# MANAGEMENT PLAN

## For the Designation of a Water Conservation Area (WCA)
## Sloan Inc. WCA; Wallace County, KS
## January 2018 through December 2021

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

The goal of Sloan Inc. farms is to conserve the Ogallala Aquifer in our region but make the best economic impact for our local area and communities. We hope that by entering into a WCA that this will not only extend the life of the water below us but also assist in the development within southern Wallace County. We have shown the ability to use much more water than we are proposing in the WCA but feel that by entering into that WCA that we will be able to learn and adapt to using less water in the future in hopes that the next generations will be able to irrigate their land by us conserving today.

## 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 1,207 acre-feet (AF) per year, with an average annual use during the period 2007-2016 of 914.581 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

We 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.

We have been informed that the following conditions exist:

- Groundwater levels in the area in question are declining or have declined excessively
- The rate of withdrawal of groundwater in the area equals or exceeds the rate of recharge within such area

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:

- Maps with WCA geographic boundaries defined- Attachment A & B
- Detailed table with description of WCA geographic boundaries- Attachment C
- Summary of water rights with description of legal locations- Attachment D
- KGS Observation well(s) data (if applicable) - Attachment E
- KDA-DWR Theis analysis report(s) (if applicable) - 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

We 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.

Since 1997 we have been in an agreement with the local groundwater management district and the Chief Engineer to allow use to irrigate additional acres with a limited 5-year fixed quantity. We agreed to use at minimum of at least 119 AF less per year. We have stayed in agreement to irrigate over more land and have adjusted our farming techniques to make the best beneficial use. Since entering into this agreement, we have chosen not to use at least 2,380 AF over the past 20 years, at minimum.

We, the water right owners are committed to best water management practices with the aim of, the conservation of the Ogallala aquifer and to preserve the viability of irrigated agriculture. As enumerated below we, the owners, request that its further conservation under this plan be considered in any LEMA proposed for the area or in a subsequent WCA under the terms herein.

## Corrective Control Provisions and Plan for Conservation

We 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 water rights cannot exceed a total combined quantity of 3,658.326 AF during this WCA period

b) All Water Rights cannot exceed authorized pumping rates
c) Water Right, File Nos. 21,395 & 36,706 cannot exceed a combined total of 1,938.973 AF during this WCA period and cannot exceed annual authorized quantities
d) Water Right, File Nos. 9,604 & 24,903 cannot exceed a combined total of 567 AF in any given year and
    a. Water Right, File No. 9,604 cannot exceed 1,148 AF (4 x 287 AF) during the WCA period
    b. Water Right, File No. 24,903 cannot exceed 1,120 AF (4 x 280 AF) during the WCA period

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.

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

3. Up to the annual WCA allocation of 914.581 AF may be carried over and added to a subsequent WCA period after 2021; if unused during the duration of this WCA period. In order for the carryover quantity to be included, all owners must enter into agreement to participate into a subsequent WCA by December 31st of the last year of this WCA period.

## Compliance Monitoring and Enforcement

We, the owners, 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 (1) 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.

We 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.

We 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.

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

We, water right owners 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.

We 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

We 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. We 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 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.

We 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. We understand that KDA-DWR will conduct this evaluation to ensure compliance and conservation. The evaluation will determine total water use during the WCA period.

We 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

We 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

We 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.

We 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

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

## Notification to Nearby Owners

We acknowledge that, by statue, 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

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

## Review of Other Applicable Requirements

We 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, we, the water right owners, agree that this management plan is fair and equitable. This management plan, provided to the Chief Engineer and water right owners, is the expressed written intent of the parties and the whole agreement between the parties. We, the water right owners agree 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. We, the water right owners 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.

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.

Craig Sloan, pres Date: 12-4-18

Sloan Inc.- President: Craig Sloan (Signature)
Water Right No(s). 9604, 21395, 24903, & 36706

PO BOX 577, SHARON SPRINGS KS 67758-0577
Full Mailing Address

csloan88@gmail.com 785-694-3799
Email Address Phone Number

**ACKNOWLEDGMENT OF NOTARY**

State of Kansas )
) SS
County of Wallace )
Acknowledged before me on 12/4/2018
by Craig Sloan.
Signature: Beverly A. Keller
Notary Public

My commission expires: 4/20/2022
(Notary Seal)

NOTARY PUBLIC - State of Kansas
BEVERLY A. KELLER
My Appt. Exp. 4/20/2022

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.

