

GMD3 Change Review

File No(s): 28286.

DWR office: GC.

App filed to change: PD.

Is Landowner(s) correct in WRIS: Maddux Farms.

If NO, is documentation included?

Is Water Use Correspondent correct in WRIS? Yes.

If NO, is documentation included?

Regulation(s) Reviewed: KAR 5-23-3

Point of diversion ID No(s) 04 being changed.

	ft. North	ft. West				
Authorized PD	66	2730	sect 31-22-34			
Proposed PD	1131	5167				
Difference	-1065	-2437				
a2 + b2 = c2	1134225	5938969	2659.548 foot move			

GPS for proposed PD: Lat: 38.0935 Long: -101.10197.

Is proposed PD stacking on existing WRs? No.

Is Proposed PU overlapping existing WRs? .

Land Owner(s) notified: .

Name .

Name .

Address .

Address .

Zip .

Zip .

Neighboring certified well(s) notified: .

Name .

Name .

Address .

Address .

Zip .

Zip .

Domestic well(s) notified: .

Name .

Name .

Address .

Address .

Zip .

Zip .

Base Acres: .

Perfected Acres: .

Irr. Return-Flow %

GPS provided shows the move to be less than half mile within the rules.

Lost production from current location.

Well analysis shows concern on well to well interaction, which was done at full authorized rate and quantity.

Phone conversation with Kent Maddux determined that applicant is only wanting 400gpm max and will continue to use this WR in combination with 6773 and plan to continue average use from new well which is around half of max that is authorized.

Is a waiver needed: Meets current area rules in place for distance moved and spacing.

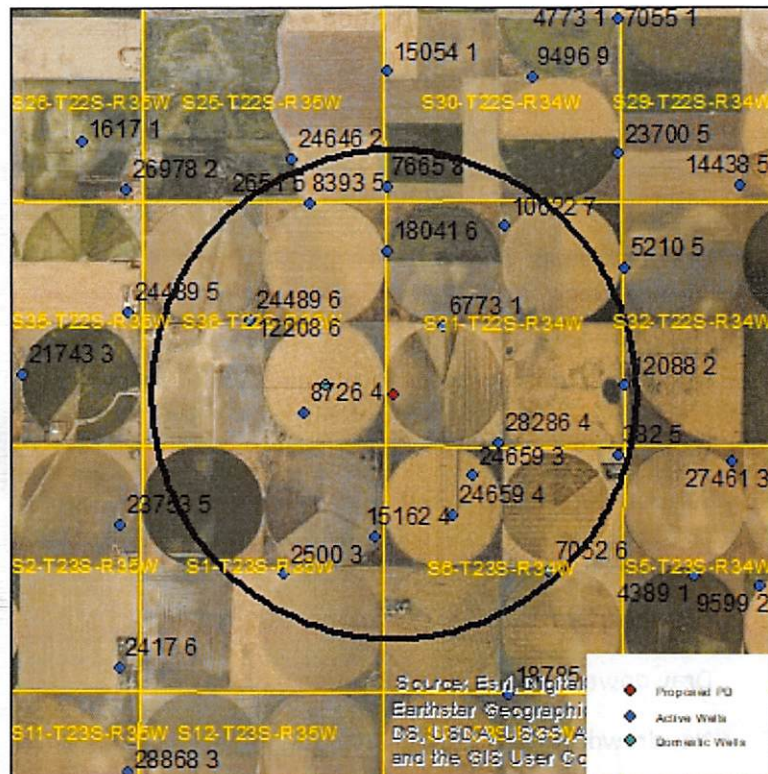
GMD3 Change Review

Recommendation: Analysis shows low saturated thickness for the area and applicant will not be able to put full authority or rate from new well. Conversation with applicant confirmed he is wanting to continue with a less than 400gpm rate or lower. This would greatly reduce the effects to neighbors and mitigate concerns for neighboring wells. Staff therefore recommends approval of the application.



Evaluation of proposed additional well for Water Right No 28286

Proposed: Move the well authorized under water right no. 28286 2,533 ft to the northwest.



Wells within 1 mile: 6773, 18041, 10622, 12088, 7665, 2651 & 8393, 12208 & 24489, 8726, 2500, 15162, 24659 ID 3, 24659 ID 4, 7052, 382, and a domestic well in section 36-22-35.

