

2020-2022

# Thomas WCA

Water Conservation Area Management Plan

## Water Conservation Area Executive Summary

**WCA Acres:** 832.72 of which 564 is currently irrigated

**Number of IRR Water Rights:** 3

**Number of IRR Wells:** 3

**Historical Period:** 2008-2019

**Prior Conservation:**

- Use of soil moisture probes

**WCA Allocation:**

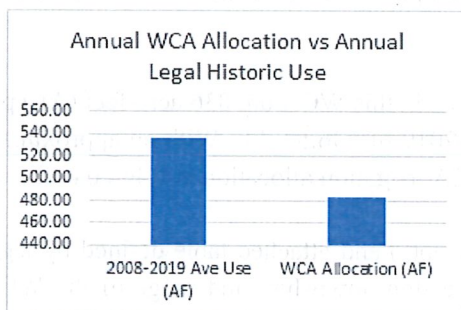
- Total WCA allocation of 1,448.64 AF for period of 2020-2022 (482.88 AF/Yr, 10.27 inches/acre/year)
- 10% reduction from the 2008-2019 average use of 536.53

**Corrective Controls- Flexibilities requested exceeding base water right**

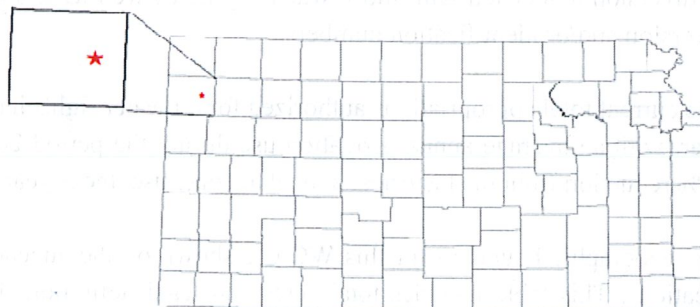
- Allocation will be shared by all wells and pivots
- WCA will be 3 years in length to coincide with the remaining 3 years of the GMD4 LEMA
- 20177054-MF (base right 9,255) will be dismissed upon approval of WCA
- Any well may exceed its authorized annual quantity provided it does not exceed the overall WCA allocation or exceed the 2012 quantity pumped in any given year: file no. 9,255 limited to 306 AF; 12,987 is limited to 386 AF; and 13,460 is limited to 253 AF per year

**Total Water Conserved Over WCA Period (based on historical use):** 160.96 AF

WCA Allocation vs. Historical Use Graph



WCA County Map



**MANAGEMENT PLAN**  
**For the Designation of a Water Conservation Area (WCA)**  
**Thomas WCA; Sherman County, KS**  
**January 2020 through December 2022**

In order to conserve and extend the productive life of the aquifer in our region and increase the value and viability of our water rights and water resources for future generations we, the undersigned water right owners propose the following management plan, pursuant to K.S.A. 82a-745 (WCA Law), to form the basis of a Consent Agreement and Order Designating a Water Conservation Area (WCA).

### **Expression of Conservation Goals**

I, Charles Thomas, the water right owner, desire to conserve and extend the productive life of the Ogallala Aquifer within Sherman County. Conserving and extending the life of the aquifer will result in the ability for future generations to utilize the economic benefit of using groundwater for irrigation use.

In recognition of the need to protect this valuable resource, the Thomas WCA is committed to decreasing the historical annual water usage by 10%, from 11.42 inches per acre to 10.27 inches per acre, on the currently irrigated 564 acres. This also decreases the annual water usage below the Local Enhanced Management Area (LEMA) allocation of 18 inches per acre. This equals a 160.96 AF savings over the 3-year WCA term beginning January 1, 2020 and ending December 31, 2022.

I have historically used soil moisture probes to ensure water is applied efficiently. To continue using water most resourcefully, the Thomas WCA allows flexibility for water rights nos. 9,255; 12,987; and 13,460 to share a total quantity of 1448.64 AF over the 3-year WCA term. This quantity may be used on any currently irrigated acres within the boundaries of the WCA, provided no single well pumps an amount greater than its usage during the 2012 irrigation season in a single year or exceeds the total WCA allocation.