Mark Zellner Date: 12/8/18

Zellner Farms LLC- Owner (Signature)
Water Right No(s). 9604 & 24903

1986 MULE RD, HOWARD KS 67349
Full Mailing Address

Email Address Phone Number

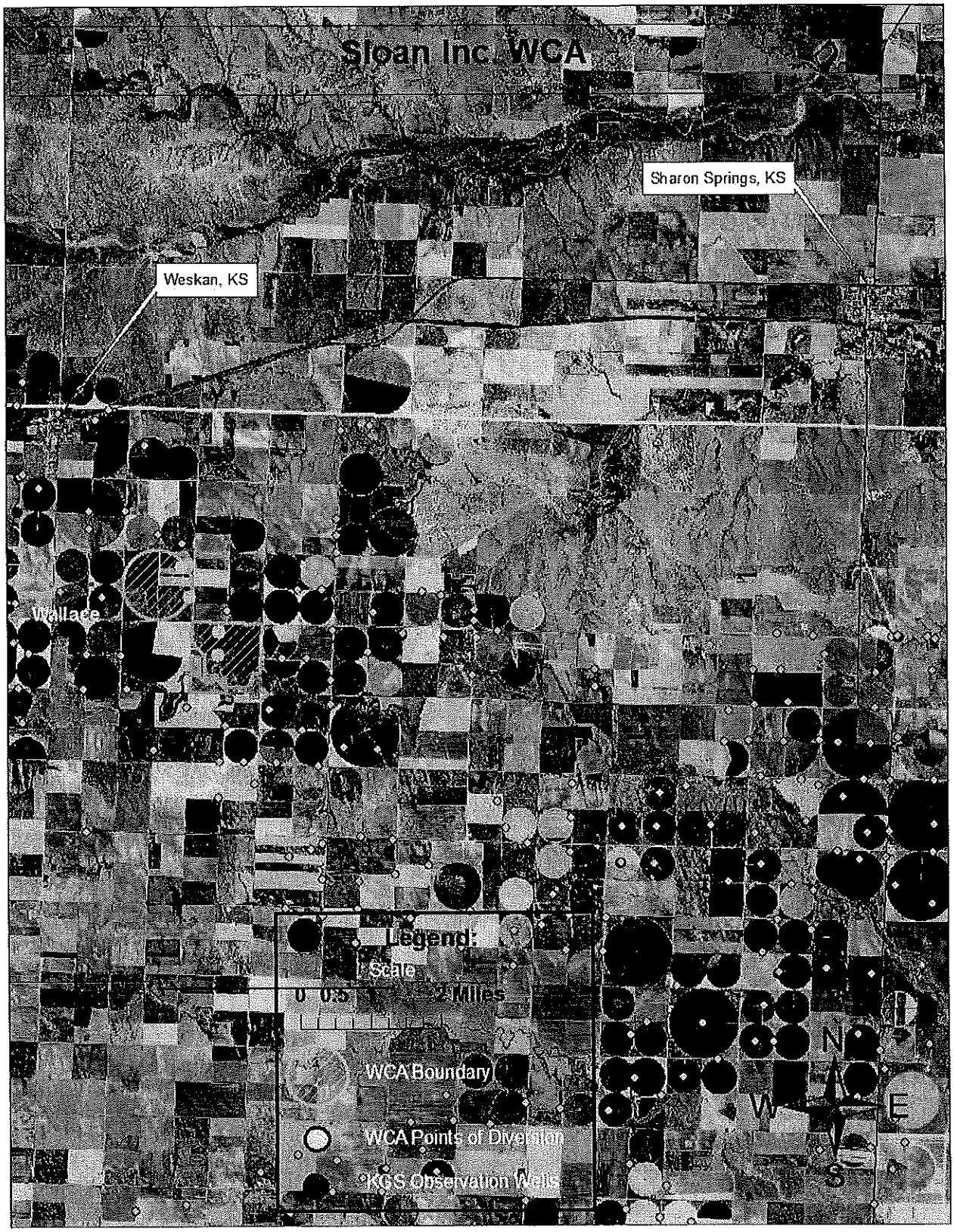
**ACKNOWLEDGMENT OF NOTARY**

State of Kansas )
) SS
County of ELK )
Acknowledged before me on DEC. 8, 2018
by MARK ZELLNER.
Signature Debbie S Wolfe
Notary Public