The saturated thickness at the proposed well location is estimated to be 91 ft, based upon observation well data from section 6-23-34 and local driller's logs. For saturated thicknesses between 75 ft and 100 ft, the maximum allowable Theis drawdown to neighboring critical wells is 2.0 ft. The saturated thickness in this area varies from well to well, so the estimated saturated thickness and allowable drawdowns are listed below.

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

$S = 0.2282$, $T = 555.34 \text{ ft}^2/\text{day}$, $tp_{\text{current}} = 74 \text{ days}$ (based upon observed rate and reported quantity),
 $Q_{\text{current}} = 456 \text{ gpm}$ (based upon 2011 inspection), $tp_{\text{proposed}} = 92 \text{ days}$, $Q_{\text{proposed}} = 790 \text{ gpm}$.

Theis drawdowns were calculated as follows:

6773: Saturated thickness = 65 ft
 Drawdown allowance = 1.5 ft
 Drawdown from current location = 6.61 ft
 Drawdown from proposed location = 19.02 ft
 Net drawdown = 12.4 ft

18041: Saturated thickness = 15 ft
Drawdown allowance = 1.0 ft
Drawdown from current location = 4.08 ft
Drawdown from proposed location = 13.33 ft
Net drawdown = **9.2 ft**

10622: Saturated thickness = 57 ft
Drawdown allowance = 1.5 ft
Drawdown from current location = 4.19 ft
Drawdown from proposed location = 9.75 ft
Net drawdown = **5.6 ft**

12088: Saturated thickness = 65 ft
Drawdown allowance = 1.5 ft
Drawdown from current location = 6.31 ft
Drawdown from proposed location = 8.34 ft
Net drawdown = **2.0 ft**

7665: Saturated thickness = 9.7 ft
Drawdown allowance = 1.0 ft
Drawdown from current location = 3.09 ft
Drawdown from proposed location = 9.51 ft
Net drawdown = **6.4 ft**

2651 & 8393: Saturated thickness = 46 ft (log only shows 4 ft, but is reporting use, so the model's 46 ft value was used)
Drawdown allowance = 1.0 ft
Drawdown from current location = 2.71 ft
Drawdown from proposed location = 9.42 ft
Net drawdown = **6.7 ft**

12208 & 24489: Saturated Thickness = 87 ft
Drawdown allowance = 2.0 ft
Drawdown from current location = 3.07 ft
Drawdown from proposed location = 11.88 ft
Net drawdown = **8.8 ft**

8726: Saturated thickness = 123 ft
Drawdown allowance = 2.5 ft
Drawdown from current location = 4.57 ft
Drawdown from proposed location = 18.07 ft
Net drawdown = **13.5 ft**

2500: Saturated thickness = 160 ft
Drawdown allowance = 3.5 ft
Drawdown from current location = 3.50 ft
Drawdown from proposed location = 9.27 ft
Net drawdown = **5.8 ft**

15162: Saturated thickness = 118 ft
Drawdown allowance = 2.5 ft
Drawdown from current location = 5.73 ft
Drawdown from proposed location = 13.11 ft
Net drawdown = **7.4 ft**

24659 ID 3: Saturated thickness = 103 ft
Drawdown allowance = 2.5 ft
Drawdown from current location = 13.98 ft
Drawdown from proposed location = 15.53 ft
Net drawdown = **1.6 ft**

24659 ID 4: Saturated thickness = 104 ft
Drawdown allowance = 2.5 ft
Drawdown from current location = 8.83 ft
Drawdown from proposed location = 13.85 ft
Net drawdown = **5.0 ft**

7052: Saturated thickness = 104 ft
Drawdown allowance = 2.5 ft
Drawdown from current location = 6.32 ft
Drawdown from proposed location = 8.15 ft
Net drawdown = **1.8 ft**

382: Saturated thickness = 110 ft
Drawdown allowance = 2.5 ft
Drawdown from current location = 7.00 ft
Drawdown from proposed location = 8.26 ft
Net drawdown = **1.3 ft**

Domestic 36-22-35: Saturated thickness = 46 ft
Drawdown allowance = 1.0 ft
Drawdown from current location = 4.92 ft
Drawdown from proposed location = 21.53 ft
Net drawdown = **16.6 ft**

Net drawdown exceeds the drawdown allowance for water right nos. 6773, 18041, 10622, 12088, 7665, 2651 & 8393, 12208 & 24489, 8726, 2500, 15162, 24659 ID 4, and the domestic well in section 36-22-35. Critical well evaluation was performed on each of those wells and all wells were found to be critical.

