Kansas Department of Agriculture
Division of Water Resources
APPROVAL OF CHANGE APPLICATION WORKSHEET

1. File No.: **27546**

2. Status Change Date:

3. Package File No(s):

4. Field Office: **04 - Garden City**
GMD: **03 - Southwest**
Structures File No.:
Filing/Priority Date: **8/3/2023**
Application Complete Date:

5a. ☒ Applicant ☒ Owner ☐ WUC ☐ Address Change
Person ID **25213**
Add Seq# **01**

GREGORY C & SUE LOVE
24506 13 RD
MONTEZUMA, KS 67867-9073

5b. ☐ Owner ☐ WUC ☐ Address Change
Person ID
Add Seq#

5c. ☐ Owner ☐ WUC ☐ Address Change
Person ID
Add Seq#

5d. ☐ Owner ☒ WUC ☐ Address Change
Person ID **25213**
Add Seq# **02**

GREGORY C & SUE LOVE
24506 13 RD
MONTEZUMA, KS 67867-9073

6. Change No.: **C2** ☒ PD ☐ PU ☐ UMW
Base Acres: Year: Min Reasonable Q:
Previous UMW: **Not changing**
MDS Gauge: Active Admin? ☐
Completion/Start Date: **3/1/2025** Perfection/Expiration Date:

7. Use of Water
☒ Groundwater ☐ Surface Water
UMW: **IRR-Irrigation**
UMW:
UMW:

8. Action Trail

9. Special Conditions

10. 5YR Allocation Type: Start Year: 5YR Quantity: Base Acres:
Comment:

11. Sand & Gravel Proj ID: ☐ Active ☐ Dredge ☐ IND Evap ☐ Jr Evap ☐ Other Diversion ☐ Rpt on Sr

12. Waiver Rule ID: ☐ New Date Requested:
Applies: Rule No.:
Rule Type:
Rule SubType:
Justification:

Comments
ADDITIONAL CONDITION - REDUCTION IN RATE

Processed
4/3/2024 AM

Reviewed

Entered

File No. **27546**
Structures File No:

13. County: **GY** Basin: **ARKANSAS RIVER** Stream:
Aquifer Code: **211** Special Use Area:

14. Points of Diversion, Rates & Quantities

PDIV	Qualifier	S	T	R	ID	'N	'W	Comment (AKA Line)	Qty AF Auth	Qty AF Add	Rate gpm Auth	Rate gpm Add	Storage Qty Auth	Storage Qty Add	Storage Rate Auth/Add	Overlaps
DEL 1254																
ENT	**SE NE NW**	**1**	**28S**	**30W**		**3991**	**2659**		**214**	**214**	**189**	**189**				

15. Limitations Type: Quantity: Rate: combined with file no(s):
Type: Quantity: Rate: combined with file no(s):

16. Metering ☒ Metering Required ☐ Anti-Reverse Required ☐ Seal Required Compliance Date: 12/31/2024

17. Place of Use

PUSE	S	T	R	ID	NE¼ NE	NE¼ NW	NE¼ SW	NE¼ SE	NW¼ NE	NW¼ NW	NW¼ SW	NW¼ SE	SW¼ NE	SW¼ NW	SW¼ SW	SW¼ SE	SE¼ NE	SE¼ NW	SE¼ SW	SE¼ SE	Total	Owner(s)	Chg?	Overlaps
CHK 15283																						**5a**	☐	**
																							☐	
																							☐	
																							☐	
																							☐	
																							☐	

18. Point of Diversion and Place of Use Overlaps

*

+

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^

** **11500 & 27895**

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^^

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

April 3, 2024

GREGORY C & SUE LOVE
24506 13 RD
MONTEZUMA, KS 67867-9073

RE: Filed Office Application for Change
Water Right, File No. 27546

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: Groundwater Management District No. 3

CERTIFICATE OF SERVICE

On this 3rd day of April, 2024, I hereby certify that the foregoing Approval of Application for Change in Point of Diversion, Water Right, File No. 27,546 dated 3rd day of April, 2024 was mailed postage prepaid, first class, US mail to the following:

GREGORY C & SUE LOVE
24506 13 RD
MONTEZUMA, KS 67867-9073

Pc:

GMD No. 3

Aaron Holsted
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
4:16 pm
AUG 03 2023
Garden City Field Office
Division of Water Resources

File No. 27546

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: Gregory C & Sue Love
24506 13 Rd, Montezuma, KS 67867
Phone Number: ( ) 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:
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*** 8-3-23 ***Check #*** 2974

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

One in the _____ Quarter of the CW Quarter of the NW Quarter of Section 1, Township 28 South, Range 30 West, in Gray County, Kansas, 3940 feet North 5120 feet West of Southeast corner of section.
Authorized Rate 840 GPM Authorized Quantity 214 AF Depth of well _____ (feet)
(DWR use only: Computer ID No. 2 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 SE Quarter of the NE Quarter of the NW Quarter of Section 1, Township 28 South, Range 30 West, in Gray County, Kansas, 3991 feet North 2659 feet West of Southeast corner of section.
Proposed Rate ~~no change~~ 189 GPM Proposed Quantity no change Proposed well depth (feet) 385.
This point is: ☐ Additional Well ☐ Geo Center List other water rights that will use this point _____.

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

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.
Authorized Rate _____ Authorized Quantity _____ Depth of well _____ (feet)
(DWR use only: Computer ID No. _____ 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) _____

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

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

As soon as possible

10. If the point of diversion is a well:

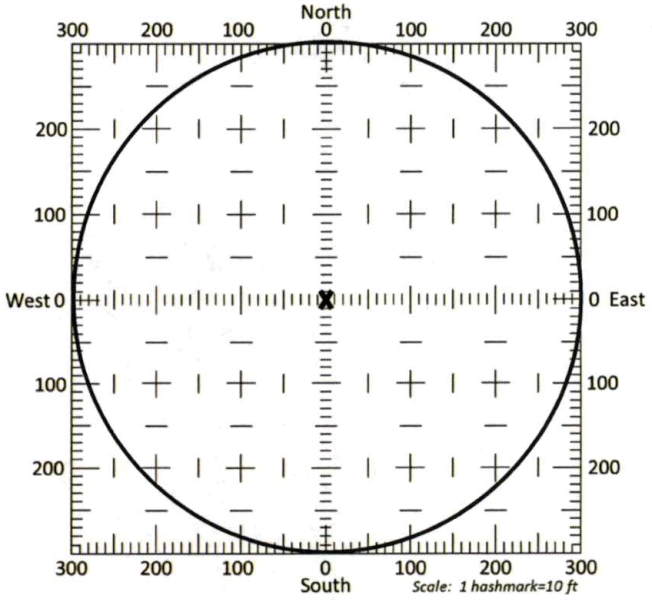
(a) What are you going to do with the old well?

plug

(b) When will this be done? As soon as possible

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

12. Assisted by CI, 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 _____, Kansas, this _____ day of _____, 20_____.

(Owner)	(Spouse)
Gregory L. Love	Susan M Love
(Please Print)	(Please Print)
(Owner)	(Spouse)
(Please Print)	(Please Print)
(Owner)	(Spouse)
(Please Print)	(Please Print)

State of Kansas }
County of Gray } SS

I hereby certify that the foregoing application was signed in my presence and sworn to before me this 3RD day of August, 20 23.

JANE A. JANTZ
Notary Public - State of Kansas
My Appt. Expires 7-21-24

Jane A. Jantz
Notary Public

My Commission Expires 7-21-24

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

File No. 27546

Additional condition attachment to the

DWR Field Office Application for Approval to Change the Place of Use and / or the Point of Diversion

It is requested that the maximum annual quantity of water be reduced to 214 (acre-feet or million gallons).

It is requested that the maximum rate of diversion of water be reduced to 189 gallons per minute (0.42 c.f.s.).

It is requested that the authorized acres be reduced to acres as described below:

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	

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 Shell Knob, ~~Kansas~~ Missouri, this 29th day of March, 2024.

(Owner)	(Spouse)
Gregory L. Love	Susan M. Love
(Please Print)	(Please Print)
(Owner)	(Spouse)
(Please Print)	(Please Print)
(Owner)	(Spouse)
(Please Print)	(Please Print)

State of ~~Kansas~~ Missouri
County of Barry } SS

I hereby certify that the foregoing application was signed in my presence and sworn to before me this 29th day of March, 2024.

Julie A. Ward
Notary Public

My Commission Expires: April 5, 2026.