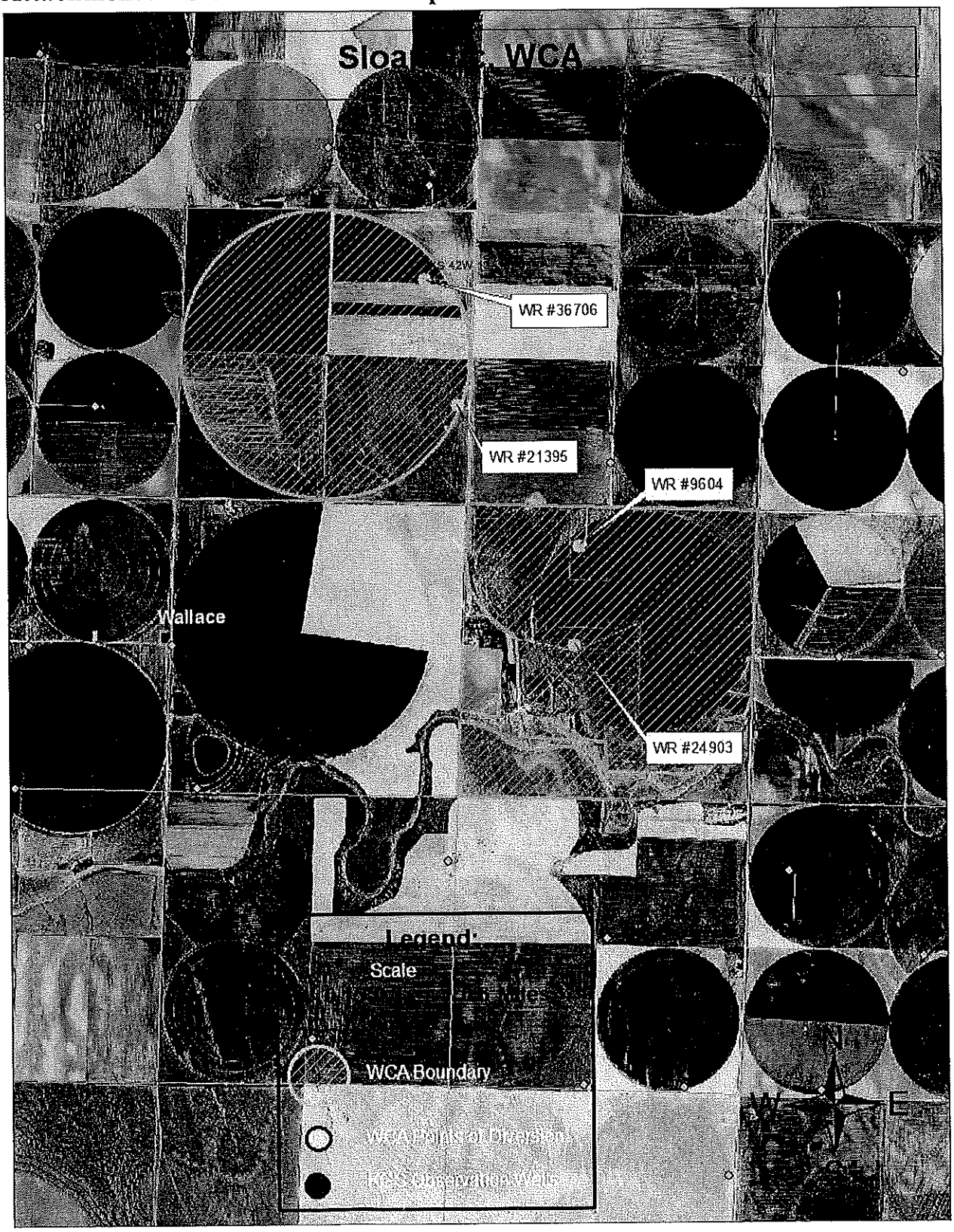
My commission expires: 7-20-22
(Notary Seal)