### **Water Rights Enrolled and Geographic Boundaries**

This WCA shall include the water rights listed in the attached document. This list includes details of all points of diversion associated with those water rights; as well as legal descriptions of the locations of the points of diversion and/or identification numbers.

The current total appropriations authorized for all water rights included in this WCA are 836 acre-feet (AF) per year, with an average annual irrigation use during the period 2008-2019 of 536.53 AF. With an approximate 10% reduction from the historical annual average use, the 3-year WCA irrigation allocation is 1,448.64 AF.

The geographic boundary for this WCA is shown on the attached map(s) and attached table defined by legal locations. This table includes total acres and legal definitions by section, township, and range of the WCA boundary.

## Findings Regarding Groundwater Conditions

I understand that the WCA Law requires a finding that one of the following circumstances be present within the area geographic boundaries of this WCA; specified in K.S.A. 82a-1036 (a) through (d):

- a) Groundwater levels in the area in question are declining or have declined excessively;
- b) The rate of withdrawal of groundwater in the area equals or exceeds the rate of recharge within such area;
- c) Preventable waste of water is occurring or may occur within the area in questions; or
- d) Unreasonable deterioration of the quality of water is occurring or may occur within the area in question

and amendments thereto, exist, or include a finding or findings that the area within the geographic boundaries described in paragraph (1) has been closed to new appropriations by rule, regulation or order of the Chief Engineer.

I have been informed that the following conditions exist:

- a) Groundwater levels in the area in question are declining or have declined excessively;
- b) The rate of withdrawal of groundwater in the area equals or exceeds the rate of recharge within such area
- c) The area has been closed to new appropriations by rule, regulation or order of the Chief Engineer.

These conditions suggest the advisability of implementing this WCA.

See the attached maps and figures supporting these findings and observations. Such attached documents may include:

- Map with WCA Geographic Boundary & KGS Observation Well- **Attachment A**
- Detailed Table with Description of WCA Geographic Boundary- **Attachment B**
- Summary of Water Right with Description of Legal Locations- **Attachment C**
- KGS Observation Well Data- **Attachment D**
- Detailed Water Use History- **Attachment E**
- This Analysis- **Attachment F**

Per the Corrective Controls Provisions and Plan for Conservation Section under this WCA management plan it has been determined that the proposed provisions listed will not significantly affect nearby points of diversion. This has been determined by a Theis analysis conducted by the Kansas Department of Agriculture. The Theis report(s) for the water rights in question are included in the attached documents.

## Due Consideration for Past Conservation

I acknowledge that as described in the law, a water conservation area (WCA) management plan shall give due consideration to water users who have previously implemented reductions in water use resulting from voluntary conservation measures.

I, the water right owner, request the Chief Engineers consideration of the following conservation measures to be considered and enumerated under this plan. The measures include the following:

The water rights included in this WCA have historically used an average of 11.42 inches per acre. This is 37% less water applied per acre than the 18 inch per acre allotment authorized by the current LEMA the water rights are located within. Also, with the application of soil moisture probes, I have been able to conserve and utilize water more efficiently, applying water only when needed.

Additionally, I am committed to continually assessing my operation in terms of water use to find water conservation measures that make economic sense for my operation while benefiting the Ogallala Aquifer in Sherman County.

### Corrective Control Provisions and Plan for Conservation

I acknowledge that the following corrective controls will be in effect within this WCA during the term of the WCA period listed:

1. Water rights, at the discretion of the owners, may be pumped as directed by the owner, provided that:
  - a. All points of diversion may exceed their authorized annual quantity provided it does not exceed the overall WCA allocation or exceed the quantity diverted in 2012 in any given year.
  - b. All points of diversions are limited to their current authorized pumping rates.
  - c. The total water use under all water rights combined shall be limited to no more than 1448.64 acre-feet for the 3-year duration of this plan.
2. The corrective control provisions of this WCA cannot conflict with the rules and regulations of the local GMD that result in greater overall conservation of water resources. If a Local Enhanced Management Area (LEMA) plan or an Intensive Groundwater Use Control Area (IGUCA) is formed after the initiation of this WCA, and the WCA is partially or wholly within the LEMA or IGUCA, the corrective control provisions that result in the greater overall conservation of water resources based on inches per acre and not based on percent reduction of average historical use shall prevail. However, any LEMA or IGUCA must give due consideration to the conservation achieved by WCA participants pursuant to 82a-745(a)(6). The Chief Engineer is authorized to amend the provision of the WCA to conform to any rules, regulations, or requirements that result in greater conservation of the water resource subject to the foregoing due consideration for past and current conservation.