Conclusion:

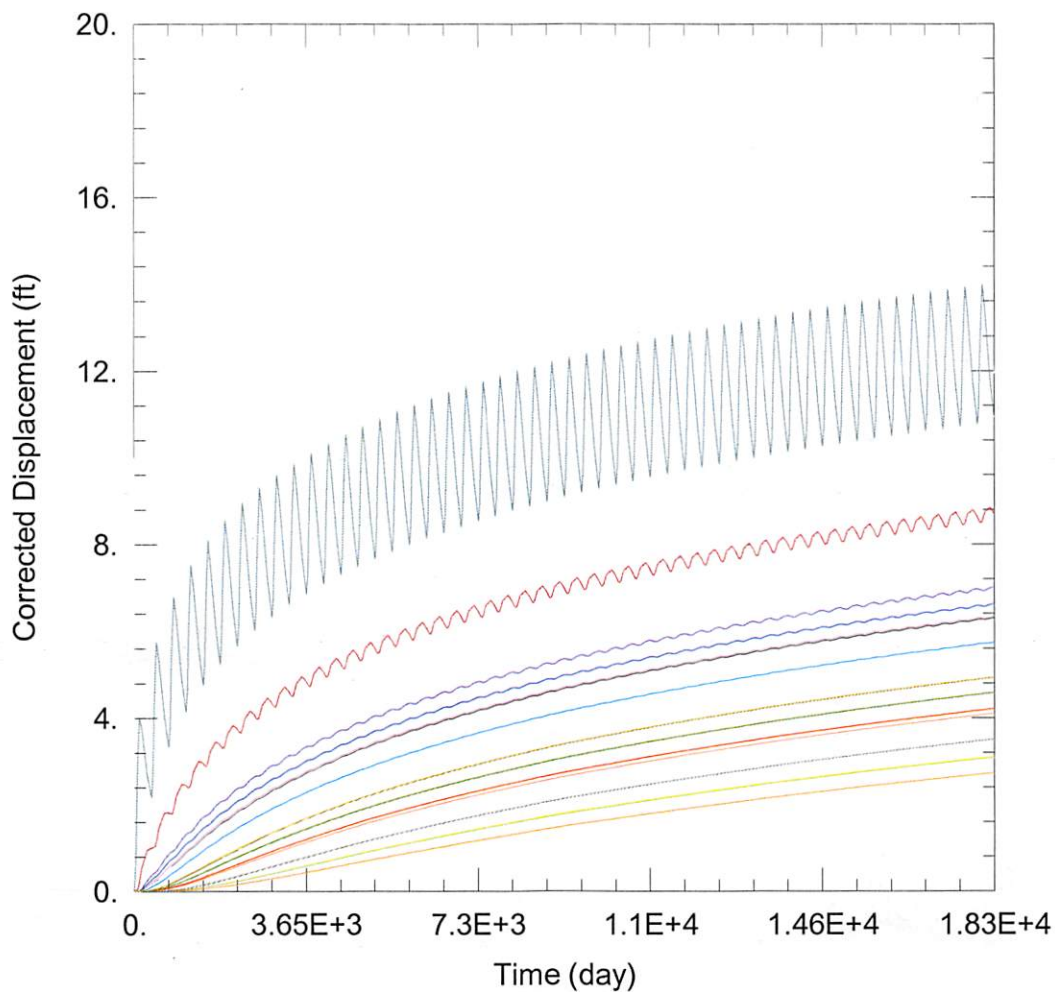
The proposed additional well creates 50 year drawdown affects exceeding the maximum allowable effects under the GMD3 guidelines on the following critical wells:

- 6773
- 18041
- 10622
- 12088
- 7665

- 2651 & 8393
- 12208 & 24489
- 8726
- 2500
- 15162
- 24659 ID 4
- Domestic well in section 36-22-35