DEBBIE S. WOLFE
Notary Public - State of Kansas
My Appt. Expires 7-20-22

## Attachment A- Sloan Inc. WCA Map #1



## Attachment B- Sloan Inc. WCA Map #2



# Attachment C- Table of WCA Geographic Boundary

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) | |
| 19 | 14 | 41 | 40 | 40 | 40 | 40 | 40 | 37 | 17 | 40 | 40 | 27 | 33 | 23 | 37 | 40 | 25 | 8 | 527 |
| 19 | 14 | 41 | | | | | | L-1 | L-2 | | | L-3 | L-4 | | | | | | |
| 13 | 14 | 42 | 10 | 38 | 40 | 37 | 38 | 10 | 37 | 40 | 40 | 37 | 10 | 38 | 37 | 40 | 38 | 10 | 500 |
| | | | | | | | | | | | | | | | | | | Grand Total Acres | 1027 |

**Additional Boundary Notes:**

| Legal | Note |
|---|---|
| 19-14S-41W | L-1(NWNW) L-2(SWNW) L-3(NWSW) L-4(SWSW) |

# Attachment D- Summary of Water Rights

## Sloan Inc. WCA Summary

"Legal Ave Water Use"- A historical average calculated only using water use reports of equal or less than the annual authorized quantity.

| WR # | ID# | PDIV# | Location (Sect, Twn, Range) | Historical Period (20XX-20XX) | 2018 Annual Auth Qty (AF) | Legal Ave WU (AF) |
|---|---|---|---|---|---|---|
| 9604 | 1 | 37554 | 19-14S-41W | 07-16 | 287 | 253.603 |
| 24903 | 2 | 8933 | 19-14S-41W | 07-16 | 280 | 171.776 |
| 21395 | 2 | 52837 | 13-14S-42W | 07-16 | 320 | 253.868 |
| 36706 | 3 | 40052 | 13-14S-42W | 07-16 | 320 | 235.334 |

Addional Notes:

- WR #21395 & #36706 enrolled in

5-year MOU Allocation with GMD#1.

2,240 AF every 5-yrs (2017-2021 current period)

- WR #21395 & #36706 total use in 2017

= 301.027 AF

Historical Use Summary

| 2018 Annual Auth Qty (AF) | Legal Ave WU (AF) | Ave Irr Acres | Actual AI/Acre | % Use of Authorized |
|---|---|---|---|---|
| 1,207 | 914.581 | 894.70 | 12.49 | 76% |

Annual WCA Allocation

| | Average Annual WCA Allocation | 4-Yr WCA Allocation | % of Authorized | Est. Acre-Inch/Acre |
|---|---|---|---|---|
| Totals | 914.581 | 3,658.326 | 76% | 12.27 |

| Water Use Totals (2007-2016) | | |
|---|---|---|
| Year | Total Use | % of Auth |
| 2007 | 950.560 | 79% |
| 2008 | 981.104 | 81% |
| 2009 | 815.799 | 68% |
| 2010 | 770.888 | 64% |
| 2011 | 973.610 | 81% |
| 2012 | 1175.746 | 97% |
| 2013 | 957.009 | 79% |
| 2014 | 928.814 | 77% |
| 2015 | 742.343 | 62% |
| 2016 | 849.943 | 70% |