I, the water right owner enrolling in this WCA understand I may gain the following additional incentive(s) in consideration for our WCA participation.

3. The ability to exceed the maximum authorized quantity on any given well within the boundaries of the Thomas WCA, provided I adhere to the aforementioned terms and conditions.

### Compliance Monitoring and Enforcement

I, the owner, understand that the following compliance monitoring and enforcement provisions are proposed. This section also includes any specific provisions regarding measuring or reporting water usage.

There is one recognized observation well(s) within one (1) mile of this WCA boundary that has for many years been measured annually by the Kansas Geological Survey (KGS). See attached maps for locations. The well(s) will continue to be measured annually and the data collected will help in evaluating the effectiveness of the WCA. An onsite observation well may be necessary to monitor the local water level more accurately.

I will submit an annual report no later than March 1st and maintain a spreadsheet detailing the following information for each well and all wells combined: beginning and ending meter readings, quantity of water diverted, acres irrigated, the inches per acre, and the quantity of water remaining for the WCA period listed. These records will be available to KDA-DWR upon request.

I will ensure backup measurements will be supported or an alternate measurement device will be available to be put into service in case the water flowmeter record for any given well is questionable or not reliable.

I acknowledge that water flowmeters within the WCA may be sealed to the measurement chamber by KDA-DWR during the duration of this management plan to ensure an accurate water use record.

I, the water right owner within this WCA shall be responsible for ensuring the water flowmeters comply with state and local law(s). Any water right owner or authorized designee who finds a flow meter that is inoperable or inaccurate shall within 48 hours contact the KDA-DWR concerning the matter. Whenever an inoperable or inaccurate meter is repaired or replaced, the owner or authorized designee shall notify the KDA-DWR within seven (7) days on a form prescribed by the Chief Engineer of the water flowmeter installation and any water flowmeter repair or replacement event.

I acknowledge that failure to abide by the terms of this agreement may result in the termination of the WCA. Failure to abide by the terms, conditions, and limitations of the individual water rights will be subject to the civil penalties outlined in K.A.R. 5-14-10 and K.A.R. 5-14-12.

### Review of Effectiveness

I acknowledge that a review of this WCA shall be completed prior to November 1st of the final year of the WCA period listed to ensure the above terms remain appropriate and are achieving the stated goals of this WCA. Should the Chief Engineer find that the terms are no longer appropriate or that no progress has been made towards the stated goal, the Chief Engineer may refuse to renew a WCA and may suggest new terms and goals. I understand that upon review, and a finding by the Chief Engineer that the WCA has achieved or made progress towards its goals and that the same terms may be included in a subsequent WCA for another designated period. The terms of the WCA may be continued as long as this WCA is in good standing with its most recent WCA period and upon formal approval by the Chief Engineer. The Chief Engineer shall issue findings addressing the terms and goals of the existing management plan prior to any renewal of a subsequent WCA.

I acknowledge that unless terminated under the provisions below (e.g. due to the development of a LEMA), the WCA will be in effect for the listed period with an evaluation at the end of every WCA period. I understand that KDA-DWR will conduct this evaluation to ensure compliance and conservation. The evaluation will determine total water use during the WCA period.

I acknowledge that should an order of designation for a LEMA be implemented prior to end of this WCA period, an evaluation of this WCA will be conducted the year prior to the start of a LEMA. This evaluation may be used to determine an additional allocation amount of water to be carried over into a LEMA; should this be the case.

### Member addition, withdrawal, and removal

I acknowledge that the water right owners and their associated water right(s) and geographic boundaries may be added to the WCA upon written notification to the Chief Engineer by the owners of each enrolling water right with legal descriptions of the areas to be added. A member may withdraw from the WCA through written

notification to the Chief Engineer signed by the owners of the participating water right or rights to be withdrawn from the WCA.