JULIE A. WARD
Notary Public - Notary Seal
STATE OF MISSOURI
Barry County
My Commission Expires Apr. 5, 2026
Commission #16473407

RECEIVED
APR 02 2024
Garden City Field Office
Divison of Water Resources

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. 27546.

1. A change application was received on August 3, 2023 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**24, 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**24, or within any authorized extension of time. By March 1, 2025 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: April 3, 2024

State of Kansas)
) SS
County of Finney)

Acknowledged before me on April 3, 2024
by Austin McCulloch.

Signature: Aaron Holsted
Notary Public

My commission expires: May 18, 2027
(Notary Seal)

AARON T. HOLSTED
My Appointment Expires

ADDITIONAL CONDITIONS TO
SUMMARY ORDER APPROVING APPLICATION FOR CHANGE
AND IMPOSING CONDITIONS,
Water Right, File No. 27,546

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 maximum rate of diversion to a rate not to exceed 189 gallons per minute (0.42 c.f.s.) from the authorized point of diversion described herein.

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

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

Dated of Issuance: April 3, 2024

State of Kansas)
) SS
County of Finney)

Acknowledged before me on the 3rd day of April, 2024

By Austin McColloch

Signature Aaron Holsted
Notary Public

My Commission expires: (Notary Seal) AARON T. HOLSTED My Appointment Expires May 18, 2027

3795 W. Jones Ave.
Garden City, KS 67846
PH: 620-277-2389

Hydro resources

JUL 31 2023

PO Box 639
Garden City, KS 67846
Fax: 620-277-0224

GREG LOVE 620-846-0222

Customer Name: Love Ag WO#: 25517 Date: 7/31/23
Street Address: 24506 Rd 13 Test #: 2 E LOG: —
City, State: Montezuma, Ks 67867 Driller: David Fezzell
County: Gray Quarter: NE Section: 1 Township: 28 Range: 30
Location: From Test #1 - 319' South GPS: 37.640649N 100.552179W
Rig #: 10003 Elevation: 2805' Static WL: 270' Estimated? Customer
Proposed Well Depth 385
Possible well location 20' sump

%	Footage From	Pay	To	Description of Strata 275107	
	0		2	Surface	
	2		20	Brown Clay, Caliche	
	20		34	Fine Sand	
	34		90	Brown Clay, Caliche, few sand	
	90		99	Sand, fine to med. coarse, small gravel	
	99		119	Brown - white clay, limerock	
	119		156	Brown Sandy clay, limerock, Cemented Sand	
	156		169	Sand, fine to med. coarse	
	169		196	Brown Clay, limerock, fine sand	
	196		224	Gray-white clay, fine sand, limerock	
	224		269	Brown Clay (firm + sticky) few limerock	
10%	269	18	288	Brown Sandy Clay, fine Sand coarse (Caving/loose)	
10%	288	10	298	Sand, Silt to fine then clay (Caving/loose)	
25%	298	14	312	Sand fine to med. coarse, some small gravel + brown rock, some clays	
	312	—	319	Brown Sandy Clay	
10%	319	8	327	Sand, fine to few small	
5%	327	18	345	Brown Clay, fine sand mixed (Caving/loose)	
30	345	5	350	Sand fine to med. coarse, few clay	
35%	350	10	360	Sand fine to med. coarse, small to med brown rock	
10%	360	5	365	Sandstone (loose)	
	365		372	Soapstone, Limestone (50% LC @ 372')	Shifting Sand + Gravels
	372		380	Gray Soapstoned Shale	
	380		385	Shale	

= Big Rig =
- Test Rig -
- Set up North -
- Pit to East
1- Super Cal X
3- Grout
5 - Bentonite Plug
1- Poly Plug

WR 27546
Change in Point of Diversion

1/2 Mile from Proposed Well

Existing Well

Proposed Well

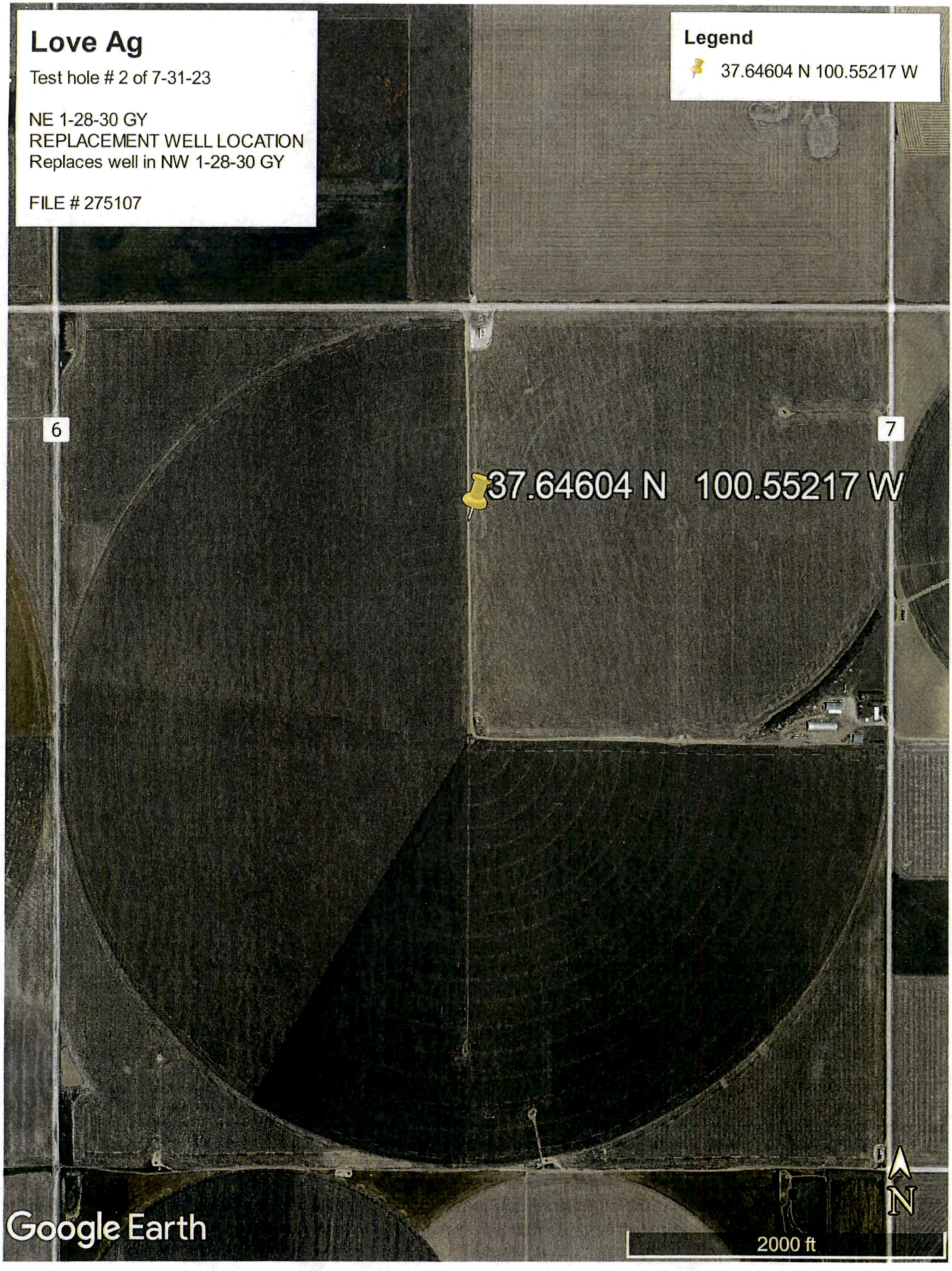
0 0.2 0.4 0.8 Miles

All wells within 1/2 mile are shown.

X_____

N
W E
S

Created By: CI/GCFO


Love Ag
Test hole # 2 of 7-31-23
NE 1-28-30 GY
REPLACEMENT WELL LOCATION
Replaces well in NW 1-28-30 GY
FILE # 275107
Legend
37.64604 N 100.55217 W
6
7
37.64604 N 100.55217 W
N
Google Earth
2000 ft

McColloch, Austin [KDA]

From: Thurlow, Steven [KDA]
Sent: Monday, December 4, 2023 12:58 PM
To: McColloch, Austin [KDA]
Cc: Engelhaupt, David [KDA]
Subject: RE: Theis File No. 27546
Attachments: 27546_sites_calcd.xlsm; Litho_27546.xlsb; PumpingScenariosPlot.xlsm; Theis_27546.pdf

Austin,

I have attached the report .pdf file for the Theis analysis on this change app, as well as the two excel files used in the analysis ('27546_sites_calcd.xlsm' and 'Litho_27546.xlsb'). The maximum net drawdown found at the nearby points of diversion was 19.6 feet, or 59.0% of the practical future saturated thickness (ST).