# Attachment E- KGS Observation Well ID# 14S 42W 13AAD

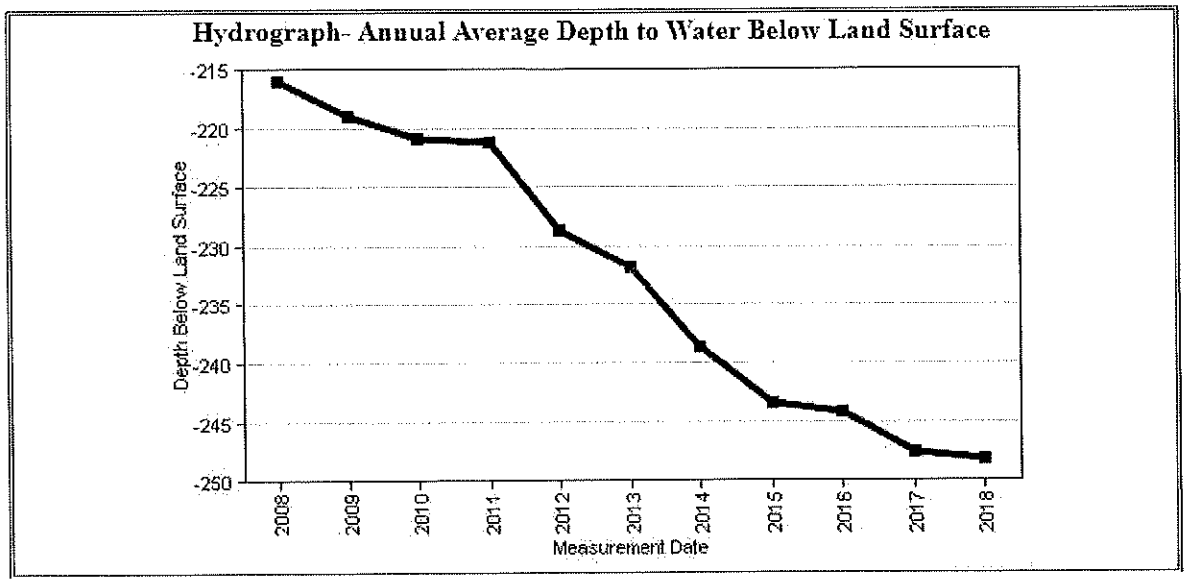
## General Well Site Information

| | | | |
|---|---|---|---|
| **USGS ID:** | 385032101554001 | **KGS Local Well ID:** | 14S 42W 13AAD 01 |
| **County:** | Wallace | **PLSS Description:** | 14S 42W 13 SWNENE |
| **HUC 8 Code:** | 10260004 | **GMD:** | Western Kansas GMD #1 |
| **Longitude:** | -101.930052 | **Lat/Long Source:** | GPS (within 50 feet) |
| **Latitude:** | 38.839723 | **Lat/Long Accuracy:** | 5 seconds |
| **Surface Elevation (ft):** | 3792.52 | **Depth of Well (ft):** | 414 |
| **Geological Unit Codes:** | TO | **USGS Map Name:** | WESKAN |
| **Use of Site:** | Withdrawal of Water | **Use of Water:** | Irrigation |
| **WWC5 Links:** | None | **WIMAS Link:** | 40052 |

## Water Level Measurements

**385032101554001**

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



## Attachment F- Theis Analysis Report on WR# #9,604 & #24,903

A Theis analysis was performed to evaluate the impacts of the added flexibility of the proposed Sloan Inc. WCA. Under the WCA, Water Right Files 9,604 and 24,903 may exceed their authorized quantities so long as the total quantity diverted does not exceed 573 acre-feet per year. The impacts on nearby wells authorized by Water Right Files 13,980 and 15,910 were evaluated (Figure 1).

The saturated thickness is from the GMD No. 1 model projected for year 2063. Transmissivity was estimated from a driller's lithology log for File 24,903 (Figure 2 and Table 1). The modeled transmissivity is higher than the estimate. Storage coefficients ranging from 0.0001 to 0.3 were evaluated to determine the scenario that maximizes the increase in drawdown at the target wells after 50-years of pumping cycles. The 2003-2012 average use was used for the baseline. For nearby File 13,980 the change in drawdown is maximized when the storage coefficient is 0.23 and all water is diverted from File 9,604. For nearby File 15,910 the worst case is when the storage coefficient is low and pumping time is minimized. Pumping 308 acre-feet by File 9,604 and the remaining 259 acre-feet by File 24,903 minimizes pumping time. Reducing the storage coefficient below 0.001 has insignificant effect on the change in drawdown at the target well. With worst case scenarios, the proposed change increases the maximum drawdown at target Files 13,980 and 15,910 by 1.24 and 0.99% of the projected 2068 saturated thickness (Tables 2 and 3).