If the addition or withdrawal of water rights requires modification to the water allocation quantities, geographic boundaries, places of use, terms, or conditions of the original WCA, the management plan shall be revised to incorporate such changes and the associated consent agreement shall be reaffirmed by all parties, after opportunity for comment on the proposed revisions by the applicable GMD.

## Termination

I acknowledge this WCA agreement may be terminated by written notification, signed by all then-existing members of the WCA, to the Chief Engineer of the intent to terminate.

I also acknowledge that the Chief Engineer may terminate this WCA upon findings that it is not being upheld to its terms. Such termination shall give notice and require a full evaluation of the WCA and water rights associated to ensure follow up actions.

## State Law

I acknowledge that this WCA is subject to compliance with all other applicable state laws.

## Notification to Nearby Owners

I acknowledge that, by statute, the Chief Engineer is required to provide written notification to all water right owners with a point of diversion within ½ of a mile, or farther if deemed necessary, by a rule and regulation of the Chief Engineer, of the geographic boundaries of this WCA.

## Assurances

I acknowledge this WCA will not alter the terms, conditions, and limitations of the base water rights.

## Review of Other Applicable Requirements

I acknowledge that upon review, this WCA management plan was found to effect equal or greater overall conservation than applicable GMD regulations, LEMA, and IGUCA requirements.

## Participant's Agreement

By signing below, I, the water right owner, agree that this management plan is fair and equitable. This management plan, provided to the Chief Engineer and water right owner, is the expressed written intent of the parties and the whole agreement between the parties. I, the water right owner agrees to be bound by all the terms contained in this management plan and understand that the provisions of this agreement shall be construed to give effect to the provisions listed. I, the water right owner also agree that this management plan is the basis for a consent agreement among the Chief Engineer and the undersigned water right owners, and therefore any order and consent agreement issued by the Chief Engineer, designating this WCA, shall be binding upon all parties as the necessary formal implementation of this management plan.

notification to the Chief Engineer signed by the owners of the participating water right or rights to be withdrawn from the WCA.

If the addition or withdrawal of water rights requires modification to the water allocation quantities, geographic boundaries, places of use, terms, or conditions of the original WCA, the management plan shall be revised to incorporate such changes and the associated consent agreement shall be reaffirmed by all parties, after opportunity for comment on the proposed revisions by the applicable GMD.

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**FOR THE PARTICIPANTS:** All participating water right owner(s) signing below, affirm their approval of this WCA management plan and if approved by the Chief Engineer allow consent to the Chief Engineer to formally approve the designation of this Water Conservation Area, described herein, by means of a Consent Agreement and Order.

Charles R. Thomas Date: 6/10/20  
Charles R. Thomas - Owner (Signature)  
Water Right No(s). 9,255; 12,987; and 13,460

Janet R. Thomas Date: 6-10-20  
Janet R. Thomas - Spouse (Signature)  
Water Right No(s). 9,255; 12,987; and 13,460

CHARLES R & JANET R THOMAS  
3255 SH 63  
EDSON, KS 67733

Full Mailing Address

cjthomas0649@hotmail.com (785) 821-3806  
Email Address Phone Number

**ACKNOWLEDGMENT OF NOTARY**

State of Kansas )  
) SS  
County of Sherman )  
Acknowledged before me on 6/10/2020  
by Charles + Janet Thomas  
Signature: Abbi Sprenger  
Notary Public



My commission expires: 8/29/2021  
(Notary Seal)