The maximum pumping rate that satisfies the ≤20.0% ST (170 GPM) is much lower than the proposed pumping rate (840 GPM), so I created an additional spreadsheet (PumpingScenariosPlot.xlsm) which plots the quantity vs. the maximum possible pumping rate. If the owner agrees to a decrease in Authorized Quantity in order to avoid a large reduction in the authorized pumping rate, this plots will allow you or the owner to decide upon which pumping rate/quantity scenario would be the best case scenario by following the curve and finding the rate that matches the quantity or vice versa at that point.

I apologize for the delay, please let me know if you have any questions or need anything else.

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

From: McColloch, Austin [KDA] <Austin.McColloch@ks.gov>
Sent: Monday, November 27, 2023 2:02 PM
To: Thurlow, Steven [KDA] <Steven.Thurlow@ks.gov>
Cc: Engelhaupt, David [KDA] <David.Engelhaupt@ks.gov>
Subject: RE: Theis File No. 27546

Perfect,

Thanks!

Austin McColloch
Garden City Field Office
Ph: (620) 276-2901

From: Thurlow, Steven [KDA] <Steven.Thurlow@ks.gov>
Sent: Monday, November 27, 2023 1:53 PM
To: McColloch, Austin [KDA] <Austin.McColloch@ks.gov>

Cc: Engelhaupt, David [KDA] <David.Engelhaupt@ks.gov>
Subject: RE: Theis File No. 27546

I'm putting the report together on this one right now, so I should hopefully have this ready for you within the next couple of days.

From: McColloch, Austin [KDA] <Austin.McColloch@ks.gov>
Sent: Monday, November 27, 2023 1:19 PM
To: Thurlow, Steven [KDA] <Steven.Thurlow@ks.gov>
Cc: Engelhaupt, David [KDA] <David.Engelhaupt@ks.gov>
Subject: FW: Theis File No. 27546

Any update on this one?

Thanks,

Austin McColloch
Garden City Field Office
Ph: (620) 276-2901

From: McColloch, Austin [KDA]
Sent: Monday, October 23, 2023 10:30 AM
To: Engelhaupt, David [KDA] <David.Engelhaupt@ks.gov>
Cc: Thurlow, Steven [KDA] <Steven.Thurlow@ks.gov>
Subject: RE: Theis File No. 27546

Got this from Jason today. This seems to be their standard now. Showing effects but recommending full approval unless we (the state) shows something different.

Austin McColloch
Garden City Field Office
Ph: (620) 276-2901

From: McColloch, Austin [KDA]
Sent: Wednesday, October 18, 2023 2:28 PM
To: Engelhaupt, David [KDA] <David.Engelhaupt@ks.gov>
Cc: Thurlow, Steven [KDA] <Steven.Thurlow@ks.gov>
Subject: RE: Theis File No. 27546

They are so far behind. Apparently, Trevor is focusing on grant writing currently and Jason doesn't know how to run it. That's just what I've heard. Probably wont get an eval from them for changes for a while.

Austin McColloch
Garden City Field Office
Ph: (620) 276-2901

From: Engelhaupt, David [KDA] <David.Engelhaupt@ks.gov>
Sent: Wednesday, October 18, 2023 2:26 PM
To: McColloch, Austin [KDA] <Austin.McColloch@ks.gov>
Cc: Thurlow, Steven [KDA] <Steven.Thurlow@ks.gov>
Subject: RE: Theis File No. 27546

They didn't do their analysis at all?

David Engelhaupt, P.E.
Technical Services Supervisor
Kansas Department of Agriculture
Division of Water Resources
(785) 564-6680

From: McColloch, Austin [KDA] <Austin.McColloch@ks.gov>
Sent: Wednesday, October 18, 2023 1:55 PM
To: Engelhaupt, David [KDA] <David.Engelhaupt@ks.gov>
Cc: Thurlow, Steven [KDA] <Steven.Thurlow@ks.gov>
Subject: Theis File No. 27546

David / Steven,

Attached is a copy of the application that we need to run theis on. GMD was not able to preform their evaluation to flag any critical wells, however, this is in a known bad area.

Thanks,

Austin McColloch
Garden City Field Office
Ph: (620) 276-2901

S. Thurlow
11/29/2023

Theis evaluation of proposed change in point of diversion, File No. 27546

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. 27546. The change proposes reallocating the well approximately 51 feet South and 2,461 feet East of the currently authorized location (Figure 1).

The GMD No. 3 groundwater model was used for a projected future (2068) saturated thickness (52.5 ft). The average of model cells located within Township 27 South, Range 29 West, Section 31; Township 27 South, Range 30 West, Sections 35, and 36; Township 28 South, Range 29 West, Section 6; and Township 28 South, Range 30 West, Sections 1, 2, and 12 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. The lithological log supplied with the change application was also considered. Hydraulic conductivity assumptions were based on the calibrated values used for the GMD No. 3 groundwater model (Figures 2 and 3). In all, eleven lithological logs were evaluated (Figure 4-7, Tables 1-11), with an average transmissivity of 3,940 square feet per day. An assumed specific storage (1×10^{-5} for the Ogallala Aquifer and 1×10^{-6} for the Dakota Aquifer) and the projected saturated thickness was used to determine the assumed storativity of 0.00038. The average Practical saturated thickness (33.2 ft) was used when calculating the net drawdown as a percentage of saturated thickness (Table 12).

Drawdown was evaluated at two nearby existing wells authorized by File Nos. 22244 and 111442, and one domestic well of KGS# 111229 in section 28S-30W-01 (Table 12). A quantity of 214 acre-feet (AF) at a rate of 840 gallons per minute (gpm) was compared to a no-pumping scenario since there has been no reported pumping at the current point of diversion for the last 10 years. The maximum net drawdown occurred at the point of diversion authorized by the domestic well KGS#111229. The net drawdown at that distance was 19.6 feet, or 59.0% of the Practical saturated thickness (Table 12). If the proposed quantity remains constant and the proposed rate is limited to 170.0 gpm, the increase in drawdown will be limited to 6.6 ft or 20.0% of the Practical Saturated Thickness (Table 12).