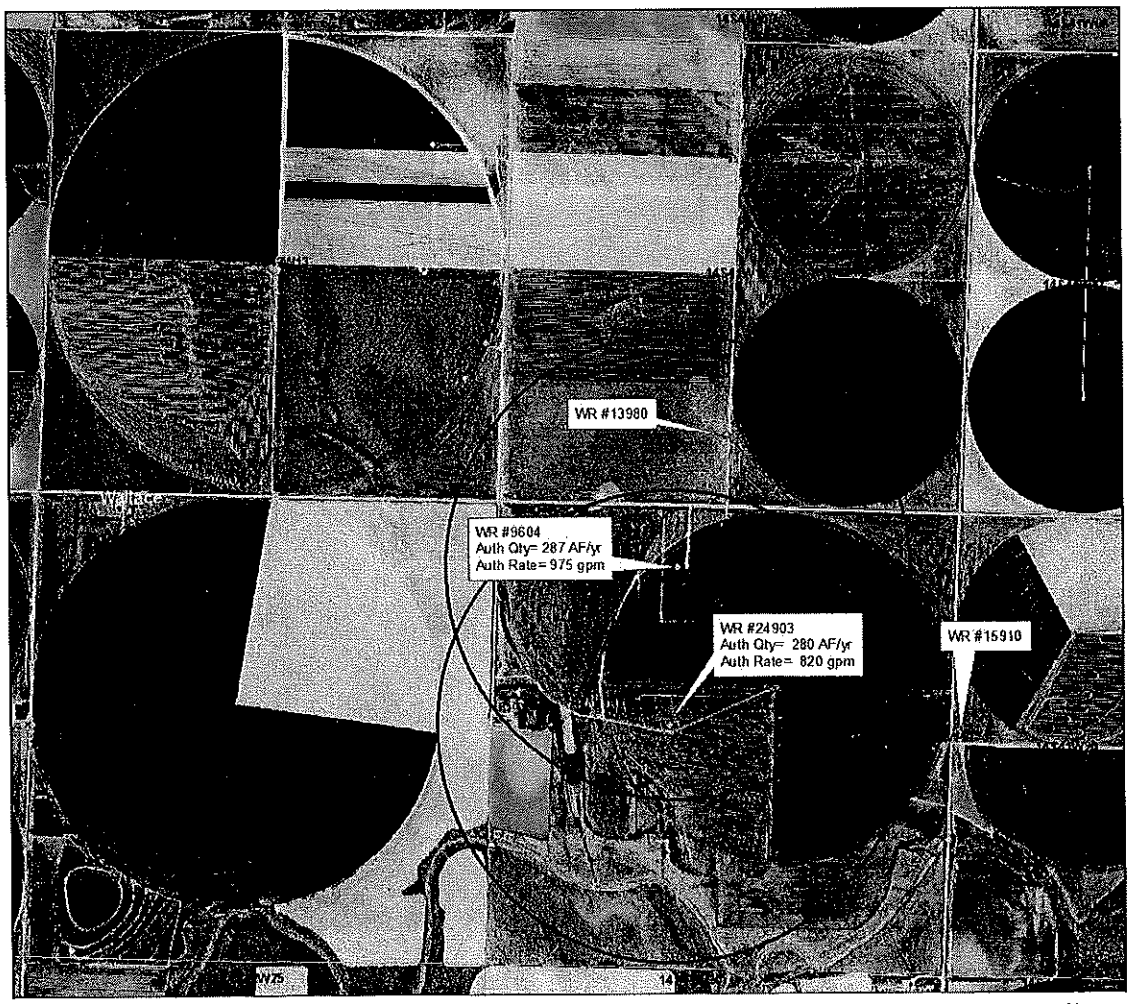



**Figure 1:** Map of WCA and target wells. Red circles are half-mile radius centered on WCA wells.

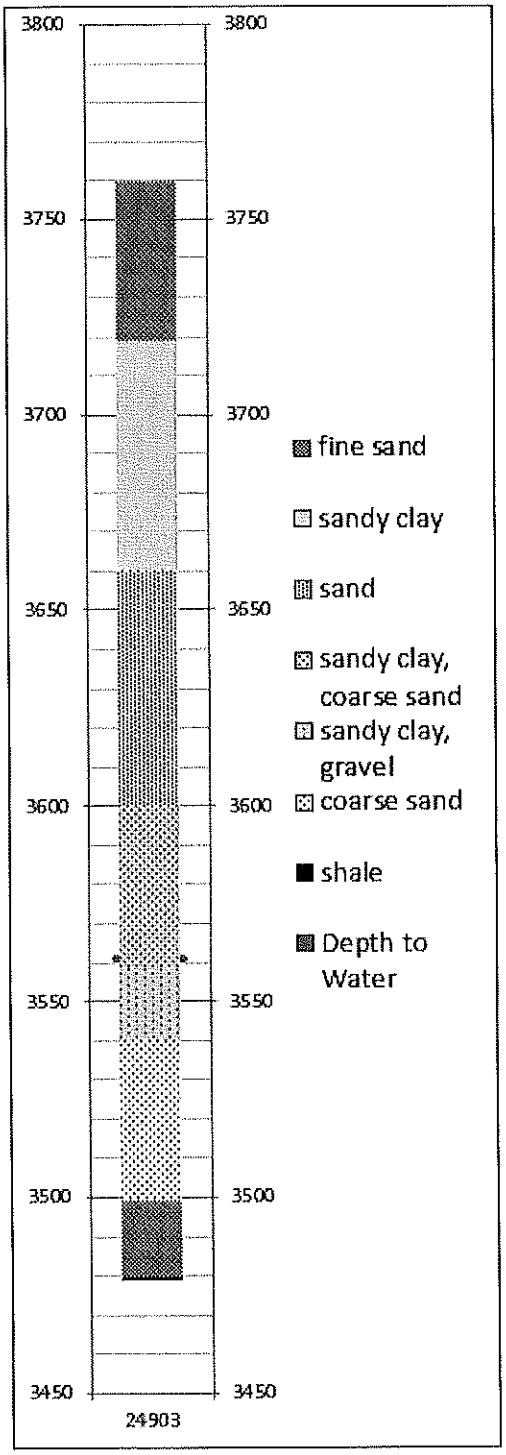



**Figure 2: Lithology of File 24,903**

**Table 1:** Transmissivity of File 24,903.

| Description | Depth (feet) | Kx (ft/d) | T ($ft^2/d$) |
|---|---|---|---|
| sand, fine | 0-41 | Non-saturated | |
| sandy clay, heavy clay | 41-80 | | |
| sandy clay, dark and hard | 80-100 | | |
| sand, hard | 100-160 | | |
| sandy clay, coarse sand | 160-199 | | |
| sandy clay, coarse sand | 199-201 | 25.2 | 50 |
| sandy clay, gravel | 201-220 | 119.6 | 2272 |
| sand, coarse | 220-261 | 63 | 2583 |
| sand, fine | 261-280 | 15 | 285 |
| shale | 280-281 | 0 | 0 |
| | | Transmissivity: | 5191 |