RECEIVED

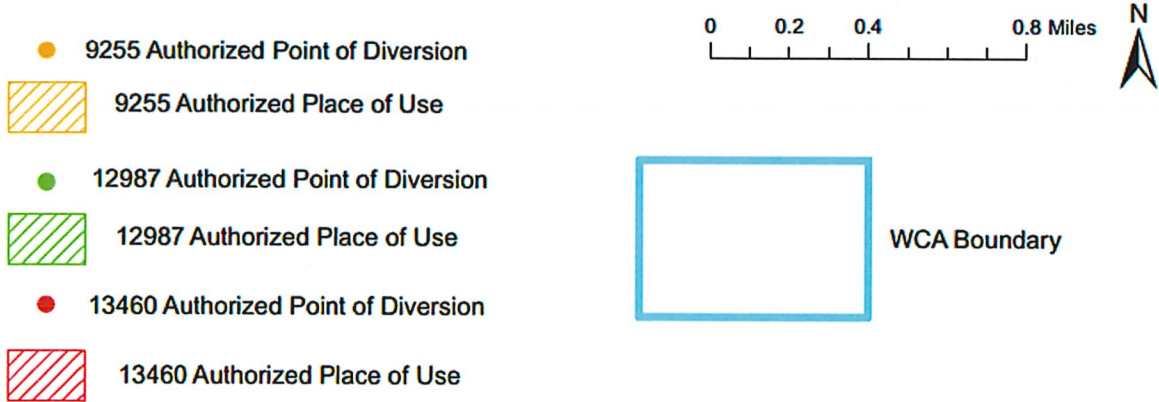
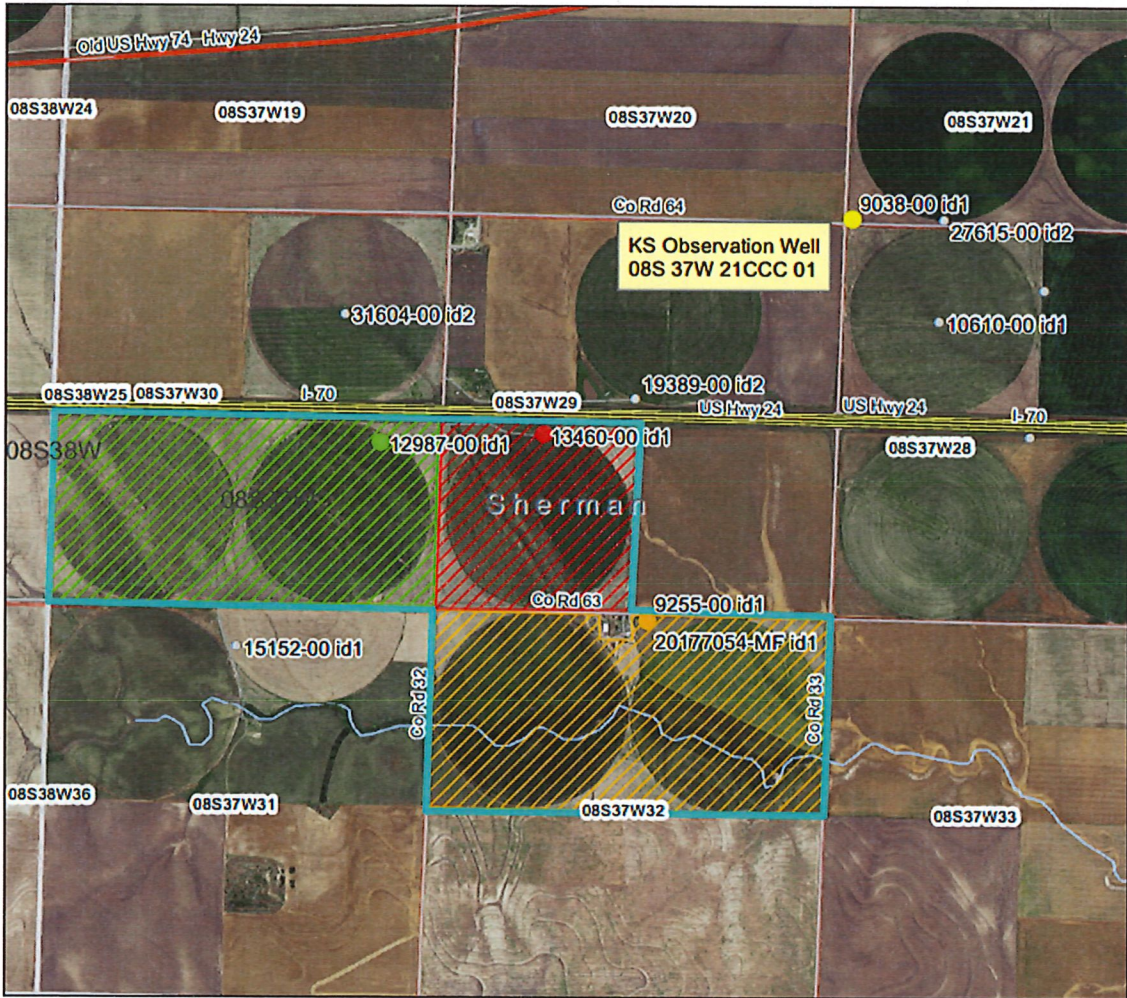
JUN 15 2020

