Kansas Department of Agriculture
Division of Water Resources
CHANGE: P/D WORKSHEET

1. File Number:	2. Status Change Date:	3. Change Num:	4. Field Office:	5. GMD:
18800		**C1**	**4**	**3**

6. Status: ☒ Approved ☐ Denied by DWR/GMD ☐ Dismiss by Request/Failure to Return

7. Filing Date of Change: **11/3/2022**

8a. Applicant(s) — Person ID **25232** — New to system ☐ — Add Seq# _____

DONALD R & ELIZABETH A KNOLL
2174 ROAD 250
DEERFIELD, KS 67838-3825

8c. Landowner(s) — Person ID **57706** — New to system ☐ — Add Seq# **02**

COLDWATER INTERESTS LP
6019 STONES THROW RD
HOUSTON, TX 77057-1445

8b. Landowner(s) — Person ID _____ — New to system ☐ — Add Seq# _____

8a

8d. WUC — Person ID _____ — New to system ☐ — Add Seq# _____

8a

9. Documents and Enclosure(s): ☒ DWR Meter(s) Date to Comply: **12/31/2023** ☒ N & P Date to Comply: **3/1/2024**

☐ Anti-Reverse Meter ☐ Meter Seal ☒ Check Valve ☒ N & P Form ☒ Water Tube ☐ Driller Copy ☒ H & E Letter

☐ Conservation Plan Date Required: _____ Date Approved: _____ Date to Comply: _____

10. Use Made of Water From: _____ To: _____

Date Prepared: **1/25/2023** By: **AM**

Date Entered: By:

File No. **18800**	11. County: **FI**	Basin: **ARKANSAS RIVER**	Stream:	Formation Code: **211**	Special Use:

12. Points of Diversion

CHK MOD DEL ENT	PDIV	Qualifier	S	T	R	ID	'N	'W	Comment (AKA Line)	Rate and Quantity Authorized Rate gpm	Authorized Quantity af	Additional Rate gpm	Additional Quantity af	Overlap PD Files
CHK	**27959**	**SW SW NE**	**4**	**23S**	**34W**	**3**	**3300**	**2260**		**1335**	**800**	**0**	**92**	**2888; 16256**
DEL	**5091**													
ENT		**SW SW NW**	**4**	**23S**	**34W**		**2880**	**4725**		**500**	**351**	**500**	**92**	**NONE**
										SEE COMMENTS				

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

14. Limitation: **800** af/yr at _____ gpm (_____ cfs) when combined with file number(s) **#2,888 & 16,256 (NO CHANGE)**

Limitation: _____ af/yr at **1335** gpm (_____ cfs) when combined with file number(s) **#2,888 & 16,256 ON ID 03 (NO CHANGE)**

15. 5YR Allocation: Allocation Type _____ Start Year _____ 5 YR Amount _____ Amount Unit _____ Base Acres _____ Comment _____

16. Place of Use CHK MOD DEL ENT	PUSE	S	T	R	ID	NE¼ NE ¼	NE¼ NW ¼	NE¼ SW ¼	NE¼ SE ¼	NW¼ NE ¼	NW¼ NW ¼	NW¼ SW ¼	NW¼ SE ¼	SW¼ NE ¼	SW¼ NW ¼	SW¼ SW ¼	SW¼ SE ¼	SE¼ NE ¼	SE¼ NW ¼	SE¼ SW ¼	SE¼ SE ¼	Total	Owner	Chg?	Overlap Files
CHK	**29436**																						**8a**	**N**	**2888; 16256**
CHK	**52182**																						**8c**	**Y**	**2888; 16256**

Base Acres: Year: Minimum Reasonable Quantity:

Comments: **ADDITIONAL CONDITIONS INCLUDED TO REDUCE RATE & QUANITITY ON NEW WELL – ALSO UPDATE OWNERSHIP**

Garden City Field Office
4532 W. Jones, Suite B
Garden City, KS 67846

Kansas
Department of Agriculture
Division of Water Resources

Phone: 620-276-2901
Fax: 620-276-9315
www.agriculture.ks.gov

Mike Beam, Secretary

Laura Kelly, Governor

January 26, 2023

DONALD R & ELIZABETH A KNOLL
2174 ROAD 250
DEERFIELD, KS 67838-3825

RE: Filed Office Application for Change
Water Right, File No. 18800

Dear Sir or Madam:

Enclosed is the order executed by the designee of the Chief Engineer, Division of Water Resources, Kansas Department of Agriculture, approving the application for change under the above referenced file number.

Your attention is directed to the enclosures and to the terms, conditions, and limitations specified in this approval for change. A condition of this approval is that an acceptable water flow meter must be installed on the diversion works authorized under the referenced file number and meet current specifications. Please return the required notification of completion of the diversion works and installation of the required meter as soon as these actions are completed.

Since the order modifies the original document referred to above, it should be recorded with the Register of Deeds as other instruments affecting real estate.

The abandoned well must be plugged in accordance with the requirements of Article 30 of the Rules and Regulations as adopted by the Kansas Department of Health and Environment.

Should you have any questions, please feel free contact this office. If you would prefer, you could arrange an appointment for additional assistance.

Sincerely,

Austin J. McColloch
Assistant Water Commissioner

AM:
enclosures

pc:
Coldwater Interests LP
GMD 3

CERTIFICATE OF SERVICE

On this 26th day of January, 2023, I hereby certify that the foregoing Approval of Application for Change in Point of Diversion, Water Right, File No. 18,800 dated 26th day of January, 2023 was mailed postage prepaid, first class, US mail to the following:

DONALD R & ELIZABETH A KNOLL
2174 ROAD 250
DEERFIELD, KS 67838-3825

Pc:

COLDWATER INTERESTS LP
6019 STONES THROW RD
HOUSTON, TX 77057-1445

GMD 3

Aaron Halsted
Division of Water Resources Staff

Submit completed application to:
Kansas Department of Agriculture
Division of Water Resources
Field Office for your area.
Call for address:
Topeka -- (785) 296-5733
Stafford -- (620) 234-5311
Stockton -- (785) 425-6787
Garden City -- (620) 276-2901
http://agriculture.ks.gov/dwr

DWR FIELD OFFICE APPLICATION FOR APPROVAL TO CHANGE THE PLACE OF USE AND/OR THE POINT OF DIVERSION

STATE OF KANSAS

Filing Fee Must Accompany the Application, K.S.A. 82a-708b(b), as amended.
Fee Schedule is on the third page of this application form.

Paragraph Nos. 1, 2, 3 & 5 must be completed. Complete all other applicable portions. If change in point of diversion is greater than 100 feet, or if place of use will be changed, include a topographic map or detailed plat showing the authorized and proposed point(s) of diversion and/or place of use.

RECEIVED
3:35 pm
NOV 3 2022
Garden City Field Office
Division of Water Resources

File No. 18800

1. Application is hereby made for approval of the Chief Engineer to change the (check one or both):
☐ Place of Use ☒ Point of Diversion
under the water right which is the subject of this application in accordance with the conditions described below.
The source of supply is: ☒ Groundwater ☐ Surface water

2. Name and address of Applicant: DONALD R & ELIZABETH A KNOLL
2174 ROAD 250 DEERFIELD KS 67838 - 3825
Phone Number: (620) 272-1380 Email address:
Name and address of Water Use Correspondent: SAME AS ABOVE
Phone Number: ( ) Email address:

3. The presently authorized place of use is:
Owner of Land ---- NAME: SAME AS ABOVE
ADDRESS:
(If there is more than one landowner, attach supplemental sheets as necessary.)

Sec. / Twp. / Range	NE¼				NW¼				SW¼				SE¼				TOTAL ACRES
	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	

4. If this application is for a change in place of use, it is proposed that the place of use be changed to:
Owner of Land ---- NAME:
ADDRESS:
(If there is more than one landowner, attach supplemental sheets as necessary.)

Sec. / Twp. / Range	NE¼				NW¼				SW¼				SE¼				TOTAL ACRES
	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	

For Office Use Only: ***Code*** _____ ***Fee $*** 200.00 ***TR #*** _____ ***Receipt Date*** 11-3-22 ***Check #*** 9795

5. **Presently authorized point of diversion:**

One in the _____ Quarter of the NC Quarter of the NW Quarter
of Section 4, Township 23 South, Range 34 (W),
in FINNEY County, Kansas, 3968 feet North 3988 feet West of Southeast corner of section.
Authorized Rate 1550 GPM Authorized Quantity 800 AF Depth of well _____ (feet)
(DWR use only: Computer ID No. 02 GPS _____ feet North _____ feet West)
☐ **This point will not be changed** ☒ **This point will be changed as follows:** ☐ **No change, point better described with GPS as follows:**

Proposed point of diversion: (Complete only if change is requested or if existing point is better described by GPS)

One in the SW Quarter of the SW Quarter of the NW Quarter
of Section 4, Township 23 South, Range 34 (W),
in FINNEY County, Kansas, 2880 feet North 4725 feet West of Southeast corner of section.
Proposed Rate 500 GPM Proposed Quantity 351 AF Proposed well depth (feet) 337'.
This point is: ☐ Additional Well ☐ Geo Center List other water rights that will use this point _____.

* AM/GCFO per agreement from applicant on 1/25/23

6. **Presently authorized point of diversion:**

One in the SW Quarter of the SW Quarter of the NE Quarter
of Section 4, Township 23 South, Range 34 (W),
in FINNEY County, Kansas, 3300 feet North 2260 feet West of Southeast corner of section.
Authorized Rate No Change Authorized Quantity No Change Depth of well _____ (feet)
(DWR use only: Computer ID No. 03 GPS _____ feet North _____ feet West)
☒ **This point will not be changed** ☐ **This point will be changed as follows:** ☐ **No change, point better described with GPS as follows:**

Proposed point of diversion: (Complete only if change is requested or if existing point is better described by GPS)

One in the _____ Quarter of the _____ Quarter of the _____ Quarter
of Section _____, Township _____ South, Range _____ (W),
in _____ County, Kansas, _____ feet North _____ feet West of Southeast corner of section.
Proposed Rate _____ Proposed Quantity _____ Proposed well depth (feet) _____.
This point is: ☐ Additional Well ☐ Geo Center List other water rights that will use this point _____.

7. The changes herein are desired for the following reasons? (please be specific) LOSS OF PRODUCTION

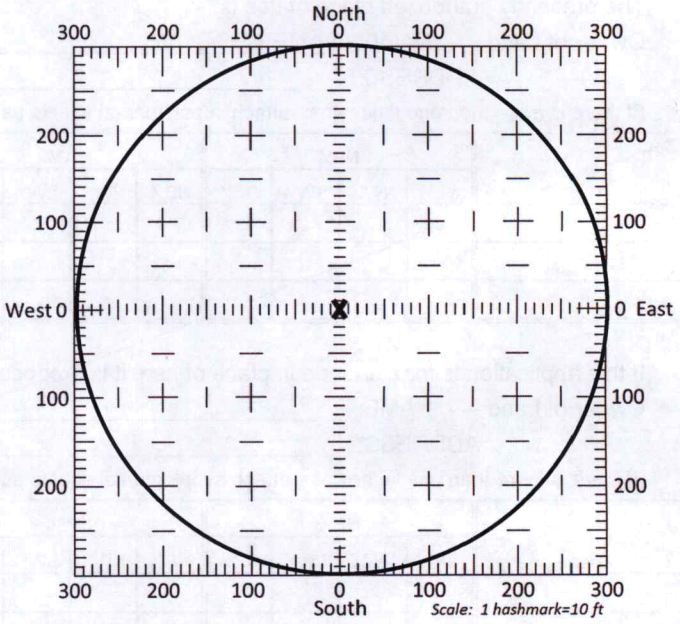
8. If a well, is the test hole log attached? ☒ Yes ☐ No

9. The change(s) (was)(will be) completed by?
UPON APPROVAL

10. If the point of diversion is a well:
(a) What are you going to do with the old well?
PLUG / CAP
(b) When will this be done? UPON COMPLETION

11. Groundwater Management District recommendation attached?
☐ Yes ☒ No

12. Assisted by AM / GCFO



13a. If the proposed point of diversion will be relocated more than 300 feet but within 2,640 feet of the existing point of diversion, attach a topographic map or aerial photograph. For groundwater sources, show all wells (including domestic) within one-half mile of the proposed point of diversion and the names and mailing addresses of the owners. For surface water sources, show the names and addresses of the landowner(s) one-half mile downstream and one-half mile upstream from your property lines

13b. If the proposed point of diversion will be relocated within a 300 foot radius of the existing point of diversion, indicate its location on the diagram shown above in relation to the existing point of diversion. The proposed point of diversion must be located within the circle shown above. **(PLEASE NOTE: The "X" in center of diagram above represents the presently authorized point of diversion.)**

14. If the proposed groundwater point of diversion is 300 or fewer feet from the existing point of diversion, complete the following:

(a) Does the undersigned represent all owners of the currently authorized place(s) of use identified in this application?
☐ Yes ☐ No (If no, all owners must sign this application.)

