

File No. **50,195** 15. Formation Code: Drainage Basin: County: Special Use: Stream:

16. Points of Diversion											
MOD	PDIV	Qualifier			S	T	R	ID	'N	'W	
DEL	87251	SW	SW	SW	3	6	4W	2	137	4688	(Geo-Ctr)
DEL	87252	SW	SW	SW	3	6	4W	3	137	4988	(Batt 1 of 4)
DEL	87253	SW	SW	SW	3	6	4W	4	137	4838	(Batt 1 of 4)
DEL	87254	SE	SW	SW	3	6	4W	5	137	4388	(Batt 1 of 4)
DEL	87255	SE	SW	SW	3	6	4W	6	137	4538	(Batt 1 of 4)

17. Rate and Quantity				
Authorized		Additional		
Rate gpm	Quantity af	Rate gpm	Quantity af	Overlap PD Files
NONE				

18. Storage: Rate _____ NF Quantity _____ ac/ft Additional Rate _____ NF Additional Quantity _____ ac/ft

19. Limitation: _____ af/yr at _____ gpm (_____ cfs) when combined with file number(s) _____
 Limitation: _____ af/yr at _____ gpm (_____ cfs) when combined with file number(s) _____

20. Meter Required? Yes No To be installed by _____ Date Acceptable Meter Installed _____

21. Place of Use											NE¼				NW¼				SW¼				SE¼				Total	Owner	Chg? no	Overlap Files
MOD	PUSE	S	T	R	ID	NE ¼	NW ¼	SW ¼	SE ¼	NE ¼	NW ¼	SW ¼	SE ¼	NE ¼	NW ¼	SW ¼	SE ¼	NE ¼	NW ¼	SW ¼	SE ¼									
DEL	66764	3	6	4W	1									40	40	40	40					160	7b.	No	NONE					

Comments: **DISMISSED FAILURE TO MEET WELL SPACING CRITERIA.**

KANSAS DEPARTMENT OF AGRICULTURE
Division of Water Resources
M E M O R A N D U M

TO: Files

DATE: October 22, 2020

FROM: Doug Schemm

RE: Application, File No. 50,195

Steve Reedy filed the referenced application for a permit to appropriate water for beneficial use, proposing the appropriation of 208 acre-feet of groundwater for irrigation use. The proposed point of diversion was located in the Southwest Quarter of the Southwest Quarter of the Southwest Quarter (SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$) of Section 3, more particularly described as being near a point 137 feet North and 4,688 feet West of the Southeast corner of said section, in Township 6 South, Range 4 West, Cloud County, Kansas.

Based on the well log provided and other nearby wells, the source of supply for this pending application would be the unconfined Dakota aquifer system. Per K.A.R. 5-4-4, based on this source of supply, the minimum spacing distance from the point of diversion to all non-domestic wells in this same aquifer is one-half (1/2) mile. The proposed point of diversion described in this application was located less than this required spacing distance from a nearby well. More specifically it appears that Appropriation of Water, File No. 49,331 is also sourcing the unconfined Dakota aquifer system, and is located 2,174 feet away.

The applicant was sent a letter on January 30, 2019 explaining the well spacing criteria and stating that it would be recommended to the Chief Engineer that pending application, File No. 50,195 be denied and dismissed due to the failure to meet minimum well spacing criteria, as required by K.A.R. 5-4-4. The applicant submitted a report prepared by Ground Water Associates, Inc. that provided drawdowns at nearby wells. DWR Technical Services staff reviewed the report and determined the following:

- Pumping the four proposed wells at 200 gallons per minute per well would cause drawdown at the nearest domestic well to be 92% of the saturated thickness assumed to be 110 feet.
- Simulated pumping of Application, File No. 50,195 shows drawdown at the nearest irrigation well File No. 49,331 would be the same as drawdown at the nearest domestic well because the distances from File No. 50,195 are essentially the same. The saturated thickness at the nearest irrigation well is 127 feet so drawdown would be 80% of the saturated thickness.
- Without considering any existing irrigation wells pumping, an available drawdown of 63 feet at the nearest irrigation well File No. 49,331 is exceeded after the first week of pumping Application, File No. 50,195, as proposed.
- Pumping all six existing irrigation wells along with File No. 50,195 would leave no available saturated thickness at the nearest domestic well.

The drawdowns presented above would be considered an unreasonable lowering of the water table. As set forth in K.S.A. 82a-711, the unreasonable lowering of the static water level at an existing well is considered to be an impairment of an existing water right. K.A.R. 5-4-4(g) prohibits the chief engineer from allowing a decrease in the spacing between a proposed well and an existing well if it would impair an existing water right.

The applicant was sent a letter on September 4, 2020 providing the results of DWR's technical review and giving the applicant 30 days, until October 4, 2020 to provide additional information. The applicant was informed in that this application would be dismissed for failure to meet minimum well spacing criteria. No additional information has been provided by the applicant, therefore, the application should be dismissed for failure to meet minimum well spacing criteria.

Douglas W. Schemm
Environmental Scientist
Topeka Field Office

Technical Review of Application 50,195 filed by Judith Reedy

Prepared by:

John Munson, Groundwater Impairment Investigator
Water Management Services, Technical Services
Kansas Department of Agriculture, Division of Water Resources
July 29, 2020

Introduction

Judith Reedy proposes to drill four irrigation wells, File No. 50,195 near the south side of the SW $\frac{1}{4}$ of the SW $\frac{1}{4}$ of Section 3, Township 6 South, Range 4 West, in Cloud County about $\frac{5}{2}$ miles west of 145th Road in Concordia on 11th Street continuing on Rock Road, then one mile south on 90th Road. The battery of wells is to pump from the Dakota aquifer along the edge where it is mapped as unconfined or confined and about two miles from the effective alluvium of the Republican River in the Stockton field office area.

There are six irrigation wells presently located within one mile of proposed 50,195. Two wells 49,331 north well and 49,331 south well are located within one-half mile to the northwest tested a total of 785 gpm, three wells 49,333 west well, 49,333 south well, and 49,333 east well are located about three-quarters of a mile west-northwest tested a total of 515 gpm, and one well 49,334 is located about three-quarters of a mile to the west-southwest tested 745 gpm. There are no other irrigation wells in the two-mile circle but there are a few domestic stock wells. The closest domestic well is owned by Dennis Burt and it is located about the same distance as irrigation well 49,331 south well but in the opposite direction from the proposed wells.

One-half mile well spacing is not met with wells File No. 49,331. Well spacing to the nearest domestic well is met but there is still a concern to possible impairment due to the number of existing large capacity wells. **Figure 1.**

