). Applying an expected storativity of

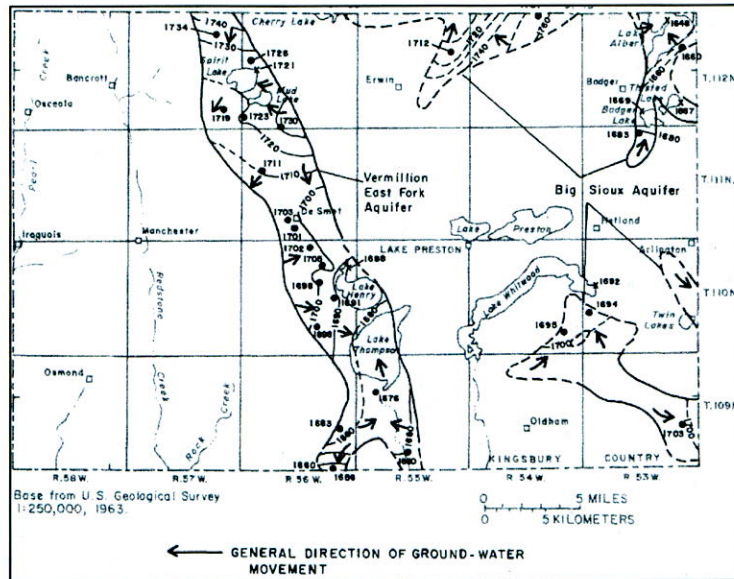


Figure 1: Groundwater movement in the Vermillion East Fork aquifer in Kingsbury County (modified from Hamilton, 1989)

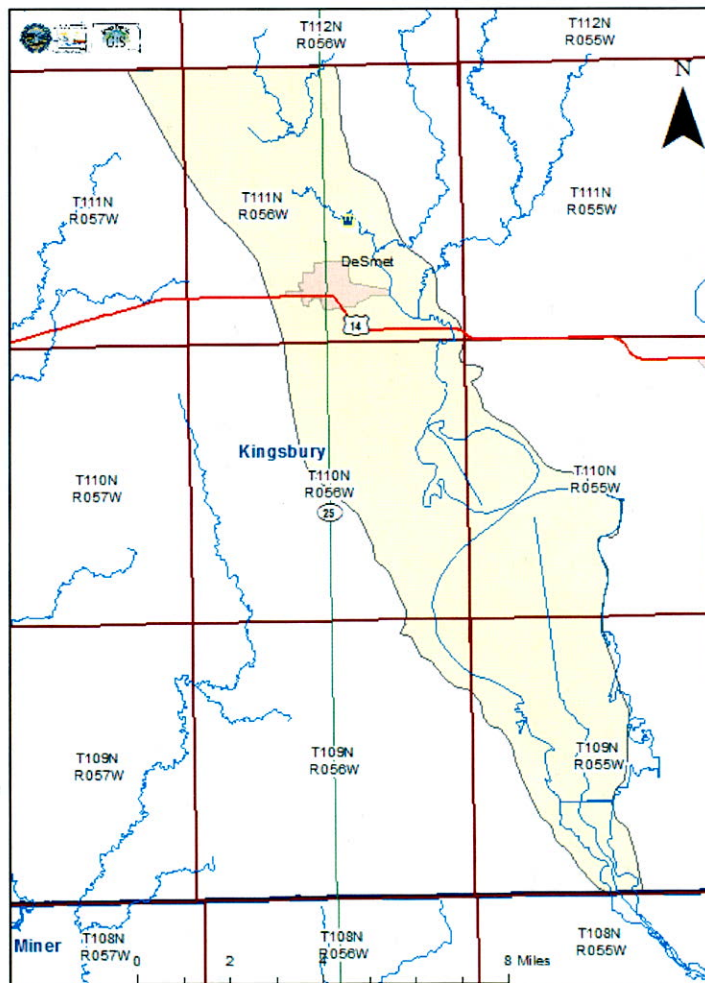


Figure 2: Vermillion East Fork: Lake Thompson aquifer delineation

0.15, there is approximately 127,000 acre feet (ac-ft) of water in storage. Within one mile of the proposed well site, aquifer materials occur between ground surface and 45 feet below ground surface (Water Rights, 2013c; SD Geological Survey, 2013). Water levels in the aquifer in this area are often between five and ten feet below ground surface (Water Rights, 2013b).

SDCL 46-2A-9

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

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 the quantity of water withdrawn annually from a groundwater source will exceed the quantity of the average estimated annual recharge of water to the groundwater source." If the source of the water is older or lower than the Greenhorn Formation and a public water system has applied for a permit, the Board need not consider the recharge/withdrawal issue. Here, a public water system is not involved. Therefore, withdrawal/recharge issue must be considered.

Hydrologic Budget:

Recharge:

Recharge to the Vermillion East Fork: Lake Thompson aquifer occurs through infiltration of precipitation and leakage from adjacent and underlying till, and inflow from the aquifer north of the management unit (Hamilton, 1989). Recharge specifically to the Lake Thompson management unit has not been quantified. However, Hedges and others (1985) estimated the recharge rate for various management units of the Vermillion East Fork aquifer through observation well analysis, shown in Figure 6. Considering the similar geography and aquifer characteristics, recharge rate of the Lake Thompson management unit is expected to be approximately the Spirit Lake management unit recharge rate estimate of 4.0 in/yr. Applying the area of the Lake Thompson management unit to the expected recharge rate results in an estimated recharge of approximately 14,100 acre-feet per year (ac-ft/yr).