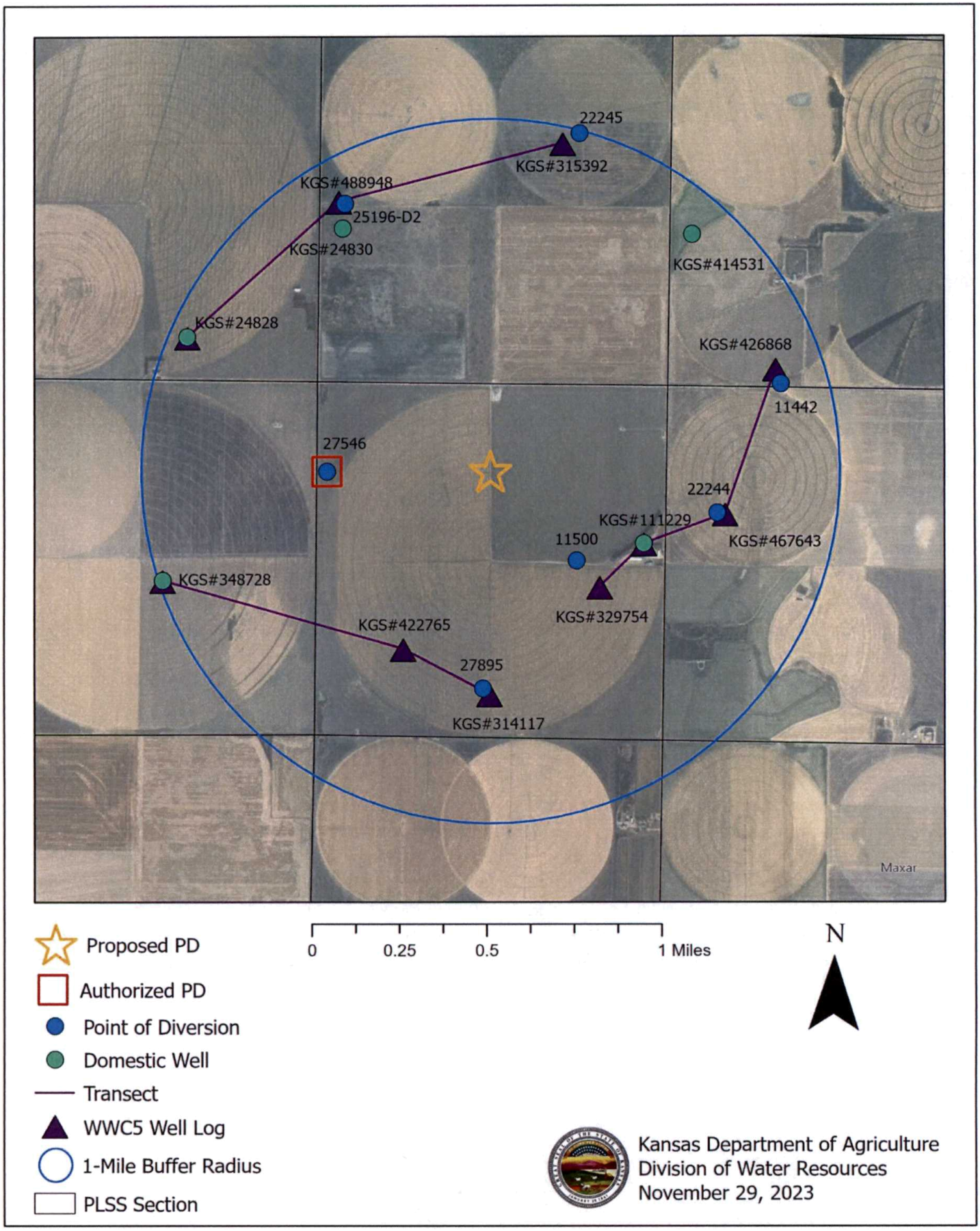


Figure 1: Location of current and proposed point of diversion, surrounding points of diversion, and WWC5 records