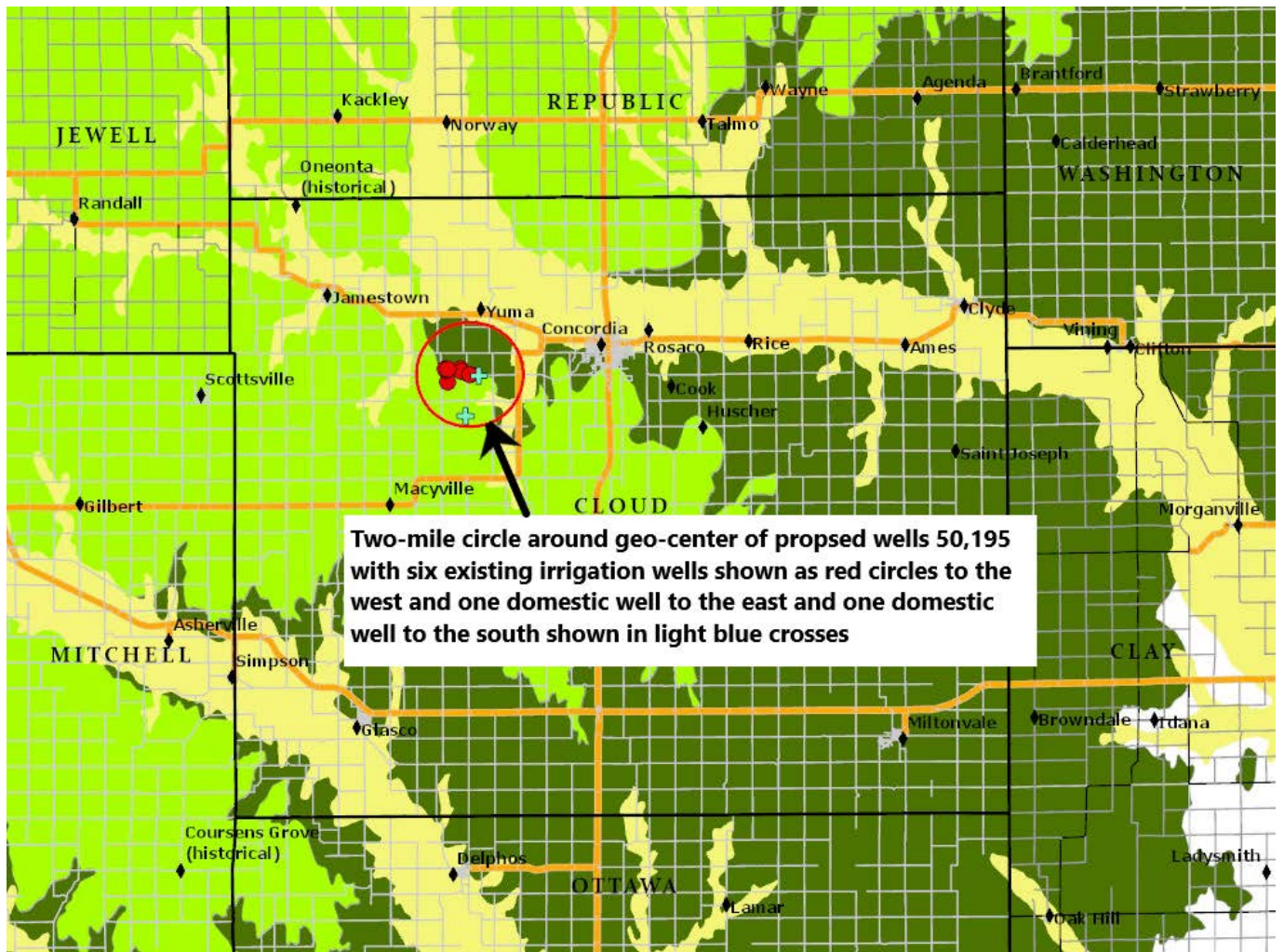


Figure 1. Two-mile circle around File 50,195 with six existing irrigation wells to the west and two domestic wells to the east and south. Confined Dakota aquifer mapping shown in light green and mapped as unconfined in dark green. Alluvial deposits shown in yellow.

Brad Vincent, P.G. of Ground Water Associates, Inc. (GWA) provided a letter dated June 18, 2020 with data from a 24-hour aquifer test conducted using a 5 inch test well pumping 101 gpm near the geo-center of the proposed wells, a 2 inch observation well 30 feet from the test well and the two nearest irrigation wells as sites to measure drawdown. In the first page of the letter Mr. Vincent stated ***This Dakota aquifer will not support 800 gpm pumping (208 AF)***. In the **Findings** section of his letter Mr. Vincent explains that the transmissivity and storativity determined from analysis of drawdowns measured at the most distant irrigation well 49,331 north well is best for long-term pumping predictions. **GWA made long-term pumping drawdown estimates at 660 feet, 1320 feet, and 2640 feet simulated by pumping two 200 gpm irrigation wells located 600 feet apart for a total of 125 acre-ft instead off four 200 gpm wells for 800 gpm and 208 acre-ft as proposed in the application.**

This Technical Review uses an **aquifer transmissivity of $T = 5,162$ gpd/ft** and a **storage coefficient of $S = 0.0000936$** determined using AQTESOLV This curve matching of the 24-hour drawdown data at irrigation well 49,331 north well located farthest from the pumping

test well. Simulated pumping shows drawdowns at the nearest domestic well and the nearest irrigation well caused by pumping the proposed quantity and rates and also show drawdowns caused by existing wells pumping.

Summary

- **A well log is not available for the nearest domestic well owned by Dennis Burt. Measurements during the pumping test for 50,195 did not show any drawdown but the well is apparently not drilled deep enough at the present time for well interference to occur. Simulations of pumping assume the domestic well is drilled or may be drilled as deep as the test well 50,195 in the future and the effective saturated thickness and potentiometric head is the same as 50,195. Pumping four wells at 200 gpm per well as proposed would cause drawdown at the nearest domestic well to be 92% of the saturated thickness assumed to be 110 feet.**
- **Simulated pumping 50,195 shows drawdown at the nearest irrigation well 49,331 south would be the same as drawdown at the nearest domestic well because the distances from 50,195 are essentially the same. The saturated thickness at the nearest irrigation well is 127 feet so drawdown would be 80% of the saturated thickness.**
- **Without considering any existing irrigation wells pumping, an available drawdown of 63 feet at the nearest irrigation well 49,331 south is exceeded after the first week of pumping 50,195 as proposed.**
- **Pumping all six existing irrigation wells along with the 50,195 would leave no available saturated thickness at the nearest domestic well.**
- **Pumping only three of the 50,195 wells at 200 gpm each for a total of 600 gpm would cause drawdown at the fourth well location so the fourth well could not pump 200 gpm as proposed.**

Discussion

Diller's logs show area irrigation wells pump from sandstone and sandstone with clay formations and are drilled about 200 feet deep. The effective saturated thicknesses, excluding large intervals of clay described by the drillers, appear to be an average thickness of 101 feet. Measurements from well driller's logs and from the GWA pumping test shows specific capacities ranging from 2 to 6 gallons per minute per foot drawdown (gpm/ft). GWA test data

shows there is not enough specific capacity to pump the battery of 4 wells at 200 gallons per minute each as requested.

Their drawdowns show that when the 6 existing irrigation wells pump their authorized quantities of water there is not enough saturated thickness available for proposed 50,195 to pump. If available drawdown is ignored and wells 50,195 could pump the proposed rate and quantities along with area existing irrigation wells, drawdown at the nearest domestic would far exceed the saturated thickness estimated at the domestic well. If the other existing irrigation wells did not pump and wells 50,195 could pump, drawdown due to pumping 50,195 would be 101 feet at the nearest domestic and irrigation wells and be 92% of the assumed saturated thickness at the domestic well and exceed available drawdown at the nearest irrigation well so it could not pump.

A. Effective Saturated Thicknesses

Figure 2 shows the locations the six existing irrigation wells in the two-mile circle of the 5” test well for proposed wells 50,195. Well driller log locations for the three wells for File No. 49,333 to the west to the logs for the two wells for 49,331 to the log for the 5” test well are connected by yellow arrows. Well driller log locations for the three wells for File No. 49,333 to the logs for the wells for 49,334 and a domestic well to the south are connected by white arrows. The Dennis Burt domestic well is essentially the same distance from the 5” test well 50,195 as the nearest irrigation well for 49,331.