Discharge:

Discharge from the Vermillion West Fork: Lake Thompson aquifer occurs through evapotranspiration, outflow to adjacent and underlying till, outflow to lakes, outflow to the aquifer south of the management unit, and well withdrawals (Hamilton, 1989). In addition to domestic wells withdrawals, there are 25 water rights/permits appropriating water and two future use permits reserving water from the Vermillion East Fork: Lake Thompson aquifer (Water Rights, 2013b).

While there are many domestic wells on file, many are no longer used as primary sources since rural water systems have been introduced in the area. Considering this, and the relatively small

withdrawal ability and authorization of a domestic well, the annual quantity of water withdrawn due to domestic wells is not significant to the hydrologic budget of the Vermillion East Fork Lake Thompson aquifer (Water Rights, 2013c).

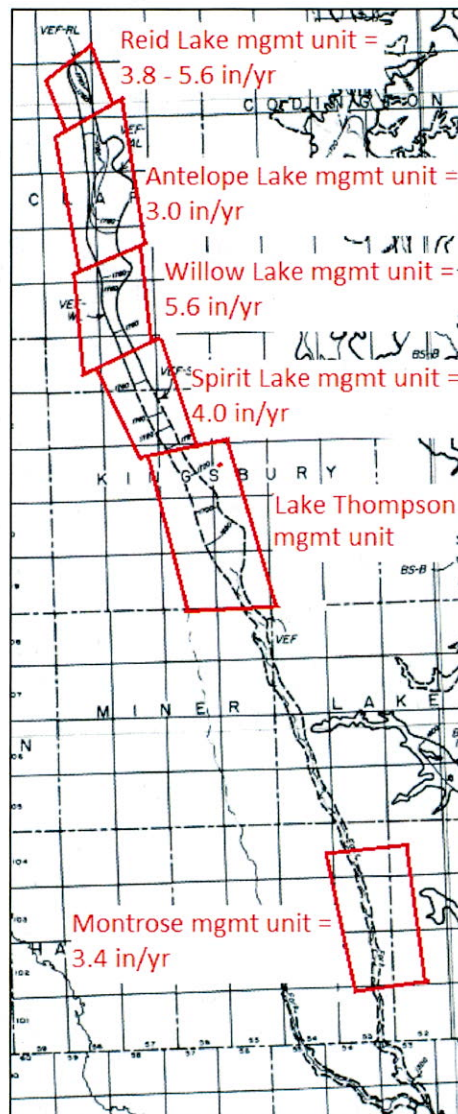


Figure 6: Recharge rates of various management units of the Vermillion East Fork aquifer (modified from Hedges and others, 1982; Hedges and others, 1985)

Commercial Water Permit No. 5069-3, D & D RV Park, authorizes a maximum diversion rate of 0.1 cfs. Pumping 60% of the time results in an expected use of 44 ac-ft/yr.

The City of DeSmet has three water rights authorizing a total diversion rate of 4.334 cfs and one future use permit reserving 625 ac-ft/yr. The reported annual use has remained steady since 1989, as shown in Figure 7. From the data available, average annual use is approximately 160 ac-ft/yr (Water Rights, 2013b). The future use permit can be fully developed.

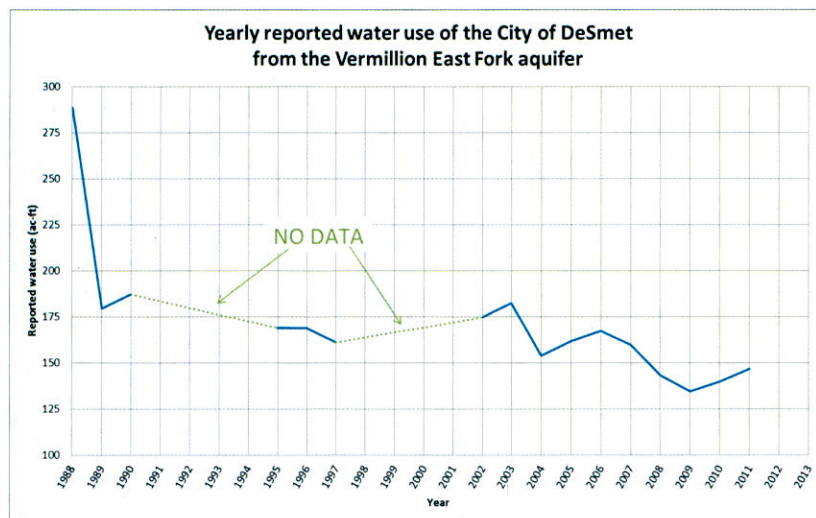


Figure 7: Yearly reported water use of the City of DeSmet from the Vermillion East Fork aquifer (Water Rights, 2013b)

Kingbrook Rural Water System Inc has four water rights authorizing a total diversion rate of 5.76 cfs and a total volume appropriation of 1,350 ac-ft/yr, and one future use permit reserving 1,100 ac-ft/yr (Water Rights, 2013b). The reported annual use has increased since 1994, as shown in Figure 8 (Water Rights, 1995-2013). Due to the increasing trend, full eventual use of the volume appropriation is expected. The future use permit can be fully developed.