Stockton Field Office  
Division of Water Resources



Kansas Department of Agriculture – Division of Water Resources  
Attachment A – WCA Geographic Boundary and KGS Observation Well

# Thomas WCA Map



1:24,000

Kansas Department of Agriculture – Division of Water Resources  
 Attachment B – Detailed Table with Description of WCA Boundaries

Thomas WCA Boundary																			
Sec	T (S)	R (W)	NE (1/4)				NW (1/4)				SW (1/4)				SE (1/4)				Total Acres
			NE (1/4)	NW (1/4)	SW (1/4)	SE (1/4)	NE (1/4)	NW (1/4)	SW (1/4)	SE (1/4)	NE (1/4)	NW (1/4)	SW (1/4)	SE (1/4)	NE (1/4)	NW (1/4)	SW (1/4)	SE (1/4)	
32	8	37	40	40	40	40	31	40	40	40								388	
											35	35	34.72	40		35	35	40	294.72
											35	35	40	40				150	
Grand Total Acres																	832.72		

Kansas Department of Agriculture – Division of Water Resources  
 Attachment C – Summary of Water Right with Legal Description

Water Right No.	ID No.	PDIV No.	Location (Sect, Twn, Range)	Certified Authorized Annual Quantity (AF)	Authorized Quantity 5 YR LEMA Allocation (AF)	Authorized Quantity 3 YR WCA Allocation (AF)
9255	1	17720	32-8S-37W	236	Group Allocation: 1800 1500	1448.64
13460	1	50049	29-8S-37W	300		
12987	1	51218	30-8S-37W	300		

Kansas Department of Agriculture – Division of Water Resources  
 Attachment D – KGS Observation Well Hydrograph

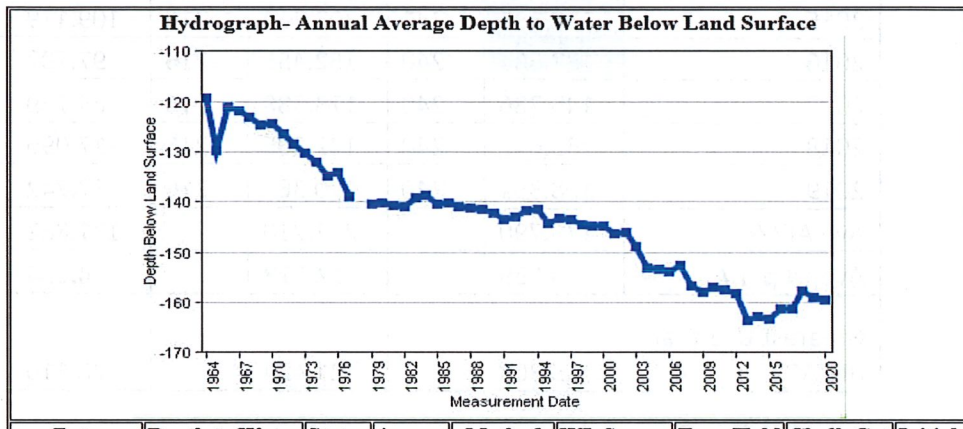
**General Well Site Information** ?

<b>USGS ID:</b>	392016101274901	<b>KGS Local Well ID:</b>	08S 37W 21CCC 01
<b>County:</b>	Sherman	<b>PLSS Description:</b>	8S 37W 21 SWSWSW
<b>HUC 8 Code:</b>	10250010	<b>GMD:</b>	Northwest Kansas GMD #4
<b>Longitude:</b>	-101.465443	<b>Lat/Long Source:</b>	GPS (within 50 feet)
<b>Latitude:</b>	39.337622	<b>Lat/Long Accuracy:</b>	5 seconds
<b>Surface Elevation (ft):</b>	3496	<b>Depth of Well (ft):</b>	235
<b>Geological Unit Codes:</b>	TO	<b>USGS Map Name:</b>	Brewster

**Water Level Measurements** ?

392016101274901

Note that depth to water is feet below land surface and all measurements for the well are included.