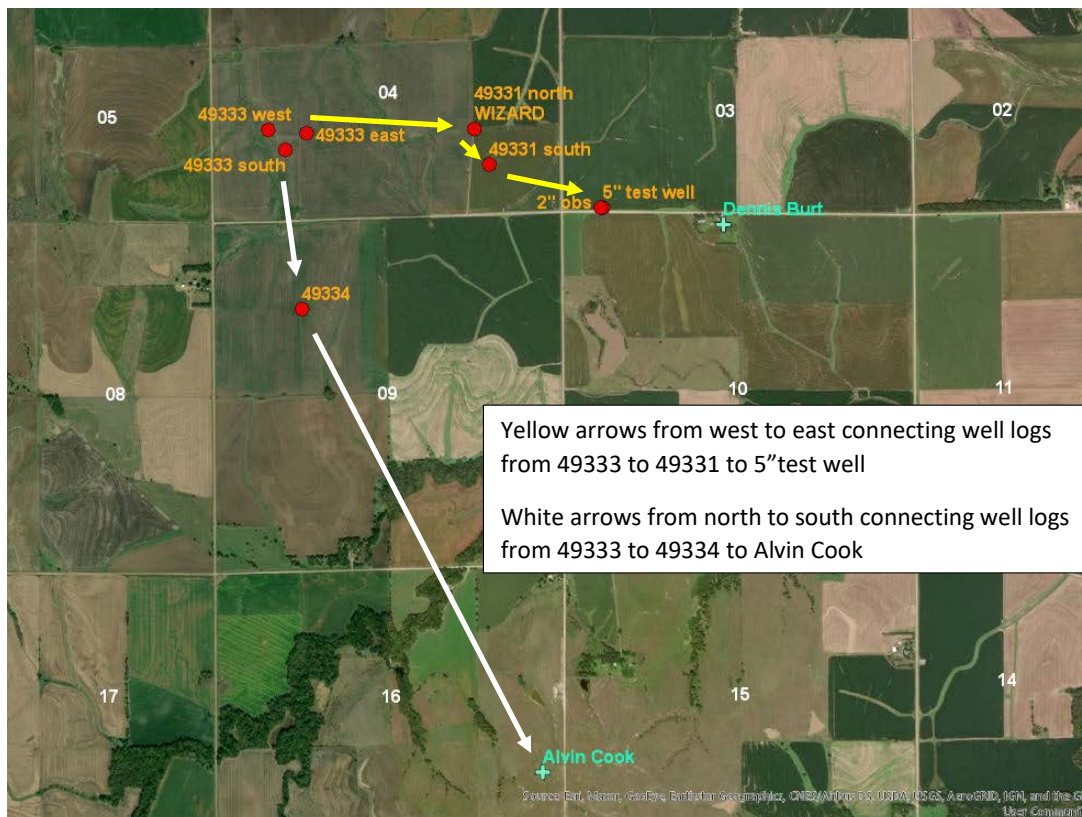


Figure 2. Arrows connecting well driller log locations used for comparison of effective saturated thicknesses. The 5” test well is essentially at the geo-center of the proposed 50,195 battery of wells. A

well log was not found for the Dennis Burt domestic well but a log was found for an Alvin Cook domestic well to the south.

There is no well driller's log for the Dennis Burt domestic well but if it were drilled as deep as the irrigation wells it would likely be in the same sandstone aquifer as the irrigation wells. Drawdown at the domestic well from pumping 50,195 should be about the same as drawdown at the location of the nearest irrigation well 49,331 to the west as the distances from 50,195 are essentially the same.

There does not appear to be any trend of saturated thickness being greater in one direction compared to another. An average of the effective saturated thicknesses of the sandstone and sandstone and clay formations from all the existing irrigation wells 49,334, 49,333 west, 49,333 south, 49,333 east, 49,331 north, 49,331 south, and the proposed well 50,195 is 101 feet. (109 ft + 147 ft + 66 ft + 83 ft + 72 ft + 126 ft + 110 ft = 713 ft; 713 ft / 7 = 101.8 ft)

Measured water levels while a well is pumping were found on two well driller's log and one DWR file inspection report.

- A well driller's log for well 49,333 west showed when pumping 225 gpm there was a remaining available drawdown of 66 feet (pumping level 1,307 ft - well depth 1,241 ft = **66 ft remaining available drawdown**).
- A well driller's log for well 49,331 north showed when pumping 425 gpm there was a remaining available drawdown of 39 feet (pumping level 1,322 ft - well depth 1,284 ft = **39 ft remaining available drawdown**).
- DWR measured a pumping water level at well 49,333 south while the battery of wells was pumping 515 gpm for a remaining available drawdown of 100 feet. (pumping level 1,355 ft - well depth 1,255 ft = **100 ft remaining available drawdown**).

Figure 3 shows lithologic logs from west to east along the yellow arrows in **Figure 2**. These lithologic logs include the locations where water level measurements have been taken while pumping.

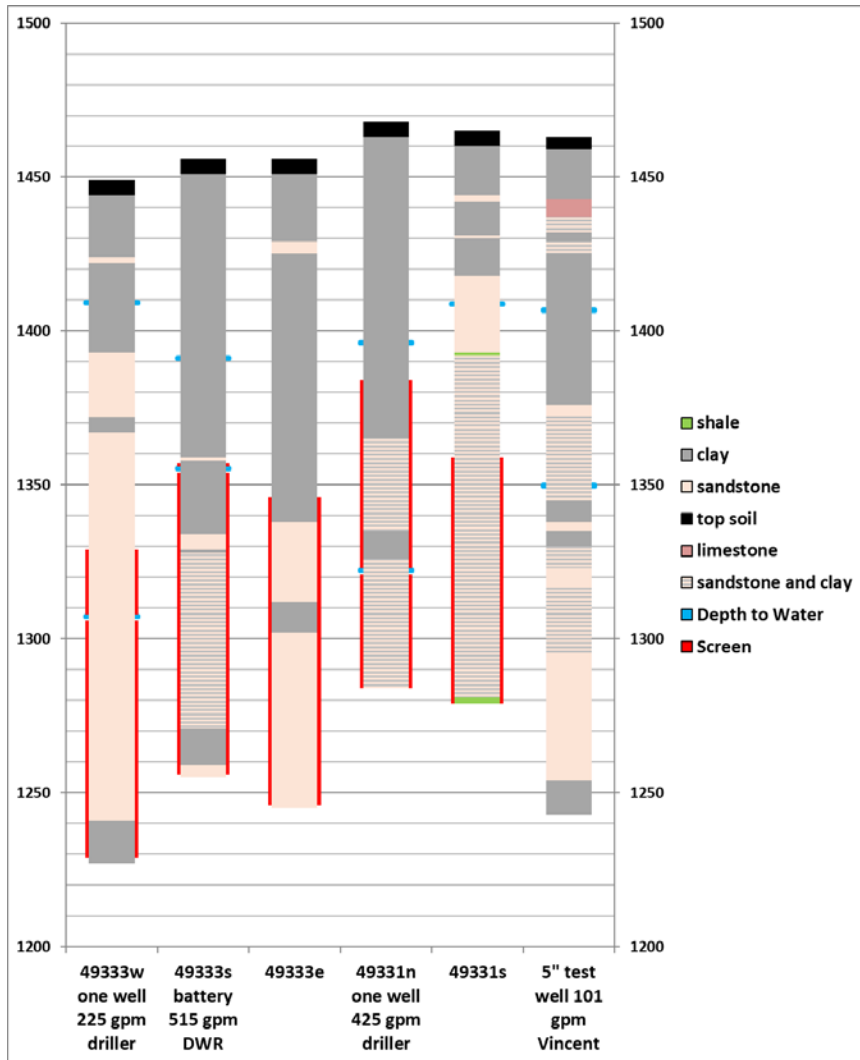


Figure 3. Lithologic logs from left to right are at locations along yellow arrows from west to east in Figure 2. Well log for well 49,333 west well shows a pumping depth to water at a depth deeper than the top of the well screen during pumping 225 gpm. DWR report for well 49,333 south well also shows a pumping depth to water into the top of the well screen during pumping. Well log for well 49,331 north well also shows a pumping depth to water at a depth deeper than the top of the well screen during pumping.