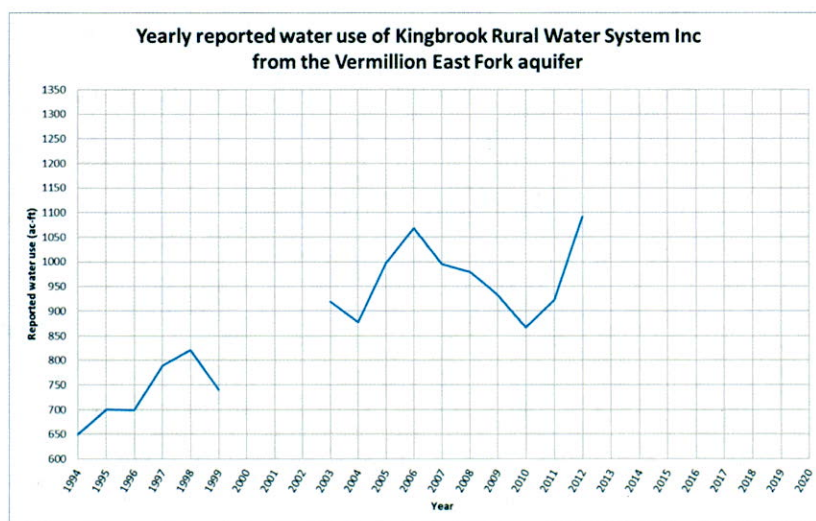


Figure 8: Yearly reported water use of Kingbrook Rural Water System Inc from the Vermillion East Fork aquifer (Water Rights, 1995-2013)

As shown in Figure 9, the irrigation development of the Vermillion East Fork: Lake Thompson aquifer has remained steady, or even decreased slightly, since 1991 while the annual withdrawal has fluctuated. Over the period of record, the average pumpage reported equals 870 ac-ft/yr, but varies from 146 to 1,969 ac-ft/yr (Water Rights, 1980-2013). The expected use of irrigation water rights/permits is estimated to be the average pumpage reported over the entire period of record.