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

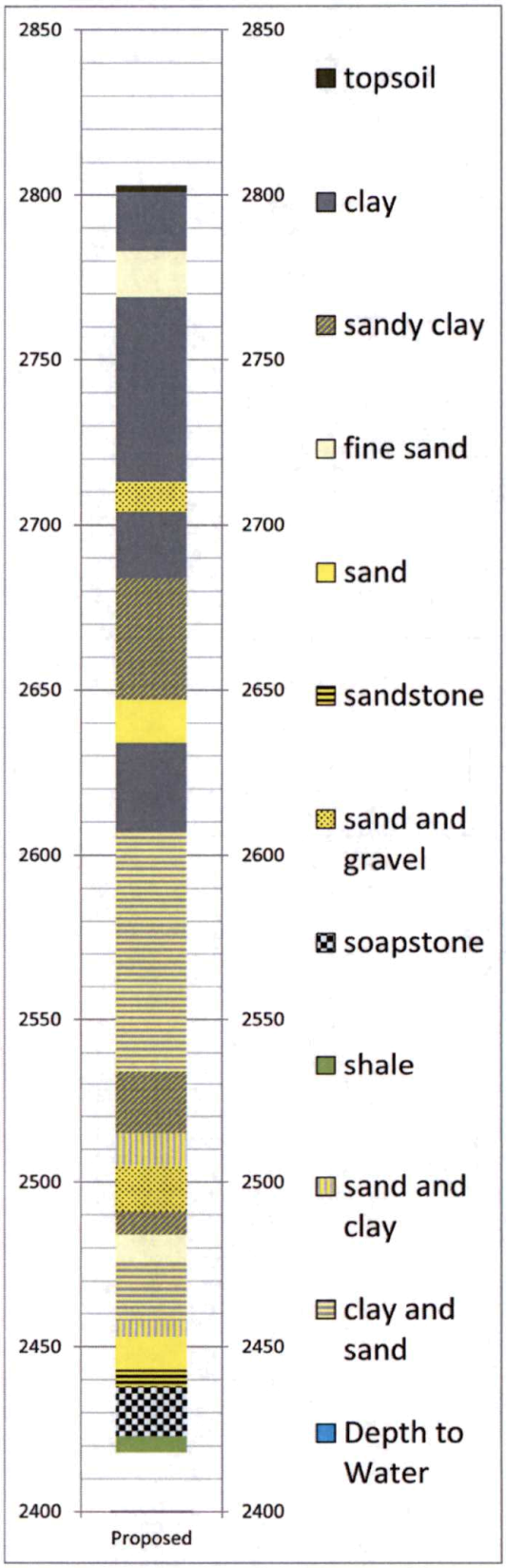


Figure 4: lithology log of the proposed location

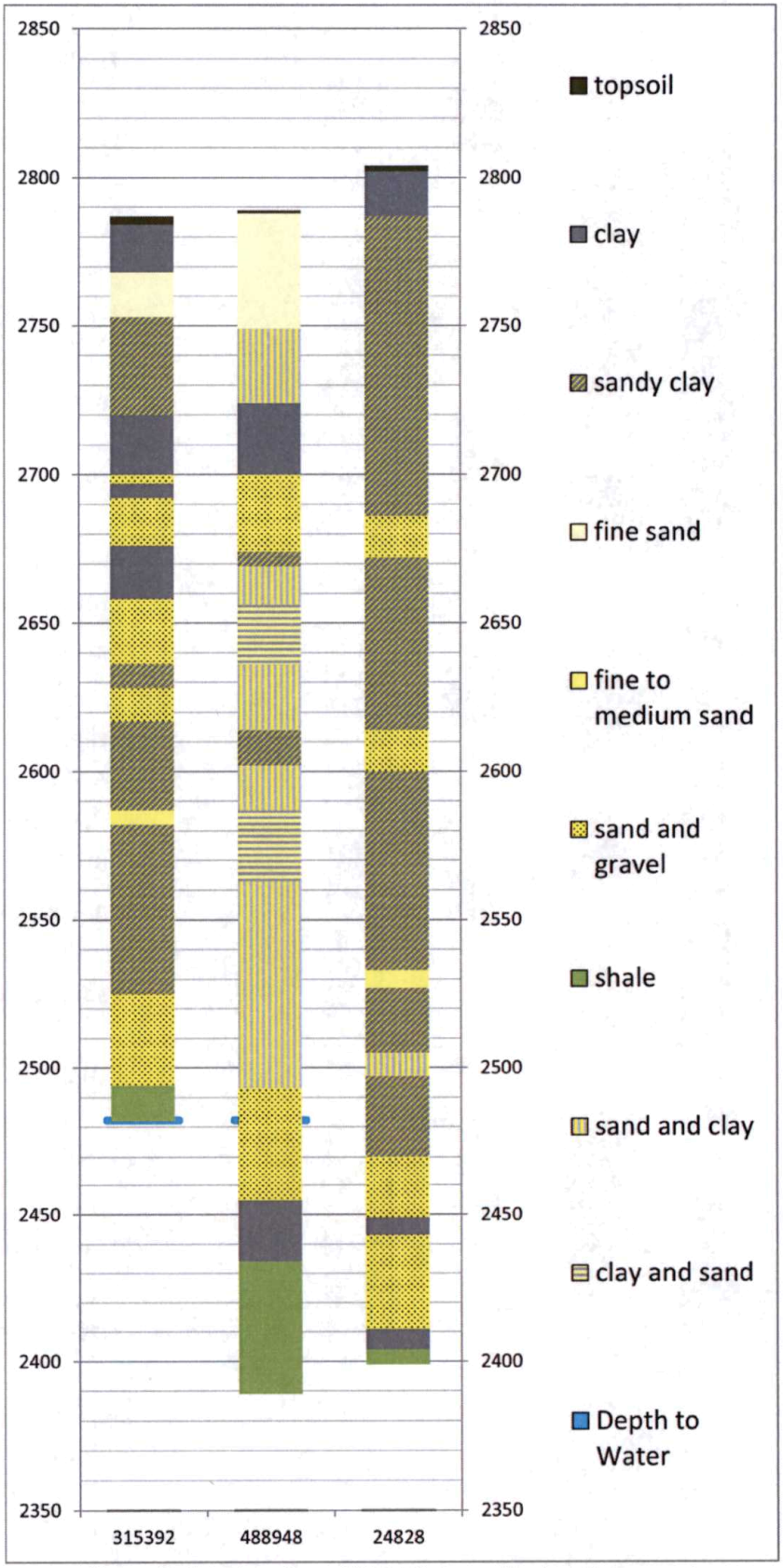


Figure 5: lithology log of KGS Wells on the North transect

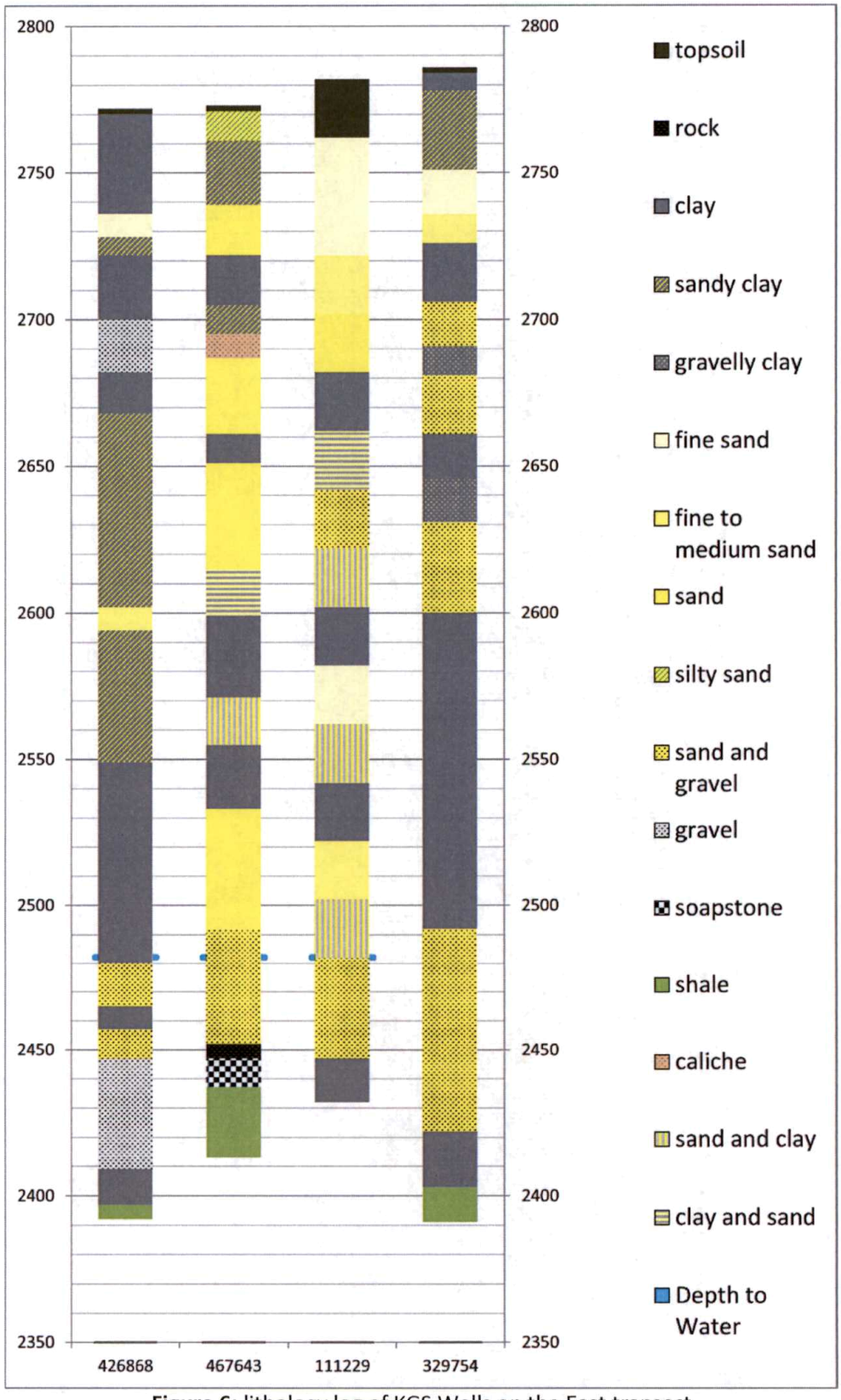


Figure 6: lithology log of KGS Wells on the East transect

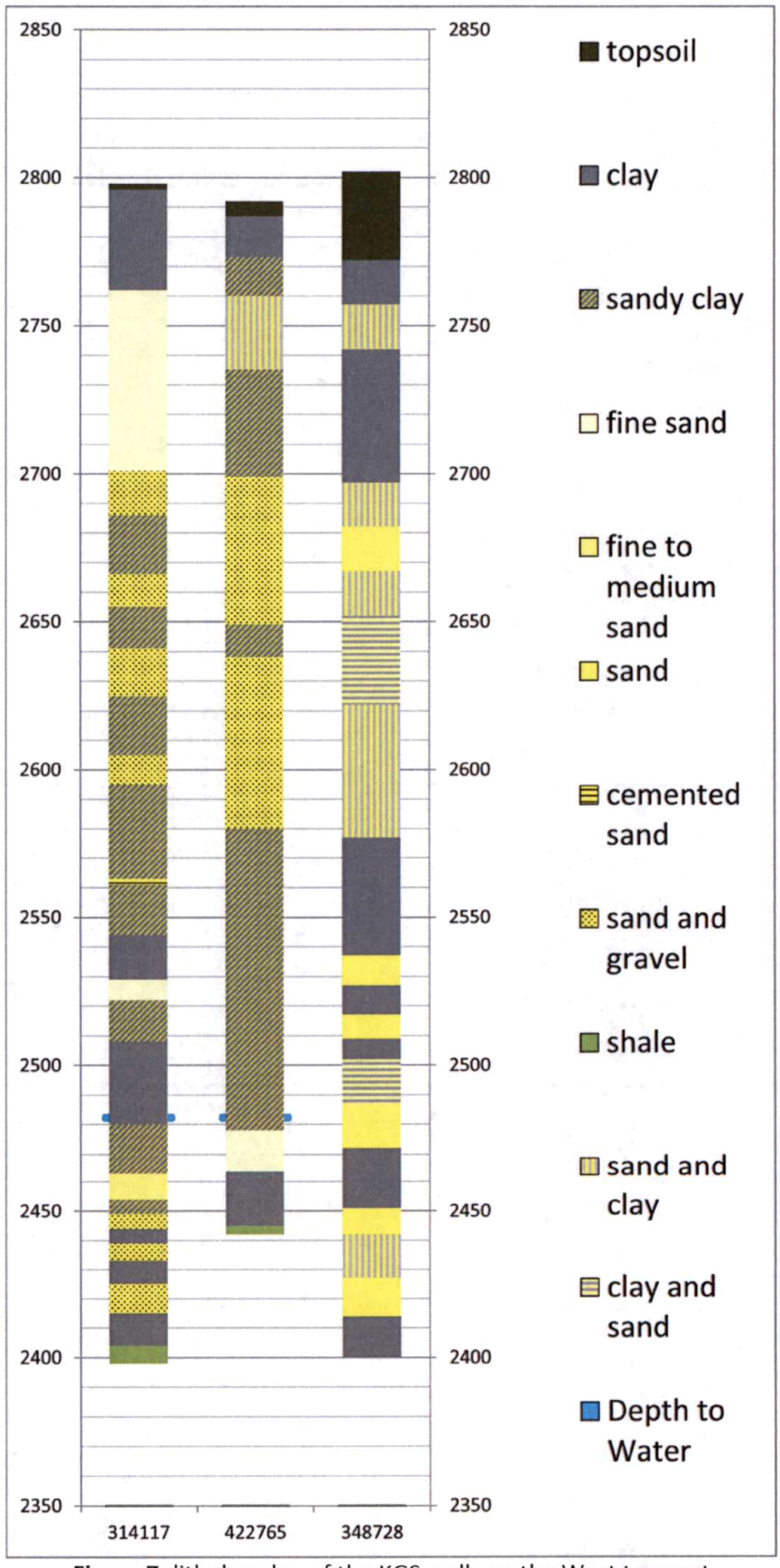


Figure 7: lithology log of the KGS wells on the West transect

Table 1: Lithology, Proposed Well

Driller's Description	Synonymy Codes	Percentages	Saturated Thickness (Feet)	Transmissivity (feet^2/day)
Surface				
Brown clay, caliche				
Fine sand				
Brown clay, caliche, few sand				
Sand, fine to med. coarse, small gravel				
Brown-white clay, limerock				
Brown sandy clay, limerock, cemented sand				
Sand, fine to med coarse				
Brown clay, limerock, fine sand				
Gray-white clay, fine sand, limerock				
Brown clay (firm & sticky) few limerock				
Brown sandy clay, fine sand mixed (fairly loose)				
sand, small to fine, thin clay (fairly loose)				
Sand, fine to med. Coarse, some small gravel & brown rock, some clay				
Brown sandy clay				
Sand, fine to few small	Fnsnd	100	6	90.0
Brown clay, fine sand mixed (fairly loose)	C, fsnd	60, 40	18	108.0
Sand fine to med. Coarse, few clay	Snd, c	80, 20	5	252.0
Sand fine to med coarse, small to med brown rock	Snd, r	60, 40	10	378.0
Sandstone (loose)	Ds	100	5	22.0
Soapstone, limestone (50% LC @ 372')	Ca	100	7	0.0
Grey soapstone shale	Ca, sh	60, 40	8	0.0
shale	sh	100	5	0.0
			Total Transmissivity:	850.0