Figure 4 shows lithologic logs from north to south along the white arrows in Figure 2. The Cook well was not included in any analysis of potential drawdown but the lithology shows the Dakota aquifer is present at that location.

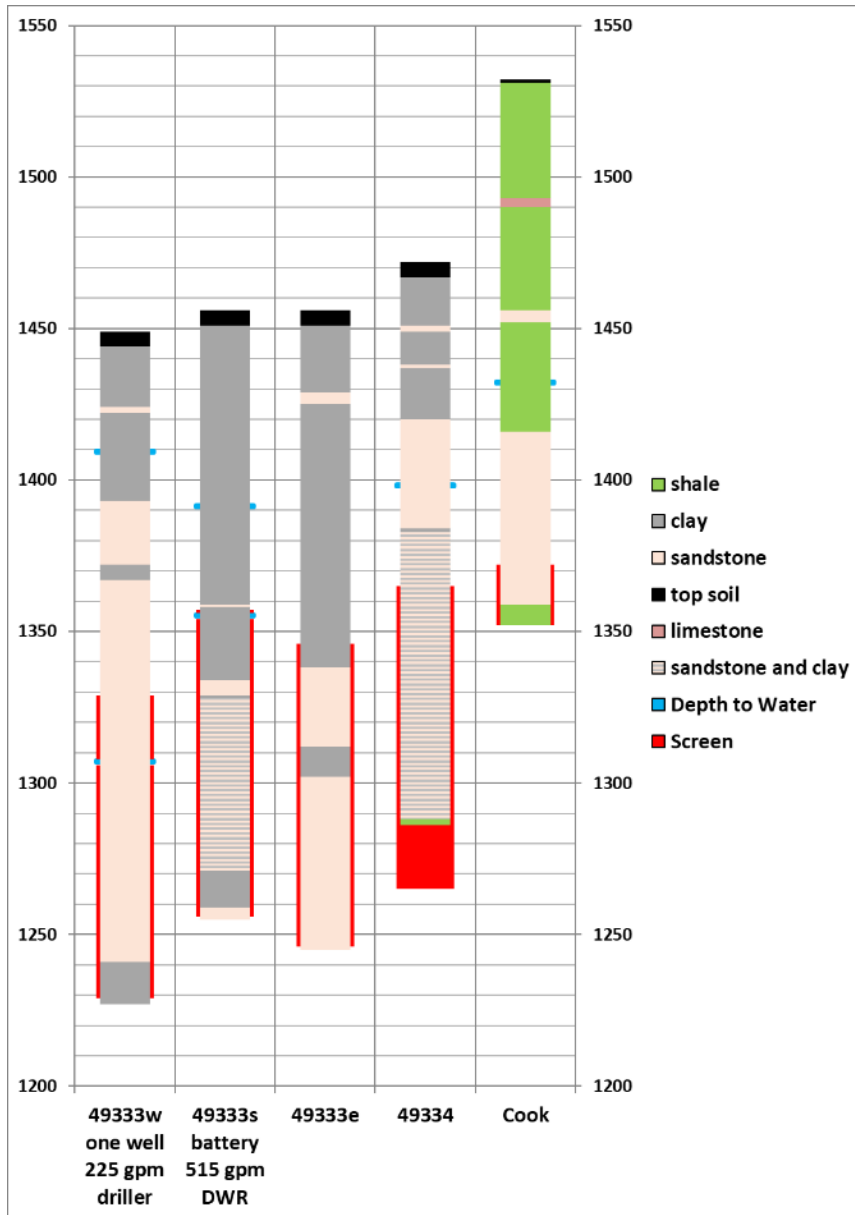


Figure 4. Lithologic logs from left to right are from locations along white arrows from north to south in Figure 2. Logs for well 49,333 west and well 49,333 south well are the same as in Figure 3. Other wells show interconnected sandstone formations.

B. Available drawdown and Potentiometric Head.

GWA suggests a low specific capacity of about 2 gallons per minute per foot drawdown (gpm/ft) during test pumping the 5" well at 101 gpm may be due to poor well construction. But a specific capacity is also about 2 gpd/ft at irrigation well 49,333 west well according to the well driller's log. At a specific capacity of 2 gpm/ft and four 200 gpm wells for 50,195, remaining available drawdown at the new wells with a potentiometric head of 153 feet may be about 53 feet. A greater specific capacity of about 6 gpm/ft can be estimated from information in the driller's log for well 49,331 north well. The DWR field inspection report shows the two wells pumping together yields 785 gpm. At 392 gpm per well with a specific

capacity of 6 gpm/ft, remaining available drawdown at 49,331 with a potentiometric head of 128 feet may be about 63 feet drawdown at each well. **Table 1.**

File No. 50,195	File No. 49,331
4 wells at 200 gpm	2 wells at 392 gpm
Specific capacity 2 gpm/ft	Specific capacity 6 gpm/ft
Potentiometric head 153 feet (56 ft dtw)	Potentiometric head 128 feet (56 ft dtw)
Remaining available drawdown 53 feet	Remaining available drawdown 63 feet

Table 1. Summary of data estimating remaining available drawdown at the proposed 50,195 and the nearest irrigation wells 49,331 from specific capacity estimates ignoring additional drawdown due to well pumping interferences.

The lithologic logs in **Figure 5** describe the computations of remaining available drawdown in **Table 1** based on specific capacity data.

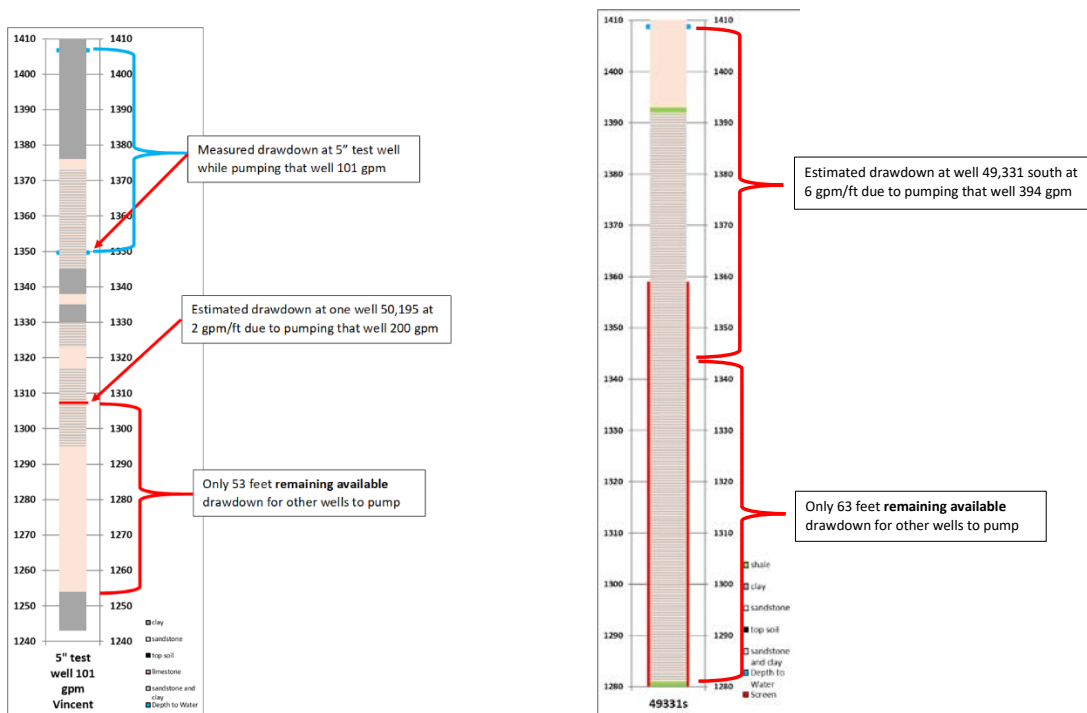


Figure 5. Lithologic log to the left describes computation of remaining available drawdown at proposed wells 50,195 due to a possible specific capacity of 2 gpm/ft and log to the right describes computation of remaining available drawdown at the nearest irrigation well 49,331 south due to a possible specific capacity of 6 gpm/ft.