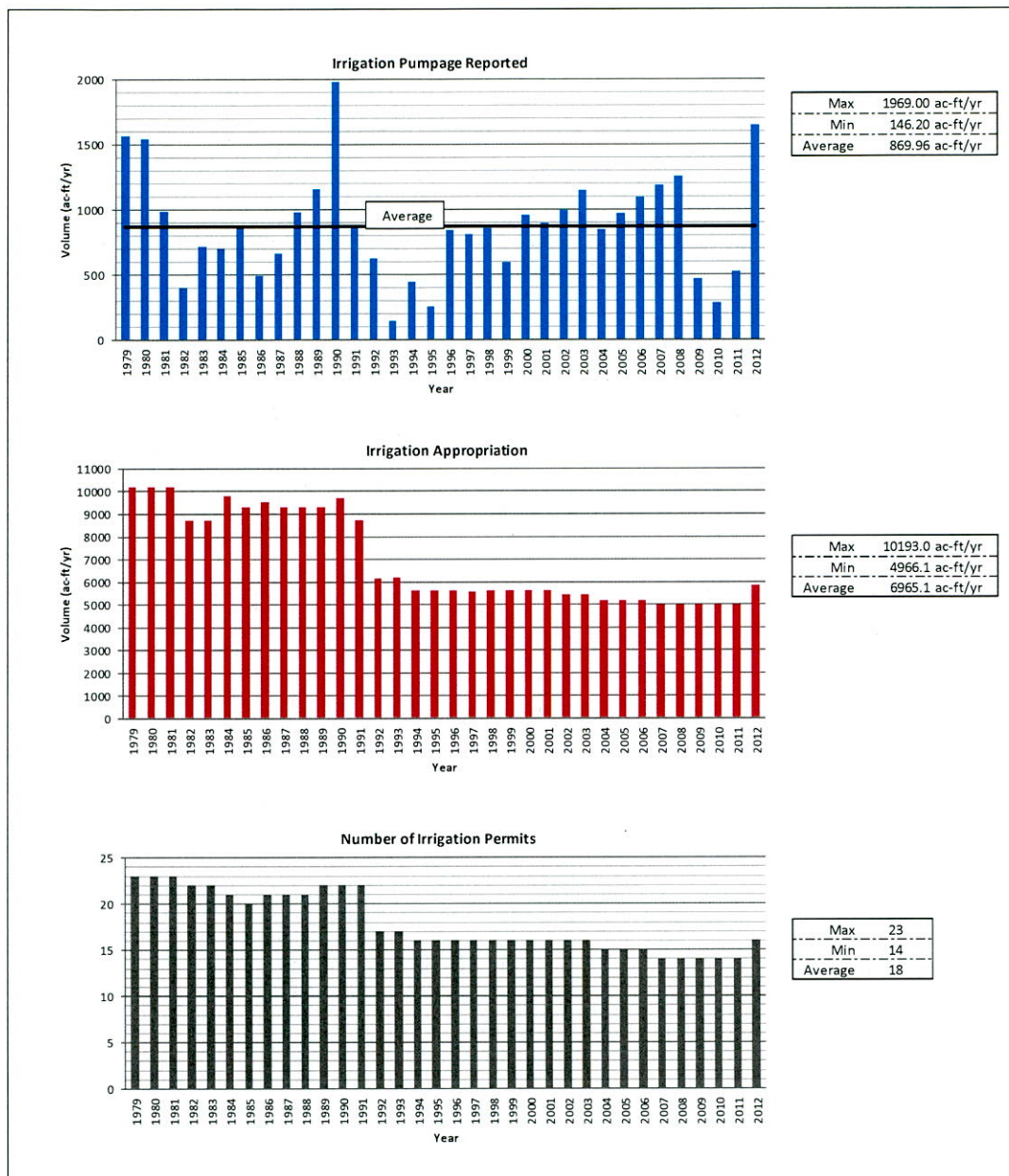


Figure 9: Historic irrigation water use from the Vermillion East Fork: Lake Thompson aquifer (Water Rights, 1980-2013)

Water Balance:

The annual average withdrawal from the Vermillion East Fork: Lake Thompson aquifer is estimated to be 4,150 ac-ft/yr, while average annual recharge is estimated to be 14,100 ac-ft/yr. Therefore, unappropriated water is available from the aquifer to support the proposed appropriation.

Observation Well Data:

Administrative Rule of South Dakota Section 74:02:05:07 requires that “the Water Management Board shall rely upon the record of observation well measurements to determine that the quantity

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

The SD DENR-Water Rights Program monitors nine observation wells completed in the Vermillion East Fork: Lake Thompson aquifer. All but one document increasing trending water levels. Observation well KG-88A, whose hydrograph is shown in Figure 10, is the nearest to the Kingbrook Rural Water System well field. The observation well is within the cone of influence of pumping high capacity wells. The water level declines are a record of drawdown and do not reflect an overall decrease in water levels in the aquifer. These water levels are expected to equilibrate to the pumping.

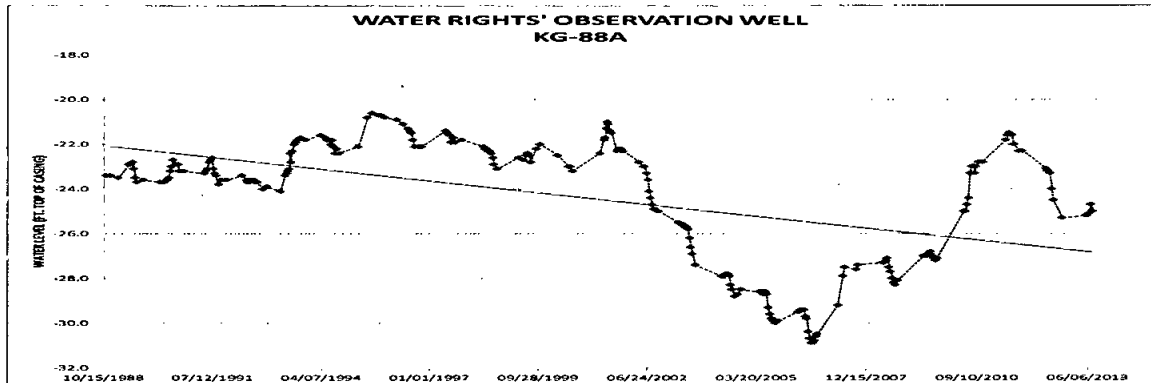


Figure 10: Hydrograph for observation well KG-88A (Water Rights, 2013a)

The nearest observation well, KG-77E, to the proposed well site is located approximately 3,000 feet northwest of the proposed well site. The hydrograph of this observation well is shown in Figure 11 (Water Rights, 2013a). This hydrograph is typical of many observation wells recording water levels in the Vermillion East Fork: Lake Thompson aquifer. Water levels in these observation wells often display cyclic conditions, recharging during wet years and declining during dry years. The data documents that at the current level of development temporal well withdrawal is masked by climatic conditions and recharge to and natural discharge from the aquifer exceeds well withdrawal. Therefore, unappropriated water is available from the Vermillion East Fork: Lake Thompson aquifer to support the proposed appropriation.

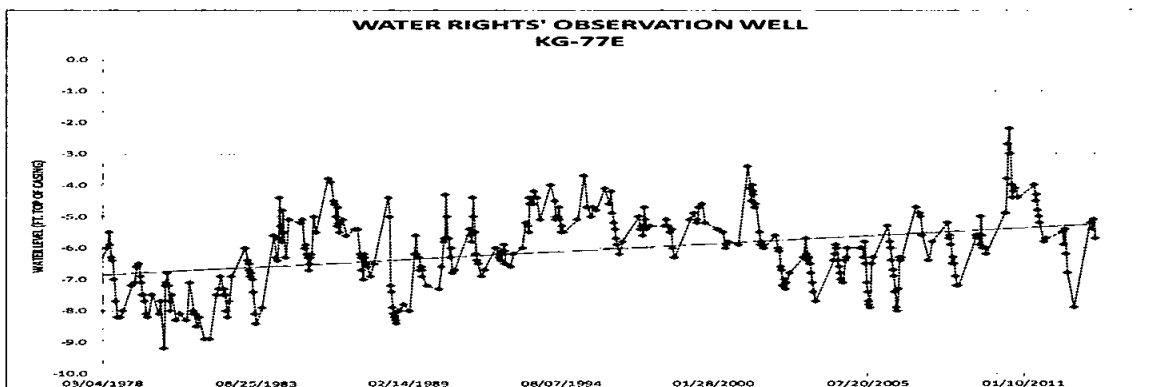


Figure 11: Hydrograph for observation well KG-77E (Water Rights, 2013a)

EXISTING WATER RIGHTS:

There are several wells completed into the Vermillion East Fork: Lake Thompson aquifer in the area of the proposed well site, as shown in Figure 12. Considering the water table conditions of the aquifer, drawdown due to pumping is not expected to extend far from the proposed well site. Therefore, wells and future use areas further than one mile from the proposed well site are not expected to be effected. There are three water rights/permits and six domestic wells on file within one mile of the proposed well site, shown in Table 1.