Kansas Department of Agriculture – Division of Water Resources  
Attachment E – Detailed Water Use History

Thomas WCA						
	9255		12987		13460	
Year	AF	Acres	AF	Acres	AF	Acres
2008	227.867	240	267.743	216	180.266	108
2009	141.884	240	171.389	216	77.947	108
2010	210.423	240	276.021	216	113.385	108
2011	175.277	240	271.925	216	177.713	108
2012	306.067	240	385.633	216	252.989	108
2013	224.293	240	219.853	216	161.564	108
2014	151.931	240	199.273	216	142.196	108
2015	158.385	240	302.264	216	109.119	108
2016	137.564	240	152.455	216	97.792	108
2017	145.786	240	173.388	216	84.769	108
2018	133.647	240	142.205	216	117.096	108
2019	108.351	240	110.367	216	67.742	108
Ave AF/YR	176.790		222.710		131.882	
<b>Ave IN per AC</b>	<b>8.839</b>		<b>12.373</b>		<b>14.654</b>	
Greatest Use Year (IN/AC)	15.303		21.424		28.110	

MYFA File	Ave IN per Acre
20127415-MF	9.782
20177054-MF	6.463

Weighted Ave. IN/AC	11.42
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Weighted Ave. Total AF/YR	536.53
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Total Acres	2008-2019 Ave Use (AI)	2008-2019 Ave Use (AF)	WCA Allocation (AI)	WCA Allocation (AF)	WCA Allocation 3yrs (AF)	Total WCA Water Savings (AF)
564	6438.40	536.53	5794.56	482.88	1448.64	160.96

Kansas Department of Agriculture – Division of Water Resources  
Attachment F – Theis Analysis

**This analysis of proposed Water Conservation Area, File Nos. 9,255; 12,987; 13,460**

A fifty-year Theis analysis was used to evaluate the potential impacts of a proposed Water Conservation Area (WCA). The WCA proposes limiting File Nos. 9,255; 12,987 and 13,460 to a three-year allocation of 1,448.64 AF. In any individual year, the files would be allowed to divert up to their 2012 diversion. The analysis assumed that the full 2012 diversion is diverted every year for fifty years at currently authorized rate. This was compared to average pumping (2010-2019) at the last reported rate.

The GMD No. 4 groundwater model was used to determine a projected future saturated thickness (60 feet). A storativity of 0.09 was assumed, which is from a pump test conducted in 1965 and located approximately 1.4 miles east-northeast of the pumping wells (Figure 1). A hydraulic conductivity of 53 feet per day was assumed based on the same pump test. The assumed hydraulic conductivity and projected saturated thickness result in a transmissivity of 3,180 square-feet per day.

Under the assumed conditions, pumping the maximum allowed quantity every year for fifty years results in an increase in drawdown of 8.01 feet, or 13.35% of the projected saturated thickness, at File No. 19,389 (Table 1). At File No. 31,604 the increase in drawdown is 7.50 feet, or 12.50% of the projected saturated thickness (Table 2).

**Table 1:** Theis drawdown after 50 years of pumping cycles at File No. 19,389; S = 0.09, T = 3,180 ft<sup>2</sup>/day

Pumping well	Distance (FT)	Rate (GPM)		Volume (AF)		Drawdown (FT)		Net Drawdown	
		Proposed	Current	Proposed	Current	Proposed	Current	(FT)	(%ST)
9,255	2,949	815	700	306	175	5.51	3.20	2.31	3.85%
12,987	3,416	1,350	1,100	386	222	6.33	3.66	2.67	4.45%
13,460	1,315	625	525	253	132	7.99	4.75	3.24	5.40%
Net:						19.62	11.61	8.01	13.35%

**Table 2:** Theis drawdown after 50 years of pumping cycles at File No. 31,604; S = 0.09, T = 3,180 ft<sup>2</sup>/day

Pumping well	Distance (FT)	Rate (GPM)		Volume (AF)		Drawdown (FT)		Net Drawdown	
		Proposed	Current	Proposed	Current	Proposed	Current	(FT)	(%ST)
9,255	5,723	815	700	306	175	3.59	2.06	1.53	2.55%
12,987	1,781	1,350	1,100	386	222	10.53	6.33	4.20	7.00%
13,460	3,081	625	525	253	132	4.41	2.34	2.07	3.45%
Net:						18.23	10.73	7.50	12.50%