C. Presently authorized quantities, actual use, and water levels.

There are presently six irrigation wells in the Dakota aquifer authorized by File No. 49,331 for 156 acre-ft, File No. 49,333 for 208 acre-ft, and File No. 49,334 for 208 acre-ft, for a total of 572 acre-ft per year. File No. 49,331 reported 24 acre-ft for 2018 and 19 acre-ft for 2019. File No. 49,333 reported 28 acre-ft for 2017, 110 acre-ft for 2018 and 5 acre-ft for 2019. File No. 49,334 reported 75 acre-ft for 2016, 172 acre-ft for 2017, 37 acre-ft for 2018, and 23 acre-ft for 2019. **Table 2** summarizes the amounts reported as pumped per year and percentage of authorized quantities.

File number	49,331	49,333	49,334	Reported total use	Percent of Authorized
Tested Rate	785 gpm	515 gpm	745 gpm		
Authorized	156 acre-ft	208 acre-ft	208 acre-ft	acre-ft	Average 24%
2016 used	0	0	75	75	13 %
2017 used	0	28	172	200	35 %
2018 used	24	110	37	171	30 %
2019 used	19	5	23	47	16 %

Table 2. Summary of test pumping rates, presently authorized quantities, reported acre-feet used and percent used of authorized quantities for each of the existing water rights. There are two wells authorized by File 49,331, three wells by File 49,333, and one well by 49,334 and the total average use over the last four year is 24% of total authorized per year.

Figure 6 shows the total amount of water authorized for the other 6 irrigation wells in the two-mile circle and the percent of the total amount of water reported used each year.

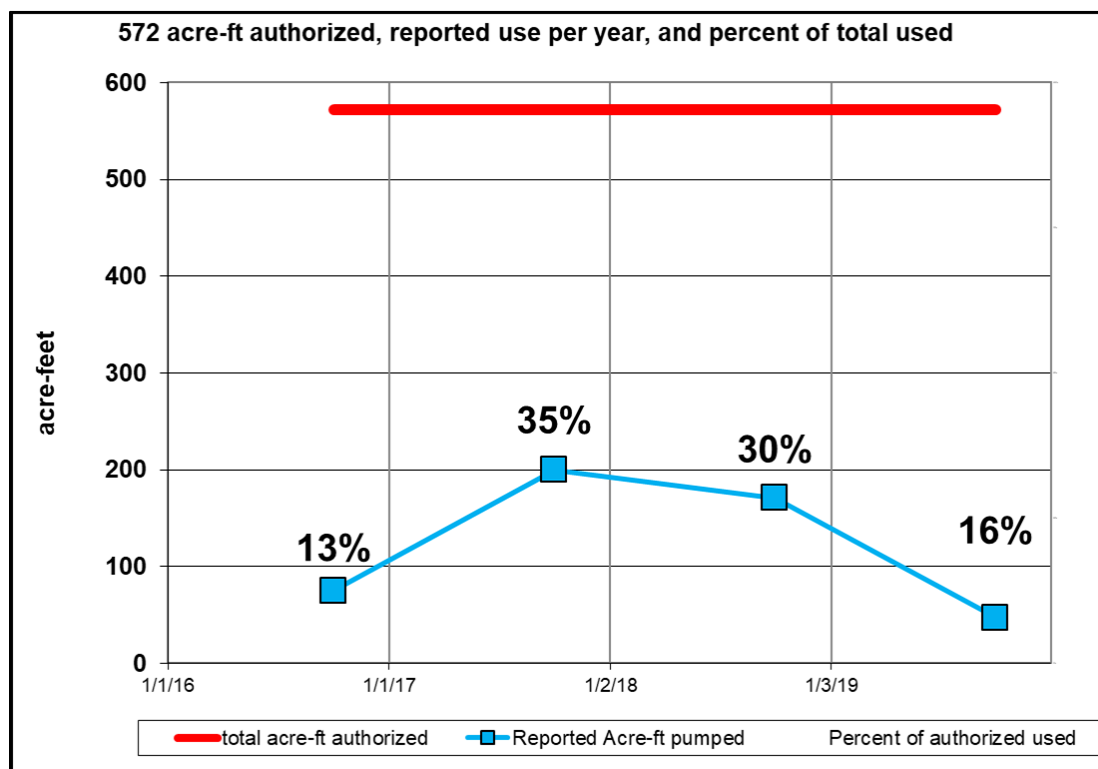


Figure 6. Graph showing reported total quantities of water pumped from the 6 existing irrigation wells each year, the total amount authorized and the percent of total authorized actually reported as pumped.

Some water level measurements were found on DWR field inspection reports, annual water level measurements at the 49,331 north well, on WWC-5 water well driller’s logs, and in the GWA test data for wells 49,331 north and 49,331 south. Most reliable water levels for comparison are the annual water level measurements usually taken early in the year before February at well 49,331 north where measurements started November and December of 2016. Measurements near the beginning of the year or near the end allow time for water level recovery after irrigation season. Eight water level measurements were found that were taken

at 49,331 north and the last six taken were from November to February including the one GWA took prior to the aquifer test. Measurements taken the end of 2016 and the beginning of 2018, and 2019 were all about the same elevation of 1,396 feet. The measurements in early 2020 were about 7 feet higher in elevation than the previous years. At this time there does not appear to be any trend of water level decline but the four years of irrigation use from the Dakota aquifer in this area has been small compared to the amount of water authorized. **Figure 7.**

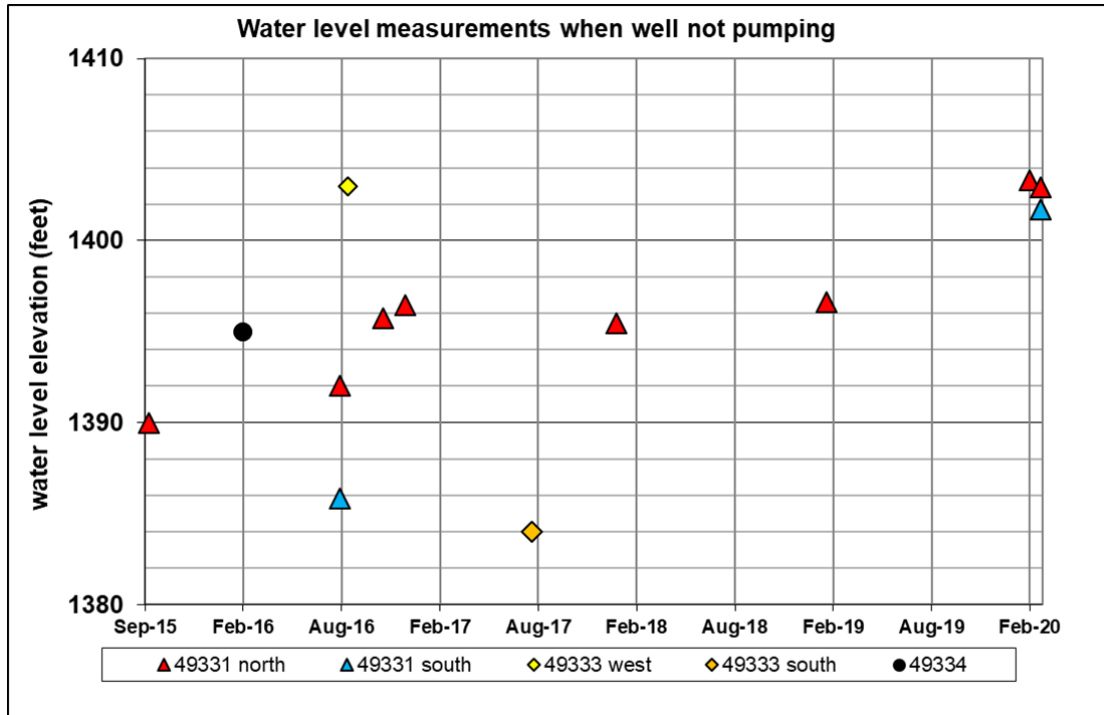


Figure 7. Area water level measurements at existing Dakota aquifer irrigation wells when the wells are not pumping.