Table 1: Water rights/permits and domestic wells on file completed into the Vermillion East Fork: Lake Thompson aquifer within one mile of the proposed well site (Water Rights, 2013b; Water Rights, 2013c)

Name	Status	Permit Number	Priority Date	Use	Rate (cfs)	Acres	Distance (ft)
William Poppen	Water Right	3499A-3	12/28/1976	Irrigation	1.77	132	1,500
Truman Ferguson				Domestic			1,500
Wendell Schubloom	Water Right	3937-3	04/27/1977	Irrigation	0.4	28.7	4,600
Wendell Schubloom				Domestic			4,600
Lowell Hansen				Domestic			4,900
Cecil Bjordahl				Domestic			5,100
City of Desmet	Water Right	4795-3	01/01/1922	Municipal	2.11		5,200
Henry Hoyer				Domestic			5,200
Ken Roeder				Domestic			5,200

The nearest well not authorized to the applicant appears to be located approximately 1,500 feet from the proposed well site (Water Rights, 2013b; Water Rights, 2013c). The Water Management Board has consistently recognized that to place water to maximum beneficial use a certain amount of drawdown may occur. Therefore, nearby adequate wells are not expected to be adversely or unlawfully impaired by the proposed diversion.

While the withdrawals would not exceed recharge of the aquifer as a whole, a cumulative impact of withdrawals could lead to a reduction of water levels to the extent that water rights/permits can no longer pump at their developed or “historically established,” diversion rates, which could be considered an adverse impact. If approved, the water permit should control withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.

SDCL 46-5-6

Pursuant to SDCL 46-5-6, the diversion rate for an irrigation appropriation cannot be in excess of one cubic foot of water per second for every seventy acres, or “the equivalent thereof.” The statute provides that the Water Management Board may allow a greater diversion if the method of irrigation so requires.

This water permit application proposes to divert at a rate of 0.89 cfs per 40 acres, equaling 1.56 cfs per 70 acres. The applicant has indicated that the irrigation gun requires a rate of 400 gallons per minute (gpm), or 0.89 cfs, to operate.

CONCLUSIONS:

1. This water permit application proposes to appropriate water at a maximum diversion rate of 0.89 cfs from one well to be completed into the Vermillion East Fork: Lake Thompson

aquifer. The well is expected to be 50 feet deep and will be used to irrigate 40 acres in Kingsbury County.

2. Unappropriated water is available from the Vermillion East Fork: Lake Thompson aquifer to supply the proposed appropriation.
3. The proposed diversion at the proposed well location is not expected to adversely or unlawfully impair existing nearby adequate wells.
4. This application has requested an additional diversion rate in excess of the statutory limit. Justification was provided.