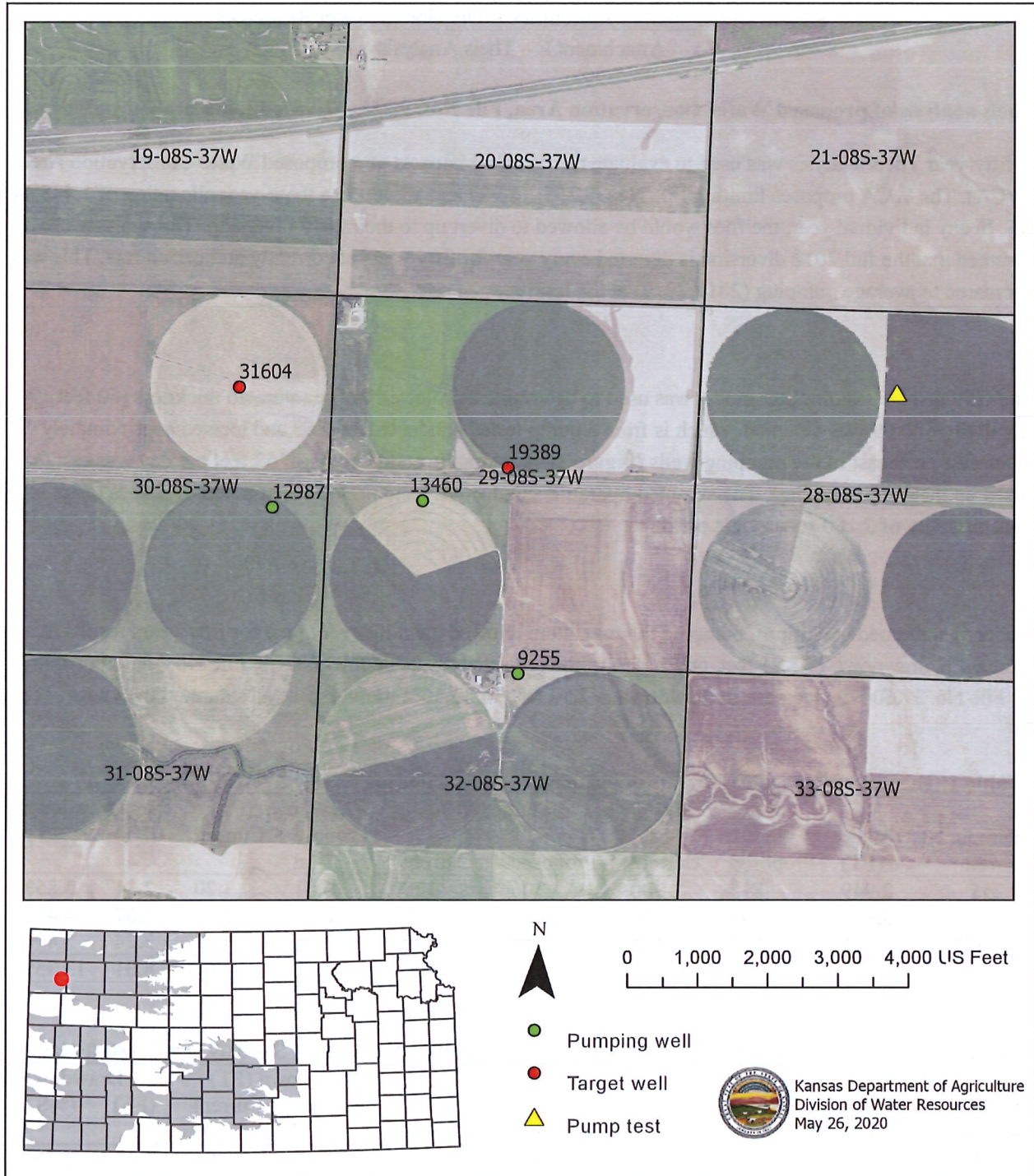


Figure 1: Map of WCA wells, target wells and pump test location