All wells within 1 mile of the proposed move were found to be critical, even without the additional effects of the proposed move. This means that none of these wells are likely to be pumping close to their current rate in 25 years and all are currently suffering from some level of impairment. The drawdown allowance referenced above was included in the GMD3 Drawdown Assessment Guidelines to allow applicants to move in areas with critical wells with tolerable effects on neighboring critical wells. There are many neighboring wells where this allowance is greatly exceeded. The rate and quantity at the proposed location would have to be greatly limited in order to stay within the drawdown allowance to all neighboring wells. Furthermore, the applicant has junior priority to all neighboring wells. For these reasons, GMD3 recommends the applicant allow adequate time for neighboring wells to voice any concerns about the proposed move and for the applicant to limit rate and quantity at the proposed well location to mitigate effects on neighbors who raise concerns.

Test pump shows 400gpm or less



WELL TEST ANALYSIS

Data Set: C:\Users\trevora\Documents\2019_moves\28286\28286 Current.aqt

Date: 05/07/19

Time: 16:33:30

PROJECT INFORMATION

Company: GMD 3

Project: 28286

Location: Finney County

Test Well: 28286

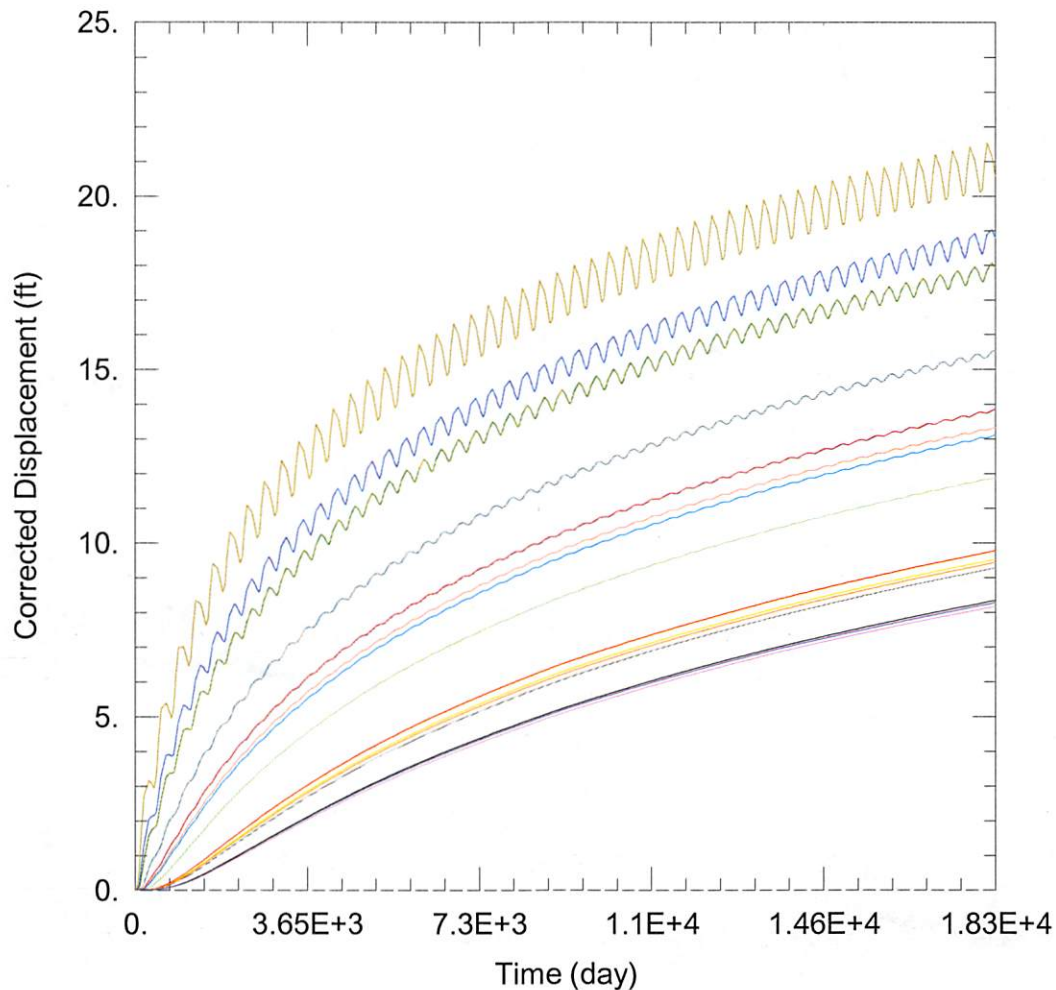
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
28286	-84769	442764

Observation Wells

Well Name	X (ft)	Y (ft)
□	-84769	442764
□ 6773	-85983	445302
□ 18041	-87214	446889
□ 10622	-84657	447442
□ 12088	-82049	444012
□ 7665	-87212	448276
□ 2651 & 8393	-88888	447936
□ 12208 & 24489	-90203	445424
□ 8726	-89018	443428
□ 2500	-89447	439937
□ 15162	-87447	440724
□ 24659 ID3	-85311	442054
□ 24659 ID4	-85759	441220



WELL TEST ANALYSIS

Data Set: C:\Users\trevora\Documents\2019_moves\28286\28286 Proposed.aqt

Date: 05/07/19

Time: 16:33:18

PROJECT INFORMATION

Company: GMD 3

Project: 28286

Location: Finney County

Test Well: 28286

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
28286	-87067	443829

Observation Wells

Well Name	X (ft)	Y (ft)
□	-87067	443829
□ 6773	-85983	445302
□ 18041	-87214	446889
□ 10622	-84657	447442
□ 12088	-82049	444012
□ 7665	-87212	448276
□ 2651 & 8393	-88888	447936
□ 12208 & 24489	-90203	445424
□ 8726	-89018	443428
□ 2500	-89447	439937
□ 15162	-87447	440724
□ 24659 ID3	-85311	442054
□ 24659 ID4	-85759	441220

Hydro

resources

KENT MADDOX 620-355-9434

21 2019, 28286

Customer Name: Maddux Farms WO#: 15067 Date: 3-20-19
Street Address: 2845 Rte 190 Test #: 5 E LOG: Yes
City, State: DEERFIELD, KS. 67838 Driller: Dale Guinn
County: Finney Quarter: SW Section: 31 Township: 22 Range: 34
Location: _____ GPS: N38.0935 W101.10197
Rig #: 10002 Elevation: 2974' Static WL: 201' Estimated? _____

WELL LOCATION

20' Symp

[illegible]

Water Rights and Points of Diversion Within 1.00 miles of point defined as:

1131 ft N and 5167 ft W of the SE Corner of Section 31, T 22S, R 34W

Located at: 101.101969 West Longitude and 38.093499 North Latitude

GROUNDWATER ONLY

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File Number   Use ST SR Dist (ft) Q4 Q3 Q2 Q1 FeetN FeetW Sec Twp Rng ID Batt Auth_Quan Add_Quan Unit
A__ 382 00 IRR NK G 5188 -- SE NE NE 5144 148 6 23 34W 5 280.00 280.00 AF 1400
A__ 2500 00 IRR NK G 4504 -- NW NW SE 2541 2181 1 23 35W 3 553.00 553.00 AF 2300
A__ 2651 00 IRR NK G 4469 -- NE NW NE 5248 1731 36 22 35W 5 320.00 212.80 AF 2300
A__ 6773 00 IRR NK G 1901 -- CN SW 2600 3960 31 22 34W 1 292.00 292.00 AF 1400
A__ 7052 00 IRR NK G 5213 -- NE NW SE 2590 1649 6 23 34W 6 320.00 320.00 AF 1400
A__ 7665 00 IRR NK G 4439 -- -- -- 280 5110 30 22 34W 8 560.00 560.00 AF 2300
A__ 8393 00 IRR NK G 4469 -- NE NW NE 5248 1731 36 22 35W 5 960.00 532.80 AF
A__ 8726 00 IRR NK G 1928 -- NE SW SE 708 1860 36 22 35W 4 158.00 158.00 AF 1900
A__ 10622 00 IRR NK G 4553 -- NW NW NE 4850 2540 31 22 34W 7 320.00 320.00 AF 1900
A__ 12088 00 IRR NK G 5149 -- CW SW ----- 32 22 34W 2 440.00 440.00 AF 1900
A__ 12208 00 IRR NK G 3453 -- SE SE NW 2732 3043 36 22 35W 6 630.00 .00 AF 2300
A__ 15162 00 IRR NK G 3101 -- NE SE NE 3361 227 1 23 35W 4 183.00 183.00 AF 1900
A__ 18041 00 IRR NK G 3046 -- -- -- 4177 5190 31 22 34W 6 310.00 .00 AF 1900
A__ 24489 00 IRR NK G 3453 -- SE SE NW 2732 3043 36 22 35W 6 630.00 .00 AF
A__ 24659 00 IRR NK G 2594 -- -- -- 4655 3283 6 23 34W 3 312.00 156.00 AF 1900
Same 2985 -- NW SE NW 3820 3728 6 23 34W 4 262.00 156.00 AF 1900
A__ 28286 00 IRR NK G* 2653 -- SE SE SW 66 2730 31 22 34W 4 320.00 28.00 AF 1400
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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) =    4191.60          .00
Total Vested Amount (AF) =      .00          .00
TOTAL AMOUNT (AF) =    4191.60          .00
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An * after the source of supply indicates a pending application for change for the file number.

An * after the ID indicates a 15 AF exemption was granted for 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 1.00 miles of point defined as:

101.101969 West Longitude and 38.093499 North Latitude

GROUNDWATER ONLY

WATER USE CORRESPONDENTS:

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=====
File Number   Use ST SR
A__ 382 00 IRR NK G
> PATRICIA S BIRD TRUST
> FLEMING FARMS INC
> 44 JACKSON ST
> MINERAL POINT WI 53565
> -----
A__ 2500 00 IRR NK G
> ALLEN T UNRUH
>

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Spacing is B ST

> 13195 W 7 MILE RD
> DEERFIELD KS 67838

>-----
A__ 2651 00 IRR NK G

> TRIPLE G FARMS

>
> 2156 ROAD 220

> DEERFIELD KS 67838

>-----
A__ 6773 00 IRR NK G

> CLAYTON MADDUX

>
> 2243 ROAD 190

> DEERFIELD KS 67838

>-----
A__ 7052 00 IRR NK G

> TRIPLE G FARMS ET AL

> ROY GRAHAM

> 2156 RD 220

> DEERFIELD KS 67838

>-----
A__ 7665 00 IRR NK G

> JOE ESKElund

>
> 2498 ROAD 270

> DEERFIELD KS 67838

>-----
A__ 8393 00 IRR NK G

> TRIPLE G FARMS

>
> 2156 ROAD 220

> DEERFIELD KS 67838

>-----
A__ 8726 00 IRR NK G

> LARRY COMBS

>
> 2453 ROAD AA

> DEERFIELD KS 67838

>-----
A__ 10622 00 IRR NK G

> TIMOTHY L & REBECCA MILLER

>
> 9715 W MILLER RD

> HOLCOMB KS 67851

>-----
A__ 12088 00 IRR NK G

> LARRY A & JOYCE E DICK

>
> 2925 SYLER DR

> HUTCHINSON KS 67502

>-----
A__ 12208 00 IRR NK G

Close, Applicants

> TRIPLE G FARMS ET AL
> ROY GRAHAM
> 2156 RD 220
> DEERFIELD KS 67838

>-----

A__ 15162 00 IRR NK G

> CROSS BELL FARMS

>

> 2411 ROAD Y

> DEERFIELD KS 67838

>-----

A__ 18041 00 IRR NK G

> TRIPLE G FARMS

>

> 2156 ROAD 220

> DEERFIELD KS 67838

>-----

A__ 24489 00 IRR NK G

> KIRK A & KENT A MADDUX

>

> 2243 ROAD 190

> DEERFIELD KS 67838

>-----

> TRIPLE G FARMS ET AL

> ROY GRAHAM

> 2156 RD 220

> DEERFIELD KS 67838

>-----

A__ 24659 00 IRR NK G

> LARRY COMBS

>

> 2453 ROAD AA

> DEERFIELD KS 67838

>-----

A__ 28286 00 IRR NK G

> CLAYTON MADDUX

>

> 2243 ROAD 190

> DEERFIELD KS 67838

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