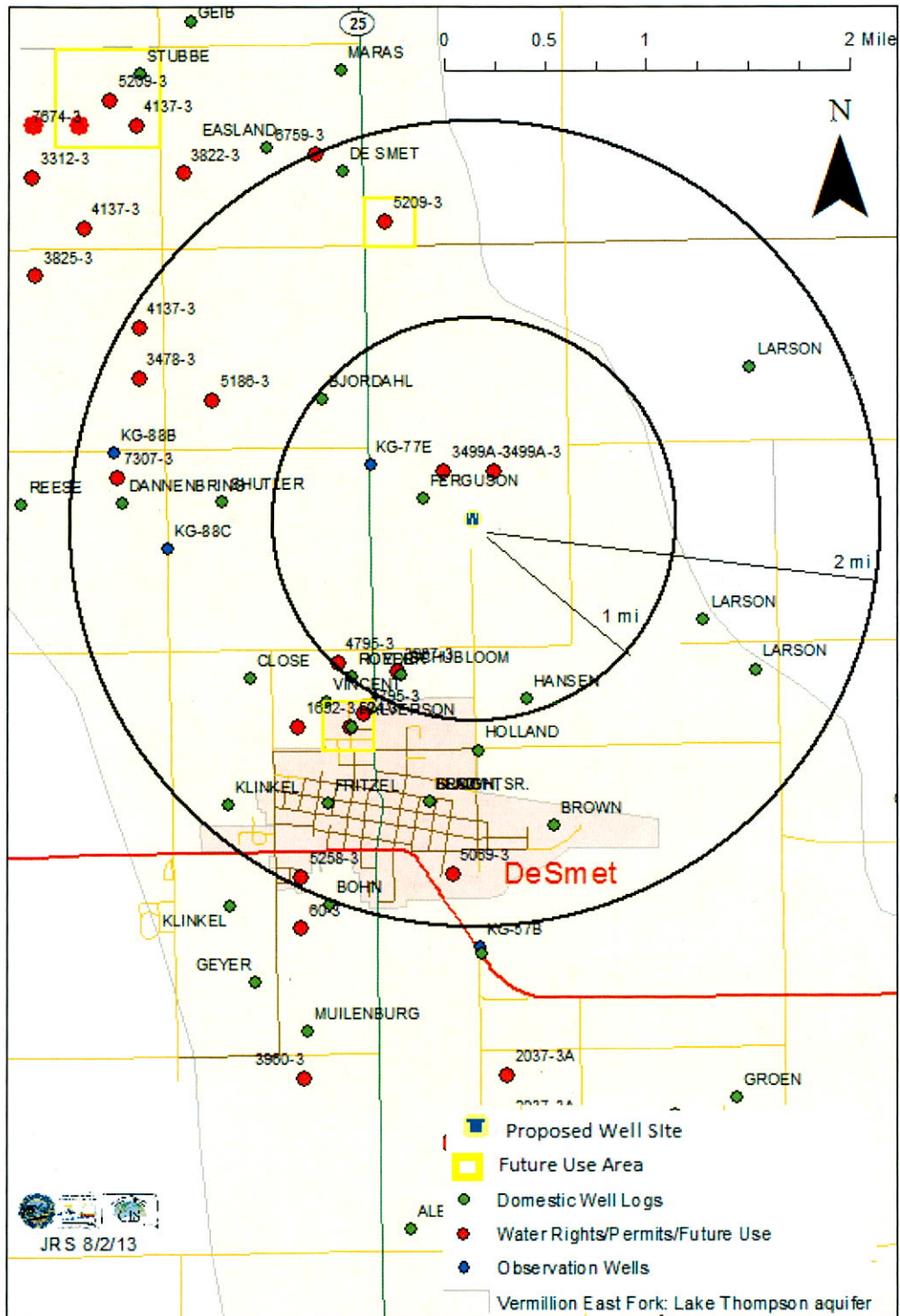
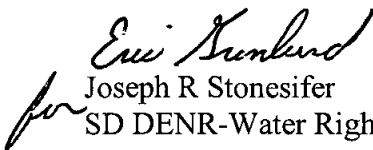
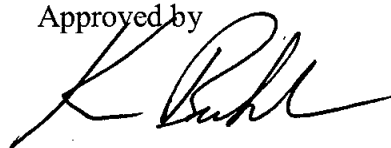


Figure 8: Existing water rights in the area of the proposed well site (Water Rights, 2013a; Water Rights, 2013b; Water Rights, 2013c)


Joseph R Stonesifer
SD DENR-Water Rights Program

Approved by

Ken Buhler
SD DENR-Water Rights Program

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Water Rights. 2013c. Water Well Completion Reports, SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.

AFFIDAVIT OF PUBLICATION

STATE OF SOUTH DAKOTA,
County of Kingsbury.

SS.

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

Notice of Application No 7855-3
to Appropriate Water, a printed copy of which, taken from the paper in which the same was published, is attached to this sheet, and is made a part of this Affidavit, was published in said newspaper at least

once in each week for 1 successive weeks, on the day of each week on which said newspaper was regularly published, to-wit:

<u>Sept. 4</u>	<u>20 13</u>	<u>20</u>
<u>20</u>	:	<u>20</u>
<u>20</u>	:	<u>20</u>
<u>20</u>	:	<u>20</u>

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

\$ 25.66

[Signature]

Subscribed and sworn to before me this 5th

day of September A.D. 20 13

Michael J. Bayes
Notary Public
Kingsbury County, South Dakota

My commission expires 20

RECEIVED

My Commission Expires
November 9, 2018

SEP 06 2013

WATER RIGHTS
PROGRAM

NOTICE OF APPLICATION NO. 7855-3 to Appropriate Water

Notice is given that William Poppen, 20535 434th Ave., De Smet, SD 57231 has filed an application for a water permit to appropriate 0.89 cubic feet of water per second from one well to be completed into the Vermillion: East Fork Aquifer (50 feet deep) located in the SW 1/4 NE 1/4 Section 22 for irrigation of 40 acres located in the SW 1/4 NE 1/4 Section 22; all in T111N-R56W. The applicant is requesting a diversion rate greater than the statutory limit.

Pursuant to SDCL 46-2A-2, the chief engineer recommends APPROVAL of Application No. 7855-3 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 Sept. 16, 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 \$25.66.
9-4-1wc

$$69 \times .372 = 25.66$$

RECEIVED

SEP 24 2013

PRINTER'S AFFIDAVIT

WATER RIGHTS
PROGRAM

STATE OF SOUTH DAKOTA,
COUNTY OF BEADLE: ss.

I, ELDON JACOBS, being duly sworn on oath, say that THE PLAINSMAN is a daily paper published at Huron, Beadle County, South Dakota, and that said newspaper has a bona fide circulation of at least 250 copies daily; that said newspaper has been published within said county for fifty-two consecutive weeks immediately prior to this date, that said newspaper is printed in whole or in part, in an office maintained at said place of publication; that I am Legal Advertising Coordinator of said newspaper and know the facts herein state. The annexed notice headed:

SD ENVIRONMENTAL & NATURAL – WATER RIGHTS (POPPEN)

was published for one day, in said newspaper, and not in any supplement of the said newspaper, the publication was of the 4TH day SEPT 2013 That the full THIRTY-ONE & 68/000 dollars insures to the benefit of the publisher of said newspaper; that no agreement or understanding for the division thereof has been made with any other person, and that no part thereof has been agreed to be paid to any person whomsoever.