Above water surface

Table 2: Lithology, KGS Well ID 315392

Driller's Description	Synonymy Codes	Percentages	Saturated Thickness (Feet)	Transmissivity (feet^2/day)
Top soil	Above water surface			
Brown clay				
Fine sand				
Brown sandy clay				
Brown clay				
Fine to medium sand and gravel				
Brown clay				
Fine to medium sand and gravel with coarse gravel mixed				
Brown clay				
Fine to medium sand and gravel – 10% clay				
Fine to medium sand and grave				
Brown sandy clay				
Fine to medium sand and gravel 10% clay				
Brown sandy clay with white rock mixed				
Fine to medium sand				
Brown sandy clay				
Brown sandy clay with fine sand streaks				
Brown sandy clay				
Fine to medium sand and gravel with brown rock mixed				
Gray and black shale				
			Total Transmissivity:	0.0

Table 3: Lithology, KGS Well ID 488948

Driller's Description	Synonymy Codes	Percentages	Saturated Thickness (Feet)	Transmissivity (feet²/day)
Top soil	Above water surface			
Fine sand with silt and clay				
Medium fine fairly tight sand with clay				
Green clay				
Brown and green clay				
Soft brown clay				
Medium to medium coarse sand and gravel				
Brown sandy clay				
Medium sand with clay layers				
Brown clay fairly stiff with sand layers				
Medium sand with clay streaks				
Sandy brown clay with sand streaks				
Medium sand with clay streaks				
Brown clay with fine sand				
Fine sand with some clay				
Medium fine sand with clay streaks				
Medium fine with clay streaks				
Medium to coarse sand and gravel	Snd, g	60, 40	27	4249.8
Soft brown clay	C	100	8	0.0
Brown clay stone and gray clay	C	100	13	0.0
Gray shale	sh	100	45	0.0
			Total Transmissivity:	4249.8

Table 4: Lithology, KGS Well ID 24828

Driller's Description	Synonymy Codes	Percentages	Saturated Thickness (Feet)	Transmissivity (feet^2/day)
Top soil	Above water surface			
Brown clay				
Brown sandy clay				
Fine to medium sand and gravel				
Brown white sandy clay				
Fine to medium sand and fine gravel (loose)				
Brown sandy clay				
Fine to medium sand				
Brown sandy clay				
Fine to medium sand 10% clay (loose)				
Brown sandy clay	Sc	100	12	52.8
Fine to medium sand and gravel mixed small white yellow rock (loose)	Fmsnd, g, r	50, 30, 20	21	2041.2
Brown yellow clay mixed	C	100	6	0.0
Fine to medium sand and gravel mixed small white yellow rock (loose)	Fmsnd, g, r	20	32	3110.4
Yellow clay	C	100	7	0.0
shale	sh	100	5	0.0
			Total Transmissivity:	5204.4

Table 5: Lithology, KGS Well ID 426868

Driller's Description	Synonymy Codes	Percentages	Saturated Thickness (Feet)	Transmissivity (feet^2/day)
Topsoil	Above water surface			
Brown clay				
Fine sand – loose				
Brown sandy clay				
Brown clay				
Medium coarse gravel – clay streaks				
Yellow gray clay				
Brown sandy clay white rock mixed				
Brown sandy clay				
Fine to medium sand				
Brown sandy clay				
Brown sandy clay – sandstone streak				
Brown clay	C	100	2	0.0
Fine to medium sand and gravel – 10% clay	Fmsnd, g, c	50, 40, 10	15	1906.5
Brown clay	C	100	8	0.0
Fine to medium sand and gravel	Fmsnd, g	60, 40	10	1286.0
Medium to coarse gravel brown yellow rock mixed – loose	G, r	60, 40	38	6817.2
Yellow clay	C	100	12	0.0
shale	Sh	100	5	0.0
			Total Transmissivity:	10009.7

Table 6: Lithology, KGS Well ID 467643

Driller's Description	Synonymy Codes	Percentages	Saturated Thickness (Feet)	Transmissivity (feet²/day)
Top soil				
Silty sand				
Brown sandy clay				
Fine to medium coarse sand				
Multicolor clay				
Brown sandy clay, caliche strips				
Caliche				
Fine to medium coarse sand				
Brown clay				
Fine to medium coarse sand				
Brown clay, few sand streaks				
Brown clay, limestone ledges				
Fine to medium coarse sand, few clays				
Brown clay				
Fine to medium coarse sand				
Medium to coarse sand, small gravel	Snd, g	60, 40	30	4722.0
Brown rock	R	100	5	0.0
Yellow soapstone, few yellow sandstone	Ca, ds	80, 20	10	8.8
Gray shale, sandstone strip	Sh, ds	80, 20	24	21.1
			Total Transmissivity:	4751.9

Table 7: Lithology, KGS Well ID 111229

Driller's Description	Synonymy Codes	Percentages	Saturated Thickness (Feet)	Transmissivity (feet^2/day)
Top soil and fine sand	Above water surface			
Fine sand				
Fine sand and caliche				
Fine to medium sand				
Fine and coarse sand				
Clay				
Clay and fine sand				
Fine sand, coarse sand, and small gravel				
Fine sand with clay layers				
Clay with caliche in layers				
Fine sand				
Fine sand and clay				
Clay and caliche				
Fine to medium sand				
Fine to medium sand with clay layers				
Medium to coarse sand with small gravel	Snd, g	60, 40	35	5509.0
Clay and blue shale	c	100	15	0.0
			Total Transmissivity:	5509.0

Table 8: Lithology, KGS Well ID 348728

Driller's Description	Synonymy Codes	Percentages	Saturated Thickness (Feet)	Transmissivity (feet²/day)
Topsoil and clay	Above water surface			
Clay				
Sand (fine) and clay				
Clay and little lime				
Sand and clay				
Sand, little cemented sand and clay				
Sand and little clay				
Clay and little lime, sand				
Clay and sand				
Clay and sand				
Sand and little clay				
Sand and clay				
Sand (fine) and clay and lime				
Clay and little lime				
Sand				
Clay				
Sand (fine)				
Clay and little lime				
Clay, little lime, little sand				
Sand (tight and coarse)	Snd	100	10	630.0
Clay and little lime	C, ca	80, 20	21	0.0
Sand (tight)	Snd	100	9	567.0
Sand (tight) and little clay	Snd, c	80, 20	15	756.0
Sand (tight and coarse)	Snd	100	13	819.0
clay	C	100	14	0.0
			Total Transmissivity:	2772.0

Table 9: Lithology, KGS Well ID 329754

Driller's Description	Synonymy Codes	Percentages	Saturated Thickness (Feet)	Transmissivity (feet²/day)
Top soil				
Brown clay				
Brown sandy clay				
Fine sand				
Fine to medium sand				
Brown clay				
Fine to medium sand and gravel				
Brown clay with gravel streaks				
Fine to medium sand and gravel		Above water surface		
Brown clay with white rock mixed				
Brown clay with gravel streaks				
Fine to medium sand and gravel				
Fine to medium sand and gravel with clay streaks				
Brown clay				
Brown clay with white rock mixed				
Brown clay				
Fine to medium sand and gravel with clay streaks – tight	Fmsnd, g, c	60, 30, 10	23	2270.1
Fine to medium sand and gravel	Fmsnd, g	60, 40	37	4758.2
Brown clay and brown rock mixed	C	100	7	0.0
Brown and yellow clay	C	100	12	0.0
shale	sh	100	12	0.0
			Total Transmissivity:	7028.3