(b) Will the ownership interest of any owner of the currently authorized place(s) of use identified in this application be adversely affected if this application is approved as requested?
☐ Yes ☐ No (If yes, all owners must sign this application.)

(c) If this application is not approved expeditiously, will there be substantial damage to property, public health or safety?
☐ Yes ☐ No (If no, all owners must sign this application.)

If the application proposes a surface water change in point of diversion, a groundwater change in point of diversion greater than 300 feet, or a change in place of use, the application must be signed by all owners of the currently authorized place of use, or their duly authorized agent (attach notarized statement authorizing representation).

I hereby verify, being first duly sworn upon my oath or affirmation and under penalty of perjury, that I am of lawful age and the owner, the spouse of the owner, or a duly authorized agent of the owner(s) to make this application on their behalf, in regards to the water right(s) to which this application pertains. I further verify that the statements contained in this application are true, correct and complete.

Dated at HOUSTON, ~~Kansas~~ TEXAS, this 10TH day of NOVEMBER, 2022.

by: _____ (Owner)

Coldwater Interests, LP (Please Print)

_____ (Spouse)

_____ (Please Print)

_____ (Owner)

_____ (Spouse)

_____ (Please Print)

_____ (Please Print)

_____ (Owner)

_____ (Spouse)

_____ (Please Print)

_____ (Please Print)

RECEIVED
NOV 28 2022
Garden City Field Office
Division of Water Resources

State of ~~Kansas~~ TEXAS)
) SS
County of HARRIS)

I hereby certify that the foregoing application was signed in my presence and sworn to before me this 10TH day of NOVEMBER, 2022.

AMERICA VARGAS
Notary Public
State of Texas
August 7,2024
Notary ID 1205986-2

_____ Notary Public

My Commission Expires 08-07-2024

ONLY COMPLETE APPLICATIONS WILL BE PROCESSED. To be complete, all of the applicable portions of the application form must be completed with accurate information; maps, if necessary, must be included; signatures of all the appropriate owners' must be affixed to the application and notarized; and the appropriate fee must be paid.

FEE SCHEDULE

Each application to change the place of use or the point of diversion under this section shall be accompanied by the application fee set forth in the schedule below: Make checks payable to: **Kansas Department of Agriculture**

(1) Application to change a point of diversion 300 feet or less $100
(2) Application to change a point of diversion more than 300 feet $200
(3) Application to change the place of use $200

14. If the proposed groundwater point of diversion is 300 or fewer feet from the existing point of diversion, complete the following:

(a) Does the undersigned represent all owners of the currently authorized place(s) of use identified in this application?
☐ Yes ☐ No (If no, all owners must sign this application.)

(b) Will the ownership interest of any owner of the currently authorized place(s) of use identified in this application be adversely affected if this application is approved as requested?
☐ Yes ☐ No (If yes, all owners must sign this application.)

(c) If this application is not approved expeditiously, will there be substantial damage to property, public health or safety?
☐ Yes ☐ No (If no, all owners must sign this application.)

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I hereby verify, being first duly sworn upon my oath or affirmation and under penalty of perjury, that I am of lawful age and the owner, the spouse of the owner, or a duly authorized agent of the owner(s) to make this application on their behalf, in regards to the water right(s) to which this application pertains. I further verify that the statements contained in this application are true, correct and complete.

Dated at Garden City, Kansas, this 3rd day of November, 20 22.

Donald R Knoll	Elizabeth Knoll
(Owner)	(Spouse)
Donald R Knoll	Elizabeth Knoll
(Please Print)	(Please Print)
(Owner)	(Spouse)
(Please Print)	(Please Print)
(Owner)	(Spouse)
(Please Print)	(Please Print)

State of Kansas)
) SS
County of Finney)

I hereby certify that the foregoing application was signed in my presence and sworn to before me this 3rd day of November, 20 22.

STATE OF KANSAS NOTARY PUBLIC
JULIE JONES
My Appointment Expires
December 15, 2022

Julie Jones
Notary Public

My Commission Expires

ONLY COMPLETE APPLICATIONS WILL BE PROCESSED. To be complete, all of the applicable portions of the application form must be completed with accurate information; maps, if necessary, must be included; signatures of all the appropriate owners' must be affixed to the application and notarized; and the appropriate fee must be paid.

FEE SCHEDULE

Each application to change the place of use or the point of diversion under this section shall be accompanied by the application fee set forth in the schedule below: Make checks payable to: **Kansas Department of Agriculture**

(1) Application to change a point of diversion 300 feet or less $100
(2) Application to change a point of diversion more than 300 feet $200
(3) Application to change the place of use $200

SUMMARY ORDER APPROVING APPLICATION FOR CHANGE AND IMPOSING CONDITIONS

This Summary Order is issued under authority of K.S.A. 82a-708b, as amended, and K.A.R. 5-5-1, *et seq.* and other applicable provisions of the *Kansas Water Appropriation Law, K.S.A. 82a-701 et. seq.,* and rules and regulations promulgated thereunder, With the exception of those conditions expressly contained herein, this Summary Order does not change the terms, conditions and limitations of File No. 18800.

1. A change application was received on November 3, 2022 requesting that the place of use and / or point of diversion authorized under the above-referenced file number be changed as described in the application.
2. On and after the effective date of this summary order, the authorized place(s) of use shall be located substantially as shown on the topographic map accompanying the application to change the place of use. ☐ Applicable ☒ Not Applicable
3. The change in point of diversion shall not impair existing rights and shall be limited to the same source or sources of water as previously authorized. The point of diversion authorized by this summary order shall be located within a 300 **foot** radius of the authorized point(s) of diversion. ☒ Applicable ☐ Not Applicable
4. The point(s) of diversion described herein is administratively corrected to be more accurately described using the Global Positioning System (GPS), as described in the application. ☐ Applicable ☒ Not Applicable
5. The point(s) of diversion authorized herein shall not actually be located more than 2640 feet from the previously authorized point(s) of diversion. ☒ Applicable ☐ Not Applicable
6. As required by K.A.R. 5-3-5d, if the works for diversion is a well with a diversion rate of 100 gallons per minute or more, a tube or other device suitable for making water level measurements shall be installed, operated and maintained in accordance with K.A.R. 5-6-13. ☒ Applicable ☐ Not Applicable
7. **The owner of the authorized place(s) of use shall properly install an acceptable water flow meter on or before December 31, 20**23**,** or before the first use of water, whichever occurs first. The water flow meter shall be installed, operated and maintained in accordance with K.A.R. 5-1-4 through 5-1-12. As required by K.S.A. 82a-732, as amended, and K.A.R. 5-3-5e, the owner shall maintain records and report the reading of the water flow meter and the total quantity of water diverted annually to the Chief Engineer by March 1 following the end of each calendar year.
   ☒ Applicable ☐ Not Applicable
8. **Installation of the works for diversion of water shall be completed on or before December 31, 20**23, or within any authorized extension of time. By March 1, 2024 the applicant shall notify the Chief Engineer that construction of the works for diversion has been completed, on the form provided by the Chief Engineer, as required by K.A.R. 5-8-4e.
   ☒ Applicable ☐ Not Applicable
9. **The completed well log shall be submitted with the required notice.** ☒ Applicable ☐ Not Applicable
10. All diversion works into which any type of chemical or other foreign substance will be injected into the water shall be equipped with an in-line, automatic, quick-closing check valve capable of preventing pollution of the source of the water supply. The check valve(s) shall be installed, operated and maintained in accordance with K.A.R. 5-3-5c. ☒ Applicable ☐ Not Applicable
11. Additional Conditions are attached. ☒ Yes ☐ No
12. In accordance with K.S.A. 82a-708a, as amended, and K.A.R. 5-5-14, all of the owners of the authorized place(s) of use of water appropriated under the above-referenced file number are responsible for compliance with its terms, conditions and limitations, as amended and/or supplemented by this Summary Order, and with applicable provisions of the *Kansas Water Appropriation Law* and the *Rules and Regulations* promulgated thereunder. Failure to comply with these provisions may result in civil penalties pursuant to K.S.A. 82a-737, as amended, and/or the suspension or revocation and dismissal of the water or appropriation right or any other enforcement actions authorized by law.

Administrative Appeal and Effective Date of Order

If you are aggrieved by this order, pursuant to K.S.A. 82a-1901, you may request an evidentiary hearing before the Chief Engineer or request administrative review by the Secretary of Agriculture. A request for hearing by the Chief Engineer must be filed within **15 days** of service of this Order and a request for administrative review by the Secretary must be filed within **30 days** pursuant to K.S.A. 77-531. Any request for administrative review must state a basis for review pursuant to K.S.A. 77-527. File any request with **Kansas Department of Agriculture, Legal Division, 1320 Research Park Drive, Manhattan, KS 66502**. Failure to timely request a hearing or review may preclude review under the Kansas Judicial Review Act.

For Use by Register of Deeds

FOR OFFICE USE ONLY

APPLICATION APPROVED AND SUMMARY ORDER ISSUED

By: Austin McCulloch
Duly Authorized Designee of the Chief Engineer

(Print Name): Austin McCulloch
Division of Water Resources - Kansas Department of Agriculture

Date of Issuance: January 26, 2023

State of Kansas)
) SS
County of Finney)

Acknowledged before me on January 26, 2023
by Austin McCulloch.

Signature: Julie Jones
Notary Public

My commission expires JULIE JONES My Appointment Expires December 15, 2026 (Notary Seal)

ADDITIONAL CONDITIONS TO
SUMMARY ORDER APPROVING APPLICATION FOR CHANGE
AND IMPOSING CONDITIONS,
Water Right, File No. 18,800

The effective date of the change shall be the date this order is executed by the Chief Engineer, after which the following condition is included as a condition of the approval of this application for change in point of diversion.

This order effectively reduces the authorized quantity not to exceed 351 acre-feet per calendar year and the authorized maximum rate of diversion not to exceed 500 gallons per minute (1.11 c.f.s.) from the specific authorized point of diversion as follows:

One well located in the Southwest Quarter of the Southwest Quarter of the Northwest Quarter (SW¼ SW¼ NW¼) of Section 4, more particularly described as being near a point 2,880 feet North and 4,725 feet West of the Southeast corner of said section, in Township 23 South, Range 34 West, Finney County.

By: Austin McCulloch
(Duly Authorized Designee of the Chief Engineer)

(Print Name): Austin McCulloch
Division of Water Resources Kansas Department of Agriculture

Dated of Issuance: January 26, 2023

State of Kansas)
) SS
County of Finney)

Acknowledged before me on the 26th day of January, 2023

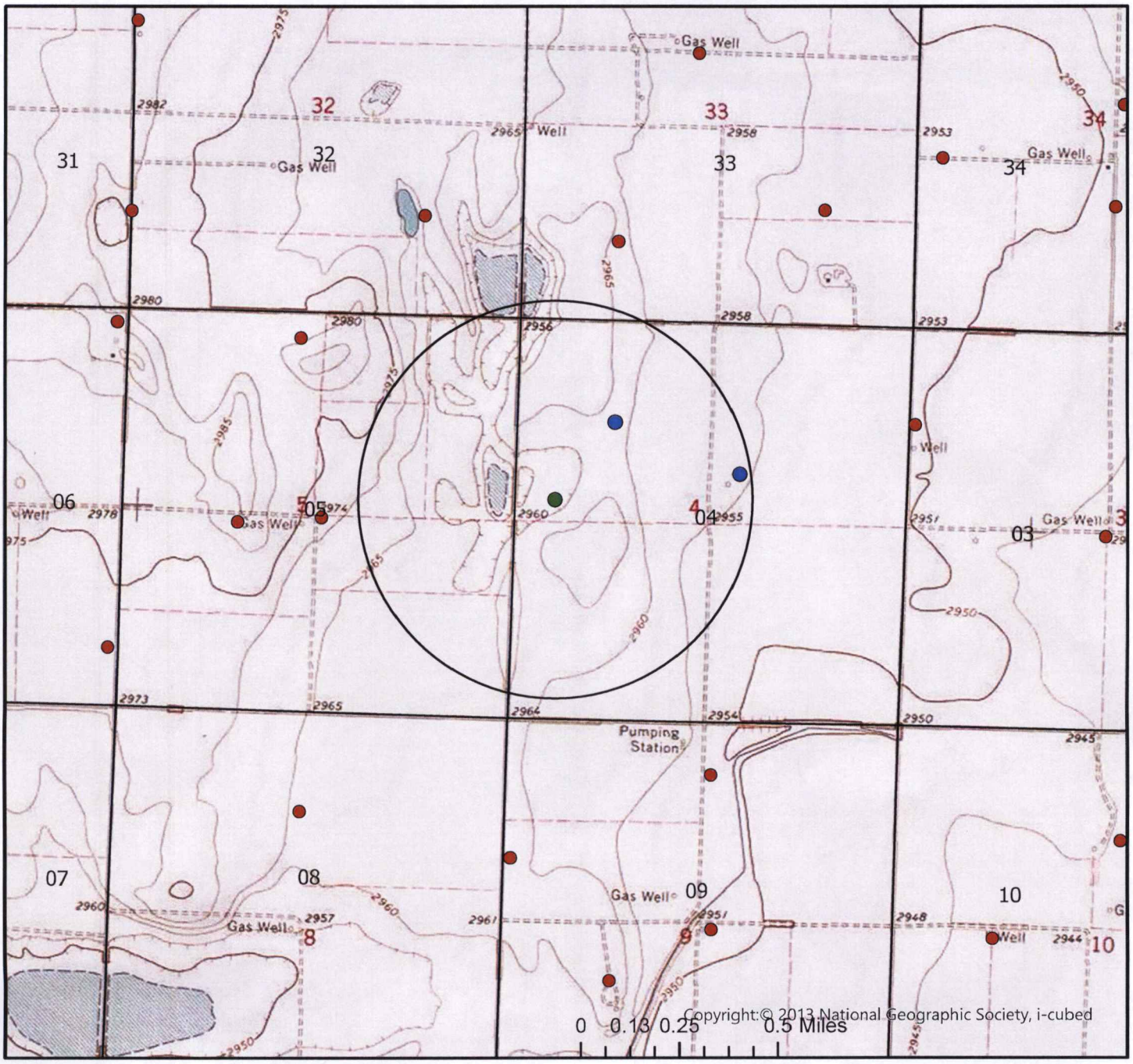
By Austin McCulloch

Signature Julie Jones
Notary Public

My Commission expires: (Notary Seal) JULIE JONES My Appointment Expires December 15, 2026

CHANGE IN POINT OF DIVERSION WATER RIGHT, FILE NO. 18800

NW1/4 of Section 4 Township 23 South Range 34 West Finney County



- Authorized Point of Diversion
- Proposed Point of Diversion
- Permitted Water Right
- Domestic Well within 1/2 mile
- 1/2 mile buffer

List of owner name and addresses within 1/2 mile:

N
W E
S

By signing below I agree that all wells, including domestic, and owners names and addresses within 1/2 mile of the proposed point of diversion have been shown on the map

Donald Kuehl 11-3-2022

(Signature) Date

Date AM/GCFO
1:24,000 Scale

McColloch, Austin [KDA]

From: Donald Knoll <donaldknoll@gmail.com>
Sent: Wednesday, January 25, 2023 10:16 AM
To: McColloch, Austin [KDA]
Subject: Re: Change App File No. 18800

EXTERNAL: This email originated from outside of the organization. Do not click any links or open any attachments unless you trust the sender and know the content is safe.

Ok I will go with 500 gpm and 351 acre ft

Sent from my iPhone

> On Jan 25, 2023, at 9:00 AM, McColloch, Austin [KDA] <Austin.McColloch@ks.gov> wrote:
>
> Don,
>
> Yes within roughly the last 3 years there have been 6 other applications that have agreed to take a reduction in order to get approved.
>
> Austin McColloch
> Ph: (620) 276-2901
>
> ---
>
> **From:** Don Knoll <donaldknoll@gmail.com>
> **Sent:** Tuesday, January 24, 2023 10:25 PM
> **To:** McColloch, Austin [KDA] <Austin.McColloch@ks.gov>
> **Subject:** Re: Change App File No. 18800
>
> *EXTERNAL*: This email originated from outside of the organization. Do not click any links or open any attachments unless you trust the sender and know the content is safe.
>
> Austin,
> Has DWR cut water rights on any other new drilling applications within a 4 mile radius of 4-23-34 in the last 3 years.
> Thanks
>
> > On Jan 24, 2023, at 10:31 AM, McColloch, Austin [KDA] <Austin.McColloch@ks.gov> wrote:

Don,

Just reminding you to respond to this email in order for me to approve the application.

Thanks,

Austin J. McColloch
Assistant Water Commissioner
Kansas Department of Agriculture- DWR
Garden City Field Office
http://agriculture.ks.gov/
Ph: (620) 276-2901

From: McColloch, Austin [KDA]
Sent: Friday, January 20, 2023 10:38 AM
To: donaldknoll@gmail.com
Cc: Meyer, Mike [KDA] <Mike.Meyer@ks.gov>
Subject: Change App File No. 18800

Don,

Thanks for returning my call this morning. Per our conversation below are the numbers that will allow the redrill to stay under out 20% difference in allowable drawdown to the neighboring wells. We discussed holding the well to 500 gallons per minute, but I wanted to provide the numbers for other proposed gpm that we talked about on the phone just for your information. Let me know if you agree to the reductions to hold the well at 500 gpm by responding to this email. Thanks,

At 500 gpm allowable quantity would be 351 AF
At 550 gpm allowable quantity would be 298 AF
At 600 gpm allowable quantity would be 254 AF

Austin J. McColloch
Assistant Water Commissioner
Kansas Department of Agriculture- DWR
Garden City Field Office
http://agriculture.ks.gov/
Ph: (620) 276-2901

* Am/GCFO

Well (WWC5 KGS #)	Transmissivity	Latitude	Longitude	Litho Sat. Thickness	Storativity	Ogallala Bedrock El.	Future Sat. Thick
304763	2098.950734			21	0.00021	2677	21.24285714
338982	2294.401648			24	0.00024	2662	36.24285714
17525	1511.280955			51	0.00051	2647	51.24285714
17885	4491.500764			40	0.0004	2658	40.24285714
17489	1286.00152			10	0.0001	2655	43.24285714
17884	1990.700212			19	0.00019	2679	19.24285714
414763	396.000824			44	0.00044	2654	44.24285714
17895	2744.641192			35	0.00035	2663	35.24285714
488967	852.001372			65	0.00065	2633	65.24285714
17893	7199.20064			65	0.00065	2633	65.24285714
Average:	2486.467986				0.000374		42.14285714

GMD3 Model AVG ST	GMD3 Model SS	GMD3 Model AVG Bot_El	GMD3 Model Future Water Surface El.	AVG Transmissivity	Storativity
43.52857143	0.000435286	2654.714286	2698.242857	2486.467986	0.000421429

Nearby Point WR_NUM	Nearby Point PDIV_ID	Latitude	Longitude	GMD3 Model ST	GMD3 Model SS	Old Distance (ft)	New Distance (ft)
2888	27959					1816.4	2505.28
9599	30009					4148.92	3153.96
Domestic Well	TRS: 23S34W09					4421.23	3696.14

AVG Transmissivity	Old (AVG) Quant	AUTH Quant	Old Rate	AUTH Rate
2486.467986	147.6666667	351	450	500

^from Wris 2019 WUR^

WR_NUM	Old Drawdown	New Drawdown	Net Drawdown
2888	18.23503837	23.5163514	5.281313032
9599	13.67555206	22.09999024	8.424438178
Domestic Well	13.32651864	21.12497265	7.798454002

WR_NUM	old % of Sat. Thickness	new % of Sat. Thickness	Difference (%)	Allowable Drawdown	Allowable Rate (gpm)
2888	43.26958257	55.8015118	12.53192923	26.6636098	353.982
9599	32.45046252	52.44065481	19.99019229	22.10412349	265.0405
Domestic Well	31.62224763	50.12705374	18.50480611	21.75509007	269.3723

S. Thurlow
1/25/2023

Theis evaluation of proposed change in point of diversion, File No. 18800

A 50-year Theis analysis was used to evaluate the potential increase in dynamic drawdown as a result of the proposed change in point of diversion for one well authorized by File No. 18800. The change proposes reallocating the well approximately 737 feet West and 1088 feet South of the currently authorized location (Figure 1).

The GMD No. 3 groundwater model was used for a projected future (2068) saturated thickness (42.1 ft). The average of model cells located within Township 22 South, Range 34 West, Sections 32, 33, and Township 23 South, Range 34 West, Sections 3-5, 8, and 9 was used.

The transmissivity was estimated based on lithological logs from the Kansas Geological Survey's Water Well Completion Records Database (WWC5). WWC5 records within 1 mile of the proposed point of diversion were used. Records that were within that area, but did not include lithological data, were not drilled to bed rock, or had poor lithological descriptions were excluded. Hydraulic conductivity assumptions were based on the calibrated values used for the GMD No. 3 groundwater model (Figures 2 and 3). In all, ten lithological logs were evaluated (Figure 4-6, Tables 1-10), with an average transmissivity of 2,486 square feet per day. An assumed specific storage of 1×10^{-5} and the projected saturated thickness was used to determine the assumed storativity of 0.00042.

Drawdown was evaluated at 2 nearby existing wells authorized by File Nos. 2888 and 9599 and 1 domestic well (KGS# 17896) located within Township 23 South, Range 34 West, Section 9 (Tables 11-14). A quantity of 800 acre-feet (AF) at a rate of 1550 gallons per minute (gpm) was compared to the average historic use (147.7 AF, 2012-2021) at the most recent pumping rate (450 gpm). The maximum net drawdown occurred at the point of diversion authorized by File No. 9599. The net drawdown at that distance was 47.5 feet, or 112.7% of the projected future saturated thickness (Table 13). If the proposed quantity remains constant, the proposed rate can be limited to 265 gpm in order to limit the increase in drawdown to 8.4 ft, or 20.0% of the projected saturated thickness (Table 14).

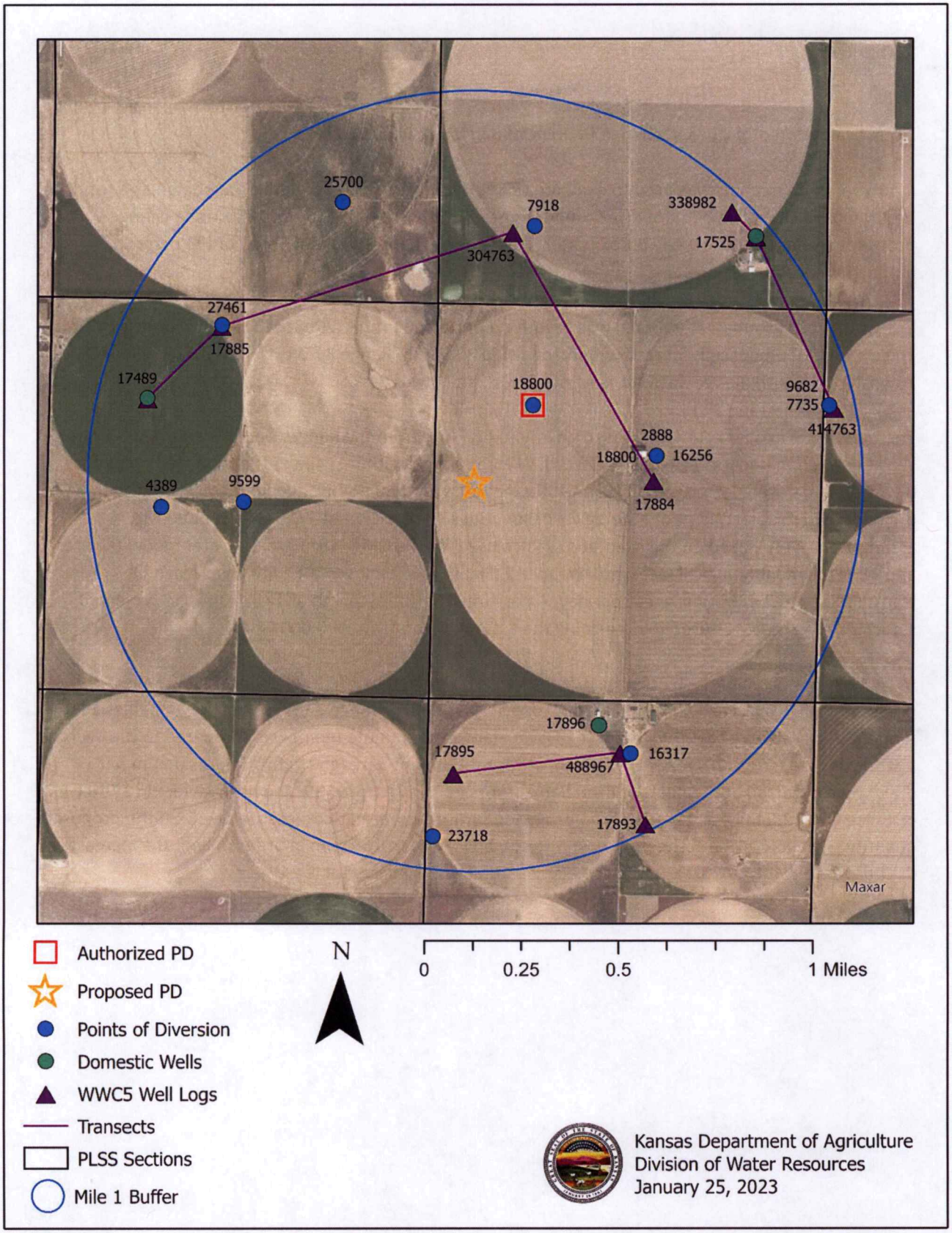


Figure 1: Location of current and proposed point of diversion, surrounding points of diversion, and WWC5 records

Table 1. PST+ synonymy codes and lithology descriptions.

Synonymy	Lithology	Synonymy	Lithology	Synonymy	Lithology
sh	Shale	sc	Sandy Clay or Silty Sand	fsnd	Fine Sand
c	Clay	fds	Fine Sandy Silt	fmgsnd	Fine to Medium Sand
coal	Coal	fmds	Fine to Medium Sandy Silt	fmsnd	Fine to Medium Sand
br	Bedrock	fcrsds	Fine to Coarse Sandy Silt	snd	Sand
rb	Red Bed	ds	Sandy Silt	fcrssnd	Fine to Coarse Sand
r	Rock	mds	Medium Sandy Silt	msnd	Medium Sand
sst	Siltstone	gc	Gravelly Clay	mcrssnd	Medium to Coarse Sand
ca	Limestone/caliche	mcrsds	Medium to Coarse Sandy Silt	cg	Clayey Gravel
o	Overburden	crsds	Coarse Sandy Silt	crssnd	Coarse Sand
ts	Topsoil	cesd-cg	Cemented Sand and/or Gravel	sg	Silty Gravel
fs	Fine Silt	fss	Fine Silty Sand	fsdg	Fine Sand and Gravel
fsc	Fine Sandy Clay	fmss	Fine to Medium Silty Sand	fmsdg	Fine to Medium Sand and Gravel
fmsc	Fine to Medium Sandy Clay	ss	Silty Sand	msdg	Medium Sand and Gravel
m	Marl or Ochre	mss	Medium Silty Sand	sdg	Sand and Gravel
msc	Medium Sandy Clay	fcrsss	Fine to Coarse Silty Sand	fcrssdg	Fine to Coarse Sand and Gravel
s	Silt	mcrsss	Medium to Coarse Silty Sand	mcrssdg	Medium to Coarse Sand and Gravel
crssc	Coarse Sandy Clay	crsss	Coarse Silty Sand	crssdg	Coarse Sand and Gravel
fcrssc	Fine to Coarse Sandy Clay	u	Unknown (most likely unintelligible)	fg	Fine Gravel
mcrssc	Medium to Coarse Sandy Clay			fmg	Fine to Medium Gravel
				fcrsg	Fine to Coarse Gravel
				fcrssg	Fine to Coarse Gravel
				g	Gravel
				mg	Medium Gravel
				mcrsg	Medium to Coarse Gravel
				crsg	Coarse Gravel

Figure 2: Synonymy codes and lithology descriptions. Source: KGS OFR 2010-18

Table 6. The calibrated values for PST+ synonymy lithologies.

Synonymy	K	SY	Synonymy	K (ft/d)	Sy	Synonymy	K (ft/d)	Sy
sh	0.00004	0.05	sc	4.4	0.08	fsnd	15	0.24
c	0.00004	0.05	fds	4.4	0.08	fmgsnd	15	0.24
coal	0.00004	0.05	fmds	4.4	0.08	fmsnd	15	0.24
br	0.00004	0.05	fcrsds	4.4	0.08	snd	63	0.24
rb	0.00004	0.05	ds	4.4	0.08	fcrssnd	63	0.24
r	0.00004	0.05	mds	4.4	0.08	msnd	63	0.24
sst	0.00004	0.05	gc	4.4	0.08	mcrssnd	63	0.24
ca	0.0001	0.08	mcrsds	4.4	0.08	cg	63	0.24
o	0.0001	0.08	crsds	4.4	0.08	crssnd	63	0.29
ts	0.0001	0.08	cesd-cg	14.5	0.16	sg	63	0.29
fs	0.0001	0.08	fss	14.5	0.16	fsdg	299	0.29
fsc	0.0001	0.08	fmss	14.5	0.16	fmsdg	299	0.29
fmsc	0.0001	0.08	ss	14.5	0.16	msdg	299	0.29
m	0.0001	0.08	mss	14.5	0.16	sdg	299	0.29
msc	0.0001	0.08	fcrsss	14.5	0.16	fcrssdg	299	0.29
s	0.0001	0.08	mcrsss	14.5	0.16	mcrssdg	299	0.29
crssc	0.0001	0.08	crsss	14.5	0.16	crssdg	299	0.29
fcrssc	0.0001	0.08	u	14.5	0.16	fg	299	0.29
mcrssc	0.0001	0.08				fmg	299	0.29
						fcrsg	299	0.29
						fcrssg	299	0.29
						g	299	0.29
						mg	299	0.29
						mcrsg	299	0.29
						crsg	299	0.29

Figure 3: Calibrated hydraulic conductivity values. Source: KGS OFR 2010-18

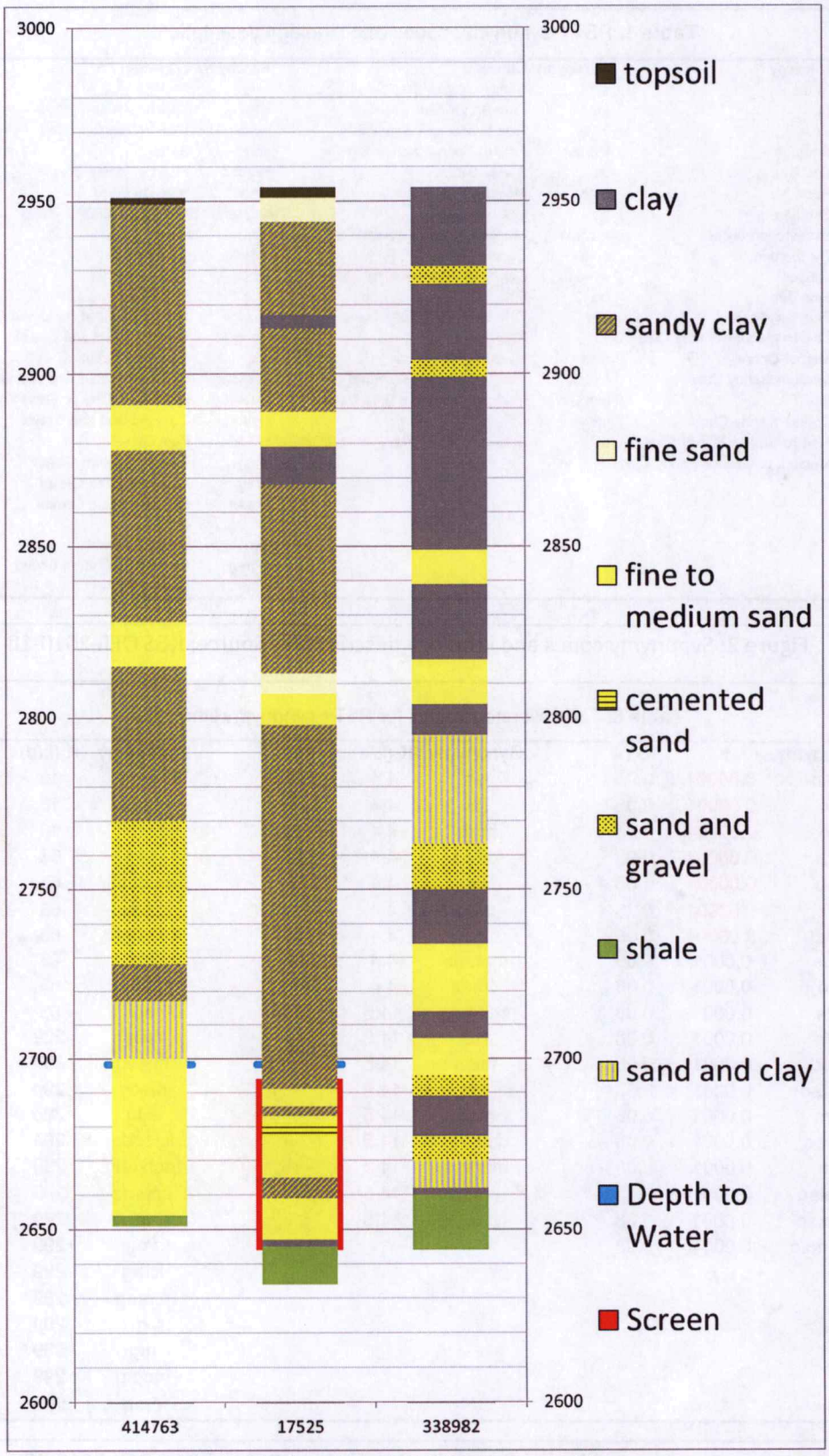


Figure 4: lithology log of KGS Wells on East transect

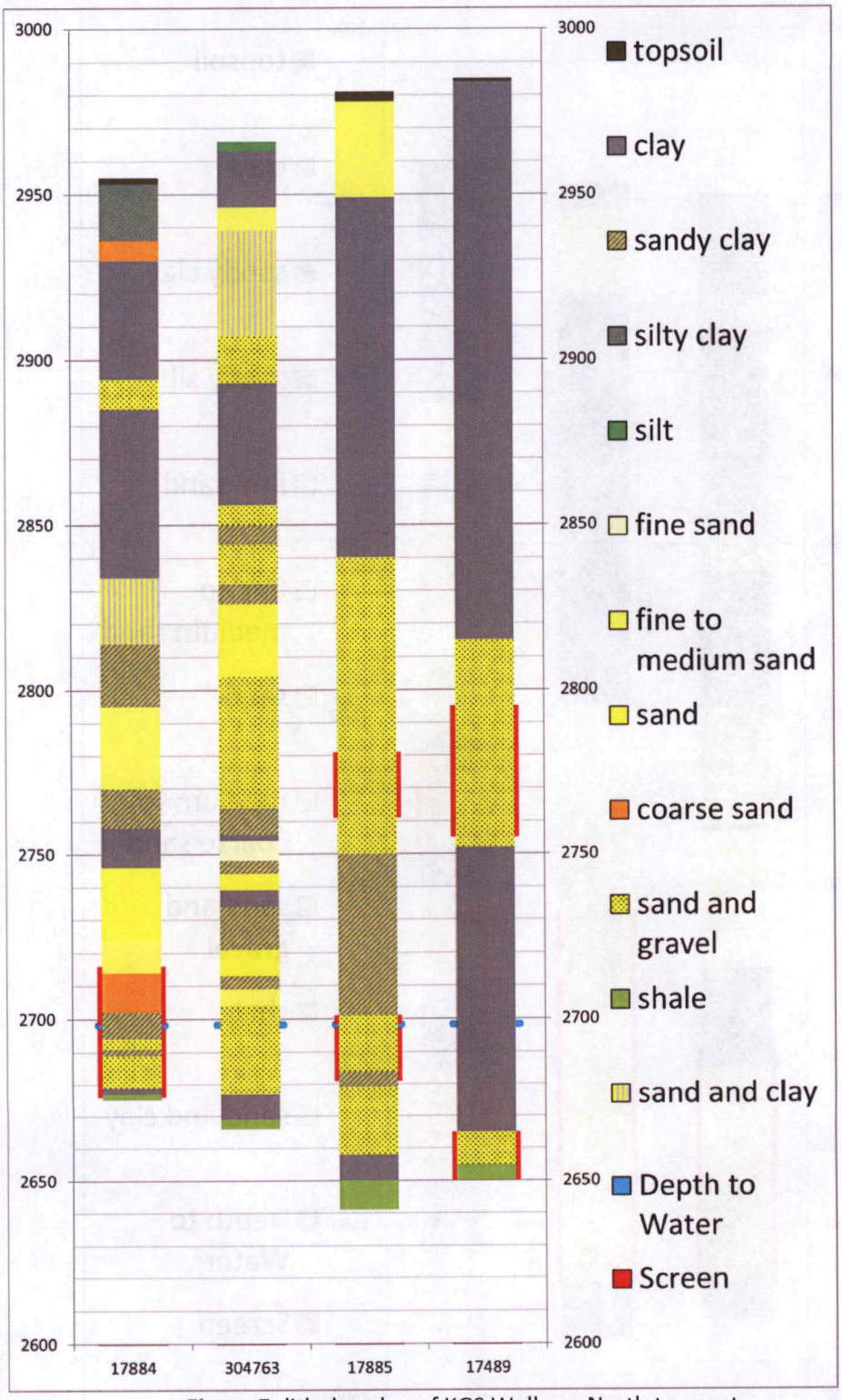


Figure 5: lithology log of KGS Wells on North transect

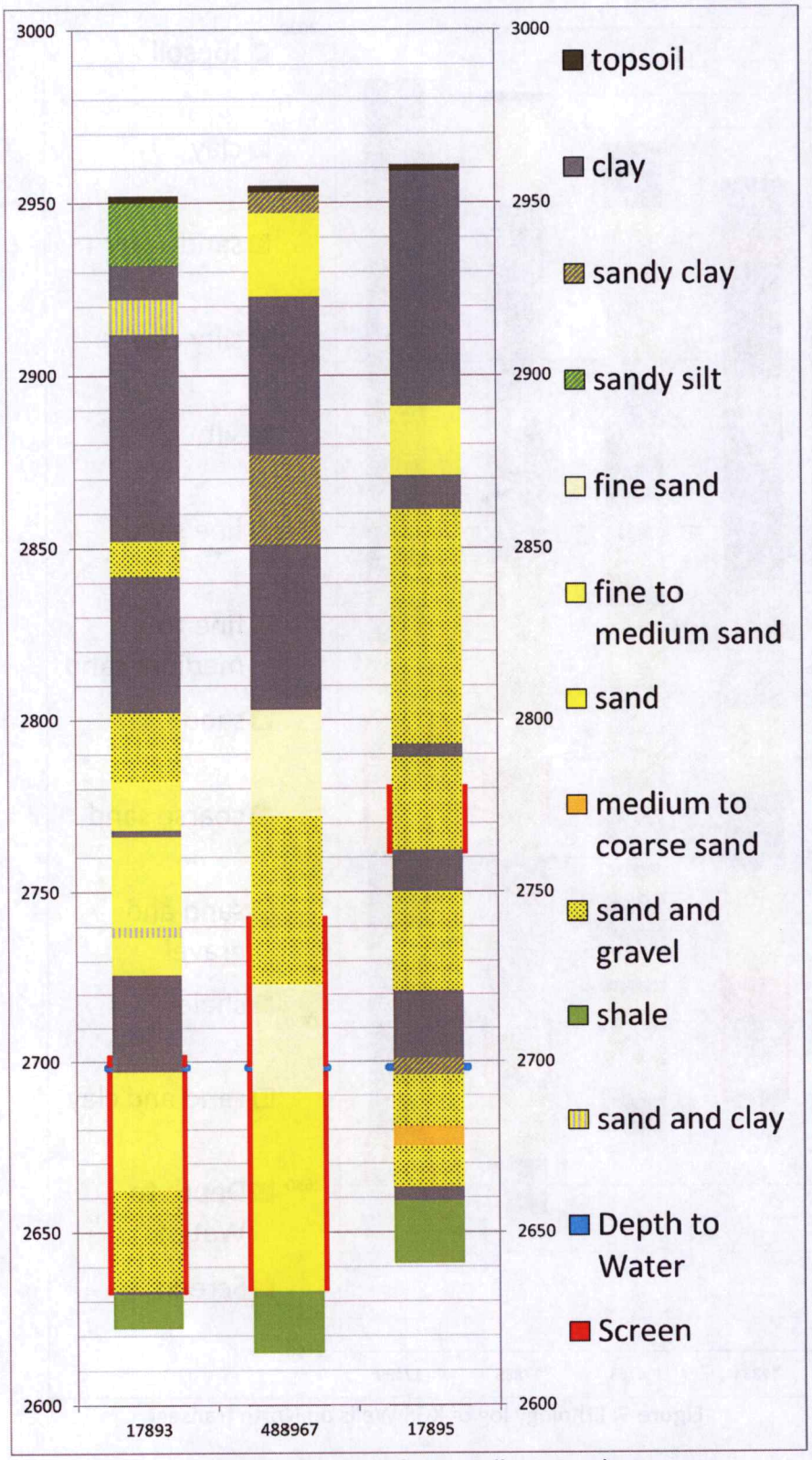


Figure 6: lithology log of KGS Wells on South transect

Table 1: Lithology, KGS Well ID 304763

Driller's Description	Synonymy Codes	Percentages	Saturated Thickness (Feet)	Transmissivity (feet²/day)
silt				
clay				
fine sand medium sand				
clay sand				
sand gravel				
clay limestone				
sand gravel				
sandy clay				
sand and shale gravel clay				
sandy clay				
sand sandy clay				
sand gravel		Above water surface		
sandy clay sand limestone rock				
clay				
fine sand limestone				
sandy clay				
sand limestone				
clay limestone				
sandy clay limestone sand				
sand limestone sandy clay				
sandy clay limestone sand				
fine sand medium sand coarse sand				
sand and gravel rock clay	snd, g, c	40, 35, 25	21	2099.0
clay	c	100	8	0.0
shale	sh	100	3	0.0
			Total Transmissivity:	2099.0

Table 2: Lithology, KGS Well ID 338982

Driller's Description	Synonymy Codes	Percentages	Saturated Thickness (Feet)	Transmissivity (feet²/day)
clay	Above water surface			
sand and gravel				
clay				
sand and gravel				
clay				
sand				
clay				
sand				
clay				
sand and clay				
sand and gravel				
clay				
sand				
clay				
sand	snd	50, 50	3	117.0
sand and gravel	snd, g	60, 40	6	944.4
clay	c	60, 40	12	0.0
sand and gravel	snd, g	50, 30, 20	7	603.4
sand and clay	snd, c	50, 30, 20	8	629.6
clay	c	100	2	0.0
shale	sh	100	16	0.0
			Total Transmissivity:	2294.4

Table 3: Lithology, KGS Well ID 17525

Driller's Description	Synonymy Codes	Percentages	Saturated Thickness (Feet)	Transmissivity (feet²/day)
top soil				
fine sand and few clay streaks				
brown sandy clay				
brown clay, firm and sticky, tight				
brown sandy clay				
fine to medium coarse sand and small gravel				
brown clay, sticky and firm				
brown sandy clay, few sticky clay streaks, few caliche streaks		Above water surface		
brown sandy clay with few sand streaks				
fine sand, loose				
fine to medium sand with a lot of clay streaks				
brown sandy clay with few fine sand streaks, loose from 183 to 190 feet, 210 to 217 feet, hard ledge at 228 feet				
brown sandy clay and few caliche streaks, few sticky clay streaks	sc, ca, c	70, 15, 15	7	21.6
fine to medium sand, few coarse	snd	100	5	75.0
brown sandy clay, drilled tight	sc	100	3	13.2
fine to medium sand	fmsnd	100	2	30.0
cemented sand, hard	cesdg-cg	100	4	58.0
fine to medium coarse sand, small gravel, and white rock	fmsnd, g, r	50, 30, 20	12	1166.4
brown sandy clay with few sand streaks	sc, snd	80, 20	6	39.12
fine to medium coarse sand, white rock	fmsnd, r	60, 40	12	108.0
brown clay, sticky	c	100	2	0.0
shale	sh	100	11	0.0
			Total Transmissivity:	1511.3

Table 4: Lithology, KGS Well ID 17885

Driller's Description	Synonymy Codes	Percentages	Saturated Thickness (Feet)	Transmissivity (feet²/day)
top soil	Above water surface			
sand fine to med.				
brown clay, few lime rock st.				
sand fine to med. coarse, small gravel, loose, used water, few clay st.				
sand fine to med. coarse, small to medium gravel, loose, used water, very few white rock st.				
brown sandy clay, lime rock st., few ledges				
sand fine to med. coarse, small to medium gravel, loose, used water	fmsnd, g	60, 40	14	1800.4
brown sandy clay	sc	100	5	22.0
sand fine to med. coarse, small to medium gravel, loose, used water, white rock st.	fmsnd, g, r	50, 40, 10	21	2669.1
yellow clay	c	100	8	0.0
shale	sh	100	9	0.0
			Total Transmissivity:	4491.5

Table 5: Lithology, KGS Well ID 17489

Driller's Description	Synonymy Codes	Percentages	Saturated Thickness (Feet)	Transmissivity (feet²/day)
top soil	Above water surface			
brown clay				
fine to medium sand and gravel 30%				
fine to medium sand and gravel 40% clay				
fine to medium sand and gravel (loose)				
fine to medium sand and gravel 15% clay loose				
brown clay	c	100	33	0.0
fine to medium sand and gravel (loose)	fmsnd, g	60, 40	10	1286.0
shale (hard)	sh	100	5	0.0
			Total Transmissivity:	1286.0

Table 6: Lithology, KGS Well ID 17884

Driller's Description	Synonymy Codes	Percentages	Saturated Thickness (Feet)	Transmissivity (feet²/day)
top soil				
brown silty clay				
sand, small, coarse				
brown and tan clay				
sand, small coarse, few small gravel				
tan and white clay few sand streaks				
sand, small, coarse, with clay streaks, drills a little tight				
brown sandy clay				
sand, fine to medium, and few clay streaks		Above water surface		
brown and white sandy clay				
white and tan clay				
sand, fine, brown and tan sandy clay				
fine to medium sand, small, coarse and a few cemented streaks with few brown and white clay streaks, drills a little rough				
sand, small, coarse, very good, few small white rock				
tan and brown sandy clay	sc	100	4	17.6
sand, small, coarse, and small gravel with few white rock	crssnd, g, r	50, 40, 10	3	453.3
brown and tan sandy clay	sc	100	2	8.8
sand, small, coarse, small gravel and few white rock	crssnd, g, r	50, 40, 10	10	1511.1
yellow and white clay with hard ledges	c	100	2	0.0
blue shale	sh	100	2	0.0
			Total Transmissivity:	1990.7

Table 7: Lithology, KGS Well ID 414763

Driller's Description	Synonymy Codes	Percentages	Saturated Thickness (Feet)	Transmissivity (feet²/day)
topsoil	Above water surface			
sandy clay				
sand fine to medium coarse				
sandy clay				
sand fine to medium coarse				
sandy clay				
sand fine to medium with gravel				
sandy clay with sand beds				
sand fine with clay				
sand fine to medium coarse small rock	fmsnd, r	60, 40	44	396.0
shale	sh	100	3	0.0
			Total Transmissivity:	396.0

Table 8: Lithology, KGS Well ID 17895

Driller's Description	Synonymy Codes	Percentages	Saturated Thickness (Feet)	Transmissivity (feet²/day)
top soil				
brown clay and caliche				
sand fine to med				
brown clay				
sand fine med. coarse, med., small gravel				
sand fine med. coarse, small gravel, few white rock brown sandy clay. took water				
sand and gravel, med. coarse, med., small and small gravel. loose. used lots of water. good		Above water surface		
brown clay				
sand fine med. coarse, small gravel. loose. used lots of water. good				
brown clay and limerock				
sand fine med. coarse; small coarse, med., small gravel				
sand fine med. coarse; small gravel. white rock, cemented ledges and very fine clay st. used lots of water. very good				
brown clay, limerock and few sand st.				
brown sandy clay and sand	sc, snd	60, 40	2	55.7
sand fine med. coarse; small coarse; small gravel and small white rock. loose. used lots of water	fmsnd, g, r	50, 30, 20	15	1458.0
sand fine med. coarse, med., small and brown sandy clay	fmsnd, sc	60, 40	6	64.6
sand and gravel, med. coarse, med., small and small brown gravel and small white and tan rock. loose. used lots of water. very good	snd, g, r	50, 30, 20	12	1166.4
clay and soapstone	c, ca	60, 40	4	0.0
shale	sh	100	18	0.0
			Total Transmissivity:	2744.6

Table 9: Lithology, KGS Well ID 488967

Driller's Description	Synonymy Codes	Percentages	Saturated Thickness (Feet)	Transmissivity (feet²/day)
surface	Above water surface			
sandy brown clay				
sand fine loose				
brown clay				
sandy brown clay				
brown clay few sand streaks				
sand fine to small some coarse (thin clays)				
sand fine med coarse small-large gravel				
sand fine to small, broken white rock	fsnd, r	60, 40	7	63.0
sand fine med coarse 30% mix lime stone	fmsnd, ca	70, 30	18	189.0
sand fine med coarse	fmsnd	100	40	600.0
black shale, hard	sh	100	18	0.0
			Total Transmissivity:	852.0

Table 10: Lithology, KGS Well ID 17893

Driller's Description	Synonymy Codes	Percentages	Saturated Thickness (Feet)	Transmissivity (feet²/day)
top soil	Above water surface			
sand and silt				
brown clay				
brown clay and fine sand				
brown clay and a few sand streaks				
sand and gravel				
brown clay				
sand fine to med coarse with small gravel. loose – used water				
sand fine to med coarse with a few small gravel. had very fine clay sts. loose				
brown clay and limerock				
sand fine to med coarse with small gravel. drilled firm to loose				
brown clay and sand				
sand fine to med coarse with small gravel. loose – used a lot of water				
brown clay and limerock				
brown clay, limerock and sand streaks	c, ca, snd	50, 40, 10	1	6.3
sand fine to med coarse with small gravel	fmsnd, g	70, 30	35	3507.0
sand fine to med coarse. small gravel with small white rock. loose – used water. good!	fmsnd, g, r	50, 40, 10	29	3685.9
brown clay and limerock	c, ca	60, 40	1	0.0
blue shale - hard	sh	100	10	0.0
			Total Transmissivity:	7199.2

Table 11: Theis drawdown evaluated at File No. 2888; T = 2,486 ft²/day, S = 0.00042

Scenario	Distance (FT)	Pump Rate (GPM)	Volume (AF)	Drawdown (FT)	Drawdown (%ST)
Proposed	2505.3	1550.0	800.0	65.6	155.6%
Baseline	1816.4	450.0	147.7	18.2	43.3%
			Net:	47.3	112.3%

Table 12: Theis drawdown evaluated at Domestic Well at 23S-34W-9; T = 2,486 ft²/day, S = 0.00042

Scenario	Distance (FT)	Pump Rate (GPM)	Volume (AF)	Drawdown (FT)	Drawdown (%ST)
Proposed	3696.1	1550.0	800.0	58.2	138.0%
Baseline	4421.2	450.0	147.7	13.3	31.6%
			Net:	44.8	106.4%

Table 13: Theis drawdown evaluated at File No. 9599; T = 2,486 ft²/day, S = 0.00042

Scenario	Distance (FT)	Pump Rate (GPM)	Volume (AF)	Drawdown (FT)	Drawdown (%ST)
Proposed	3154.0	1550.0	800.0	61.2	145.1%
Baseline	4148.9	450.0	147.7	13.7	32.5%
			Net:	47.5	112.7%

Table 14: Theis drawdown evaluated at File No. 9599; T=2,486 ft²/day, S=0.00042; Rate=265 GPM

Scenario	Distance (FT)	Pump Rate (GPM)	Volume (AF)	Drawdown (FT)	Drawdown (%ST)
Proposed	3154.0	265.0	800.0	22.1	52.4%
Baseline	4148.9	450.0	147.7	13.7	32.5%
			Net:	8.4	20.0%

McColloch, Austin [KDA]

From: Thurlow, Steven [KDA]
Sent: Thursday, January 19, 2023 10:14 AM
To: McColloch, Austin [KDA]
Cc: Engelhaupt, David [KDA]
Subject: RE: Theis WR 18800
Attachments: 18800_sites_calcd.xlsm

Austin,

The Theis analysis I ran shows that the change in point of diversion will impact the neighboring wells much greater than the allowed drawdown increase of 20% future saturated thickness. I have attached a spreadsheet containing the calculations I used, but below is a table showing the end results:

Nearby Well WR_NUM	old % of Sat. Thickness	new % of Sat. Thickness	Difference (%)	Allowable Drawdown (ft)	Allowable Rate (gpm)
2888	43.3	155.6	112.3	26.7	354.0
9599	32.5	145.1	112.7	22.1	265.0
Domestic Well	31.6	138.0	106.4	21.8	269.4

The Theis analysis compares drawdown from authorized rates/quantities to drawdown from average historic rates/quantities, and since there is a large difference between the two, I believe this is where most of the increase in drawdown is coming from. On the right side of the aforementioned table, I listed the highest possible pumping rates at which this system could pass the ≤ 20% ST limit if pumping the full 800 acre-ft. The rate of 265 gpm would have to be used in order to pass, however since it is not possible for the water right owner to pump their Authorized Quantity of 800 acre-ft in 1 year at this rate, it is possible to decrease the Authorized Quantity some in order to achieve a realistic rate and quantity scenario that still satisfies the 20% limit.

I haven't had time yet to finish up all the supporting documents for this to compile into the final report, but I will send that to you once that is completed.

Thanks,

Steven Thurlow
Engineering Associate
Kansas Department of Agriculture
Division of Water Resources

From: Thurlow, Steven [KDA]
Sent: Monday, January 9, 2023 2:11 PM
To: McColloch, Austin [KDA] <Austin.McColloch@ks.gov>
Cc: Engelhaupt, David [KDA] <David.Engelhaupt@ks.gov>
Subject: RE: Theis WR 18800

Austin,

David and I will both be in all day HEC-RAS training workshops Tuesday-Thursday and out of office Friday. I will try to get started on it this week but won't be able to finish this up until later next week.

Thanks for understanding,

Steven Thurlow
Engineering Associate
Kansas Department of Agriculture
Division of Water Resources

From: McColloch, Austin [KDA] <Austin.McColloch@ks.gov>
Sent: Monday, January 9, 2023 11:57 AM
To: Thurlow, Steven [KDA] <Steven.Thurlow@ks.gov>
Cc: Engelhaupt, David [KDA] <David.Engelhaupt@ks.gov>
Subject: Theis WR 18800

Steven,

Can I get theis ran on this change application. Attached is the application, well log and gmd eval. If possible sometime before end of the week.

Thanks,

Austin McColloch
Ph: (620) 276-2901

WATER MANAGEMENT
FOR SOUTHWEST
KANSAS
GMD3

Southwest Kansas
Groundwater Management District No. 3
2009 E. Spruce Street
Garden City, Kansas 67846
(620) 275-7147 phone
www.gmd3.org

December 13, 2022

Austin McColloch
Division of Water Resources
4532 W Jones Ave., Suite B
Garden City, Kansas 67846

RE: Application for Change in Point of Diversion
Water Right, File No. 18800

Dear Austin:

We have completed a review of the application for the above referenced water right. The proposed change in point of diversion is in accordance with current area rules, K.A.R. 5-23-3, as it pertains to minimum spacing to neighboring wells and distance moved.

Well evaluations were conducted to estimate possible effects of the proposal on the supply of other wells with water rights prior to the proposal per K.S.A. 82a-708b, and the management program. Under K.S.A. 82a-708b, an applicant requesting a change in point of diversion must demonstrate to the chief engineer that any proposed change is reasonable and will not impair. The enclosed report is an analysis performed by the GMD on behalf of our membership. Under this analysis, the proposed change is considered to be reasonable and unlikely to impair if either the net in-season well-to-well effect of the proposed change is less than a strict maximum allowable threshold (3.0 ft with saturated thickness is between 125-150ft), or if no well with a net well-to-well effect exceeding the threshold is identified as critical. Critical wells are identified as wells that are expected to either lose or greatly diminish water supply over the next 25 years. The attached review information is based on a Theis analysis using inputs from the GMD3 aquifer model, which is considered to be the best information on well and aquifer data readily and easily available to the public. If either the applicant or the neighbors believe they have better data that might change the result of the analysis, they should contact GMD3. Conclusions of the well analysis may change if better information on well and aquifer data can be made available.

Every neighboring well within 1 mile of the proposed move was evaluated. Evaluations showed that all of the neighboring wells exceeded the net effect above the maximum allowable threshold and needed further evaluation. That evaluation showed the potential that the wells could be critical, if the proposed well is pumped at maximum authority. We did not receive any comments from neighboring well owners. Therefore, GMD3 sees this move as meeting current area rules and would recommend approval with verification that there will not be adverse effects to neighboring wells. If aquifer conditions change or there is a change to the water right in the future, we would be happy to evaluate the effects at that time.

Thank you for the opportunity to review the applications and to provide a recommendation. If you have any questions, please don't hesitate to contact us.

Sincerely,

Jason L. Norquest
Assistant Manager

GMD3 Change Review

File No(s).: 18800. DWR office: GC.
App filed to change: PD.
Is Landowner(s) correct in WRIS: Donald & Elizabeth Knoll.
If NO, is documentation included?
Is Water Use Correspondent correct in WRIS? __.
If NO, is documentation included?
Regulation(s) Reviewed: KAR 5-23-3
Point of diversion ID No(s) 02 being changed.

	ft. North	ft. West	
Authorized PD	3968	3988	Sect 4-23-34
Proposed PD	2880	4725	
Difference	1088 s	-737 w	
a2 + b2 = c2	1183744	543169	1314.121 foot move SW

GPS for proposed PD: Lat: __ Long:__.
Is proposed PD stacking on existing WRs? __.
Is Proposed PU overlapping existing WRs? __.
Neighboring certified well(s) notified: __.
Name John Meyer Family LLC (4389).
Address 774 Mays Blvd., Suite 10-644.
Zip Incline Village, NV 89451.
Email: broth63@hotmail.com Phone: 620-272-1297.

Name Mike Rome Jr (7735, 9682).
Address 7925 W 9 Mile Rd.
Zip Holcomb, KS 67851.
Email: mrome@wbsnet.org Phone: 620-272-1479.

Name Skip Crist (7918).
Address 1605 Grandview Dr E.
Zip Garden City, KS 67846.
Email: skcrist@hotmail.com Phone: 620-275-7881.

Name Roger & Randall Unruh (9599).
Address 625 S Cowgirl Dr.
Zip Garden City, KS 67846.
Email: runruh@wbsnet.org Phone: 620-271-8893.

GMD3 Change Review

Name Edward & Martina Roth Trusts (16317).
Address 320 Parkview.
Zip Garden City, KS 67846.
Email: broth63@hotmail.com Phone: .

Name B&L Grain Farms Inc (23718).
Address 4360 W 6 Mile Rd.
Zip Garden City, KS 67846.
Email: broth63@hotmail.com Phone: .

Name Clayton & Kyle Maddux (25700).
Address 3314 Primrose.
Zip Garden City, KS 67846.
Email: ccm7777@hotmail.com Phone: 620-313-2699.

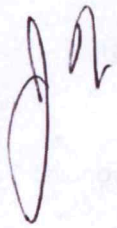
Name Triple G Farms (27461).
Address 2156 Road 220.
Zip Deerfield, KS 67838.
Email: cweatherred@gmail.com Phone: 620-272-3074.

Domestic well(s) notified: __.
Name __.
Address __.
Zip __.

Base Acres: __.
Perfected Acres: __.
Irr. Return-Flow ___%
Finney county
ID 02 authorized: 800AF @ 1550gpm. Limited to 800AF w/2888 & 16256
ID 03 is NOT being changed at this time.
Historic reported use (2012-2021): 147.67AF/year. Did not include 2014 which had no use.
2019 WUR showed 450gpm.
2020 GMD3 inspection calculated 466gpm
Proposed depth 337'
Is a waiver needed: Move is less than half mile. Minimum spacing to neighboring wells appears to be met. Analysis did show the possibility of critical wells in the area. The closest wells are owned/operated by the applicant.

GMD3 Change Review

Recommendation: After review of the information, it appears the change meets current area rules. There seems to be the possibility of critical wells. Staff would recommend approval with the application with verification that the change will not adversely effect the neighboring wells.



Report Date: Tuesday, November 29 2022

Water Rights and Points of Diversion Within 1 mile of point defined as:
2880 Feet N and 4725 Feet W of the Southeast Corner of Section 4 Twp 23S Rng 34W
Located at: 101.064282 West Longitude and 38.083936 North Latitude
Both SURFACE WATER and GROUNDWATER

2300' or a 11

File Number	Use	ST	SR	Dist (ft)	Q4	Q3	Q2	Q1	FeetN	FeetW	Sec	Twp	Rng	ID	Batt	Auth_Quan	Add_Quan	Unit
A 2888	00	IRR	NK	G	2505	--	SW	SW	NE	3300	2260	4	23	34W	3		400.00	400.00	AF
A 4389	00	IRR	NK	G	4286	--	CN	NE	SW	2520	3730	5	23	34W	1		520.00	520.00	AF
A 7735	00	IRR	NK	G	4937	--	SW	NW	NW	3995	5250	3	23	34W	5		640.00	640.00	AF
A 7918	00	IRR	NK	G	3551	--	NE	SW	SW	1050	4015	33	22	34W	5		1210.00	347.00	AF
A 9599	00	IRR	NK	G	2892	--	NW	NW	SE	-----	-----	5	23	34W	2		320.00	320.00	AF
A 9682	00	IRR	NK	G	4937	--	SW	NW	NW	3995	5250	3	23	34W	5		767.00	127.00	AF
A 16256	00	IRR	NK	G	2505	--	SW	SW	NE	3300	2260	4	23	34W	3		616.00	216.00	AF
A 16317	00	IRR	NK	G	4226	--	SW	NW	NE	4564	2547	9	23	34W	8		360.00	360.00	AF
A 18800	00	IRR	NK	G*	1317	--	--	NC	NW	3968	3988	4	23	34W	2		800.00	92.00	AF
Same					2505	--	SW	SW	NE	3300	2260	4	23	34W	3		800.00	92.00	AF
A 23718	00	IRR	NK	G	4796	--	NW	SW	NW	3404	5180	9	23	34W	7		300.00	300.00	AF
A 25700	00	IRR	NK	G	4182	--	--	NC	SE	1340	1340	32	22	34W	3		266.00	164.00	AF
A 27461	00	IRR	NK	G	4048	--	NE	NE	NW	5000	2940	5	23	34W	3		313.00	313.00	AF

Total Net Quantities Authorized:	Direct	Storage
Total Requested Amount (AF) =	.00	.00
Total Permitted Amount (AF) =	.00	.00
Total Inspected Amount (AF) =	.00	.00
Total Pro_Cert Amount (AF) =	.00	.00
Total Certified Amount (AF) =	3891.00	.00
Total Vested Amount (AF) =	.00	.00
TOTAL AMOUNT (AF) =	3891.00	.00

Minimum Spacing Appears MET

An * after the source of supply indicates a pending application for change under the file number.
An * after the ID indicates a 15 AF exemption was granted under the file number.
A "G" in the Batt column indicates the GEO CTR of a battery. A "B" indicates a well in the battery.
The number in the Batt column is the number of wells in the battery.

Water Rights and Points of Diversion Within 1 mile of point defined as:
2880 Feet North and 4725 Feet West of the Southeast Corner of Section 4 Twp 23S Rng 34W
Located at: 101.064282 West Longitude and 38.083936 North Latitude
Both SURFACE WATER and GROUNDWATER
WATER USE CORRESPONDENTS:

File Number Use ST SR

> DONALD R & ELIZABETH A KNOLL
>
> 2174 ROAD 250
> DEERFIELD KS 67838

2888 Applicant

>----------

> JOHN MEYER FAMILY LLC
>

4389

> 774 MAYS BLVD SUITE 10-644
> INCLINE VILLAGE NV 89451
>----------

> MIKE ROME JR
>
> 7925 W 9 MILE RD 7735
> HOLCOMB KS 67851
>----------

> SKIP CRIST
>
> 1605 GRANDVIEW DR E 7918
> GARDEN CITY KS 67846
>----------

> ROGER G & RANDALL UNRUH
>
> 625 S COWGILL DR 9599
> GARDEN CITY KS 67846
>----------

> MIKE ROME JR
>
> 7925 W 9 MILE RD 9682
> HOLCOMB KS 67851
>----------

> DONALD R & ELIZABETH A KNOLL
>
> 2174 ROAD 250 16056 Applicant
> DEERFIELD KS 67838
>----------

> EDWARD C & MARTINA ROTH TRUSTS
>
> 320 PARKVIEW 16317
> GARDEN CITY KS 67846
>----------

> DONALD R & ELIZABETH A KNOLL
>
> 2174 ROAD 250 18800 Application
> DEERFIELD KS 67838
>----------

> B & L GRAIN FARMS INC
>
> 4360 W 6 MILE RD 23718
> GARDEN CITY KS 67846
>----------

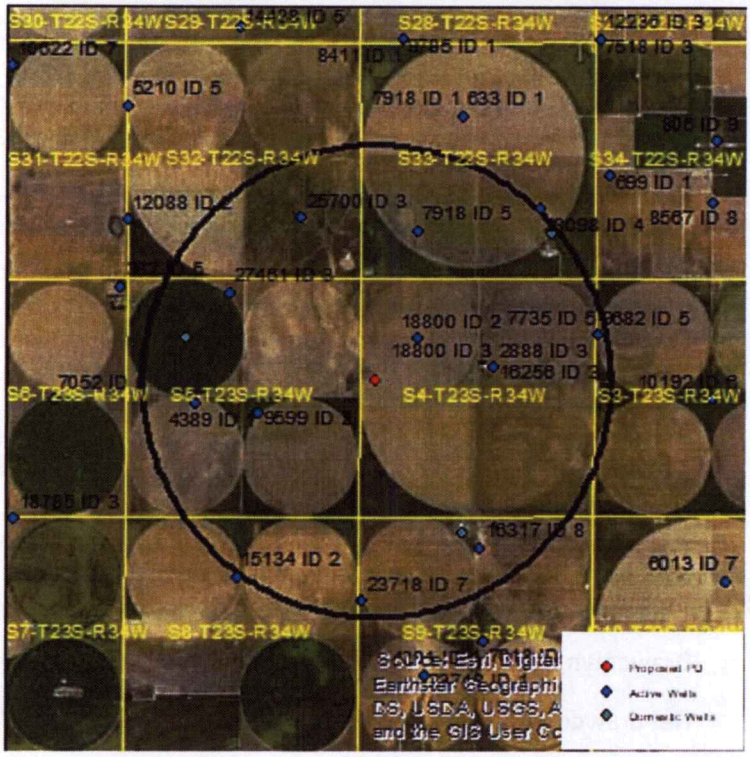
> CLAYTON & KYLE MADDUX
>
> 3314 PRIMROSE 25700
> GARDEN CITY KS 67846
>----------

> TRIPLE G FARMS
>
> 2156 ROAD 220 27461
> DEERFIELD KS 67838
>----------

==========

Evaluation of proposed move for Water Right No. 18800

Proposed: Move water right no. 18800 ID2 to a new well location, 1,346 ft to the southwest.



Wells within 1 mile: 25700, 7918, 27461, 4389, 9599, 2888 & 16256 & 18800, 7735 & 9682, 23718, 16317, a domestic well in section 33-22-34, a domestic well in section 5-23-34, and a domestic well in section 9-23-34.

The saturated thickness at the proposed well location is estimated to be 144 ft, based upon the driller's log and an observation well in section 6-23-34. For saturated thickness between than 125 ft and 150 ft, the drawdown allowance is 3.0 ft.

50 year Theis Analysis: The following values were used to run the analysis:

S = 0.1532, T = 4234.4 ft^2/day, $tp_{current}$ = 72 days, $Q_{current}$ = 466 gpm, $tp_{proposed}$ = 81 days, $Q_{proposed}$ = 1550 gpm

Theis drawdowns were calculated as follows:

25700: Drawdown from current location = 1.57 ft

Drawdown from proposed location = 5.65 ft

Net drawdown = **4.1 ft**

7918:	Drawdown from current location = 2.14 ft
	Drawdown from proposed location = 6.18 ft
	Net drawdown = **4.0 ft**
27461:	Drawdown from current location = 1.42 ft
	Drawdown from proposed location = 5.82 ft
	Net drawdown = **4.4 ft**
4389:	Drawdown from current location = 1.28 ft
	Drawdown from proposed location = 5.53 ft
	Net drawdown = **4.3 ft**
9599:	Drawdown from current location = 1.51 ft
	Drawdown from proposed location = 7.26 ft
	Net drawdown = **5.7 ft**
2888 & 16256 & 18800:	Drawdown from current location = 2.66 ft
	Drawdown from proposed location = 7.37 ft
	Net drawdown = **4.7 ft**
23718:	Drawdown from current location = 1.17 ft
	Drawdown from proposed location = 4.96 ft
	Net drawdown = **3.8 ft**
16317:	Drawdown from current location = 1.33 ft
	Drawdown from proposed location = 5.26 ft
	Net drawdown = **3.9 ft**
Domestic 33-22-34:	Drawdown from current location = 1.56 ft
	Drawdown from proposed location = 4.85 ft
	Net drawdown = **3.3 ft**
Domestic 5-23-34:	Drawdown from current location = 1.28 ft
	Drawdown from proposed location = 5.29 ft
	Net drawdown = **4.0 ft**

Domestic 9-23-34: Drawdown from current location = 1.41 ft

Drawdown from proposed location = 5.74 ft

Net drawdown = **4.3 ft**

Net drawdown exceeds the drawdown allowance of 3.0 ft for all wells within 1 mile of the proposed location. Critical well analysis is necessary on those wells.

Critical Well Evaluation:

25700:

Water Column = 76 ft

DP = 4.1 ft (Net drawdown from the proposal indicated above)

DE = 15.6 ft (Water level decline from 2022 through 2047 based upon GMD3 model)

DD = 71.6 ft (S = 0.1723, T = 2082.4 ft^2/day, Q = 477 gpm, tp = 60 days, efficiency = 70%)

DT = 91.3 ft

Total drawdown exceeds the remaining water column, so this well **is critical.**

7918:

Water Column = 102 ft

DP = 4.0 ft (Net drawdown from the proposal indicated above)

DE = 24.1 ft (Water level decline from 2022 through 2047 based upon GMD3 model)

DD = 44.1 ft (S = 0.1625, T = 2815.5 ft^2/day, Q = 370 gpm, tp = 120 days, efficiency = 70%)

DT = 72.2 ft

Economic Drawdown Constraint (EDC) = 0.4 * 102 ft = 40.8 ft

Physical Drawdown Constraint (PDC) = 102 ft – 60 ft = 42 ft

Total drawdown of 72.2 ft is greater than the EDC and PDC, so this well **is critical.**

27461:

Water Column = 119 ft

DP = 4.4 ft (Net drawdown from the proposal indicated above)

DE = 27.4 ft (Water level decline from 2022 through 2047 based upon GMD3 model)

DD = 69.4 ft (S = 0.2084, T = 2508.9 ft^2/day, Q = 543 gpm, tp = 87 days, efficiency = 70%)

DT = 101.2 ft

Economic Drawdown Constraint (EDC) = 0.4 * 119 ft = 47.6 ft

Physical Drawdown Constraint (PDC) = 119 ft – 60 ft = 59 ft

Total drawdown of 101.2 ft is greater than the EDC and PDC, so this well **is critical.**

4389:

Water Column = 119 ft

DP = 4.3 ft (Net drawdown from the proposal indicated above)

DE = 27.4 ft (Water level decline from 2022 through 2047 based upon GMD3 model)

DD = 71.6 ft (S = 0.2089, T = 2508.9 ft^2/day, Q = 552 gpm, tp = 105 days, efficiency = 70%)

DT = 103.3 ft

Economic Drawdown Constraint (EDC) = 0.4 * 119 ft = 47.6 ft

Physical Drawdown Constraint (PDC) = 119 ft – 60 ft = 59 ft

Total drawdown of 103.3 ft is greater than the EDC and PDC, so this well **is critical.**

9599:

Water Column = 119 ft

DP = 5.7 ft (Net drawdown from the proposal indicated above)

DE = 27.4 ft (Water level decline from 2022 through 2047 based upon GMD3 model)

DD = 67.9 ft (S = 0.2084, T = 2508.9 ft^2/day, Q = 534 gpm, tp = 78 days, efficiency = 70%)

DT = 101.0 ft

Economic Drawdown Constraint (EDC) = 0.4 * 119 ft = 47.6 ft

Physical Drawdown Constraint (PDC) = 119 ft – 60 ft = 59 ft

Total drawdown of 101.0 ft is greater than the EDC and PDC, so this well **is critical.**

2888 & 16256 & 18800:

Water Column = 91 ft

DP = 4.7 ft (Net drawdown from the proposal indicated above)

DE = 32.9 ft (Water level decline from 2022 through 2047 based upon GMD3 model)

DD = 47.3 ft (S = 0.1532, T = 4234.4 ft^2/day, Q = 588 gpm, tp = 94 days, efficiency = 70%)

DT = 84.9 ft

Economic Drawdown Constraint (EDC) = 0.4 * 91 ft = 36.4 ft

Physical Drawdown Constraint (PDC) = 91 ft – 60 ft = 31 ft

Total drawdown of 84.9 ft is greater than the EDC and PDC, so this well **is critical.**

7735 & 9682:

Water Column = 114 ft

DP = 3.4 ft (Net drawdown from the proposal indicated above)

DE = 28.4 ft (Water level decline from 2022 through 2047 based upon GMD3 model)

DD = 60.3 ft (S = 0.1532, T = 4234.4 ft^2/day, Q = 746 gpm, tp = 101 days, efficiency = 70%)

DT = 92.1 ft

Economic Drawdown Constraint (EDC) = 0.4 * 114 ft = 45.6 ft

Physical Drawdown Constraint (PDC) = 114 ft – 60 ft = 54 ft

Total drawdown of 92.1 ft is greater than the EDC and PDC, so this well **is critical.**

23718:

Water Column = 131 ft

DP = 3.8 ft (Net drawdown from the proposal indicated above)

DE = 29.1 ft (Water level decline from 2022 through 2047 based upon GMD3 model)

DD = 36.6 ft (S = 0.1291, T = 3983.2 ft^2/day, Q = 434 gpm, tp = 69 days, efficiency = 70%)

DT = 69.5 ft

Economic Drawdown Constraint (EDC) = 0.4 * 131 ft = 52.4 ft

Physical Drawdown Constraint (PDC) = 131 ft – 60 ft = 71 ft

Total drawdown of 69.5 ft is greater than the EDC, so this well **is critical.**

16317:

Water Column = 139 ft

DP = 3.9 ft (Net drawdown from the proposal indicated above)

DE = 29.1 ft (Water level decline from 2022 through 2047 based upon GMD3 model)

DD = 38.9 ft (S = 0.1291, T = 3983.2 ft^2/day, Q = 466 gpm, tp = 58 days, efficiency = 70%)

DT = 71.9 ft

Economic Drawdown Constraint (EDC) = 0.4 * 139 ft = 55.6 ft

Physical Drawdown Constraint (PDC) = 139 ft – 60 ft = 79 ft

Total drawdown of 71.9 ft is greater than the EDC, so this well **is critical.**

Domestic 33-22-34:

Water Column = 124 ft

DP = 3.3 ft (Net drawdown from the proposal indicated above)

DE = 24.1 ft (Water level decline from 2022 through 2047 based upon GMD3 model)

DT = 27.4 ft

Economic Drawdown Constraint (EDC) = 0.4 * 124 ft = 49.6 ft

Physical Drawdown Constraint (PDC) = 124 ft – 20 ft – 104 ft

Total drawdown of 27.4 ft is less than the EDC and PDC, so this well **is not critical.**

Domestic 5-23-34:

Water Column = 114 ft

DP = 4.0 ft (Net drawdown from the proposal indicated above)

DE = 27.4 ft (Water level decline from 2022 through 2047 based upon GMD3 model)

DT = 31.4 ft

Economic Drawdown Constraint (EDC) = 0.4 * 114 ft = 45.6 ft

Physical Drawdown Constraint (PDC) = 114 ft – 20 ft = 94 ft

Total drawdown of 31.4 ft is less than the EDC and PDC, so this well **is not critical.**

Domestic 9-23-34:

Water Column = 128 ft

DP = 4.3 ft (Net drawdown from the proposal indicated above)

DE = 29.1 ft (Water level decline from 2022 through 2047 based upon GMD3 model)

DT = 33.4 ft

Economic Drawdown Constraint (EDC) = 0.4 * 128 ft = 51.2 ft

Physical Drawdown Constraint (PDC) = 128 ft – 20 ft = 108 ft

Total drawdown of 33.4 ft is less than the EDC and PDC, so this well **is not critical.**

Conclusion:

The proposed move is in an area with less than 150 ft saturated thickness. Modeled aquifer properties require well drawdown from 40-70 ft to achieve observed pumping rates, leaving little remaining thickness for area wells to work with. The GMD3 model predicts aquifer declines up to about 30 ft. If the proposed well were to pump its full authorized authority, there would likely be a noticeable drawdown effect on all neighboring wells. Critical well analysis shows that all the neighboring irrigation wells are critical because there is insufficient saturated thickness to operate near current capacity for the foreseeable future. Nearby domestic wells were not flagged as critical because domestic wells do not require high pumping capacity to operate and drawdown requirements are much lower. Concerned neighbors should contact GMD3 at (620) 275-7147 or the Division of Water Resources at (620) 276-2901.

Garden City Field Office
4532 W. Jones, Suite B
Garden City, KS 67846

Kansas
Department of Agriculture
Division of Water Resources

Phone: 620-276-2901
Fax: 620-276-9315
www.agriculture.ks.gov

Mike Beam, Secretary

Laura Kelly, Governor

November 29, 2022

GROUNDWATER MANAGEMENT DISTRICT #3
2009 E SPRUCE ST
GARDEN CITY KS 67846

Re: Request for Recommendation,
File No. 18800

Dear Sir or Madam:

We are enclosing a copy of the referenced application, which was submitted by Donald Knoll and appears to be in proper form, for your review.

We are delaying any further action for a period of 15 days from the date of this letter to allow you time to submit your recommendation concerning this application. Please submit your recommendation within the allotted time, or any authorized extension of time thereof.

If you have any questions, please contact me at (620) 276-2901. If you wish to discuss a specific file, please have the file number ready to that I may help you more efficiently.

Sincerely,

Austin McColloch
Assistant Water Commissioner

Enclosure
pc:

Finney KS

271 412

CORRECTED SURFACE AND MINERAL DEED

BONNIE E. HIBBERT, a single person, a/k/a BONNIE ELY HIBBERT or BONNIE JUNE ELY, individually and as Co-Trustee of the Hibbert Mineral Trust dated October 28, 1991, whose address is 6019 Stones Throw, Houston, Texas 77057, herewith conveys, transfers and assigns to COLDWATER INTEREST, L.P., a Texas limited partnership, 6019 Stones Throw, Houston, Texas 77057, all of her right, title and interest, both surface and mineral, together with all right, title and interest of the Hibbert Mineral Trust in and to that real property described with particularity on Exhibit A, attached hereto, and incorporated herein subject to all easements, reservations and restrictions of record which are effective and affect title to the property herein conveyed.

This transfer constitutes a donation and contribution to a limited partnership without consideration and, therefore, a Real Estate Sales Validation Questionnaire is not required pursuant to K.S.A. 79-1437(e)(a)(4) and (6).

This Corrected Surface and Mineral Deed supersedes, replaces and corrects that Surface and Mineral Deed dated August 12, 2002 and recorded in Book 248 at Page 244 and that Corrected Surface and Mineral Deed between the same parties dated September 10, 2002 and recorded in Book 249 at Page 138.

This Corrected Surface and Mineral Deed is effective as of August 12, 2002.

Dated this 12 day of January, 2006.

STATE OF KANSAS
SS.
FINNEY COUNTY

#352
This instrument was filed for Record on the 20 day of Jan A.D. 2006 at 10:15 o'clock A M and duly recorded in book 271 Page 412 Fee $ 16.00
Rita Alsop
Register of Deeds

DATA ENTRY
LAND INDEX

REGISTER OF DEEDS SEAL FINNEY COUNTY KANSAS

BONNIE E. HIBBERT, Individually

By: Bonnie E. Hibbert

BONNIE E. HIBBERT, Co-Trustee of the Hibbert Mineral Trust

By: Bonnie E. Hibbert

ACKNOWLEDGMENT

STATE OF TEXAS)
) ss:
COUNTY OF HARRIS)

Entered in Transfer Record in my office this 23 day of Jan A.D., 20 06
Elsa Ulrich
Finney County Clerk

This instrument was acknowledged before me on this 12th day of January, 2006 by Bonnie E. Hibbert.

Jean Frazer
Notary Public

My Appointment Expires:

JEAN FRAZER
MY COMMISSION EXPIRES
March 20, 2007

271 412

EXHIBIT A

To Corrected Surface and Mineral Deed from Bonnie E. Hibbert, individually, and as Co-Trustee of the Hibbert Mineral Trust to Coldwater Interest, L.P.

COUNTY	LEGAL DESCRIPTION			
FINNEY	01-21-27	NE/4		
	01-21-27	SE/4		
	03-21-27	SW/4		
	03-21-30	SE/4		
	04-21-27	NE/4		
	04-23-29	NW/4		
	04-23-34	SW/4	**SURFACE ONLY**	2888; 16256 18800
	05-22-28	SW/4		
	07-21-27	NW/4		
	07-21-28	SE/4		
	08-21-27	SW/4		
	10-21-29	NE/4		
	10-21-29	NW/4		
	11-21-29	NW/4		
	11-21-29	SW/4		
	14-23-27	N/2		
	17-21-27	SE/4		
	17-22-34	SW/4	**SURFACE ONLY**	15585 22037
	18-21-30	NW/4		

18-23-30	SE/4	
21-22-29	SE/4	271 412
21-23-30	NE/4	
24-23-32	SW/4	**SURFACE ONLY**
25-24-31	SE/4	**SURFACE ONLY** 18760
26-24-31	S/2 NE/4	**SURFACE ONLY**
27-21-34	SW/4	**SURFACE ONLY**
28-21-28	NW/4	
28-22-29	NE/4	
30-21-28	NE/4	
30-21-28	SE/4	
31-21-28	SE/4	
31-23-27	W/2	
32-21-28	W/2 W/2	
32-21-28	E/2 SW/4	
33-21-28	NE/4	
34-21-28	S/2 SW/4	
35-23-28	N/2 & SE/4	
36-23-28	N/2, SW/4, N/2 SE/4	2602; 18900; 25865