Analysis

D. Simulating irrigation well pumping shows there is not enough available drawdown at the proposed location and at the nearest domestic and irrigation wells.

Ignoring the specific capacity assumptions, the aquifer test conclusions provide aquifer parameters to simulate drawdowns at one or more wells due to another well or wells pumping. Application, 50,195 proposes 4 wells located 150 feet apart pumping 200 gallons per minute each for 58 days for a total of 800 gallons per minute and 208 acre-feet. Simulating only 3 wells pumping 200 gpm each for only 600 gpm for 58 days shows a drawdown of 120 to 126 feet from a potentiometric head of 153 feet and does not leave enough available drawdown for the fourth well to pump. **Figure 8.**

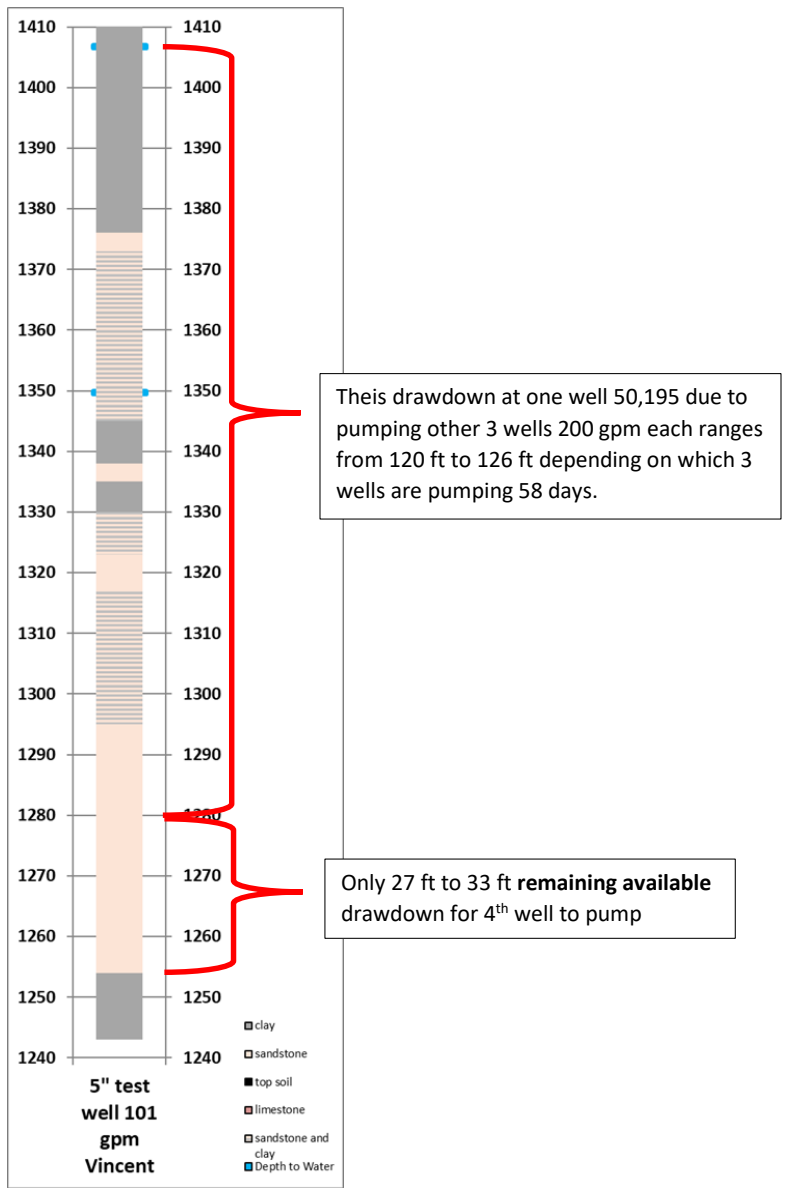


Figure 8. Simulating pumping only 3 of the 4 wells at 200 gpm each does not allow enough available drawdown for the 4th well for 50,195 to pump.

If the requested rate and quantity could be pumped from 50,195, drawdown caused by the proposed 4 wells is sensitive to the gallons per minute per well and the location of the 4 wells. Simulating 300 gpm from each of the two wells 50,195 located closest to the domestic well and 100 gpm each from the two wells 50,196 closest to the nearest irrigation well results in greater drawdown at the domestic well than at the nearest irrigation well by a few feet. **Figure 9.**

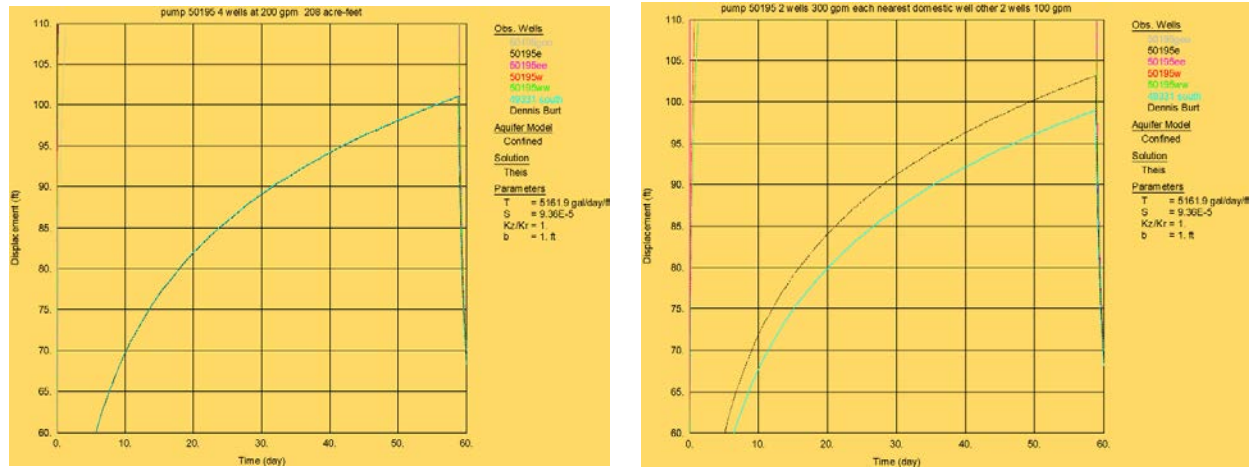


Figure 9. Simulated drawdown at the nearest domestic and nearest irrigation well is the same by pumping 50,195 using four wells at 200 gpm per well as shown in the figure to the left. Drawdown would be greater at the domestic well than at the nearest irrigation well if 300 gpm is pumped from the two well closer to the domestic well and 100 gpm per well is pumped from the two wells closer to the nearest irrigation well as shown in the figure to the right.

If the requested rate and quantity could be pumped from 50,195 during a season when none of the other 6 irrigation wells were pumping, simulated drawdown at the nearest domestic well would be 101 feet which is 92% of the effective saturated thickness of 110 feet. Drawdown at the nearest irrigation well 49,331 south would be the same but the percent of drawdown relative to the saturated thickness is 80% due to the saturated thickness being 126 feet.