Subscribed and sworn to before me this 4TH day of SEPT 2013.


Notary Public, South Dakota

My term expires 10/25/2017

Legal # 921

F.P. 09-04-13

**NOTICE OF
APPLICATION
NO. 7855-3 to**

Appropriate Water

Notice is given that William Poppen, 20535 434th Ave, DeSmet SD 57231 has filed an application for a water permit to appropriate 0.89 cubic feet of water per second from one well to be completed into the Vermillion East Fork Aquifer (50 feet deep), located in the SW 1/4 NE 1/4 Section 22 for irrigation of 40 acres located in the SW 1/4 NE 1/4 Section 22; all in T111N-R56W. The applicant is requesting a diversion rate greater than the statutory limit.

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No. 921 (adv. Published once at the total approximate cost of \$31.68.



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

August 26, 2013

DeSmet News
PO Box 69
DeSmet SD 57231

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 7855-3 to Appropriate Water. Please publish the notice once on September 4, 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 William Poppen, 20535 434th Ave, DeSmet SD 57231 (Ph # 605-854-3497).

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

August 26, 2013

Plainsman
PO Box 1278
Huron SD 57350

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 7855-3 to Appropriate Water. Please publish the notice once on September 4, 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 William Poppen, 20535 434th Ave, DeSmet SD 57231 (Ph # 605-854-3497).

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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 DATES, CONTACT
THE NEWSPAPER RIGHT AWAY.**

August 26, 2013

William Poppen
20535 434th Ave
DeSmet SD 57231

Dear Mr. Poppen:

Water Permit Application No. 7855-3 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 DeSmet News printed at DeSmet SD (Ph # 605-854-3331) and the Plainsman printed at Huron SD (Ph # 605-352-6401). 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 September 4, 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. 7855-3 to Appropriate Water

Notice is given that William Poppen, 20535 434th Ave, DeSmet SD 57231 has filed an application for a water permit to appropriate 0.89 cubic feet of water per second from one well to be completed into the Vermillion:East Fork Aquifer (50 feet deep) located in the SW 1/4 NE 1/4 Section 22 for irrigation of 40 acres located in the SW 1/4 NE 1/4 Section 22; all in T111N-R56W. The applicant is requesting a diversion rate greater than the statutory limit.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 7855-3 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.

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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

OCT 09 2013

William Poppen
20535 434th Ave
DeSmet SD 57231

Dear Mr. Poppen:

Enclosed is Water Permit No. 7855-3 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

Report of Examination of Works and/or Application of Water to Beneficial Use For Permit No. 7855-3

I have this day, November 2, 2021, made a thorough examination of the water use system constructed by William Poppen, 20535 434th Ave, DeSmet, SD 57231 of Permit No. 7855-3, bearing the priority of September 16, 2013 authorizing the diversion of 0.89 cu. ft. per second of the waters of the Vermillion; East Fork Aquifer for irrigation purposes, in Kingsbury County.

A. Works used to divert the water:

Well Information: See Section F

— Well log unavailable

C. Works used to apply water to beneficial use:

See Section F

Chemigation Equipment:

- 1) Does chemigate N

D. Compliance with Permit Requirements:

- 1) Permit qualifications being abided by N

If no, describe: See Section F

- 2) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period Y

- 3) Exceptions to compliance are: See Section F

E. Condition and Location:

1. The system is in poor condition with the point(s) of diversion located as follows: From the NE corner Sec 22 T111N R56W, 2050 ft S & 2560 ft W, Lat 44.40663 Long -97.54151 (SW ¼ NE ¼ Sec 22)

2. The works are capable of diverting and conveying to the place of use 1.0 cu. ft. per second of water which is to be used for irrigation. Water has been put to beneficial use to the maximum extent as follows:

legal description/acreage

legal description/acreage

All land in Section 22 T111N R56W
SW NE – 22 acres

comprising a total of 22 acres of land and the license should be issued for 0.31 cfs

3. All structures, wells and lands on map Y

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

The irrigated acreage was determined with the aid of FSA imagery and ArcMAPS software.

The mailing address and the telephone number in the permit materials are current for Mrs. Poppen. Mr. Poppen died in 2021.

A bit of background information regarding this permit. the 22 acres were irrigated in 2014 and 2015 with a big gun sprinkler when a problem with the well occurred. The well was a sand producing well which caused the pump to be ruined from sand abrasion. It was decided not to continue using a bad well, so no irrigation has occurred from 2016 through 2021.

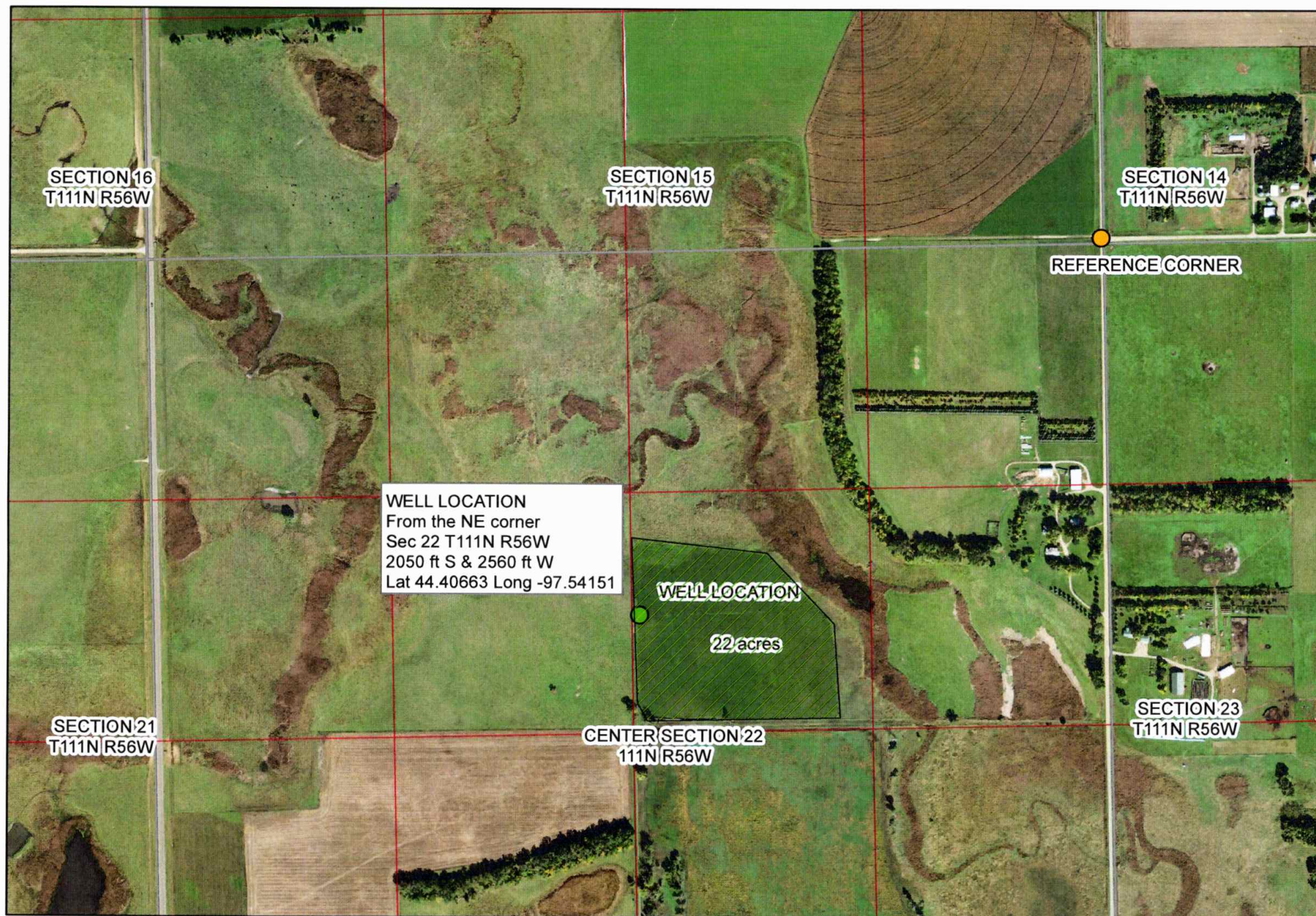
There is a functional irrigation system in place today minus a well pump including an internal combustion engine along with aluminum mail line irrigation pipe. I did not see a big gun but assume it is in storage.

Mr. Norman Koehlmoos, 43480 205th Str, DeSmet, SD is and has been the farm operator for several years including 2014 to this date and has completed the Irrigation Questionnaire during that time. His telephone number is 605/203-0809. He is considering using the well as a source for cattle water in the future. He is also considering a low flow irrigation system for the field that will not cause the well to produce sand.



Darrell W DeBoer
Water Rights Inspector
DANR, Water Rights Program

Date report completed: November 3, 2021



0 0.1 0.2 0.4 0.6 0.8 Miles



Darrell DeBoer
Water Right Inspector
DANR-Water Rights Program

WATER RIGHTS PROGRAM -- FILE DOCUMENTATION

NAME & ADDRESS: Richard Poppen

DATE: October 12, 2022

RE: status of Water Permit No. 7855-3

COMMENTS:

Mr. Poppen passed away in 2021. Darrell DeBoer did a field inspection for licensing purposes and found the land had not been irrigated for a few years however some of those years the area had been flooded. Based on past irrigation questionnaires, it is unknown if legal excuse can be claimed or not. The time frame cited on the permit for putting all water to beneficial use was September 16, 2022.

Mark Rath called and spoke with the farm operator, Norman Koehlmoss about the water permit. He indicated the land is in an estate and nothing is settled yet. He also indicated Mr. Poppen's wife is not in good health.

Mark told the farm operator that since it is unknown who to contact as far as either licensing or cancellation, we would hold up doing anything for a year. In the meantime, send correspondence for both Poppen's water permits (No. 7855-3 and 3499A-3) to the farm operator:

Norman Koehlmoss
43480 205th St
DeSmet SD 57231
Phone: 605 203-0809



Genny McMath
Water Rights Program