**Table 2:** Theis evaluation of impacts at target well 13,980. ST = 144 ft.; T = 5,191 $ft^2$/day; S = 0.23

| Pumping Well | Distance (ft) | Rate (gpm) | Volume (AF) | | Drawdown (ft) | | | Difference (%) |
|---|---|---|---|---|---|---|---|---|
| | | | Original | Proposed | Original | Proposed | Diff. | |
| 9,604 | 1,604 | 975 | 259 | 567 | 3.96 | 7.71 | 3.75 | 2.60 |
| 24,903 | 3,363 | 820 | 226 | 0 | 1.97 | 0.00 | -1.97 | -1.37 |
| | | | | Net: | 5.93 | 7.71 | 1.78 | 1.24 |

**Table 3:** Theis evaluation of impacts at target well 15,910. ST = 144 ft.; T = 5,191 $ft^2$/day; S = 0.001

| Pumping Well | Distance (ft) | Rate (gpm) | Volume (AF) | | Drawdown (ft) | | | Difference (%) |
|---|---|---|---|---|---|---|---|---|
| | | | Original | Proposed | Original | Proposed | Diff. | |
| 9,604 | 3,732 | 975 | 259 | 308 | 13.37 | 14.22 | 0.85 | 0.59 |
| 24,903 | 3,305 | 820 | 226 | 259 | 11.96 | 12.54 | 0.58 | 0.40 |
| | | | | Net: | 25.33 | 26.76 | 1.43 | 0.99 |