Table 3 summarizes the drawdowns at six locations by simulating pumping 50,195 at 800 gpm for 208 acre-feet as proposed in the application and by pumping 400 gpm for 125 acre-feet as GWA discussed. The drawdown locations at 660 feet, 1,320 feet, and 2,640 feet are perpendicular to the geo-center of the horizontal battery of wells proposed in the application. The distances for the Dennis Burt domestic well, 49,331 south well, and 49,331 north well are from the best information found for the actual location of the present wells.

Name for row of drawdown data	Distance from 50,195 geo-center	DWR as proposed 800 gpm 208 ac-ft drawdown	Percent drawdown of saturated thickness	GWA assumed 400 gpm 125 ac-ft drawdown	Percent drawdown of saturated thickness
perpendicular	660 ft	135 ft		68 ft	
perpendicular	1,320 ft	111 ft		57 ft	
perpendicular	2,640 ft	87 ft		45 ft	
Dennis Burt	1,829 ft	101 ft	92 %	52 ft	47 %
49,331 south	1,836 ft	101 ft	80 %	52 ft	41 %
49,331 north	2,270 ft	93 ft	129 %	48 ft	66 %

Table 3. Summary of drawdowns at distances from geo-center 50,195 and percent of drawdown relative to saturated thickness at drawdown location. DWR simulates pumping 800 gpm and 208 acre-feet as proposed in the application and GWA assumed 400 gpm and 125 acre-feet. Aquifer parameters used are T = 5,162 gpd/ft S = 0.0000936 as determined from AQTESLV curve matching of the drawdown data at the 49,331 north well.

Simulating pumping all 6 of the presently existing irrigation wells their tested rates and authorized quantities shows there is not enough water to pump at the proposed location 50,195. After 20 days pumping all 6 irrigation wells, drawdown at the proposed 50,195 exceeds a potentiometric head of 153 feet measured in February 2020. **Figure 10.**

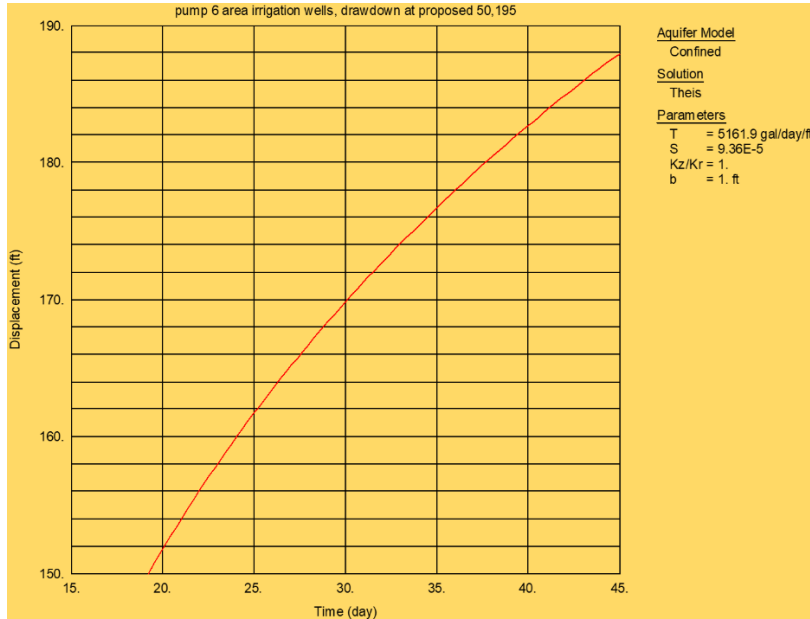


Figure 10. Simulated drawdown at the proposed location 50,195 exceeds the potentiometric head of 153 feet measured in February 2020 if all 6 existing irrigation wells pumped their tested rates and authorized quantities.

Pumping all 6 of the presently existing irrigation wells and 50,195 wells shows drawdown at the nearest domestic well would exceed the potentiometric head of 153 feet after about 15 days and exceed it by 137% by about 45 days. **Figure 11.**

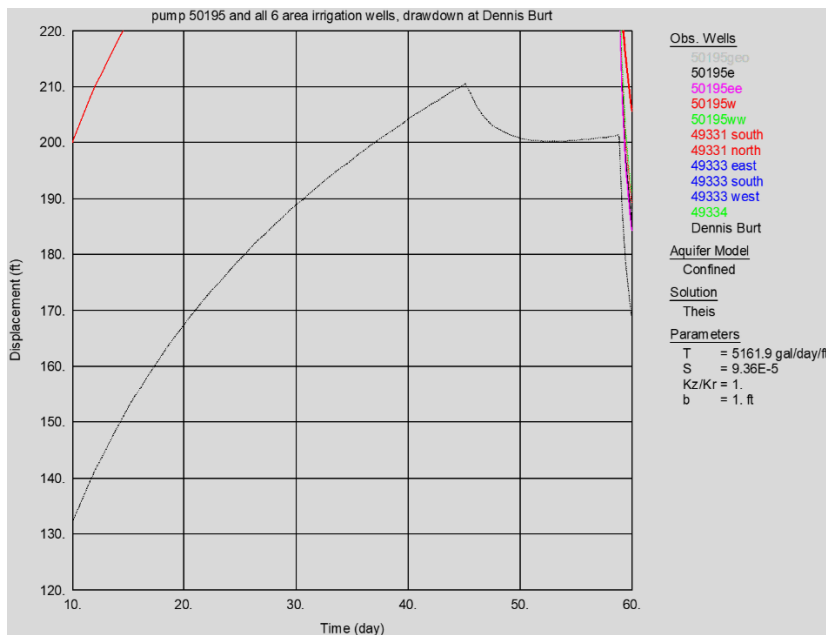


Figure 11. Drawdown at the nearest domestic well if all six existing irrigation wells could pump their authorized quantities at their tested rates and 50,195 pumped as proposed.

Conclusion

Ground Water Associates provided good 24-hour aquifer test data. While the observation well was drilled too close to the pumping well, drawdowns measured at the irrigation well 49,331 north were typical of those found at such a large distance from only pumping 101 gallons per minute. Their curve matching using AQTESLV provided good aquifer properties of transmissivity of $T = 5,162$ gpd/ft and a storage coefficient of $S = 0.0000936$ for drawdown simulations.

Drawdown simulations show that if all six existing irrigation wells pumped their authorized quantities and wells 50,195 pumped as proposed, there would not be enough water at the nearest domestic well to pump.

Simulations show if none of the six existing irrigation wells pump and wells 50,195 pump as proposed, drawdown at the nearest domestic well would be 92% of the assumed saturated thickness and drawdown at the nearest irrigation well 49,331 south would be 80% of the saturated thickness there and that would exceed the available drawdown so it could not pump.

While annual water level measurements do not show any declining trend, reported water use averages only 24% of the total quantity approved.

Schemm, Doug [KDA]

From: Munson, John [KDA]
Sent: Tuesday, August 4, 2020 3:39 PM
To: Schemm, Doug [KDA]
Cc: Stewart, Kelly [KDA]; Billinger, Mark [KDA]; Pugh, Ginger [KDA]
Subject: Technical review of 50,195 Judith Reedy Cloud County Dakota
Attachments: 50195 technical review 072920.pdf

Hi Doug,

Thanks for letting me review 50,195 and the aquifer test data from the Dakota aquifer.

Attached is the technical report and below is a brief summary from the report.

John

Summary

- **A well log is not available for the nearest domestic well owned by Dennis Burt. Measurements during the pumping test for 50,195 did not show any drawdown but the well is apparently not drilled deep enough at the present time for well interference to occur. Simulations of pumping assume the domestic well is drilled or may be drilled as deep as the test well 50,195 in the future and the effective saturated thickness and potentiometric head is the same as 50,195. Pumping four wells at 200 gpm per well as proposed would cause drawdown at the nearest domestic well to be 92% of the saturated thickness assumed to be 110 feet.**
- **Simulated pumping 50,195 shows drawdown at the nearest irrigation well 49,331 south would be the same as drawdown at the nearest domestic well because the distances from 50,195 are essentially the same. The saturated thickness at the nearest irrigation well is 127 feet so drawdown would be 80% of the saturated thickness.**
- **Without considering any existing irrigation wells pumping, an available drawdown of 63 feet at the nearest irrigation well 49,331 south is exceeded after the first week of pumping 50,195 as proposed.**
- **Pumping all six existing irrigation wells along with the 50,195 would leave no available saturated thickness at the nearest domestic well.**
- **Pumping only three of the 50,195 wells at 200 gpm each for a total of 600 gpm would cause drawdown at the fourth well location so the fourth well could not pump 200 gpm as proposed.**

THE STATE OF KANSAS



KANSAS DEPARTMENT OF AGRICULTURE
Mike Beam, Secretary of Agriculture

DIVISION OF WATER RESOURCES
Earl D. Lewis Jr., Chief Engineer

FINDINGS AND ORDER IN THE MATTER OF THE DISMISSAL OF APPLICATION FILE NO. 50,195

After due consideration, the Chief Engineer, Division of Water Resources, Kansas Department of Agriculture (hereinafter referred to as the "Chief Engineer"), makes the following findings and order:

FINDINGS

1. That on January 10, 2019, the Chief Engineer received an application from Judith Reedy Trust for a permit to appropriate water for beneficial use, assigned File No. 50,195, requesting the appropriation of 208 acre-feet of groundwater for irrigation use. The application proposed a battery of wells with a geographic center located in the Southwest Quarter of the Southwest Quarter of the Southwest Quarter (SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$) of Section 3, more particularly described as being near a point 137 feet North and 4,688 feet West of the Southeast corner of said section, in Township 6 South, Range 4 West, Cloud County, Kansas.
2. That the source of water for the pending application was determined to be the unconfined Dakota aquifer system, based on a review of area well logs. Per K.A.R. 5-4-4, for this source of supply, the minimum spacing distance to all non-domestic wells in this same aquifer is one-half (1/2) mile.
3. That the proposed geographic center of the battery of wells is located less than this required spacing distance from a nearby irrigation well, authorized under Water Right, File No. 49,331, also known to be sourcing the unconfined Dakota aquifer system.
4. That on January 30, 2019, a letter was mailed to the applicant stating that the application did not comply with minimum well spacing criteria, as required by K.A.R. 5-4-4, and that the application would be submitted to the Chief Engineer with a recommendation that the pending application be denied and dismissed. The applicant was initially provided 15 days, until February 14, 2019 to either submit additional information to our office or request additional time, prior to final action on the application.
5. That the applicant subsequently requested, and was granted, an extension of time to conduct site analysis and complete a hydrologic report to show that spacing could be decreased without impairing existing water rights.
6. That Ground Water Associates, Inc. conducted a 24-hour pump test and provided the results in a report, which included drawdowns and recovery at a nearby monitor well and the irrigation well discussed above.
7. That Division of Water Resources Technical Services staff reviewed the report submitted by the applicant and determined that drawdown at the nearest irrigation well (File No. 49,331) would be 80% of the saturated thickness. In addition, drawdown at a nearby domestic well would be 92% of the saturated thickness.

1320 Research Park Drive
Manhattan, KS 66502
785-564-6700
www.agriculture.ks.gov



900 SW Jackson, Room 456
Topeka, KS 66612
785-296-3556

Mike Beam, Secretary

Laura Kelly, Governor

May 6, 2021

JUDITH REEDY TRUST
1907 N 200TH RD
CONCORDIA KS 66901

RE: Application, File No. 50,195

Dear Sir or Madam:

Enclosed is the Findings and Order by the Chief Engineer, Division of Water Resources, Kansas Department of Agriculture, dismissing Application, File No. 50,195 for failure to meet minimum well spacing criteria for the unconfined Dakota aquifer system per K.A.R. 5-4-4.

This Order shall become a final agency action, as defined by K.S.A. 77-607(b), without further notice to the parties, if a request for hearing or a petition for administrative review is not filed as set forth below.

Request for Hearing. According to K.A.R. 5-14-3(c), any party who desires a hearing must submit a request within 15 days after the date shown on the Certificate of Service attached to this Order. Filing a request for a hearing will give you the opportunity to submit additional facts for consideration, contest any findings made by the Chief Engineer, or present any other information you believe should be considered in this matter. A timely-filed request for hearing will stay the deadline for requesting administrative review of this Order pending the outcome of the hearing.

Petition for Review. The applicant, if aggrieved by this Order, may petition for administrative review, pursuant to K.S.A. 82a-71 1(c) and K.S.A. 82a-1 90 1(a). The petition must be filed within 30 days after the date shown on the Certificate of Service attached to this Order and must set forth the basis for the review, unless stayed by the timely filing of a request for hearing. Any request for hearing or petition for administrative review shall be in writing and shall be submitted to the attention of: Chief Legal Counsel, Kansas Department of Agriculture, 1320 Research Park Drive, Manhattan, Kansas 66502, Fax: (785) 564-6777.

If you have any questions, please contact our office. If you wish to discuss a specific file, please have the file number ready so that we may help you more efficiently.

Sincerely,

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

Kristen A. Baum
New Application Unit Supervisor
Division of Water Resources

KAB:dws:li
Enclosure(s)

pc: Stockton Field Office
Leonard F Reedy Trust

This Order shall become a final agency action, as defined by K.S.A. 77-607(b), without further notice to the parties, if a request for hearing or a petition for administrative review is not filed as set forth below.

Request for Hearing. According to K.A.R. 5-14-3(c), any party who desires a hearing must submit a request within 15 days after the date shown on the Certificate of Service attached to this Order. Filing a request for a hearing will give you the opportunity to submit additional facts for consideration, contest any findings made by the Chief Engineer, or present any other information you believe should be considered in this matter. A timely-filed request for hearing will stay the deadline for requesting administrative review of this Order pending the outcome of the hearing.

Petition for Review. The applicant, if aggrieved by this Order, may petition for administrative review, pursuant to K.S.A. 82a-711(c) and K.S.A. 82a-1901(a). The petition must be filed within 30 days after the date shown on the Certificate of Service attached to this Order and must set forth the basis for the review, unless stayed by the timely filing of a request for hearing.

Any request for hearing or petition for administrative review shall be in writing and shall be submitted to the attention of: Chief Legal Counsel, Kansas Department of Agriculture, 1320 Research Park Drive, Manhattan, Kansas 66502, Fax: (785) 564-6777.

CERTIFICATE OF SERVICE

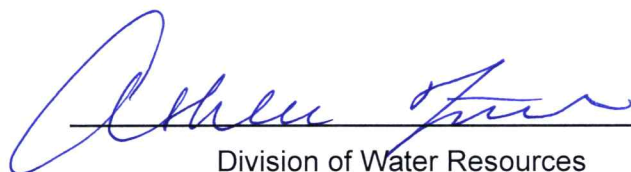
On this 6 day of May, 2021, I hereby certify that the foregoing Dismissal of Application, File No. 50,195, dated 28 April, 2021, was mailed postage prepaid, first class, US mail to the following:

JUDITH REEDY TRUST
1907 N 200TH RD
CONCORDIA, KS 66901

With photocopies mailed postage prepaid, first class, US mail, to the following:

LEONARD F REEDY TRUST
1907 N 200TH RD
CONCORDIA, KS 66901

Stockton Field Office



Division of Water Resources