Table 10: Lithology, KGS Well ID 422765

Driller's Description	Synonymy Codes	Percentages	Saturated Thickness (Feet)	Transmissivity (feet²/day)
Topsoil	Above water surface			
Brown clay				
Brown sandy clay				
Fine sand, 20% clay				
Brown sandy clay				
Fine to medium sand and gravel (tight)				
Fine to medium sand and gravel (loose)				
Fine to medium sand and gravel, hard pull down				
Brown sandy clay				
Fine to medium sand and gravel				
Fine to medium sand and gravel (tight) 10% clay				
Fine to medium sand and gravel (loose)				
Brown sandy clay				
Brown sandy clay mixed with white rock (no good)				
Brown sandy clay	Sc	100	4	17.6
Fine sand, small yellow rock, brown rock mixed, 15% clay	Fsnd, r	50, 50	14	105.0
Yellow clay	C	100	19	0.0
shale	sh	100	3	0.0
			Total Transmissivity:	122.6

Table 11: Lithology, KGS Well ID 314117

Driller's Description	Synonymy Codes	Percentages	Saturated Thickness (Feet)	Transmissivity (feet²/day)
Top soil	Above water surface			
Brown clay				
Brown clay				
Fine sand				
Fine to medium sand and gravel				
Brown sandy clay				
Fine to medium sand and gravel				
Brown sandy clay				
Fine to medium sand and gravel				
Brown sandy clay				
Fine to medium sand and gravel				
Brown sandy clay				
Brown sandy clay white rock mixed				
Cemented sand – hard pull down 500				
Brown sandy clay white rock mixed				
Brown clay				
Fine sand				
Brown sandy clay				
Brown clay	C	100	2	0.0
Brown sandy clay	Sc	100	17	74.8
Fine to medium sand	Fmsnd	100	9	135.0
Brown sandy clay	Sc	100	5	22.0
Fine to medium sand and gravel	Fmsnd, g	60, 40	5	643.0
Brown clay	C	100	5	0.0
Fine to medium sand and gravel	Fmsnd, g	60, 40	6	771.6
Brown yellow clay mixed	C	100	8	0.0
Fine to medium sand and gravel	Fmsnd, g	60, 40	7	900.2
Fine to medium sand and gravel – yellow brown rock – 50-50%	Fmsnd, g, r	50, 30, 20	3	291.6
Brown clay	C	100	4	0.0
Brown yellow clay	C	100	7	0.0
Shale	sh	100	6	0.0
			Total Transmissivity:	2838.2

Table 12: Theis Drawdown of Nearby Wells; T = 3,940 ft²/day, S = 0.00038

Nearby Well	Distance (FT)	Pump Rate (GPM)	Volume (AF)	Net Drawdown (FT)	Net Drawdown (%ST)
File No. 11442	4575.3	840.0	214.0	15.8	47.6%
File No. 22244	3482.3	840.0	214.0	17.6	52.9%
KGS#111229	2552.0	840.0	214.0	19.6	59.0%
KGS#111229	2552.0	170.0	214.0	6.6	20.0%

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

October 18, 2023

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. 27546

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 neighboring wells exceeded the net effect above the maximum allowable threshold and needed further evaluation. Based on current model data, critical wells were determined in the area. Pump testing in the area shows model could be over estimating values, but was determined the test was too far away to use those numbers. We did not receive any comments from neighboring well owners. Therefore, GMD3 sees this move as meeting current area rules and would recommend approval if the State could verify if values may over estimated in current model. 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. Therefore, GMD3 sees this move as meeting current area rules and would recommend approval. 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).: 27546. DWR office: GC.
App filed to change: PD.
Is Landowner(s) correct in WRIS: Gregory & Sue Love.
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	3940	5120	Sect 1-28-30
Proposed PD	3991	2659	
Difference	-51 n	2461 e	
a2 + b2 = c2	2601	6056521	2461.528 foot move NE

GPS for proposed PD: Lat: 37.64604 Long: -100.552217.
Is proposed PD stacking on existing WRs? No.
Is Proposed PU overlapping existing WRs? No Change.
Neighboring certified well(s) notified: __.
Name Roy & Connie Yost (11442).
Address PO Box 333.
Zip Montezuma, KS 67867.
Email: yost.53@gmail.com Phone: ___.

Name Robbie Yost (22244).
Address PO Box 372.
Zip Montezuma, KS 67867.
Email: Robbie.Yost@outlook.com Phone: .

Name R Shane Koehn (22245).
Address 28306 8 RD.
Zip Montezuma, KS 67867.
Email: snlkoehn@gmail.com Phone: .

Name Hamilton Bros Partnership (25196).
Address PO Box 149.
Zip Ensign, KS 67841.
Email: hamiltonbros@ucom.net Phone: .

Domestic well(s) notified: __.
Name William & Katie Reck SW SE 35).
Address 5506 Y RD.

GMD3 Change Review

Zip Montezuma, KS 67867.

Base Acres: __.
Perfected Acres: __.
Irr. Return-Flow ___%
Gray County
Authorized: 214AF @ 840gpm
Hasn't had any pumping reported in the last 10 years.
Neighboring well under 11500 was reduced to 400AF to meet the minimum spacing.
Proposed depth around 385'

Is a waiver needed: Move is less than half mile. With 11500 being reduced to 400AF, minimum spacing to neighboring wells is met. Analyis does show possible critical wells, but questions the values of the model.
Recommendation: Due to time constraints, the analysis has not been performed yet. In order to keep the process moving, we would recommend approval as long as DWR is comfortable that impairment is unlikely. Once we do get the analysis done we will provide that information.

Report Date: Monday, October 2 2023

Water Rights and Points of Diversion Within 1 mile of point defined as:
3991 Feet N and 2659 Feet W of the Southeast Corner of Section 1 Twp 28S Rng 30W
Located at: 100.552170 West Longitude and 37.646040 North Latitude
Both SURFACE WATER and GROUNDWATER

File Number	Use	ST	SR	Dist (ft)	Q4	Q3	Q2	Q1	FeetN	FeetW	Sec	Twp	Rng	ID	Batt	Auth_Quan	Add_Quan	Unit
A 11442	00	IRR	NK	G	4549	--	SW	SE	SW	78	3501	31	27	29W	4		284.00	284.00	AF
A 11500	00	IRR	NK	G	1989	--	NW	NE	SE	2620	1210	1	28	30W	5		400.00	400.00	AF
A 22244	00	IRR	NK	G	3482	--	NE	SW	NW	3443	4396	6	28	29W	2		360.00	360.00	AF
A 22245	00	IRR	NK	G	5193	--	NE	SW	NE	3750	1315	36	27	30W	2		270.00	270.00	AF
A 25196	D2	IRR	NK	G	4601	--	SW	SW	NW	2724	4940	36	27	30W	4		250.00	250.00	AF
A 27546	00	IRR	NK	G*	2470	--	--	CW	NW	3940	5120	1	28	30W	2		214.00	214.00	AF
A 27895	00	IRR	NK	G	3292	--	NC	S2	S2	700	2675	1	28	30W	4		340.00	340.00	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) =	2118.00	.00
Total Vested Amount (AF) =	.00	.00
TOTAL AMOUNT (AF) =	2118.00	.00

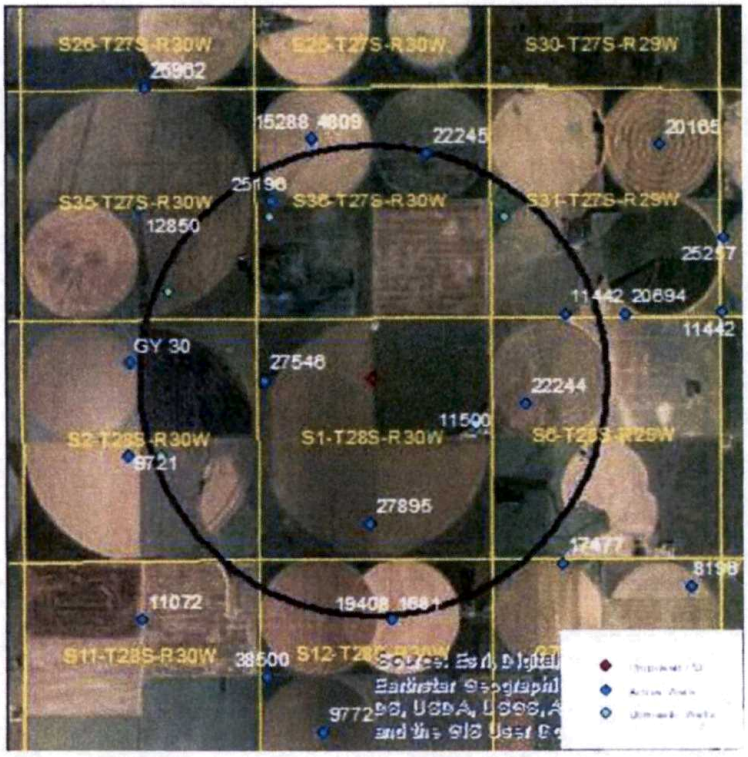
An * after the source of supply indicates a pending application for change under the file number.
An * after the ID indicates a 15 AF exemption was granted under the file number.
A "G" in the Batt column indicates the GEO CTR of a battery. A "B" indicates a well in the battery.
The number in the Batt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

Water Rights and Points of Diversion Within 1 mile of point defined as:
3991 Feet North and 2659 Feet West of the Southeast Corner of Section 1 Twp 28S Rng 30W
Located at: 100.552170 West Longitude and 37.646040 North Latitude
Both SURFACE WATER and GROUNDWATER
WATER USE CORRESPONDENTS:

File Number	Use	ST	SR
> ROY & CONNIE YOST			
>			
> PO BOX 333			
> MONTEZUMA KS 67867			
>----------			
> GREGORY C & SUE LOVE			
>			
> 24506 13 RD			
> MONTEZUMA KS 67867			
>----------			
> ROBBIE YOST			
>			
> PO BOX 372			
> MONTEZUMA KS 67867			
>----------			
> R SHANE KOEHN			
>			
> 28306 8 RD			
> MONTEZUMA KS 67867			
>----------			

Evaluation of proposed move for Water Right No. 27546

Proposed: Move water right no. 27546 to a new well location, 2,456 ft to the east.



Wells within 1 mile: 25196, 11442, 27895, 11500, 22244, a domestic well in section 35-27-30, a domestic well in section 36-27-30, a domestic well in section 31-27-29, a domestic well in section 2-28-30, and a domestic well in section 1-28-30.

The saturated thickness at the proposed well location is estimated to be 133 ft, based upon the GMD3 model. 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 = 0.1189, T = 2393 ft^2/day, $tp_{current}$ = 0 days, $Q_{current}$ = 0 gpm, $tp_{proposed}$ = 58 days, $Q_{proposed}$ = 840 gpm

Theis drawdowns were calculated as follows:

25196:	Net drawdown = **3.2 ft**
11442:	Net drawdown = **3.2 ft**
27895:	Net drawdown = **4.0 ft**
11500:	Net drawdown = **6.0 ft**
22244:	Net drawdown = **3.8 ft**
Domestic 35-27-30:	Net drawdown = **3.1 ft**
Domestic 36-27-30:	Net drawdown = **3.4 ft**

Domestic 31-27-29: Net drawdown = **3.2 ft**

Domestic 2-28-30: Net drawdown = **3.0 ft**

Domestic 1-28-30: Net drawdown = **4.7 ft**

Net drawdown exceeds the drawdown allowance for all wells within 1 mile of the proposed location except for the domestic well in section 2-28-30. Critical well analysis is necessary on those wells.

Critical Well Evaluation:

25196:

Water Column = 116 ft

DP = 3.2 ft (Net drawdown from the proposal indicated above)

DE = 47.3 ft (Water level decline from 2023 through 2048 based upon GMD3 model)

DD = 65.9 ft (S = 0.1633, T = 2000 ft^2/day, Q = 401 gpm, tp = 120 days, efficiency = 70%)

DT = 116.4 ft

Total drawdown of 116.4 ft is greater than the remaining saturated thickness, so this well **is critical.**

11442:

Water Column = 101 ft

DP = 3.2 ft (Net drawdown from the proposal indicated above)

DE = 43.9 ft (Water level decline from 2023 through 2048 based upon GMD3 model)

DD = 18.5 ft (S = 0.1592, T = 7349 ft^2/day, Q = 381 gpm, tp = 120 days, efficiency = 70%)

DT = 65.6 ft

Economic Drawdown Constraint (EDC) = 0.4 * 101 ft = 40.4 ft

Physical Drawdown Constraint (PDC) = 101 ft – 60 ft = 41.0 ft

Total drawdown of 65.6 ft exceeds the EDC and the PDC, so this well **is critical.**

27895:

Water Column = 133 ft

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

DE = 50.9 ft (Water level decline from 2023 through 2048 based upon GMD3 model)

DD = 71.8 ft (S = 0.1189, T = 2393 ft^2/day, Q = 567 gpm, tp = 73 days, efficiency = 70%)

DT = 132.7 ft

Economic Drawdown Constraint (EDC) = 0.4 * 133 ft = 53.2 ft

Physical Drawdown Constraint (PDC) = 133 ft – 60 ft = 73.0 ft

Total drawdown of 132.7 ft exceeds the EDC and the PDC, so this well **is critical.**

11500:

Water Column = 133 ft

DP = 6.0 ft (Net drawdown from the proposal indicated above)

DE = 50.9 ft (Water level decline from 2023 through 2048 based upon GMD3 model)

DD = 93.4 ft (S = 0.1189, T = 2393 ft^2/day, Q = 662 gpm, tp = 111 days, efficiency = 70%)

DT = 150.3 ft

Total drawdown of 150.3 ft is greater than the remaining saturated thickness, so this well **is critical.**

22244:

Water Column = 113 ft

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

DE = 46.7 ft (Water level decline from 2023 through 2048 based upon GMD3 model)

DD = 81.0 ft (S = 0.1953, T = 3042 ft^2/day, Q = 774 gpm, tp = 60 days, efficiency = 70%)

DT = 131.5 ft

Total drawdown of 113 ft is greater than the remaining saturated thickness, so this well **is critical.**

Domestic 35-27-30:

Water Column = 127 ft

DP = 3.1 ft (Net drawdown from the proposal indicated above)

DE = 64.0 ft (Water level decline from 2023 through 2048 based upon GMD3 model)

DT = 67.1 ft

Economic Drawdown Constraint (EDC) = 0.4 * 127 ft = 50.8 ft

Physical Drawdown Constraint (PDC) = 127 ft – 20 ft = 107 ft

Total drawdown of 67.1 ft is greater than the EDC, so this well **is critical.**

Domestic 36-27-30:

Water Column = 116 ft

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

DE = 47.3 ft (Water level decline from 2023 through 2048 based upon GMD3 model)

DT = 50.7 ft

Economic Drawdown Constraint (EDC) = 0.4 * 116 ft = 46.4 ft

Physical Drawdown Constraint (PDC) = 116 ft – 20 ft = 96.0 ft

Total drawdown of 50.7 ft is greater than the EDC, so this well **is critical.**

Domestic 31-27-29:

Water Column = 101 ft

DP = 3.2 ft (Net drawdown from the proposal indicated above)

DE = 43.9 ft (Water level decline from 2023 through 2048 based upon GMD3 model)

DT = 47.1 ft

Economic Drawdown Constraint (EDC) = 0.4 * 101 ft = 40.4 ft

Physical Drawdown Constraint (PDC) = 101 ft – 20 ft = 81.0 ft

Total drawdown of 47.1 ft is greater than the EDC, so this well **is critical.**

Domestic 1-28-30:

Water Column = 133 ft

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

DE = 50.9 ft (Water level decline from 2023 through 2048 based upon GMD3 model)

DT = 55.6 ft

Economic Drawdown Constraint (EDC) = 0.4 * 133 ft = 53.2 ft

Physical Drawdown Constraint (PDC) = 133 ft – 20 ft = 113 ft

Total drawdown of 55.6 ft is greater than the EDC, so this well **is critical.**

Conclusion:

The proposed move may create noticeable effects on nearby critical wells, due to the low remaining saturated thickness and high rate of projected decline. Nearby wells were flagged as critical because they are projected to lose more than 40% of their usable water supply over the next 25 years, after accounting for well drawdown effects. Concerned neighbors should contact GMD3 at (620) 275-7147 or the Division of Water Resources at (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

October 18, 2023

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. 27546

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.

Due to time constraints, well evaluations have not been conducted at this time 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. This area has not been an issue with previous reviews. In order to maintain a timely response we would recommend approval as long as DWR has taking into consideration possible future effects. Once we do have the analysis done we will provide it as a resource for the file.

Therefore, GMD3 sees this move as meeting current area rules and would recommend approval. 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

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

September 25, 2023

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

Re: Request for Recommendation,
File Nos. 27546

Dear Sir or Madam:

We are enclosing a copy of the referenced application, which was submitted by Greg Love 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: