

Kansas Department of Agriculture
Division of Water Resources
PERMIT OF NEW APPLICATION WORKSHEET

1. File Number: 49,559	2. Status Change Date: 11/1/2016	3. Field Office: 01	4. GMD: 0
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5. Status: Approved Denied by DWR/GMD Dismiss by Request/Failure to Return

6. Enclosures: Check Valve N of C Form Water Tube Driller Copy Meter

<p>7a. Applicant(s) New to system <input type="checkbox"/></p> <p style="text-align: right;">Person ID 21090 Add Seq# _____</p> <p>JACKSON RWD 03 PO BOX 350 HOLTON KS 66436-0350</p>	<p>7c. Landowner(s) New to system <input type="checkbox"/></p> <p style="text-align: right;">Person ID _____ Add Seq# _____</p>
<p>7b. Landowner(s) New to system <input type="checkbox"/></p> <p style="text-align: right;">Person ID _____ Add Seq# _____</p> <p>7a.</p>	<p>7d. Misc. New to system <input type="checkbox"/></p> <p style="text-align: right;">Person ID _____ Add Seq# _____</p> <p>GROUND WATER ASSOCIATES INC % BRAD VINCENT 1999 N AMIDON STE 218 WICHITA KS 67203</p>

<p>8. WUR Correspondent New to system <input type="checkbox"/></p> <p style="text-align: right;">Person ID _____ Add Seq# _____</p> <p>Overlap File (s) WUC Agree <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p style="text-align: right;">Notarized WUC Form <input type="checkbox"/></p> <p>7a.</p>	<p>9. Use of Water: Changing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p style="padding-left: 40px;"><input checked="" type="checkbox"/> Groundwater <input type="checkbox"/> Surface Water</p> <p><input type="checkbox"/> IRR <input type="checkbox"/> REC <input type="checkbox"/> DEW <input checked="" type="checkbox"/> MUN</p> <p><input type="checkbox"/> STK <input type="checkbox"/> SED <input type="checkbox"/> DOM <input type="checkbox"/> CON</p> <p><input type="checkbox"/> HYD DRG <input type="checkbox"/> WTR PWR <input type="checkbox"/> ART RECHRG</p> <p><input type="checkbox"/> IND SIC: _____ <input type="checkbox"/> OTHER: _____</p>
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10. Completion Date: **12/31/2017** 11. Perfection Date: **12/31/2036** 12. Exp Date: _____

13. Conservation Plan Required? Yes No Date Required: _____ Date Approved: _____ Date to Comply: _____

14. Water Level Measuring Device? Yes No Date to Comply: _____ Date WLMD Installed: _____

Date Prepared: **10/24/2016** By: **DWS**
Date Entered: **11/2/2016** By: **LM**

File No. 49,559	15. Formation Code: 100	Drainage Basin: DELAWARE RIVER	County: JA	Special Use:	Stream:																		
16. Points of Diversion			17. Rate and Quantity																				
T MOD DEL ENT	PDIV	Qualifier	S	T	R	ID	'N	'W	Authorized	Additional	Rate gpm	Quantity mgy	Rate gpm	Quantity mgy	Overlap PD Files								
MOD	85046	SW SW SE	17	6	16E	1	100	2570	200	39.102	200	39.102	NONE										
18. Storage: Rate _____ NF			Quantity _____ ac/ft			Additional Rate _____ NF			Additional Quantity _____ ac/ft														
19. Limitation: _____ mg/yr at _____ gpm (_____ cfs) when combined with file number(s) _____						Limitation: _____ af/yr at _____ gpm (_____ cfs) when combined with file number(s) _____																	
20. Meter Required? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						To be installed by 12/31/2017						Date Acceptable Meter Installed _____											
21. Place of Use		NE¼				NW¼				SW¼				SE¼				Total	Owner	Chg? NO	Overlap Files		
T MOD DEL ENT	PUSE	S	T	R	ID	NE ¼	NW ¼	SW ¼	SE ¼	NE ¼	NW ¼	SW ¼	SE ¼	NE ¼	NW ¼	SW ¼	SE ¼						
√	36667	27	6	15E	1	WITHIN BOUNDARIES OF JACKSON RWD 03 & IMMEDIATE VICINITY															7a.	No	see below
√	61873	27	6	15E	2	City of Circleville & immediate vicinity															7a.	No	see below
√	61874	27	6	15E	3	CITY OF DENISON & IMMEDIATE VICINITY															7a.	No	see below
√	61875	27	6	15E	4	CITY OF MAYETTA & IMMEDIATE VICINITY															7a.	No	see below
√	61876	27	6	15E	5	CITY OF NETAWAKA & IMMEDIATE VICINITY															7a.	No	see below
√	61877	27	6	15E	6	CITY OF SOLDIER & IMMEDIATE VICINITY															7a.	No	see below
√	61878	27	6	15E	7	CITY OF WHITING & IMMEDIATE VICINITY															7a.	No	see below
√	61879	27	6	15E	8	WITHIN AREA OUTSIDE BOUNDARIES OF JACKSON RWD 03 - SEE IMAGE															7a.	No	see below
Comments: PU OVERLAP WITH 18,210; 28,884; 40,504; 44,249; 49,559; AND 49,681																							

KANSAS DEPARTMENT OF AGRICULTURE
Division of Water Resources
M E M O R A N D U M

TO: Files

DATE: October 24, 2016

FROM: Doug Schemm

RE: Applications, File Nos. 49,559 and 49,681

Jackson County Rural Water District No. 3 (RWD #3) has filed the referenced applications to appropriate groundwater for municipal use. File No. 49,559 is requesting 39.102 million gallons (120 acre-feet) of groundwater from one well at a rate of diversion of 200 gallons per minute, and File No. 49,681 is requesting 52.136 million gallons (160 acre-feet) of groundwater from one well at a rate of diversion of 300 gallons per minute. Both wells are located in the Southeast Quarter of Section 17, Township 6 South, Range 16 East, Jackson County. The wells are located on property owned by Gene Dickinson, and the RWD #3 Manager has signed the application forms stating they have access to the point of diversion. The applicant was assisted by the consulting firm of Ground Water Associates, Inc. (Brad Vincent).

There are no other files overlapping either of the points of diversion, however RWD #3 currently has several senior water rights, File Nos. 18,210; 28,884; 40,504; and 44,249, which overlap in place of use. Water Right, File No. 18,210 is authorized 60.673 million gallons; Water Right, File No. 28,884 is authorized 64.979 million gallons (limited to 105.12 million gallons); Water Right, File No. 40,504 is authorized 38.755 million gallons (limited to 143.875 million gallons); and Appropriation of Water, File No. 44,249 is authorized 58.653 million gallons (limited to 202.127 million gallons). Therefore, the senior rights authorized total quantity of water is 202.127 million gallons.

A review of water needs and projections by the Kansas Water Office (KWO) has projected significant population growth and water demand for the applicant, with water demand of 274 million gallons, and a population of 6,347 by the year 2040. The applicant provided a population estimate for the immediate RWD area of 2,800. RWD #3 also provides water to Circleville, Denison, Mayetta, Netawaka, Soldier, Whiting, which have a combined projected population of 1,318, and other areas. In addition the applicant is selling large quantities of water to industrial, bulk, and stock customers. The applicant provided a calculated value of 195 gpcd on their supplemental sheet, however, this value did not account for the additional population in cities, and others within their service area, which would reduce this value significantly. The Kansas Municipal Water Use (2008) indicates an average of 100 gpcd. Therefore, an estimated quantity of water (20 year projection) can be determined as follows:

6,347 population (KWO estimate) x 100 gpcd x 365 days/year =	232 million gallons
Water sold to industry, stock, and bulk customers =	60 million gallons
Total =	292 million gallons

As noted above, the applicant's current water rights have a total authorized quantity of 202.127 million gallons. The KWO projects a demand of 274 million gallons, and the applicant is projecting a demand of 293 million gallons. The combined quantity requested under the two pending applications is 91.238 million gallons. Combining the authorized quantity of water under the senior files with the requested quantity under the new applications provides 293.365 million gallons. This is certainly justified by the projections discussed above, and therefore all the water under the new applications will be additional water. These proposed wells will also provide the applicant with greater flexibility in their water supply and assist in addressing potential water quality issues.

Based on the geographical location of the wells, and test hole lithology, it appears that the source of supply is groundwater from glacial drift deposits. This is also consistent with the source of water for other area wells. The test holes show similar lithology, with clay extending from ground surface to a depth of 66 feet, underlain by very fine to fine sands, and gravel encountered a few feet above shale bedrock. Bedrock (shale) was encountered at 147 feet below ground surface and static water level was at 85.5 feet in File No. 49,559 test hole. Bedrock (shale) was encountered at 166 feet below ground surface and static water level was at 99.5 feet in File No. 49,681 test hole.

These would indicate saturated thicknesses of approximately 62 feet and 67 feet, respectively. As noted in the applicant's substantial supporting data, this local aquifer is part of an extensive buried glacial valley that generally trends northwest to southeast through this region. As noted above, the applicant has provided a great deal of additional information including cross-sections, bedrock elevation maps, and pump test results. This supportive information, along with a review of area wells and geologic maps, allows for an accurate determine of the extent of the local aquifer, which is a critical component of safe yield assessment in glacial aquifers.

Both the domestic well logs and geologic maps indicate that the glacial deposits do not extend into the Northeast and South portions of the two-mile circle. Per the requirements in K.A.R. 5-3-11, safe yield is determined by the extent of the unconfined aquifer (glacial deposits), within a two-mile circle radius of the point of diversion, which establishes the area of consideration. To maintain consistency with previous applications in this area of the state, sourcing glacial deposits, the area of consideration was determined by excluding any area in the two-mile circle where sand and gravel deposits were less than 10 feet in thickness (south portion of circle). For File No. 49,559 this evaluation provided an area of consideration of 6,563 acres, a potential recharge of 5.0 inches, and 100% of recharge available for appropriation, resulting in a safe yield of 2,734.6 acre-feet. Existing water rights have appropriated 741.94 acre-feet, providing a difference of 1,992.7 acre-feet available for appropriation, and the application requesting 120 acre-feet complies with safe yield.

For File No. 49,681, located approximately 2,400 feet due east of File No. 49,559, the same safe yield evaluation was conducted and provided an area of consideration of 6,108 acres, a potential recharge of 5.0 inches, and 100% of recharge available for appropriation, resulting in a safe yield of 2,545 acre-feet. Existing water rights have appropriated 681.94 acre-feet (including the senior pending application), providing a difference of 1,863.1 acre-feet available for appropriation, and the application requesting 160 acre-feet complies with safe yield.

The applicant listed the same three domestic wells within one-half mile of the proposed wells for both applications and nearby well owner letters were mailed out on October 5, 2016. One domestic well owner (Mark Bowser) called in on October 24, 2016 expressing concerns that the proposed wells could impact his domestic well and his stockwatering pond (located in Northeast Quarter of Section 20). He also stated that the neighboring well owner (Maxwell) had similar concerns regarding their domestic well. Mr. Bowser wanted it documented that he contacted our office with concerns. The WRIS database shows the nearest domestic well to be over 800 feet away, while the nearest permitted well is over 7,000 feet away for both files. The proposed points of diversion meet minimum well spacing requirements to all other wells, and to each other for the source of supply.

In accordance with K.S.A. 82a-706c, the Chief Engineer retains full authority to require any water user to install meters, gages, or other measuring devices, which devices he or she or his or her agents may read at any time. Water flowmeter requirements are further described in K.A.R. 5-1-4 through K.A.R. 5-1-12. If any chemical or foreign substance is injected into the water pumped under these permits, check valves will also need to be installed.

Katie Tietsort, Water Commissioner of the Topeka Field Office, recommended approval of the referenced applications in a discussion on October 24, 2016. Based on the above discussion, the area is open to new appropriations, the applications meet safe yield and well spacing criteria, approval will provide the applicant with additional water and flexibility in water sources, and approval of the applications will not impair senior water rights nor prejudicially or unreasonably affect the public interest, it is recommended that the referenced applications be approved.

Douglas W. Schemm
Environmental Scientist
Topeka Field Office

1320 Research Park Drive
Manhattan, Kansas 66502
(785) 564-6700



900 SW Jackson, Room 456
Topeka, Kansas 66612
(785) 296-3556

Jackie McClaskey, Secretary

Governor Sam Brownback

November 4, 2016

JACKSON COUNTY RWD 03
% BRENDA L ADKINS MANAGER
PO BOX 350
HOLTON KS 66436-0350

FILE COPY

RE: Appropriation of Water, File Nos. 49,559 and 49,681

Dear Ms. Adkins:

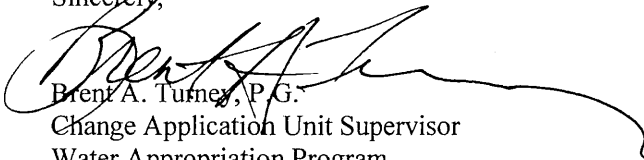
There are enclosed permits to appropriate water authorizing you to proceed with construction of the proposed diversion works (except those dams and stream obstructions regulated by K.S.A. 82a-301 through 305a), to divert such unappropriated water as may be available from the sources and at the locations specified in these permits, and to use it for the purpose and at the location described in these permits.

Your attention is directed to the enclosures and to the terms, conditions, and limitations specified in these permits. Water meters are required and you must install them prior to water being put to beneficial use in order for you to maintain accurate records of water use. The meters should be used to provide the information required on the annual water use reports.

Failure to notify the Chief Engineer of the Division of Water Resources of the completion of the diversion works within the time allowed, or within any authorized extension of time thereof, will result in the dismissal of these permits. Enclosed are forms which may be used to notify the Chief Engineer that the proposed diversion works have been completed for each file.

All requests for extensions of time to complete diversion works, or to perfect appropriations, must be submitted to the Chief Engineer before the expiration of time originally set forth in these permits to complete diversion works or to perfect an appropriation. If for any reason, you require an extension of time, you must request it before the expiration of time set forth in these permits. Failure to comply with this regulation will result in the dismissal of your permits or your water rights. Any request for an extension of time shall be accompanied by the required statutory fee, which is currently \$100.00 per file number. There is also enclosed an information sheet setting forth the procedure to obtain Certificates of Appropriation which will establish the extent of your water rights. If you have any questions, please contact our office. If you wish to discuss a specific file, please have the file number ready so that we may help you more efficiently.

Sincerely,



Brent A. Turney, P.G.
Change Application Unit Supervisor
Water Appropriation Program

BAT:dws
Enclosures

pc: Topeka Field Office
Brad Vincent – Ground Water Associates Inc.

THE STATE OF KANSAS



KANSAS DEPARTMENT OF AGRICULTURE
Jackie McClaskey, Secretary of Agriculture

DIVISION OF WATER RESOURCES
David W. Barfield, Chief Engineer

**APPROVAL OF APPLICATION
and
PERMIT TO PROCEED**

(This Is Not a Certificate of Appropriation)

FILE COPY

This is to certify that I have examined Application, **File No. 49,559** of the applicant

**JACKSON COUNTY RWD 03
PO BOX 350
HOLTON KS 66436-0350**

for a permit to appropriate water for beneficial use, together with the maps, plans and other submitted data, and that the application is hereby approved and the applicant is hereby authorized, subject to vested rights and prior appropriations, to proceed with the construction of the proposed diversion works (except those dams and stream obstructions regulated by K.S.A. 82a-301 through 305a, as amended), and to proceed with all steps necessary for the application of the water to the approved and proposed beneficial use and otherwise perfect the proposed appropriation subject to the following terms, conditions and limitations:

1. That the priority date assigned to such application is **February 12, 2016**.
2. That the water sought to be appropriated shall be used for municipal use within the boundaries of Rural Water District No. 3, Jackson County, Kansas and immediate vicinity; the City of Circleville, Kansas and immediate vicinity; the City of Denison, Kansas and immediate vicinity; the City of Mayetta, Kansas and immediate vicinity; the City of Netawaka, Kansas and immediate vicinity; the City of Soldier, Kansas and immediate vicinity; the City of Whiting, Kansas and immediate vicinity; and within an area outside the boundaries of Rural Water District No. 3, Jackson County, Kansas, in Atchison County, Kansas, Brown County, Kansas, Jackson County, Kansas and Jefferson County, Kansas.
3. That the authorized source from which the appropriation shall be made is groundwater, to be withdrawn by means of one (1) well located in the Southwest Quarter of the Southwest Quarter of the Southeast Quarter (SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$) of Section 17, more particularly described as being near a point 100 feet North and 2,570 feet West of the Southeast corner of said section, in Township 6 South, Range 16 East, Jackson County, Kansas, located substantially as shown on the topographic map accompanying the application.
4. That the appropriation sought shall be limited to a maximum diversion rate not in excess of **200 gallons per minute (0.45 c.f.s.)** and to a quantity not to exceed **39.102 million gallons** (120 acre-feet) of water for any calendar year.
5. That installation of works for diversion of water shall be completed on or before **December 31, 2017** or within any authorized extension thereof. The applicant shall notify the Chief Engineer and pay the statutorily required field inspection fee of \$400.00 when construction of the works has been completed. Failure to timely submit the notice and the fee will result in revocation of the permit. Any request for an extension of time shall be submitted prior to the expiration of the deadline and shall be accompanied by the required statutory fee of \$100.00.

6. That the proposed appropriation shall be perfected by the actual application of water to the proposed beneficial use on or before **December 31, 2036** or any authorized extension thereof. Any request for an extension of time shall be submitted prior to the expiration of the deadline and shall be accompanied by the required statutory fee of \$100.00.
7. That the applicant shall not be deemed to have acquired a water appropriation for a quantity in excess of the amount approved herein nor in excess of the amount found by the Chief Engineer to have been actually used for the approved purpose during one calendar year subsequent to approval of the application and within the time specified for perfection or any authorized extension thereof.
8. That the use of water herein authorized shall not be made so as to impair any use under existing water rights nor prejudicially and unreasonably affect the public interest.
9. That the right of the appropriator shall relate to a specific quantity of water and such right must allow for a reasonable raising or lowering of the static water level and for the reasonable increase or decrease of the streamflow at the appropriator's point of diversion.
10. That this permit does not constitute authority under K.S.A. 82a-301 through 305a to construct any dam or other obstruction; nor does it grant any right-of-way, or authorize entry upon or injury to, public or private property.
11. That all diversion works constructed under the authority of this permit into which any type of chemical or other foreign substance will be injected into the water pumped from the diversion works shall be equipped with an in-line, automatic quick-closing, check valve capable of preventing pollution of the source of the water supply. The type of valve installed shall meet specifications adopted by the Chief Engineer and shall be maintained in an operating condition satisfactory to the Chief Engineer.
12. That all wells with a diversion rate of 100 gallons per minute or more drilled under the authority of this permit shall have a tube or other device installed in a manner acceptable to, and in accordance with specifications adopted by, the Chief Engineer. This tube or device shall be suitable for making water level measurements and shall be maintained in a condition satisfactory to the Chief Engineer.
13. That an acceptable water flow meter shall be installed and maintained on the diversion works authorized by this permit in accordance with Kansas Administrative Regulations 5-1-4 through 5-1-12 adopted by the Chief Engineer. This water flow meter shall be used to provide an accurate quantity of water diverted as required for the annual water use report (including the meter reading at the beginning and end of the report year).
14. That the applicant shall maintain accurate and complete records from which the quantity of water diverted during each calendar year may be readily determined and the applicant shall file an annual water use report with the Chief Engineer by March 1 following the end of each calendar year. Failure to file the annual water use report by the due date shall cause the applicant to be subject to a civil penalty.
15. That no water user shall engage in nor allow the waste of any water diverted under the authority of this permit.
16. That failure without cause to comply with provisions of the permit and its terms, conditions and limitations will result in the forfeiture of the priority date, revocation of the permit and dismissal of the application.
17. That the right to appropriate water under authority of this permit is subject to any minimum desirable streamflow requirements identified and established pursuant to K.S.A. 82a-703c for the source of supply to which this water right applies.

18. That the permit holder shall submit a progress report to the office of the Chief Engineer by March 1, following the tenth full calendar year after the permit was issued. The progress report must be submitted on a form prescribed by the Chief Engineer, and shall compare annual water use projected in the original application with the actual annual water use for the prior 10 years. The progress report must document compliance with the approved conservation plan, contain sufficient details to determine the extent of perfection of the water right during the previous ten years, and demonstrate how the water right, in association with other water rights, meets the municipal use need.

This Order shall become a final agency action, as defined by K.S.A. 77-607(b), without further notice to the parties, if a request for hearing or a petition for administrative review is not filed as set forth below.

Request for Hearing. According to K.A.R. 5-14-3(c), any party who desires a hearing must submit a request within 15 days after the date shown on the Certificate of Service attached to this Order. Filing a request for a hearing will give you the opportunity to submit additional facts for consideration, contest any findings made by the Chief Engineer, or present any other information you believe should be considered in this matter. A timely-filed request for hearing will stay the deadline for requesting administrative review of this Order pending the outcome of the hearing.

Petition for Review. The applicant, if aggrieved by this Order, may petition for administrative review, pursuant to K.S.A. 82a-711(c) and K.S.A. 82a-1901(a). The petition must be filed within 30 days after the date shown on the Certificate of Service attached to this Order and must set forth the basis for the review, unless stayed by the timely filing of a request for hearing.

Any request for hearing or petition for administrative review shall be in writing and shall be submitted to the attention of: Chief Legal Counsel, Kansas Department of Agriculture, 1320 Research Park Drive, Manhattan, Kansas 66502, Fax: (785) 564-6777.

Ordered this 1st day of November, 2016, in Topeka, Shawnee County, Kansas.

Lane P. Letourneau

Lane P. Letourneau, P.G.
Program Manager
Water Appropriation Program
Division of Water Resources
Kansas Department of Agriculture

State of Kansas)
) SS
County of Riley)

The foregoing instrument was acknowledged before me this 1st day of November, 2016, by Lane P. Letourneau, P.G., Program Manager, Division of Water Resources, Kansas Department of Agriculture.

Danielle Wilson

Notary Public



CERTIFICATE OF SERVICE

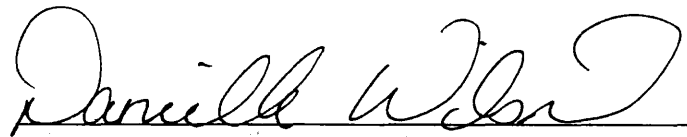
On this *4th* day of *November*, 2016, I hereby certify that the foregoing Approval of Application and Permit to Proceed, File No. 49,559, dated *November 1, 2016* was mailed postage prepaid, first class, US mail to the following:

JACKSON COUNTY RWD 03
PO BOX 350
HOLTON KS 66436-0350

With photocopies to:

GROUND WATER ASSOCIATES INC
% BRAD VINCENT
1999 N AMIDON STE 218
WICHITA KS 67203

Topeka Field Office



Division of Water Resources

[Faint, illegible text or stamp]

APPLICATION COMPLETE

10/24/2016

Reviewer DWS

THE STATE OF KANSAS



KANSAS DEPARTMENT OF AGRICULTURE

Dale A. Rodman, Secretary of Agriculture

DIVISION OF WATER RESOURCES

David W. Barfield, Chief Engineer

WATER RESOURCES RECEIVED

File Number 49,559 This item to be completed by the Division of Water Resources.

WATER RESOURCES RECEIVED

AUG 01 2016

2:10

KS DEPT OF AGRICULTURE

APPLICATION FOR PERMIT TO APPROPRIATE WATER FOR BENEFICIAL USE

Filing Fee Must Accompany the Application (Please refer to Fee Schedule attached to this application form.)

FEB 12 2016

2:02

KS DEPT OF AGRICULTURE

To the Chief Engineer of the Division of Water Resources, Kansas Department of Agriculture, 109 SW 9th Street, Second Floor, Topeka, KS 66612-1283:

1. Name of Applicant (Please Print): JACKSON COUNTY RURAL WATER DISTRICT #3
Address: 411 NEW YORK AVE., P.O. BOX 350
City: HOLTON State KS Zip Code 66436
Telephone Number: (785) 364 3056

2. The source of water is: [] surface water in (stream) OR [X] groundwater in DELAWARE RIVER (drainage basin)

Certain streams in Kansas have minimum target flows established by law or may be subject to administration when water is released from storage for use by water assurance district members. If your application is subject to these regulations on the date we receive your application, you will be sent the appropriate form to complete and return to the Division of Water Resources.

3. The maximum quantity of water desired is 120 acre-feet OR 39.102 million gallons per calendar year, to be diverted at a maximum rate of 200 gallons per minute OR cubic feet per second.

Once your application has been assigned a priority, the requested maximum rate of diversion and maximum requested quantity of water under that priority number can NOT be increased. Please be certain your requested maximum rate of diversion and maximum quantity of water are appropriate and reasonable for your proposed project and are in agreement with the Division of Water Resources' requirements.

- 4. The water is intended to be appropriated for (Check use intended):
(a) [] Artificial Recharge (b) [] Irrigation (c) [] Recreational (d) [] Water Power
(e) [] Industrial (f) [X] Municipal (g) [] Stockwatering (h) [] Sediment Control
(i) [] Domestic (j) [] Dewatering (k) [] Hydraulic Dredging (l) [] Fire Protection
(m) [] Thermal Exchange (n) [] Contamination Remediation

YOU MUST COMPLETE AND ATTACH ADDITIONAL DIVISION OF WATER RESOURCES FORM(S) PROVIDING INFORMATION TO SUBSTANTIATE YOUR REQUEST FOR THE AMOUNT OF WATER FOR THE INTENDED USE REFERENCED ABOVE.

For Office Use Only:
F.O. L GMD Meets K.A.R. 5-3-1 (YES/NO) Use MUN Source GS County JA By Ajw Date 2/12/16
Code 1252 Fee \$ 300 TR # 10027793 Receipt Date 2/12/16 Check # 13378

SCANNED

2/16/2016 CCM

ADDITIONAL INFORMATION TO BE INCLUDED WHEN TEST DRILLING IS FINISHED

File No. 49,559

5. The location of the proposed wells, pump sites or other works for diversion of water is:

Note: For the application to be accepted, the point of diversion location must be described to at least a 10 acre tract, unless you specifically request a 60 day period of time in which to locate the site within a specifically described, minimal legal quarter section of land.

(A) One in the SW quarter of the SW quarter of the SE quarter of Section 17, more particularly described as being near a point 100 feet North and 2570 feet West of the Southeast corner of said section, in Township 6 South, Range 16 East West (circle one), JACKSON County, Kansas.

(B) One in the _____ quarter of the _____ quarter of the _____ quarter of Section _____, more particularly described as being near a point _____ feet North and _____ feet West of the Southeast corner of said section, in Township _____ South, Range _____ East/West (circle one), _____ County, Kansas.

(C) One in the _____ quarter of the _____ quarter of the _____ quarter of Section _____, more particularly described as being near a point _____ feet North and _____ feet West of the Southeast corner of said section, in Township _____ South, Range _____ East/West (circle one), _____ County, Kansas.

(D) One in the _____ quarter of the _____ quarter of the _____ quarter of Section _____, more particularly described as being near a point _____ feet North and _____ feet West of the Southeast corner of said section, in Township _____ South, Range _____ East/West (circle one), _____ County, Kansas.

If the source of supply is groundwater, a separate application shall be filed for each proposed well or battery of wells, except that a single application may include up to four wells within a circle with a quarter (1/4) mile radius in the same local source of supply which do not exceed a maximum diversion rate of 20 gallons per minute per well.

A battery of wells is defined as two or more wells connected to a common pump by a manifold; or not more than four wells in the same local source of supply within a 300 foot radius circle which are being operated by pumps not to exceed a total maximum diversion rate of 800 gallons per minute and which supply water to a common distribution system.

6. The owner of the point of diversion, if other than the applicant is (please print):

Gene Dickinson, 21522 Q ROAD, HOLTON, KS 66436 (785-364-3613)
(name, address and telephone number)

(name, address and telephone number)

You must provide evidence of legal access to, or control of, the point of diversion from the landowner or the landowner's authorized representative. Provide a copy of a recorded deed, lease, easement or other document with this application. In lieu thereof, you may sign the following sworn statement:

I have legal access to, or control of, the point of diversion described in this application from the landowner or the landowner's authorized representative. I declare under penalty of perjury that the foregoing is true and correct.

Executed on Feb 10, 2016. Brenda L Adkins
Applicant's Signature

The applicant must provide the required information or signature irrespective of whether they are the landowner. Failure to complete this portion of the application will cause it to be unacceptable for filing and the application will be returned to the applicant.

7. The proposed project for diversion of water will consist of 2 Wells
(number of wells, pumps or dams, etc.)

and (was/will be) completed (by) 12/31/2017
(Month/Day/Year - each was or will be completed)

8. The first actual application of water for the proposed beneficial use was or is estimated to be 12/31/2017
(Mo/Day/Year)

WATER RESOURCES RECEIVED

WATER RESOURCES RECEIVED

FEB 12 2016

AUG 01 2016

KS DEPT OF AGRICULTURE

KS DEPT OF AGRICULTURE

SCANNED

9. Will pesticide, fertilizer, or other foreign substance be injected into the water pumped from the diversion works?
 Yes No If "yes", a check valve shall be required.

All chemigation safety requirements must be met including a chemigation permit and reporting requirements.

10. If you are planning to impound water, please contact the Division of Water Resources for assistance, prior to submitting the application. Please attach a reservoir area capacity table and inform us of the total acres of surface drainage area above the reservoir.

Have you also made an application for a permit for construction of this dam and reservoir with the Division of Water Resources? Yes No

• If yes, show the Water Structures permit number here _____

• If no, explain here why a Water Structures permit is not required _____

11. The application must be supplemented by a U.S.G.S. topographic map, aerial photograph or a detailed plat showing the following information. On the topographic map, aerial photograph, or plat, identify the center of the section, the section lines or the section corners and show the appropriate section, township and range numbers. Also, please show the following information:

(a) The location of the proposed point(s) of diversion (wells, stream-bank installations, dams, or other diversion works) should be plotted as described in Paragraph No. 5 of the application, showing the North-South distance and the East-West distance from a section line or southeast corner of section.

(b) If the application is for groundwater, please show the location of any existing water wells of any kind within 1/2 mile of the proposed well or wells. Identify each existing well as to its use and furnish the name and mailing address of the property owner or owners. If there are no wells within 1/2 mile, please advise us.

(c) If the application is for surface water, the names and addresses of the landowner(s) 1/2 mile downstream and 1/2 mile upstream from your property lines must be shown.

(d) The location of the proposed place of use should be shown by crosshatching on the topographic map, aerial photograph or plat.

(e) Show the location of the pipelines, canals, reservoirs or other facilities for conveying water from the point of diversion to the place of use.

ADDITIONAL INFORMATION TO BE COMPLETED

A 7.5 minute U.S.G.S. topographic map may be obtained by providing the section, township and range numbers to: Kansas Geological Survey, 1930 Constant, Campus West, University of Kansas, Lawrence, Kansas 66047.

12. List any application, appropriation of water, water right, or vested right file number that covers the same diversion points or any of the same place of use described in this application. Also list any other recent modifications made to existing permits or water rights in conjunction with the filing of this application.

18,210 28,884 40,504 44,249

40737

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ADDITIONAL INFORMATION TO BE INCLUDED WHEN TEST DRILLING IS FINISHED.

File No. 49,559

13. Furnish the following well information if the proposed appropriation is for the use of groundwater. If the well has not been completed, give information obtained from test holes, if available.

Information below is from: Test holes Well as completed Drillers log attached

Well location as shown in paragraph No. (A) (B) (C) (D)

Date Drilled 22 Feb 2016

Total depth of well 152

Depth to water bearing formation 66

Depth to static water level ~~50.47~~ 85.47

Depth to bottom of pump intake pipe 150

14. The relationship of the applicant to the proposed place where the water will be used is that of

AGENT
(owner, tenant, agent or otherwise)

15. The owner(s) of the property where the water is used, if other than the applicant, is (please print):

(name, address and telephone number)

(name, address and telephone number)

16. The undersigned states that the information set forth above is true to the best of his/her knowledge and that this application is submitted in good faith.

Dated at Holtan, Kansas, this 10 day of Feb, 2016.
Jackson County (month) (year)

(Applicant Signature)

APPLICANT(S) SOCIAL SECURITY IDENTIFICATION NUMBER(S)

By Brenda L Adkins
(Agent or Officer Signature) manager

and/or APPLICANT(S) TAXPAYER I.D. NO.(S)

(Agent or Officer - Please Print)

Assisted by DRAO VINCENT GROUND WATER ASSOCIATES Date: 8 Feb 2016
(office/title)

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(Date)

Kansas Department of Agriculture
Division of Water Resources
David W. Barfield, Chief Engineer
1320 Research Park Drive
Manhattan, Kansas 66502

Re: Application
File No. 49,559

Minimum Desirable Streamflow

Dear Sir:

I understand that a Minimum Desirable Streamflow requirement has been established by the legislature for the source of supply to which the above referenced application applies.

I understand that diversion of water pursuant to this application will be subject to regulation any time Minimum Desirable Streamflow requirements are not being met.

I also understand that if this application is approved, there could be times, as determined by the Division of Water Resources, when I would not be allowed to divert water. I realize that this could affect the economics of my decision to appropriate water.

I am aware of the above factors, and with the knowledge thereof, request that the Division of Water Resources proceed with processing and approval, if possible, of the above referenced application.

Brenda L Adkins
Signature of Applicant

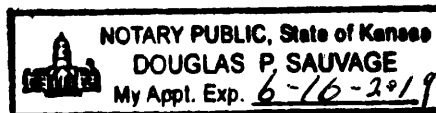
State of Kansas)
) ss
County of Jackson)

Brenda L Adkins
(Print Applicant's Name)

I hereby certify that the foregoing instrument was signed in my presence and sworn to before me this 29 day of July, 2016.

Douglas P. Sauvage
Notary Public

My Commission Expires:
6-16-2019



DWR 1-100.171 (Revised 03/27/2008)
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**MINIMUM DESIRABLE STREAMFLOW FORM TO BE USED WHEN
APPLICABLE WHEN FILING AN APPLICATION FOR PERMIT
TO APPROPRIATE WATER FOR BENEFICIAL USE**

The Kansas Legislature has established minimum desirable streamflows for the streams listed below. If your proposed diversion of water is going to be from one of these watercourses or adjacent alluvial aquifers, please complete the back side of this page and submit it along with your application for permit to appropriate water.

Arkansas River
Big Blue River
Chapman Creek
Chikaskia River
Cottonwood River
Delaware River
Little Arkansas River
Little Blue River
Marais des Cygnes River
Medicine Lodge River
Mill Creek (Wabaunsee Co. area)
Neosho River

Ninnescah River
North Fork Ninnescah River
Rattlesnake Creek
Republican River
Saline River
Smoky Hill River
Solomon River
South Fork Ninnescah
Spring River
Walnut River
Whitewater River

Applicant's Name RWD #3
(Please Print)

MUNICIPAL (PUBLIC WATER SUPPLY) APPLICATION
SUPPLEMENTAL INFORMATION SHEET

Application File Number

49,559
(assigned by DWR)

SECTION 1: PRESENT WATER USE SUMMARY (IF NO PREVIOUS MUNICIPAL WATER USE HAS BEEN UTILIZED, PROCEED TO SECTION 3)
NOTE: WORKSHEET FOR WATER PUMPED, PURCHASED, AND SOLD BY YOUR WATER DISTRIBUTION SYSTEM.

Column 1 Raw Water Diverted Under Your Rights	Column 2 Water Purchased From All Sources	Column 3 Water Sold to Other Public Water Suppliers	Column 4 Water Sold to Your Industrial, Stock, and Bulk Customers	Column 5 Water Sold to Your Residential and Commercial Customers	Column 6 Other Metered Water	Column 7 Remaining Water Used (See Below Explanation)
41,905,240	62,595,300	10,954,568	24,336,160	45,689,879	3,931,290	19,588,643
TOTAL WATER = Columns 1 + 2		ACCOUNTED FOR WATER = Columns 3 + 4 + 5 + 6				UNACCOUNTED FOR WATER

UNACCOUNTED FOR WATER = TOTAL WATER - ACCOUNTED FOR WATER

- Column 1: The amount of raw water diverted from all of your points of diversion.
- Column 2: The amount of water purchased wholesale from all other public water supply systems or the Kansas Water Office.
- Column 3: The amount of water sold wholesale to all other public water supply systems.
- Column 4: The amount of water sold retail to all industrial, pasture, stockwater, feedlot, and bulk water service connections. Include the amount of water sold to all farmsteads using at least 200,000 gallons of water per year.
- Column 5: The amount of water sold retail to your residential and commercial customers and to industries and farmsteads using less than 200,000 gallons of water per year.
- Column 6: The amount of water used that is metered at individual service connections and supplied free, such as for public service, treatment processes, and connections receiving free water.
- Column 7: The amount of remaining water used. The gallons reported in this column are found by adding the numbers in Columns 1 and 2 and subtracting the numbers in Columns 3, 4, 5, and 6.

UNACCOUNTED FOR WATER

Use the following to calculate your distribution system's Unaccounted For Water:

Start with the amount in Column 1 and add the amount in Column 2, then subtract the amounts in Columns 3, 4, 5, and 6 leaving an amount of water representing your unaccounted for water to enter in Column 7.

Use the following to calculate the percent Unaccounted For Water versus the Total Water of your system:

$$\text{Percent Unaccounted For Water} = \frac{\text{Unaccounted For Water}}{\text{Total Water (Columns 1,2)}} \times 100$$

If this number exceeds 20%, please explain the large amount of unaccounted for water and describe any steps being taken to reduce it.

WATER RESOURCES
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SECTION 2: PAST WATER USE

COMPLETE THE FOLLOWING TABLE FROM YOUR PAST WATER USE RECORDS.

	Column 1 Raw Water Diverted Under Your Rights	Column 2 Water Purchased From All Sources	Column 3 Water Sold to Other Public Water Suppliers	Column 4 Water Sold to Your Industrial, Stock, and Bulk Customers	Column 5 Water Sold to Your Residential and Commercial Customers	Column 6 Other Metered Water	Column 7 Remaining Water Used (See Above Explanation)
1994							
1995 20 years ago	124,044,000	18,780,000	31,814,000	10,716,000	78,860,000	0	21,428,000
2000 15 years ago	156,247,000	44,781,000	28,840,000	21,958,000	140,328,000	0	9,902,000
2005 10 years ago	52,911,000	168,708,000	29,901,000	47,601,000	138,945,000	126,000	4,986,000
2010 5 years ago	82,190,700	118,915,087	22,201,842	44,319,260	90,417,255	11,858,469	32,308,961
	TOTAL WATER = Columns 1 + 2		ACCOUNTED FOR WATER = Columns 3 + 4 + 5 + 6				UNACCOUNTED FOR WATER

SECTION 3: PROJECTED FUTURE WATER NEEDS

PLEASE COMPLETE THE FOLLOWING TABLE SHOWING YOUR FUTURE WATER REQUIREMENTS FOR THE NEXT 20 YEARS:

	Column 1 Raw Water Diverted Under Your Rights	Column 2 Water Purchased From All Sources	Column 3 <i>Cities</i> Water Sold to Other Public Water Suppliers	Column 4 Water Sold to Your Industrial, Stock, and Bulk Customers	Column 5 Water Sold to Your Residential and Commercial Customers	Column 6 Other Metered Water	Column 7 Remaining Water Used (See Explanation on other side)
Year 5	126,380,912.57	97,752,000	25,000,000	48,000,000	151,132,912.57		
Year 10	147,110,947.50	97,752,000	26,000,000	52,000,000	166,862,947.50		
Year 15	169,478,177.10	97,752,000	27,000,000	56,000,000	184,230,177.10		
Year 20	193,653,001.91	97,752,000	28,000,000	60,000,000	203,405,001.91		
TOTAL WATER = Columns 1 + 2			ACCOUNTED FOR WATER = Columns 3 + 4 + 5 + 6			UNACCOUNTED FOR WATER	

SECTION 4: POPULATION AND SERVICE CONNECTIONS

ESTIMATE THE NUMBER OF PERSONS DIRECTLY SERVED BY YOUR WATER DISTRIBUTION SYSTEM

PAST POPULATION - PROVIDE INFORMATION BELOW:
(CENSUS BUREAU INFORMATION)

LAST 20 YEARS	POPULATION
20 years ago	1,196
15 years ago	1,420
10 years ago	1,661
5 years ago	1,796
Last Year	1,866

Service Meters

3,500

3,990

PROJECTED FUTURE POPULATION

ESTIMATE FUTURE POPULATION AND SUBSTANTIATE NUMBERS ON SEPARATE ATTACHMENTS

NEXT 20 YEARS	POPULATION
Year 5	2071
Year 10	2290
Year 15	2550
Year 20	2800

Service Meters

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Provide number of current active service connections:

1,728 Residential 0 Industrial 0 Other (specify) _____
6 Commercial 132 Pasture/Stockwater/Feedlot 1,866 Total

SECTION 5: PRESENT GALLONS PER PERSON PER DAY
CALCULATE YOUR GALLONS PER PERSON PER DAY

Water in Columns 5, 6, and 7 ÷ Population ÷ 365 Days/Year = Gallons per Person per Day *used year of 2015*

$\frac{132,381,470.00}{1866} \div 365 \text{ Days/Year} = 195$ GALLONS PER PERSON PER DAY.

Amount of water in Columns 5, 6, and 7 of Section 1 Population from Last Year of Section 4

SECTION 6: AREA TO BE SERVED

Describe the area to be served or provide the legal description of the location where the water is to be used including any other city of water supply system (i.e. Rural Water District):

see attache map. Place of use is within the vicinity of the Legal RWD Boundary.

* *Circleville, Denison, Mayetta, Netawaka, Soldier, Whiting, + other areas outside Boundaries - See map*

You may attach additional information you believe will assist in informing the Division of the need for your request.

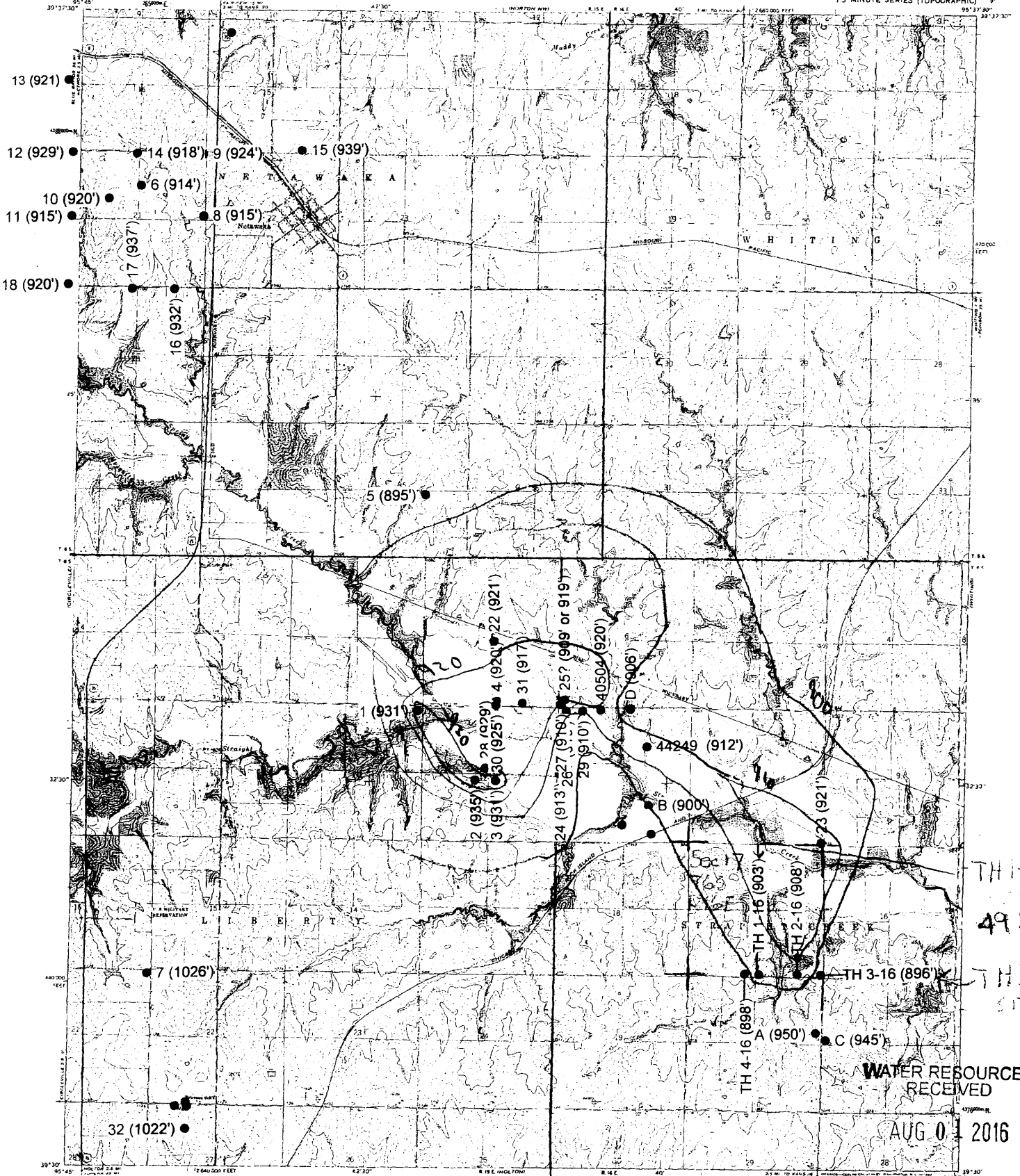
* DWS/DWR 10/18/16- PU overlap with senior files.

SHALE (ELEVATION) DURING GLACIAL VALLEY

FROM DRILL LOGS

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

NETAWAKA QUADRANGLE
KANSAS—JACKSON CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)



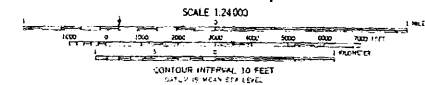
TH 1-16
49559 ft
TH 3-16
SITE 2

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Heavy duty... Light duty...
 Medium duty... Ungraded dirt...
 U.S. Route... State Route...



NETAWAKA, KANS.
N 3930—9537 S 7.5

THIS MAP COMPLES WITH NATIONAL MAP ACCURACY STANDARDS
 FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER 25, COLORADO OR WASHINGTON 25, D. C.
 AND BY THE STATE GEOLOGICAL SURVEY, LAWRENCE, KANSAS
 A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

locally more than 12,000 gpd/ft² (490 m/d). Transmissivity values range up to 354,000 gpd/ft (4400 m²/d) (as reported for a well in SESE sec. 1, T. 12 S., R. 19 E.). Specific capacities range from 14 gpm/ft to 175 gpm/ft (0.0029–0.0362 m²/s) of drawdown. In the well-sorted massive portions of the Ireland Sandstone Member, the coefficient of permeability ranges from 100 gpd/ft² to 350 gpd/ft² (4–14 m/d), but elsewhere it is commonly

25–150 gpd/ft² (1.0–6.1 m/d). The specific capacities for two wells are 1 gpm/ft (0.0002 m²/s) and 7.6 gpm/ft (0.0016 m²/s) of drawdown. The coefficient of permeability for the Tonganoxie Sandstone Member generally ranges from 15 gpd/ft² to 150 gpd/ft² (0.61–6.1 m/d).

In Douglas County the largest quantities of water can be obtained from the Kansas River valley alluvium and terrace deposits and from the Ireland and Tonganoxie

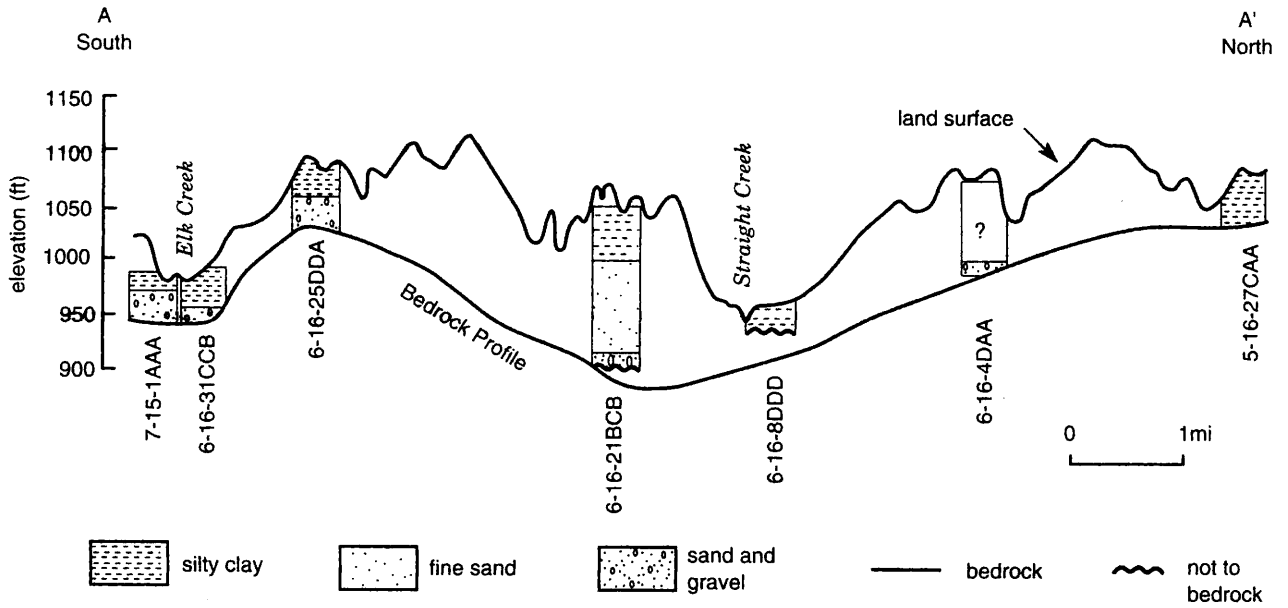


FIGURE 34—CROSS SECTION A–A' SHOWING SURFACE TOPOGRAPHY AND DRILL-HOLE DATA. Location of section shown in plate 1.

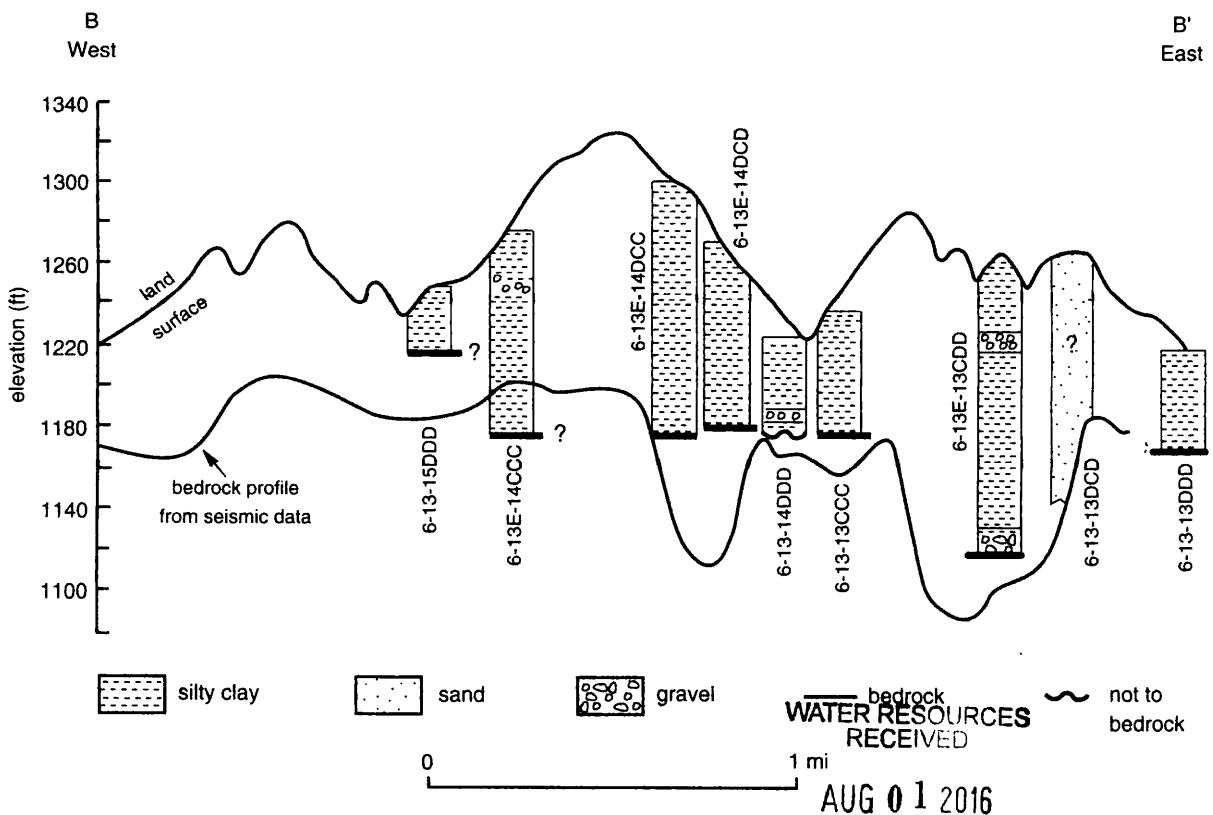


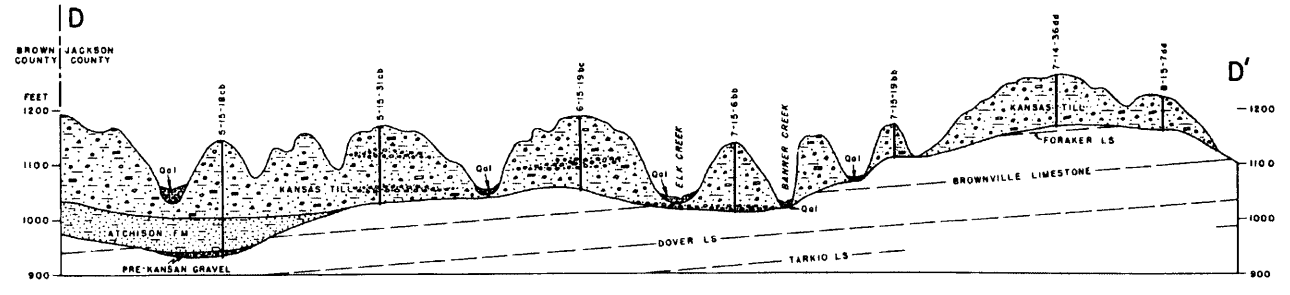
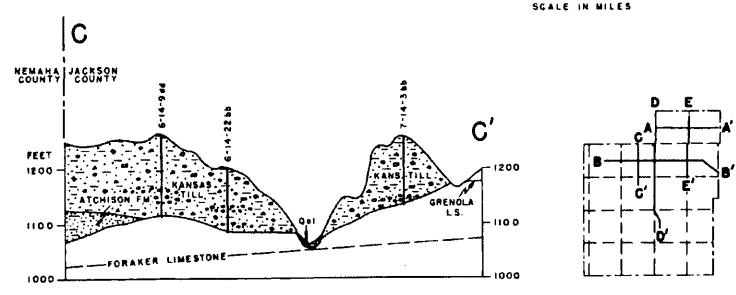
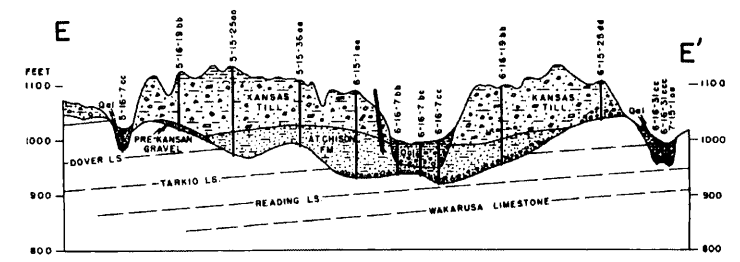
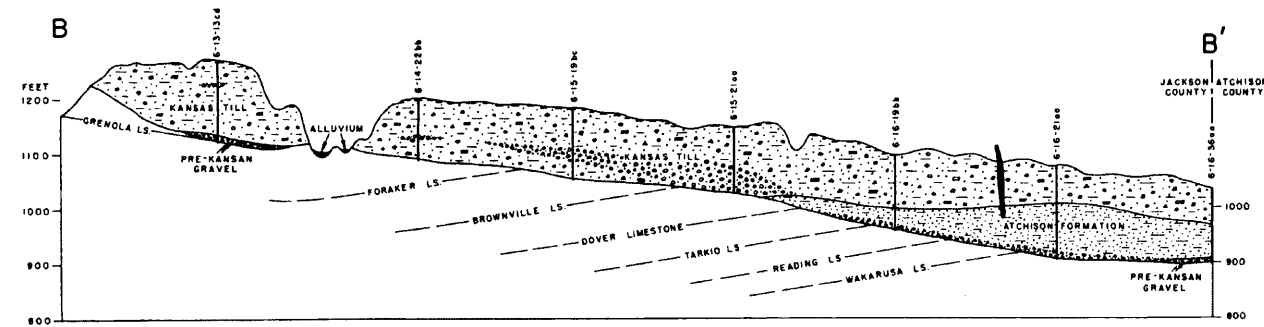
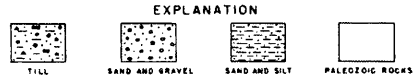
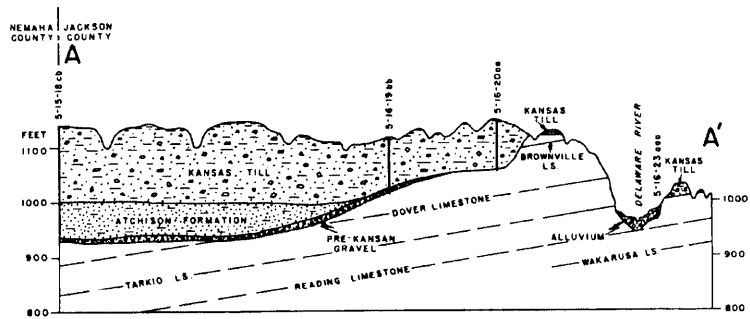
FIGURE 35—CROSS SECTION B–B' SHOWING SURFACE TOPOGRAPHY, DRILL-HOLE DATA, AND BEDROCK TOPOGRAPHY AS INTERPRETED FROM A SEISMIC PROFILE. Location of section shown in plate 1

GEOLOGIC CROSS SECTIONS IN JACKSON COUNTY, KANSAS

by Kenneth L. Walters
1950

State Geological Survey of Kansas

Bulletin 101, Plate 3



File Quantity

18,210 186.2 AF 60,673,956.2 Mg

20,004 611,979 Mg 44,443,000 add 1m 20,000,000 Mg
File no. 18210

40,504 30,755 Mg 1m 143,815 Mg File no. 18210 26664

40,737 547,429,680 Mg Surface Water

44,249 58,653 Mg 1m 202,527 Mg File no. 18210, 20004, 40504

40,737 Top perfected 1024.6 AF 659.4 AF Surface water

44,249 Top perfected 62.412 AF 117.46

Total For RWDH 3 747,556,680 Mg 2,000.3 AF



20,004 1,000 Mg 40,737

#49,559
meets safe
yield

Analysis Results

The selected PD is in an area to new appropriations.
 The safe yield, based on the variables listed below is 2,734.58 AF.
 Total prior appropriation in the circle is 1,021.94 AF. — 280AF = 741.94
 Total quantity of water available for appropriation is 1,712.64 AF.

1992.64

Safe Yield Variables

The area used for the analysis is set at 6563 acres.
 Potential annual recharge of the area is estimated to be 5.0 inches.
 The percent of recharge available for appropriation is 100%.

Authorized Quantity values are as of 13-OCT-2016 and are based on Appropriated and Vested ground water right and possible stream nodes for GMD #2. Domestic, Term and Temporary water rights have been excluded.

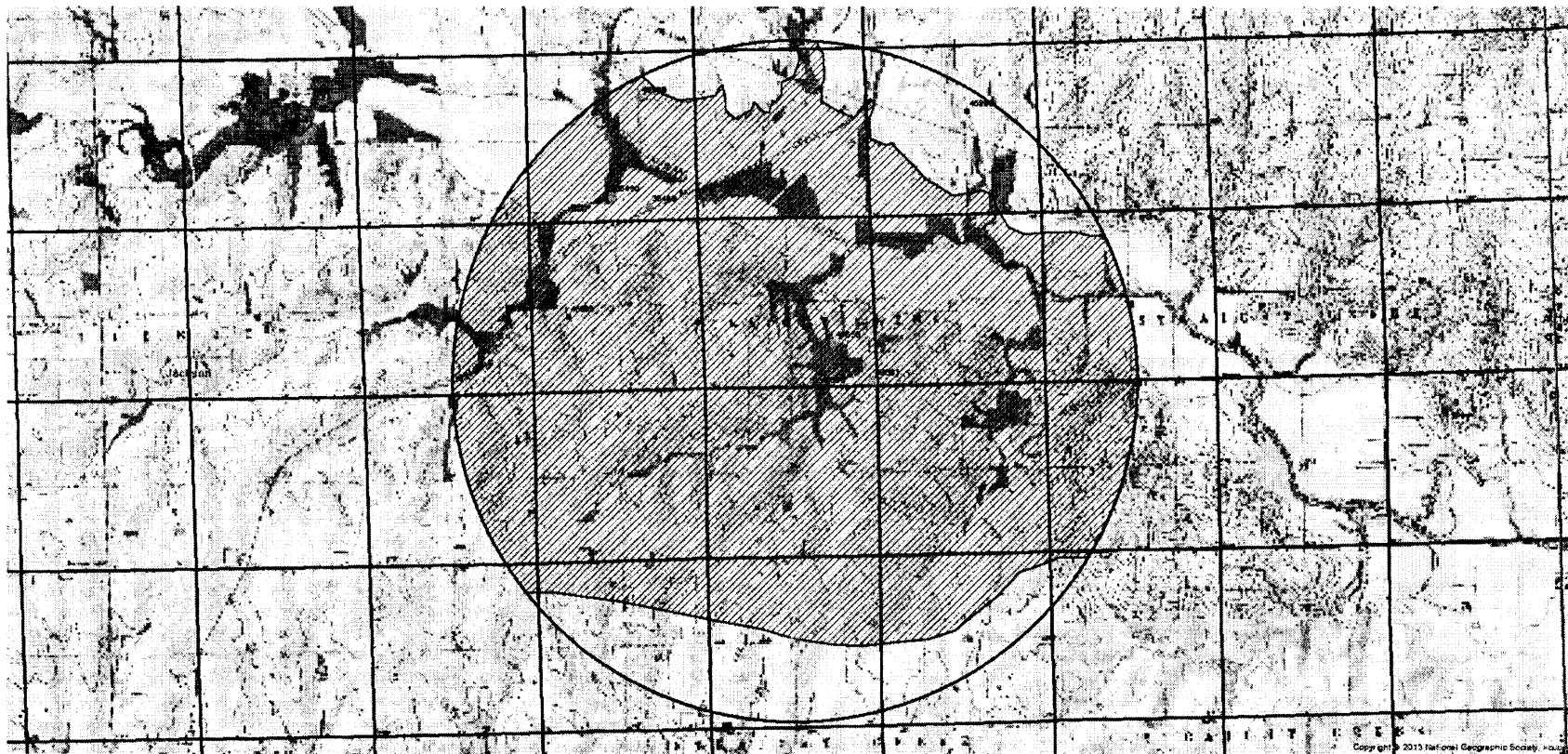
There are 5 water right(s) and 5 point(s) of diversion within the circle.

File Number	Use	ST	SR	Q4	Q3	Q2	Q1	FeetN	FeetW	Sec	Twp	Rng	ID	Qind	Auth_Quant	Add_Quant	Tacres	Nacres
A 35489	00 MUN NK G				SE	SW	SE	360	1500	07	06	16E	1	WR	288.36	288.36		
A 35490	00 MUN NK G				NW	SW	SE	745	2630	07	06	16E	2	WR	293.59	273.58		
A 44249	00 MUN LZ G				NE	SW	NE	3812	1730	07	06	16E	4	WR	180.00	180.00		
A 49559	00 MUN AY G						SE	1320	1320	17	06	16E	1	WR	120.00	120.00		
A 49681	00 MUN AY G				SE	SE	SE	125	125	17	06	16E	2	WR	160.00	160.00		

280

49,559

Safe Yield Report Sheet
Proposed Water Right Application
Point of Diversion in SWSWSWSE 17-06S-16E
FILE NO. 49,559 (100'N & 2,570'W)



49,559

Water Rights and Points of Diversion Within 2.00 miles of point defined as:

100 ft N and 2570 ft W of the SE Corner of Section 17, T 6S, R 16E

Located at: 95.653322 West Longitude and 39.520981 North Latitude

GROUNDWATER ONLY

File Number	Use	ST	SR	Dist (ft)	Q4	Q3	Q2	Q1	FeetN	FeetW	Sec	Twp	Rng	ID	Batt	Auth_Quan	Add_Quan	Unit
A__ 35489	00	MUN	NK	G	7079	--	SE	SW	SE	360	1500	7	6	16E	1	288.36	288.36	AF
A__ 35490	00	MUN	NK	G	8102	--	NW	SW	SE	745	2630	7	6	16E	2	293.59	273.58	AF
A__ 44249	00	MUN	LZ	G	10137	--	NE	SW	NE	3812	1730	7	6	16E	4	180.00	180.00	AF
A__ 49559	00	MUN	AY	G	1747	--	--	--	SE	1320	1320	17	6	16E	1	120.00	120.00	AF
A__ 49681	00	MUN	AY	G	2445	--	SE	SE	SE	125	125	17	6	16E	2	160.00	160.00	AF

Total Net Quantities Authorized:	Direct	Storage
Total Requested Amount (AF) =	280.00	.00
Total Permitted Amount (AF) =	.00	.00
Total Inspected Amount (AF) =	180.00	.00
Total Pro_Cert Amount (AF) =	.00	.00
Total Certified Amount (AF) =	561.94	.00
Total Vested Amount (AF) =	.00	.00
TOTAL AMOUNT (AF) =	1021.94	.00

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 2.00 miles of point defined as:

95.653322 West Longitude and 39.520981 North Latitude

GROUNDWATER ONLY

WATER USE CORRESPONDENTS:

File Number	Use	ST	SR
A__ 35489	00	MUN	NK G
>	CITY OF HOLTON		
>			
>	430 PENNSYLVANIA		
>	HOLTON KS 66436		

A__ 35490	00	MUN	NK G
>	CITY OF HOLTON		
>			
>	430 PENNSYLVANIA		
>	HOLTON KS 66436		

A__ 44249	00	MUN	LZ G
>	JACKSON RWD 03		
>			
>	PO BOX 350		
>	HOLTON KS 66436		

A__ 49559	00	MUN	AY G
>	JACKSON RWD 03		
>			

> PO BOX 350
> HOLTON KS 66436

>-----

A__ 49681 00 MUN AY G

> JACKSON RWD 03

>

> PO BOX 350
> HOLTON KS 66436

>-----

=====



22 Feb 2016

Jackson Co. RWD #3

TH 1-16 110' N & 100' E of SW cor. of the SE 1/4. Sec 17, T6S, R16E Elev. 1050'
 GPS N 39° 31.260' W 95° 39.201'

SWL 85.47' @GL (Jun 8, 2016)

0 - 2'	Top soil
2 - 13	Clay yel
13 - 14	Sand br vf
14 - 17	Clay yel, LS pieces
17 - 24	Clay br, sandy
24 - 26	Gravel br f-m, clay br
26 - 29	Clay br & gy
29 - 31	Clay rd & gy
31 - 34	Clay gn & gy
34 - 44	Clay gy & rd, harder
44 - 58	Clay gy
58 - 66	Clay gy silty
66 - 83	Sand br, vf
83 - 86	Sand br, vf, looser
86 - 117	Sand br, vf-f
117 - 123	Sand br, f, looser
123 - 143	Sand br, f
143 - 144	Sand br, f-m
144 - 147	Gravel chert coarse, pebbles
147 - 152	Shale gn

Set 2" screen 127' - 147'

Logged by Brad Vincent, Ground Water Associates
 Datum: 1927 North American

Atchison formation?
Kansas Till?

WATER RESOURCES
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65-15E Sec. 21

	Shale, calcareous, gray with trace of pink	5	135
6-15-21aa --Sample log of test hole in the NE NE sec. 21, T. 6 S., R. 15 E., 200 feet south of the NE cor. sec. 21, drilled August 1950. Surface altitude, 1,141.7 feet.		Thickness, feet	Depth, feet
	Soil, black	3	3
Quaternary--Pleistocene			
Kansan glacial deposits			
	Till, clay, noncalcareous, tan	3	6
	Till, clay, calcareous, tan	4	10
	Till, clay, calcareous, gravelly	28	38
	Till, clay, calcareous, sandy, blue	32	70
	Gravel, fine to medium, and blue clay	17	87
	Sand, coarse, and fine gravel	6	93
	Gravel, medium, and coarse sand	24	117
Pennsylvanian--Virgilian			
French Creek shale			
	Shale, fossiliferous, dark-gray, and hard gray limestone	3	120
# 1	6-15-25dd --Sample log of test hole in the <u>SE SE sec.</u> 25, T. 6 S., R. 15 E., 0.2 mile north of the SE cor. sec. 25, drilled June 1949. Surface altitude, 1,098.9 feet.	Thickness, feet	Depth, feet
Quaternary--Pleistocene			
Kansan glacial deposits			
	Clay, noncalcareous, sandy, reddish-tan	5	5
	Till, clay, calcareous, tan; contains a little gravel and caliche	15	20
	Till, calcareous, tan; contains a little gravel and fine sand	5	25
	Till, calcareous, gravelly, tan	5	30
	Till, calcareous, sandy, blue-gray	7	37
	Till, calcareous, sandy, reddish-tan	4	41
	Gravel, fine to medium	9	50
	Sand, coarse; contains a little fine gravel	10	60
	Gravel, fine to coarse, quartz	8	68
Pennsylvanian--Virgilian			
Dry-Friedrich shale			
	Shale, slightly calcareous, micaceous, blue-gray	7	75
# 2	6-16-7bb --Sample log of test hole in the NW NW sec. 7, T. 6 S., R. 16 E., 40 feet south of the NW cor. sec. 7, drilled August 1950. Surface altitude, 993.0 feet.	Thickness, feet	Depth, feet

No Water Levels

} 27' of s+g

2 cont.

	Soil	5	5
Quaternary--Pleistocene			
Alluvium (Recent)			
	Silt and clay, noncalcareous, gray	10	15
	Clay, noncalcareous, blue-gray	11	26
	Sand, medium to coarse, and medium gravel	14	40
Atchison formation			
	Sand, very fine, quartz	18	58
	Sand, medium to coarse, and fine gravel	9	67
Pennsylvanian--Virgilian			
Willard shale			
	Shale, calcareous, gray	8	75
6-16-7bc--Sample log of test hole in the SW NW sec. 7, T. 6 S., R. 16 E., 130 feet north of the Cen. W. line sec. 7, drilled August 1950. Surface altitude, 991.4 feet.		Thickness, feet	Depth, feet
Quaternary--Pleistocene			
Alluvium (Recent)			
	Silt, noncalcareous, sandy, black	6	6
	Clay, noncalcareous, gray	9	15
	Sand, medium, quartz	11	26
	Sand, coarse, quartz; and fine gravel	12	38
Atchison formation			
	Sand, very fine	12	50
	Sand, coarse, and fine to medium gravel	13	63
Pennsylvanian--Virgilian			
Willard shale			
	Shale, calcareous, gray-green	7	70
6-16-7cc--Sample log of test hole in the SW SW sec. 7, T. 6 S., R. 16 E., 0.15 mile north of the SW cor. sec. 7, drilled August 1950. Surface altitude, 993.0 feet.		Thickness, feet	Depth, feet
	Soil, black	4	4
Quaternary--Pleistocene			
Alluvium (Recent)			
	Clay, noncalcareous, black	6	10
	Clay, noncalcareous, tan	8	18
	Clay, slightly calcareous, tan	7	25
	Sand, medium, quartz; and fine gravel	15	40
	Sand, coarse, and fine to medium gravel	20	60
Atchison formation			

41' of S+G

Ditto ↑

"

	Sand, very fine	14	74
	Gravel, medium, quartz and chert	3	77
Pennsylvanian--Virgilian			
Willard shale			
	Shale, calcareous, gray-green	3	80
6-16-11bb --Sample log of test hole in the NW NW sec. 11, T. 6 S., R. 16 E., 200 feet east of the NW cor. sec. 11, drilled August 1950. Surface altitude, 1,092.4 feet.		Thickness, feet	Depth, feet
	Soil, noncalcareous, black	3	3
Quaternary--Pleistocene			
Kansan glacial deposits			
	Till, clay, noncalcareous, gray and tan	15	18
	Till, clay, calcareous, sandy, tan	24	42
	Sand, medium to coarse, and medium quartz gravel	8	50
	Till, clay, calcareous, gravelly, blue	25	75
Pennsylvanian--Virgilian			
Maple Hill limestone			
	Limestone, hard, brown	1	76
#3	6-16-19bb --Sample log of test hole in the NW NW sec. 19, T. 6 S., R. 16 E., 400 feet south of the NW cor. sec. 19, drilled August 1950. Surface altitude, 1,092.5 feet.	Thickness, feet	Depth, feet
Quaternary--Pleistocene			
Kansan glacial deposits			
	Silt, noncalcareous, brown	2	2
	Till, clay, calcareous, gravelly, tan	34	36
	Till, clay, calcareous, gravelly, blue	24	60
	Till, clay, calcareous, sandy, blue	17	77
	Gravel, fine to medium, chert and quartz	5	82
	Till, clay, calcareous, very sandy, blue	18	100
Atchison formation			
	Sand, very fine	28	128
	Gravel, fine to medium, mostly limestone	12	140
Pennsylvanian--Virgilian			
Willard shale			
	Shale, calcareous, blue-gray	20	160
6-16-21aa --Sample log of test hole in the NE NE sec. 21, T. 6 S., R. 16 E., 0.2 mile south of the NE cor. sec. 21, drilled August 1950. Surface altitude, 1,074.2 feet.		Thickness, feet	Depth, feet

40' S+G

		Soil, noncalcareous, sandy, black	2	2
Quaternary--Pleistocene				
Kansan glacial deposits				
		Till, clay, calcareous, sandy, tan	3	5
		Till, clay, calcareous, tan	8	13
		Sand, medium to coarse, and fine gravel	3	16
		Till, clay, calcareous, sandy, tan	9	25
		Till, clay, calcareous, tan	28	53
		Till, clay, calcareous, sandy, blue	17	70
Atchison formation				
		Sand, very fine	86	156
		Gravel, fine, limestone and quartz	19	175
Pennsylvanian--Virgilian				
		Shale, calcareous, blue	4	179
6-16-31cc --Sample log of test hole in the SW SW sec. 31, T. 6 S., R. 16 E., midway between the 3rd and 4th power poles north of the SW cor. sec. 31, drilled July 1950. Surface altitude, 990.1 feet.			Thickness, feet	Depth, feet
Quaternary--Pleistocene				
Alluvium (Recent)				
		Silt, noncalcareous, black	4	4
		Silt and clay, noncalcareous, gray	8	12
		Clay, noncalcareous, gray-green.	14	26
		Silt and clay, noncalcareous, black	11	37
		Sand, medium to coarse, quartz; and fine gravel	8	45
Pennsylvanian--Virgilian				
Elmont limestone				
		Limestone, dark-gray	1	46
6-16-31ccc --Sample log of test hole in the SW SW sec. 31, T. 6 S., R. 16 E., 35 feet east of the SW cor. sec. 31, drilled July 1950. Surface altitude, 985.6 feet.			Thickness, feet	Depth, feet
		Road fill	4	4
Quaternary--Pleistocene				
Alluvium (Recent)				
		Silt and clay, noncalcareous, gray	11	15
		Clay, noncalcareous, sandy, greenish-gray	5	20
		Sand, medium and coarse; contains numerous snail shells	10	30
		Sand, coarse, quartz, and fine gravel	8	38

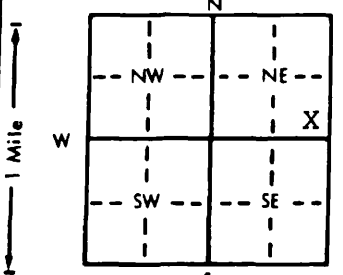
Pennsylvanian--Virgilian			
Elmont limestone			
	Limestone, dark-blue	.5	38.5
	Shale, dark-gray	1.5	40
6-16-36aa--Sample log of test hole in the NE NE sec. 36, T. 6 S., R. 16 E., 0.2 mile south of the NE cor. sec. 36, drilled August 1950. Surface altitude, 1 031.2 feet.		Thickness, feet	Depth, feet
Quaternary--Pleistocene			
Kansan glacial deposits			
	Silt, noncalcareous, gravelly, brown	2	2
	Till, clay, noncalcareous, gravelly, tan	18	20
	Till, clay, calcareous, gravelly, tan	16	36
	Till, clay, calcareous, gravelly, blue	34	70
Atchison formation			
	Sand, very fine	31	101
	Silt, calcareous, blue and very fine sand	6	107
	Sand, very fine	25	132
Pre-Kansan deposits			
	Gravel, fine to medium, chert and limestone	7	139
Pennsylvanian--Virgilian			
Cedar Vale shale			
	Shale, calcareous, sandy, blue-gray	7	146
7-14-3bb--Sample log of test hole in the NW NW sec. 8, T. 7 S., R. 14 E., 0.2 mile south of the NW cor. sec. 3, drilled June 1949. Surface altitude, 1,256.3 feet.		Thickness, feet	Depth, feet
	Soil, black	1	1
Quaternary--Pleistocene			
Kansan glacial deposits			
	Till, clay, calcareous, sandy, tan	9	10
	Till, clay, calcareous, gravelly, tan	39	49
	Till, clay, calcareous, gravelly, blue	2	51
	Till, clay, calcareous, blue	56	107
	Gravel, fine to medium, limestone and quartz	1.3	120
	Till, clay, calcareous, blue	4	124
Permian--Wolfcampian			
Roca shale (?)			
	Shale, calcareous, yellow and gray	3	127
		Thickness, feet	Depth, feet

1] LOCATION OF WATER WELL: Fraction SE 1/4 SE 1/4 NE 1/4 Section Number 20 Township Number T 6 S Range Number R 16 **EW**
 County: JACKSON

Distance and direction from nearest town or city street address of well if located within city?

2 1/2 north, 5 1/2 east of Holton

2] WATER WELL OWNER: Mrs. Evelyn Schultz
 RR#, St. Address, Box #: Rt. 1 Box 73 Board of Agriculture, Division of Water Resources
 City, State, ZIP Code: Whiting, KS 66552 Application Number:

3] LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:  4] DEPTH OF COMPLETED WELL: 135 ft. ELEVATION:
 Depth(s) Groundwater Encountered 1.1 ft. 2. ft. 3. ft.
 WELL'S STATIC WATER LEVEL 75' ft. below land surface measured on mo/day/yr 5-02-89
 Pump test data: Well water was _____ ft. after _____ hours pumping _____ gpm
 Est. Yield 50 gpm: Well water was _____ ft. after _____ hours pumping _____ gpm
 Bore Hole Diameter: 12" in. to _____ ft., and _____ in. to _____ ft.
 WELL WATER TO BE USED AS: 5 Public water supply 8 Air conditioning 11 Injection well
 1 Domestic 3 Feedlot 6 Oil field water supply 9 Dewatering 12 Other (Specify below)
 2 Irrigation 4 Industrial 7 Lawn and garden only 10 Monitoring well
 Was a chemical/bacteriological sample submitted to Department? Yes _____ No X; If yes, mo/day/yr sample was submitted
 Water Well Disinfected? Yes X No

5] TYPE OF BLANK CASING USED: 5 Wrought iron 8 Concrete tile CASING JOINTS: Glued X Clamped _____
 1 Steel 3 RMP (SR) 6 Asbestos-Cement 9 Other (specify below) Welded _____
 2 PVC 4 ABS 7 Fiberglass Threaded _____
 Blank casing diameter 5" in. to 0-118 ft., Dia 5" in. to 133-135 ft., Dia _____ in. to _____ ft.
 Casing height above land surface 24" in., weight 2.82 lbs./ft. Wall thickness or gauge No. 258
 TYPE OF SCREEN OR PERFORATION MATERIAL: 7 PVC 10 Asbestos-cement
 1 Steel 3 Stainless steel 5 Fiberglass 8 RMP (SR) 11 Other (specify) _____
 2 Brass 4 Galvanized steel 6 Concrete tile 9 ABS 12 None used (open hole)
 SCREEN OR PERFORATION OPENINGS ARE: 5 Gauzed wrapped 8 Saw cut 11 None (open hole)
 1 Continuous slot 3 Mill slot 6 Wire wrapped 9 Drilled holes
 2 Louvered shutter 4 Key punched 7 Torch cut 10 Other (specify) _____
 SCREEN-PERFORATED INTERVALS: From 118 ft. to 133 ft., From _____ ft. to _____ ft.
 From _____ ft. to _____ ft., From _____ ft. to _____ ft.
 GRAVEL PACK INTERVALS: From 24 ft. to 135 ft., From _____ ft. to _____ ft.
 From _____ ft. to _____ ft., From _____ ft. to _____ ft.

6] GROUT MATERIAL: 1 Neat cement 2 Cement grout 3 Bentonite 4 Other _____
 Grout Intervals: From 4 ft. to 24 ft., From _____ ft. to _____ ft., From _____ ft. to _____ ft.
 What is the nearest source of possible contamination: 10 Livestock pens 14 Abandoned water well
 1 Septic tank 4 Lateral lines 7 Pit privy 11 Fuel storage 15 Oil well/Gas well
 2 Sewer lines 5 Cess pool 8 Sewage lagoon 12 Fertilizer storage 16 Other (specify below)
 3 Watertight sewer lines 6 Seepage pit 9 Feedyard 13 Insecticide storage
 Direction from well? South How many feet? 500'

FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
0	47	Clay-Brown			
47	114	Fine Sand-Brown			
114	117	Silty Sand			
117	134	Fine Sand-Brown			
134	137	Chert <u>1/2 x 1/2</u> , Brown			
137	140	Chert <u>1/2 x 1/2</u> , black-Blue			
		Not to Limestone			

7] CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) 5-02-89 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 182 This Water Well Record was completed on (mo/day/yr) 7-19-89 under the business name of STRADER DRILLING CO., INC. by (signature) [Signature]

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WATER WELL RECORD Form WWC-5 KSA 82a-1212

D2 / 12/11

1 LOCATION OF WATER WELL
 County: Jackson Fraction NW Section Number 21 Township Number T 6 S Range Number R 16 EW
 Distance and direction from nearest town or city? 2N 5.5E .5N OF HOLTON Street address of well if located within city?

2 WATER WELL OWNER: Howard Maxwell Board of Agriculture, Division of Water Resources
 RR#, St. Address, Box #: RT1 Application Number:
 City, State, ZIP Code: Whiting, KS 66552

3 DEPTH OF COMPLETED WELL: 145 ft. Bore Hole Diameter: 12 in. to ... ft., and ... in. to ... ft.
 Well Water to be used as:
 1 Domestic 1 3 Feedlot 6 Oil field water supply 8 Air conditioning 11 Injection well
 2 Irrigation 4 Industrial 7 Lawn and garden only 9 Dewatering 12 Other (Specify below)
 10 Observation well
 Well's static water level: 90 ft. below land surface measured on October month 18 day 1979 year
 Pump Test Data: Well water was ... ft. after ... hours pumping ... gpm
 Est. Yield 50 gpm: Well water was ... ft. after ... hours pumping ... gpm

4 TYPE OF BLANK CASING USED:
 1 Steel 3 RMP (SR) 5 Wrought iron 8 Concrete tile Casing Joints: Glued Clamped
 2 PVC 4 ABS 6 Asbestos-Cement 9 Other (specify below) Welded
 7 Fiberglass Threaded
 Blank casing dia ... in. to ... ft., Dia ... in. to ... ft., Dia ... in. to ... ft.
 Casing height above land surface: 24 in., weight 2.82 lbs./ft. Wall thickness or gauge No. 258
 TYPE OF SCREEN OR PERFORATION MATERIAL:
 1 Steel 3 Stainless steel 5 Fiberglass 7 PVC 10 Asbestos-cement
 2 Brass 4 Galvanized steel 6 Concrete tile 8 RMP (SR) 11 Other (specify)
 12 None used (open hole)
 Screen or Perforation Openings Are:
 1 Continuous slot 3 Mill slot 5 Gauzed wrapped 8 Saw cut 11 None (open hole)
 2 Louvered shutter 4 Key punched 6 Wire wrapped 9 Drilled holes
 7 Torch cut 10 Other (specify)
 Screen-Perforation Dia: 5 in. to ... ft., Dia ... in. to ... ft., Dia ... in. to ... ft.
 Screen-Perforated Intervals: From 132 ft. to 142 ft., From ... ft. to ... ft., From ... ft. to ... ft.
 Gravel Pack Intervals: From 10 ft. to 145 ft., From ... ft. to ... ft., From ... ft. to ... ft.

5 GROUT MATERIAL: 1 Neat cement 2 Cement grout 3 Bentonite 4 Other
 Grouted Intervals: From 0 ft. to 10 ft., From ... ft. to ... ft., From ... ft. to ... ft.
 What is the nearest source of possible contamination:
 1 Septic tank 4 Cess pool 7 Sewage lagoon 10 Fuel storage 14 Abandoned water well
 2 Sewer lines 5 Seepage pit 8 Feed yard 11 Fertilizer storage 15 Oil well/Gas well
 3 Lateral lines 6 Pit privy 9 Livestock pens 12 Insecticide storage 16 Other (specify below)
 13 Watertight sewer lines
 Direction from well: Northwest How many feet: 300 Water Well Disinfected? Yes No
 Was a chemical/bacteriological sample submitted to Department? Yes No If yes, date sample was submitted ... month ... day ... year: Pump Installed? Yes No
 If Yes: Pump Manufacturer's name ... Model No. ... HP ... Volts
 Depth of Pump Intake ... ft. Pumps Capacity rated at ... gal./min.
 Type of pump: 1 Submersible 2 Turbine 3 Jet 4 Centrifugal 5 Reciprocating 6 Other

6 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on October month 18 day 1979 year.
 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 182
 This Water Well Record was completed on October month 22 day 1979 year under the business name of Strader Dalg Co Inc by (signature) Dale Oakum

7 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:

FROM	TO	LITHOLOGIC LOG	FROM	TO	LITHOLOGIC LOG
0	3	TOP SOIL			
3	55	Clay			
55	135	Fine Sand			
135	145	course Sand - med. gravel, fine gravel			

ELEVATION: 1055

Depth(s) Groundwater Encountered 1. 90 ft. 2. ... ft. 3. ... ft. 4. ... ft. (Use a second sheet if needed)
 INSTRUCTIONS: Use typewriter or ball point pen, please press firmly and PRINT clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Division of Environment, Water Well Contractors, Topeka, KS 66620. Send one to WATER WELL OWNER and retain one for your records.

OFFICE USE ONLY T 16 21 SEC 21 SW 1/4 SW 1/4 NW 1/4

130 / 900 6 - 985

*Bedrock
D-3*



Scan of WWC5 Form

WATER WELL RECORD Form WWC-5 KSA 82a-1212 ID No.

1 LOCATION OF WATER WELL:		Fraction		Section Number		Township Number		Range Number	
County: <u>JACKSON</u>		<u>SW</u> $\frac{1}{4}$ <u>SE</u> $\frac{1}{4}$ <u>SW</u> $\frac{1}{4}$		<u>3</u>		<u>T 6 S</u>		<u>R 16 E/W</u>	
Distance and direction from nearest town or city street address of well if located within city? <u>2 mile South of Whiting</u>									
2 WATER WELL OWNER: <u>Roy Schmidt</u> RR#, St. Address, Box #: <u>17906 278th rd.</u> City, State, ZIP Code: <u>Whiting, Kansas 66552</u> Board of Agriculture, Division of Water Resources Application Number: _____									
3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:				4 DEPTH OF COMPLETED WELL: <u>80</u> ft. ELEVATION: _____					
				Depth(s) Groundwater Encountered 1. _____ ft. 2. _____ ft. 3. _____ ft.					
				WELL'S STATIC WATER LEVEL: <u>40</u> ft. below land surface measured on (mo/day/yr) <u>11-9-2000</u> Pumping test data: Well water was _____ ft. after _____ hours pumping _____ gpm Est. Yield <u>3</u> gpm: Well water was _____ ft. after _____ hours pumping _____ gpm Bore Hole Diameter: <u>3/4</u> in. to _____ ft. and _____ in. to _____ ft.					
WELL WATER TO BE USED AS: 1 Domestic 3 Feedlot 6 Oil field water supply 9 Dewatering 12 Other (Specify below) 2 Irrigation 4 Industrial 7 Domestic (lawn & garden) 10 Monitoring well									
Was a chemical/bacteriological sample submitted to Department? Yes _____ No <u>X</u> _____; If yes, (mo/day/yr) sample was submitted _____ Water Well Disinfected? Yes <u>X</u> _____ No _____									
5 TYPE OF BLANK CASING USED: 1 Steel 2 PVC 3 RMP (SR) 4 ABS 5 Wrought iron 6 Asbestos-Cement 7 Fiberglass 8 Concrete tile 9 Other (specify below) CASING JOINTS: Glued <u>X</u> _____ Clamped _____ Welded _____ Threaded _____ Blank casing diameter _____ in. to _____ in. Dia. _____ in. to _____ in. Dia. _____ ft. Dia. _____ ft. Casing height above land surface: <u>24</u> in., weight _____ lb./ft. Wall thickness or gauge No. <u>258</u>									
TYPE OF SCREEN OR PERFORATION MATERIAL: 1 Steel 2 Brass 3 Stainless steel 4 Galvanized steel 5 Fiberglass 6 Concrete tile 7 PVC 8 RMP (SR) 9 ABS 10 Asbestos-cement 11 Other (specify) _____ 12 None used (open hole)									
SCREEN OR PERFORATION OPENINGS ARE: 1 Continuous slot 2 Louvered shutter 3 Mill slot 4 Key punched 5 Gauzed wrapped 6 Wire wrapped 7 Torch cut 8 Saw cut 9 Drilled holes 10 Other (specify) _____ ft. 11 None (open hole)									
SCREEN-PERFORATED INTERVALS: From _____ ft. to _____ ft. From _____ ft. to _____ ft. From _____ ft. to _____ ft. GRAVEL PACK INTERVALS: From _____ ft. to _____ ft. From _____ ft. to _____ ft. From _____ ft. to _____ ft.									
6 GROUT MATERIAL: 1 Neat cement 2 Cement grout 3 Bentonite 4 Other _____ Grout intervals: From _____ ft. to _____ ft. From _____ ft. to _____ ft. From _____ ft. to _____ ft.									
What is the nearest source of possible contamination: 1 Septic tank 2 Sewer lines 3 Watertight sewer lines 4 Latent lines 5 Cess pool 6 Seepage pit 7 Pit privy 8 Sewage lagoon 9 Feedyard 10 Livestock pens 11 Fuel storage 12 Fertilizer storage 13 Insecticide storage 14 Abandoned water well 15 Oil well/Gas well 16 Other (specify below) _____ Direction from well? <u>South</u> How many feet? <u>100</u>									
7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) <u>11-9-2000</u> and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. <u>182</u> . This Water Well Record was completed on (mo/day/yr) <u>11-14-00</u> under the business name of <u>R. Strader Drilling Co., Inc.</u> by (signature) <u>[Signature]</u>									
INSTRUCTIONS: Use typewriter or ball point pen. PLEASE PRESS FIRMLY and PRINT clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Topeka, Kansas 66620-0001. Telephone 785-296-9524. Send one to WATER WELL OWNER and retain one for your records. Fee of \$5.00 for each (specify) well.									

Bedrock D-A

1 LOCATION OF WATER WELL
 County: JACKSON
 Fraction: ~~NE~~ 1/4 ~~SE~~ 1/4 SW 1/4
 Section Number: 11
 Township Number: T 6 (S)
 Range Number: R 16 (EW)
 Distance and direction from nearest town or city? 3 S of Whiting
 Street address of well if located within city?

2 WATER WELL OWNER: LeRoy ~~Ann~~ Armstrong
 RR#, St. Address, Box #: Box 111 Whiting 66552
 City, State, ZIP Code
 Board of Agriculture, Division of Water Resources
 Application Number:

3 DEPTH OF COMPLETED WELL: 99 ft. Bore Hole Diameter: 10 in. to 99 ft., and in. to ft.
 Well Water to be used as:
 1 Domestic 3 Feedlot 5 Public water supply 8 Air conditioning 11 Injection well
 2 Irrigation 4 Industrial 6 Oil field water supply 9 Dewatering 12 Other (Specify below)
 7 Lawn and garden only 10 Observation well
 Well's static water level: 12 ft. below land surface measured on April month 30 day 1980 year
 Pump Test Data: Well water was ft. after hours pumping gpm
 Est. Yield (2) gpm: Well water was ft. after hours pumping gpm

4 TYPE OF BLANK CASING USED:
 1 Steel 3 RMP (SR) 5 Wrought iron 8 Concrete tile Casing Joints: Glued Clamped
 2 PVC 4 ABS 6 Asbestos-Cement 9 Other (specify below) Welded
 7 Fiberglass Threaded
 Blank casing dia: 5 in. to 99 ft., Dia in. to ft., Dia in. to ft.
 Casing height above land surface: 24 in., weight 2.87 lbs./ft. Wall thickness or gauge No. 258
 TYPE OF SCREEN OR PERFORATION MATERIAL:
 1 Steel 3 Stainless steel 5 Fiberglass 8 RMP (SR) 10 Asbestos-cement
 2 Brass 4 Galvanized steel 6 Concrete tile 9 ABS 12 None used (open hole)
 Screen or Perforation Openings Are:
 1 Continuous slot 3 Mill slot 5 Gauzed wrapped 8 Saw cut 11 None (open hole)
 2 Louvered shutter 4 Key punched 6 Wire wrapped 9 Drilled holes
 7 Torch cut 10 Other (specify)
 Screen-Perforation Dia: 5 in. to ft., Dia in. to ft., Dia in. to ft.
 Screen-Perforated Intervals: From 15 ft. to 25 ft. From ft. to ft. From ft. to ft.
 Gravel Pack Intervals: From 10 ft. to 99 ft. From ft. to ft. From ft. to ft.

5 GROUT MATERIAL: 1 Neat cement 2 Cement grout 3 Bentonite 4 Other
 Grouted Intervals: From 0 ft. to 10 ft. From ft. to ft. From ft. to ft.
 What is the nearest source of possible contamination:
 1 Septic tank 4 Cess pool 7 Sewage lagoon 10 Fuel storage 14 Abandoned water well
 2 Sewer lines 5 Seepage pit 8 Feed yard 11 Fertilizer storage 15 Oil well/Gas well
 3 Lateral lines 6 Pit privy 9 Livestock pens 12 Insecticide storage 16 Other (specify below)
 13 Watertight sewer lines
 Direction from well: SW How many feet: 500 ? Water Well Disinfected? Yes No
 Was a chemical/bacteriological sample submitted to Department? Yes No If yes, date sample was submitted: MAY month 12 day 1980 year Pump Installed? Yes No
 If Yes: Pump Manufacturer's name Model No. HP Volts
 Depth of Pump Intake ft. Pumps Capacity rated at gal./min.
 Type of pump: 1 Submersible 2 Turbine 3 Jet 4 Centrifugal 5 Reciprocating 6 Other

6 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on April month 30 day 1980 year and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 182
 This Water Well Record was completed on MAY 12 month 12 day 1980 year under the business name of STRADER DAIG CO INC by (signature) Dale Ashman

7 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:

FROM	TO	LITHOLOGIC LOG	FROM	TO	LITHOLOGIC LOG
0	4	TOP SOIL			
4	18	CLAY, SANDY			
18	35	SHALE, yellow			
35	42	LIMESTONE, yellow			
42	83	SHALE, grey			
83	91	LIMESTONE, grey			
91	100	SHALE, grey			

ELEVATION: 4032 ft.

Depth(s) Groundwater Encountered 1... 18... ft. 2... ft. 3... ft. 4... ft. (Use a second sheet if needed)
 INSTRUCTIONS: Use typewriter or ball point pen, please press firmly and PRINT clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Division of Environment, Water Well Contractors, Topeka, KS 66620. Send one to WATER WELL OWNER and retain one for your records.

Bedrock
D-5



Scan of WWC5 Form

1 LOCATION OF WATER WELL: County: Jackson		Fraction NW <input type="checkbox"/> SE <input type="checkbox"/> NW <input type="checkbox"/>	Section Number 27	Township Number T 6 S	Range Number R 16E E/W																																																																		
Distance and direction from nearest town or city street address of well if located within city? 5 miles east and 1 1/2 north of Holton																																																																							
2 WATER WELL OWNER: Diana Morgan RR#, St. Address, Box #: 413 N.E. Twiss City, State, ZIP Code: Topeka, KS, 66616 Board of Agriculture, Division of Water Resources Application Number:																																																																							
3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:		4 DEPTH OF COMPLETED WELL: 81 ft. ELEVATION:																																																																					
		Depth(s) Groundwater Encountered: 1 ft. 2 ft. WELL'S STATIC WATER LEVEL: 22 ft. below land surface measured on 11-12-2002 Pump test data: Well water was ft. after hours pumping gpm Est. Yield: 5 gpm; Well water was ft. after hours pumping gpm WELL WATER TO BE USED AS: 1 Domestic 3 Feedlot 6 Oil field water supply 9 Dewatering 12 Other (Specify below) 2 Irrigation 4 Industrial 7 Domestic (lawn & garden) 10 Monitoring well Was a chemical/bacteriological sample submitted to Department? Yes No <input checked="" type="checkbox"/> ; If yes, mo/day/yr sample was submitted Water Well Disinfected? Yes <input checked="" type="checkbox"/> No																																																																					
5 TYPE OF BLANK CASING USED: 1 Steel 3 RMP (SR) 5 Wrought iron 8 Concrete tile CASING JOINTS: Glued <input checked="" type="checkbox"/> Clamped 2 PVC 4 ABS 6 Asbestos-Cement 9 Other (specify below) Welded Blank casing diameter: 5 in. Dia. 7 Fiberglass 10 Asbestos-Cement Casing height above land surface: 48 in. weight: 2.82 lbs./ft. Wall thickness or gauge No. 258 TYPE OF SCREEN OR PERFORATION MATERIAL: 1 Steel 3 Stainless Steel 5 Fiberglass 7 PVC 10 Asbestos-Cement 2 Brass 4 Galvanized Steel 6 Concrete tile 8 RMP (SR) 11 Other (Specify) 9 ABS 12 None used (open hole) SCREEN OR PERFORATION OPENINGS ARE: 1 Continuous slot 3 Mill slot 5 Gauzed wrapped 8 Saw cut 11 None (open hole) 2 Louvered shutter 4 Key punched 6 Wire wrapped 9 Drilled holes 7 Torch cut 10 Other (specify) ft. SCREEN-PERFORATED INTERVALS: From 55 ft. to 77 ft. From ft. to ft. GRAVEL PACK INTERVALS: From 22 ft. to 81 ft. From ft. to ft. From ft. to ft. From ft. to ft.																																																																							
6 GROUT MATERIAL: 1 Neat cement 2 Cement grout 3 Bentonite 4 Other Grout intervals: From 2 ft. to 22 ft. From ft. to ft. What is the nearest source of possible contamination: 1 Septic tank 4 Lateral lines 7 Pit privy 10 Livestock pens 14 Abandoned water well 2 Sewer lines 5 Cess pool 8 Sewage lagoon 11 Fuel storage 15 Oil well/Gas well 3 Watertight sewer lines 6 Seepage pit 9 Feedyard 12 Fertilizer storage 16 Other (specify below) 13 Insecticide storage POND Direction from well? Southeast How many feet? 100																																																																							
<table border="1"> <thead> <tr> <th>FROM</th> <th>TO</th> <th>LITHOLOGIC LOG</th> <th>FROM</th> <th>TO</th> <th>PLUGGING INTERVALS</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>3</td> <td>top soil</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td>37</td> <td>brown clay</td> <td></td> <td></td> <td></td> </tr> <tr> <td>37</td> <td>45</td> <td>brown silt</td> <td></td> <td></td> <td></td> </tr> <tr> <td>45</td> <td>45 1/2</td> <td>brown fine sand</td> <td></td> <td></td> <td></td> </tr> <tr> <td>45 1/2</td> <td>57</td> <td>grey clay</td> <td></td> <td></td> <td></td> </tr> <tr> <td>57</td> <td>65</td> <td>grey/brown clay</td> <td></td> <td></td> <td></td> </tr> <tr> <td>65</td> <td>74</td> <td>brown ss-chert/clay streaks</td> <td></td> <td></td> <td></td> </tr> <tr> <td>74</td> <td>75</td> <td>brown chert/clay</td> <td></td> <td></td> <td></td> </tr> <tr> <td>75</td> <td>77</td> <td>green/brown shale</td> <td></td> <td></td> <td></td> </tr> <tr> <td>77</td> <td>80</td> <td>grey shale</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>						FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS	0	3	top soil				3	37	brown clay				37	45	brown silt				45	45 1/2	brown fine sand				45 1/2	57	grey clay				57	65	grey/brown clay				65	74	brown ss-chert/clay streaks				74	75	brown chert/clay				75	77	green/brown shale				77	80	grey shale			
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7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) 11-12-2002 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No 182 . This Water Well Record was completed on (mo/day/year) 11-18-2002 under the business name of Strader Drilling Co., Inc. by (signature) <i>Dale Ashman</i>																																																																							
INSTRUCTIONS: Use typewriter or ball point pen. PLEASE PRINT CLEARLY and PRINT clearly. Please fill in blanks, underline or circle the correct answers. Send two copies to Kansas Department of Health and Environment, Bureau of Water, Geology Section, 1000 SW Jackson St., Suite 420, Topeka, Kansas 66612-1367. Telephone 785-296-6322. Send one to WATER WELL OWNER and retain one for your records. Fee of \$5.00 for each constructed well.																																																																							

Kansas Geological Survey
 Comments to webadmin@kgs.ku.edu
 URL=http://www.kgs.ku.edu/Magellan/WaterWell/index.html

7' of gravel D-6

1 LOCATION OF WATER WELL:	Fraction	Section Number	Township Number	Range Number
County: Jackson	NE ¼ SW ¼ NW ¼	30	T 6 S	R 15E E/W

Distance and direction from nearest town or city street address of well if located within city?

2 miles east 1½ north of Holton

2 WATER WELL OWNER: **Bill Hill**
 RR#, St. Address, Box # : **307 Iowa** Board of Agriculture, Division of Water Resources
 City, State, ZIP Code : **Holton, Ks. 66436** Application Number:

3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:

4 DEPTH OF COMPLETED WELL **55** ft. ELEVATION:

Depth(s) Groundwater Encountered 1 ft. 2 ft. 3 ft.
 WELL'S STATIC WATER LEVEL **35** ft. below land surface measured on mo/day/yr **11-13-2002**
 Pump test data: Well water was ft. after hours pumping gpm
 Est. Yield **5** gpm: Well water was ft. after hours pumping gpm
 WELL WATER TO BE USED AS: 5 Public water supply 8 Air conditioning 11 Injection well
 1 Domestic 3 Feedlot 6 Oil field water supply 9 Dewatering 12 Other (Specify below)
 2 Irrigation 4 Industrial 7 Domestic (lawn & garden) 10 Monitoring well

Was a chemical/bacteriological sample submitted to Department? Yes No **X**...; If yes, mo/day/yr sample was submitted
 Water Well Disinfected? Yes **X** No

5 TYPE OF BLANK CASING USED:

1 Steel	3 RMP (SR)	5 Wrought iron	8 Concrete tile	CASING JOINTS: Glued X Clamped
2 PVC	4 ABS	6 Asbestos-Cement	9 Other (specify below)	Welded
		7 Fiberglass		Threaded

Blank casing diameter **5** in. to ft., Dia in. to ft., Dia in. to ft.
 Casing height above land surface **24** in., weight **2.82** lbs./ft. Wall thickness or guage No. **258**

TYPE OF SCREEN OR PERFORATION MATERIAL:

1 Steel	3 Stainless Steel	5 Fiberglass	7 PVC	10 Asbestos-Cement
2 Brass	4 Galvanized Steel	6 Concrete tile	8 RMP (SR)	11 Other (Specify)
			9 ABS	12 None used (open hole)

SCREEN OR PERFORATION OPENINGS ARE:

1 Continuous slot	3 Mill slot	5 Gauzed wrapped	8 Saw cut	11 None (open hole)
2 Louvered shutter	4 Key punched	6 Wire wrapped	9 Drilled holes	
		7 Torch cut	10 Other (specify)	ft.

SCREEN-PERFORATED INTERVALS: From **35** ft. to **45** ft., From ft. to ft.
 From ft. to ft., From ft. to ft.
 GRAVEL PACK INTERVALS: From **24** ft. to **55** ft., From ft. to ft.
 From ft. to ft., From ft. to ft.

6 GROUT MATERIAL: 1 Neat cement 2 Cement grout 3 Bentonite 4 Other

Grout Intervals: From **4** ft. to **24** ft., From ft. to ft., From ft. to ft.

What is the nearest source of possible contamination:

1 Septic tank	4 Lateral lines	7 Pit privy	10 Livestock pens	14 Abandoned water well
2 Sewer lines	5 Cess pool	8 Sewage lagoon	11 Fuel storage	15 Oil well/Gas well
3 Watertight sewer lines	6 Seepage pit	9 Feedyard	12 Fertilizer storage	16 Other (specify below)
			13 Insecticide storage	POND

Direction from well? **Southeast** How many feet? **250**

FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
0	2	top soil			
2	12	yellow sandy clay			
12	27	grey/yellow mix-sandy			
27	35	grey sandy shale			
35	42	brownfs-cs-pea ½			
42	60	grey sandy shale			

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) **11-13-2002** and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's Licence No **182** This Water Well Record was completed on (mo/day/yr) **11-18-2002** under the business name of **Strader Drilling Co., Inc.** by (signature) *Dale Skren*

INSTRUCTIONS: Use typewriter or ball point pen. PLEASE PRESS FIRMLY and PRINT clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Geology Section, 1000 SW Jackson St., Suite 420, Topeka, Kansas 66612-1367. Telephone 785-296-5522. Send one to WATER WELL OWNER and retain one for your records. Fee of \$5.00 for each constructed well.

44,249



Scan of WWC5 Form

WATER WELL RECORD Form WWC-5 KSA 82a-1212 ID No.

1 LOCATION OF WATER WELL:		Fraction		Section Number		Township Number		Range Number	
Country: Jackson		SE	NW	NE	7	T	6	S	R 16 E EW
Distance and direction from nearest town or city street address of well if located within city? 2 1/2 West and 2 1/2 South of Whiting									
2 WATER WELL OWNER: Jackson Co. RND # 3 RR#1, St. Address, Box #: P.O. Box 366 City, State, ZIP Code: Holton, Kansas 66436 Board of Agriculture, Division of Water Resources Application Number:									
3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:				4 DEPTH OF COMPLETED WELL: .78..... R. ELEVATION:.....					
				Depth(s) Groundwater Encountered: 1..... ft. 2..... ft. 3..... ft.					
				WELL'S STATIC WATER LEVEL: (23)..... ft. below land surface measured on (mo/day/yr) 2-19-01					
Pump test data: Well water was 18' 11"..... ft. after 6 hrs..... hours pumping 300..... gpm									
Est. Yield: 400..... gpm; Well water was 19' 3"..... ft. after 12 hrs..... hours pumping 300..... gpm									
Bore Hole Diameter: 30..... in. to..... ft. and..... in. to..... ft.									
WELL WATER TO BE USED AS: 5 Public water supply, 8 Air conditioning, 11 Injection well									
1 Domestic, 3 Feedlot, 6 Oil field water supply, 9 Dewatering, 12 Other (Specify below)									
2 Irrigation, 4 Industrial, 7 Domestic (lawn & garden), 10 Monitoring well									
Was a chemical/bacteriological sample submitted to Department? Yes..... No. X.....; If yes, (mo/day/yr) sample was submitted									
Water Well Disinfected? Yes x No									
5 TYPE OF BLANK CASING USED:									
1 Steel		3 RMP (SR)		6 Asbestos-Cement		8 Concrete tile		CASING JOINTS: Glued..... Clamped.....	
2 PVC		4 ABS		7 Fiberglass		9 Other (specify below)		Welded..... Threaded.....	
Blank casing diameter: 12..... in. to..... ft. Dia..... in. to..... ft. Dia..... in. to..... ft. Dia.....									
Casing height above land surface: Pitless, 40, 48..... lbs./ft. Wall thickness or gauge No. 365									
6 TYPE OF SCREEN OR PERFORATION MATERIAL:									
1 Steel		3 Stainless steel		5 Fiberglass		7 PVC		10 Asbestos-cement	
2 Brass		4 Galvanized steel		6 Concrete tile		8 RMP (SR)		11 Other (specify)	
SCREEN OR PERFORATION OPENINGS ARE:		5 Gauzed wrapped		8 Saw cut		11 None (open hole)			
1 Continuous slot		3 Mill slot		7 Wire wrapped		9 Drilled holes			
2 Louvered shutter		4 Key punched		7 Torch cut		10 Other (specify) 100 slott			
SCREEN-PERFORATED INTERVALS: From .68..... ft. to .78..... ft. From..... ft. to..... ft.									
GRAVEL PACK INTERVALS: From .55..... ft. to .78..... ft. From..... ft. to..... ft.									
7 GROUT MATERIAL: 1 Neat cement, 2 Cement grout, 3 Bentonite, 4 Other									
Grout intervals: From .6..... ft. to .26..... ft. From .55..... ft. to .63..... ft. From..... ft. to..... ft.									
What is the nearest source of possible contamination:									
1 Sepsic tank		4 Lateral lines		7 Pit privy		10 Livestock pens		14 Abandoned water well	
2 Sewer lines		5 Cess pool		8 Sewage lagoon		11 Fuel storage		15 Oil well/Gas well	
3 Watertight sewer lines		6 Seepage pit		9 Feedyard		12 Fertilizer storage		16 Other (specify below)	
						13 Insecticide storage		open field	
Direction from well? How many feet?									
FROM	TO	LITHOLOGIC LOG			FROM	TO	PLUGGING INTERVALS		
0-	5	top soil							
5	21	brown clay							
21	25	grey clay							
(25)	31	fine-coarse sand med- pea gravel boulders							
31	63	very fine silty sand							
63	68	fine-coarse sand - med/pea gravel to 1 1/2"							
68	78	med- coarse sand - med gravel chert boulders							
78		limestone							
7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) 2-19-2001..... and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 182..... This Water Well Record was completed on (mo/day/yr) 2-27-01..... by (signature) Dale Weber									
INSTRUCTIONS: Use typewriter or ball point pen. PLEASE PRESS FIRMLY and PRINT clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Topeka, Kansas 66620-0001. Telephone 785-296-8324. Send one to WATER WELL OWNER and retain one for your records. Fee of \$5.00 for each constructed well.									



Specific Water Well Detail

D-3
City of Holton

Well T6S, R16E, Sec. 7, NWSWSE, Action: Constructed

35,490

Location Info		
Owner:		Status: Constructed
Location: T6S, R16E, Sec. 7, NWSWSE		County: Jackson
Directions:		
Longitude: -95.6715177	Latitude: 39.5380689	Datum: NAD 27
Longitude and latitude calculated by Survey from township-range-section-quarter calls. Only good to within the quarter call accuracy.		
View well on interactive map This link will create a new window and display an interactive map of this well and its neighbors.		
General Info		
Well Depth: 72 ft.		Elevation: ft.
Static Water Level: 18 ft.		Est. Yield: 575 gpm.
Comp. Date: 07-Jun-1972		Well Use: Public Water Supply
DWR Applic. #:		Other ID:
Links		
No Wizard information available.		
View info from WIMAS Water Right Data base...		
Driller Info		
Driller: Strader Drilling Co., Inc.		License #: 182
Chemical Sample Submitted?: No		
Casing Info		
Casing Type:		
Diam: 0 in. to 0 ft.		
Diam: 0 in. to 0 ft.		
Diam: 0 in. to 0 ft.		
Grout Info		
Grout used: other		
From: 0 to 0 ft.		
From: 0 to 0 ft.		
From: 0 to 0 ft.		
Source of Possible Contamination		
Source: none		

Direction from well:		Distance: 0
Screen and Perforation Info		
Screen Type: OTHER		Screen Openings: OTHER
From: 60 ft. to 72 ft.		From: 0 ft. to 0 ft.
From: 0 ft. to 0 ft.		From: 0 ft. to 0 ft.
Lithologic Log (log data not edited or checked by the KGS.)		
From: 0 ft. to 27 ft.		Type: CLAY
From: 27 ft. to 29 ft.		Type: FINE SAND - Alluvium
From: 29 ft. to 33 ft.		Type: CLAY
From: 33 ft. to 62 ft.		Type: SAND & GRAVEL
From: 62 ft. to 68 ft.		Type: COARSE GRAVEL
From: 68 ft. to 72 ft.		Type: MEDIUM GRAVEL

Kansas Geological Survey
 Comments to webadmin@kgs.ku.edu
 URL=<http://www.kgs.ku.edu/Magellan/WaterWell/index.html>
 Display Programs Updated July 2, 2014
 Data added continuously.

#49,559

1050' - Surface elevation

984 - Sand

903 - Bedrock



22 Feb 2016

Jackson Co. RWD #3

TH 1-16 110' N & 100' E of SW cor. of the SE 1/4. Sec 17, T6S, R16E Elev. 1050'
GPS N 39° 31.260' W 95° 39.201'

SWL 85.47' @GL (Jun 8, 2016)

- 0 - 2' Top soil
- 2 - 13 Clay yel
- 13 - 14 Sand br vf
- 14 - 17 Clay yel, LS pieces
- 17 - 24 Clay br, sandy
- 24 - 26 Gravel br f-m, clay br
- 26 - 29 Clay br & gy
- 29 - 31 Clay rd & gy
- 31 - 34 Clay gn & gy
- 34 - 44 Clay gy & rd, harder
- 44 - 58 Clay gy
- 58 - 66 Clay gy silty

- 66 - 83 Sand br, vf
- 83 - 86 Sand br, vf, looser
- 86 - 117 Sand br, vf-f
- 117 - 123 Sand br, f, looser
- 123 - 143 Sand br, f
- 143 - 144 Sand br, f-m
- 144 - 147 Gravel chert coarse, pebbles
- 147 - 152 Shale gn - 903

984'

Set 2" screen 127' - 147'

Logged by Brad Vincent, Ground Water Associates
Datum: 1927 North American

Atchison Formation?
Kansas till?

WATER RESOURCES
RECEIVED

AUG 01 2016



Scan of WWC5 Form

Shallow bedrock
D-7

WATER WELL RECORD Form WWC-5 KSA 82a-1212 ID No. _____

1 LOCATION OF WATER WELL: Fraction		Section Number		Township Number		Range Number	
County: JACSON		9		T 6 S		R 16E EW	
Distance and direction from nearest town or city street address of well if located within city? 3 miles south and 3/4 mile west of Whiting							
2 WATER WELL OWNER: Rusty Jamison				Board of Agriculture, Division of Water Resources			
RR#, St. Address, Box #: 1614 10th Ave.				Application Number:			
City, State, ZIP Code: Leavenworth, Ks 66048							
3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:		4 DEPTH OF COMPLETED WELL: .80 ft. ELEVATION: _____					
		Depth(s) Groundwater Encountered 1. _____ ft. 2. _____ ft. 3. _____ ft.					
		WELL'S STATIC WATER LEVEL: 29 ft. below land surface measured on mo/day/yr 4-26-2001					
		Pump test data: Well water was _____ ft. after _____ hours pumping _____ gpm					
		Est. Yield 5 gph Well water was _____ ft. after _____ hours pumping _____ gpm					
		Bore Hole Diameter: 10 in. to _____ ft. and _____ in. to _____ ft.					
		WELL WATER TO BE USED AS: 5 Public water supply 8 Air conditioning 11 Injection well					
		1 Domestic 3 Feedlot 6 Oil field water supply 9 Dewatering 12 Other (Specify below)					
		2 Irrigation 4 Industrial 7 Domestic (lawn & garden) 10 Monitoring well					
		Was a chemical/bacteriological sample submitted to Department? Yes _____ No <input checked="" type="checkbox"/> If yes, mo/day/yr sample was submitted					
		Water Well Disinfected? Yes <input checked="" type="checkbox"/> No _____					
5 TYPE OF BLANK CASING USED:		5 Wrought iron		8 Concrete tile		CASING JOINTS: Glued _____ Clamped _____	
1 Steel		3 RMP (SR)		6 Asbestos-Cement		9 Other (specify below)	
2 PVC		4 ABS		7 Fiberglass		Welded _____ Threaded _____	
Blank casing diameter: 5 in. to _____ ft. Dia		Casing height above land surface: 24 in., weight: 2.82 lbs./ft. Wall thickness or gauge No.: 25B					
TYPE OF SCREEN OR PERFORATION MATERIAL:		7 PVC		10 Asbestos-cement			
1 Steel		3 Stainless steel		5 Fiberglass		8 RMP (SR)	
2 Brass		4 Galvanized steel		6 Concrete tile		9 ABS	
SCREEN OR PERFORATION OPENINGS ARE:		5 Gauzed wrapped		8 Saw cut		11 None (open hole)	
1 Continuous slot		3 Mill slot		6 Wire wrapped		9 Drilled holes	
2 Louvered shutter		4 Key punched		7 Torch cut		10 Other (specify) _____ ft.	
SCREEN-PERFORATED INTERVALS: From: 28 ft. to 35 ft., From: 79 ft. to 80 ft.							
GRAVEL PACK INTERVALS: From: 24 ft. to 80 ft., From: _____ ft. to _____ ft.							
6 GROUT MATERIAL: 1 Neat cement		2 Cement grout		3 Bentonite		4 Other _____	
Grout intervals: From: 4 ft. to 24 ft., From: _____ ft. to _____ ft., From: _____ ft. to _____ ft.							
What is the nearest source of possible contamination:		7 Pit privy		10 Livestock pens		14 Abandoned water well	
1 Septic tank		4 Lateral lines		8 Sewage lagoon		11 Fuel storage	
2 Sewer lines		5 Cess pool		12 Fertilizer storage		15 Oil well/Gas well	
3 Water/ign sewer lines		6 Seepage pit		9 Feedyard		13 Insecticide storage	
Direction from well? West		How many feet? 250'					
FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS		
0	2	top soil					
2	26	brown clay					
26	27	brown fine sand					
27	31	brown fs-ca-med-pea					
31	32	boulders limestone					
32	48	grey shale <i>Bedrock</i>					
48	51	grey limestone					
51	52	grey shale					
52	55	grey limestone					
55	66	grey shale					
66	69	grey limestone					
69	80	grey shale					
7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/yr) 4-25-2001 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's Licence No. 182 This Water Well Record was completed on (mo/day/yr) 6-4-2001 by (signature) Dale Bakren							
DISTRUTIONS: Use hydraulic or ball point pen. PLEASE PRESS FIRM (and DEEP) clearly. Please fill in blanks, underline or circle the correct entries. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Topeka, Kansas 66620-0001. Telephone 785-238-5524. Send one to WATER WELL OWNER and retain one for your records. Fee of \$5.00 for each processed well.							

D-8

1 LOCATION OF WATER WELL	Fraction <u>1/4 NW 1/4 NW 1/4</u>	Section Number <u>13</u>	Township Number <u>T 6 S</u>	Range Number <u>R 15 E</u>
--------------------------	-----------------------------------	--------------------------	------------------------------	----------------------------

County: JACKSON Distance and direction from nearest town or city? 4 N 2.5 E OF HOLTON Street address of well if located within city?

2 WATER WELL OWNER: GARY GRAVES RR#, St. Address, Box #: RT 3 Board of Agriculture, Division of Water Resources City, State, ZIP Code: Holton, KS 66436 Application Number:

3 DEPTH OF COMPLETED WELL: 65 ft. Bore Hole Diameter: 12 in. to ... ft., and ... in. to ... ft.
 Well Water to be used as:
 1 Domestic 1 3 Feedlot 6 Oil field water supply 8 Air conditioning 11 Injection well
 2 Irrigation 4 Industrial 7 Lawn and garden only 9 Dewatering 12 Other (Specify below)
 10 Observation well
 Well's static water level: 35 ft. below land surface measured on OCTOBER month 1 day 1980 year
 Pump Test Data: Well water was ... ft. after ... hours pumping ... gpm
 Est. Yield: 1 gpm: Well water was ... ft. after ... hours pumping ... gpm

4 TYPE OF BLANK CASING USED:
 1 Steel 3 RMP (SR) 5 Wrought iron 8 Concrete tile Casing Joints: Glued Clamped
 2 PVC 4 ABS 6 Asbestos-Cement 9 Other (specify below) Welded
 7 Fiberglass Threaded
 Blank casing dia: 5 in. to 0-30 ft., Dia 5 in. to 40-65 ft., Dia ... in. to ... ft.
 Casing height above land surface: 21 in., weight 2.36 lbs./ft. Wall thickness or gauge No. 216
 TYPE OF SCREEN OR PERFORATION MATERIAL:
 1 Steel 3 Stainless steel 5 Fiberglass 7 PVC 10 Asbestos-cement
 2 Brass 4 Galvanized steel 6 Concrete tile 8 RMP (SR) 11 Other (specify)
 9 ABS 12 None used (open hole)
 Screen or Perforation Openings Are:
 1 Continuous slot 3 Mill slot 5 Gauzed wrapped 8 Saw cut 11 None (open hole)
 2 Louvered shutter 4 Key punched 6 Wire wrapped 9 Drilled holes
 7 Torch cut 10 Other (specify)
 Screen-Perforation Dia: 5 in. to ... ft., Dia ... in. to ... ft.
 Screen-Perforated Intervals: From 30 ft. to 40 ft., From ... ft. to ... ft.
 Gravel Pack Intervals: From 10 ft. to 65 ft., From ... ft. to ... ft.

5 GROUT MATERIAL: 1 Neat cement 2 Cement grout 3 Bentonite 4 Other
 Grouted Intervals: From 0 ft. to 10 ft., From ... ft. to ... ft.
 What is the nearest source of possible contamination:
 1 Septic tank 4 Cess pool 7 Sewage lagoon 11 Fertilizer storage 14 Abandoned water well
 2 Sewer lines 5 Seepage pit 8 Feed yard 12 Insecticide storage 15 Oil well/Gas well
 3 Lateral lines 6 Pit privy 9 Livestock pens 13 Watertight sewer lines 16 Other (specify below)
 Direction from well: N How many feet: 500 ? Water Well Disinfected? Yes No
 Was a chemical/bacteriological sample submitted to Department? Yes No If yes, date sample was submitted ... month ... day ... year Pump Installed? Yes No
 If Yes: Pump Manufacturer's name: JACUZZI Model No. 554B HP 1/2 Volts 230
 Depth of Pump Intake: 60 ft. Pumps Capacity rated at 10 gal./min.
 Type of pump: 1 Submersible 2 Turbine 3 Jet 4 Centrifugal 5 Reciprocating 6 Other

6 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on October month 10 day 1980 year
 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 187
 This Water Well Record was completed on October month 27 day 1980 year under the business name of STADER DRILLING CO INC by (signature) Wale Gubren

LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:	FROM	TO	LITHOLOGIC LOG	FROM	TO	LITHOLOGIC LOG
	<u>0</u>	<u>3</u>	<u>TOP SOIL</u>			
	<u>3</u>	<u>30</u>	<u>Clay</u>			
	<u>30</u>	<u>37</u>	<u>FINE SAND</u>			
	<u>37</u>	<u>59</u>	<u>Clay, blue</u>			
	<u>59</u>	<u>65</u>	<u>Shale, grey</u>			

ELEVATION: 1080 ft
 Depth(s) Groundwater Encountered 1. 35 ft. 2. ... ft. 3. ... ft. 4. ... ft. (Use a second sheet if needed)

INSTRUCTIONS: Use typewriter or ball point pen, please press firmly and PRINT clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Division of Environment, Water Well Contractors, Topeka, KS 66620. Send one to WATER WELL OWNER and retain one for your records.

OFFICE USE ONLY

1 LOCATION OF WATER WELL: County: JACKSON	Fraction SE ¼ SE ¼ SE ¼	Section Number 14	Township Number T 6 S	Range Number R 15 EW
----------------------------------------------	----------------------------	----------------------	--------------------------	-------------------------

Distance and direction from nearest town or city street address of well if located within city?

3½ north 2½ east of Holton

2 WATER WELL OWNER: Keith Holthaus
 RR#, St. Address, Box # : Rt. 3 Box 25 Board of Agriculture, Division of Water Resources
 City, State, ZIP Code : Holton, KS 66436 Application Number:

3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:

4 DEPTH OF COMPLETED WELL: 73 ft. ELEVATION: _____
 Depth(s) Groundwater Encountered 1. _____ ft. 2. _____ ft. 3. _____ ft.
 WELL'S STATIC WATER LEVEL: 41' ft. below land surface measured on mo/day/yr 7-31-89
 Pump test data: Well water was _____ ft. after _____ hours pumping _____ gpm
 Est. Yield: 30 gpm: Well water was _____ ft. after _____ hours pumping _____ gpm
 Bore Hole Diameter: 12" in. to _____ ft., and _____ in. to _____ ft.
 WELL WATER TO BE USED AS:
 1 Domestic 3 Feedlot 6 Oil field water supply 9 Dewatering 12 Other (Specify below)
 2 Irrigation 4 Industrial 7 Lawn and garden only 10 Monitoring well
 Was a chemical/bacteriological sample submitted to Department? Yes _____ No X; If yes, mo/day/yr sample was sub-
 mitted Water Well Disinfected? Yes X No

5 TYPE OF BLANK CASING USED:
 1 Steel 3 RMP (SR) 5 Wrought iron 8 Concrete tile CASING JOINTS: Glued X Clamped _____
 2 PVC 4 ABS 6 Asbestos-Cement 9 Other (specify below) Welded _____
 7 Fiberglass Threaded _____
 Blank casing diameter: 5" in. to 0-55 ft., Dia: 5" in. to 70-73 ft., Dia: _____ in. to _____ ft.
 Casing height above land surface: 24" in., weight: 2.82 lbs./ft. Wall thickness or gauge No.: 258
 TYPE OF SCREEN OR PERFORATION MATERIAL:
 1 Steel 3 Stainless steel 5 Fiberglass 8 RMP (SR) 10 Asbestos-cement
 2 Brass 4 Galvanized steel 6 Concrete tile 9 ABS 11 Other (specify) _____
 12 None used (open hole)
 SCREEN OR PERFORATION OPENINGS ARE:
 1 Continuous slot 3 Mill slot 5 Gauzed wrapped 8 Saw cut 11 None (open hole)
 2 Louvered shutter 4 Key punched 6 Wire wrapped 9 Drilled holes
 7 Torch cut 10 Other (specify) _____
 SCREEN-PERFORATED INTERVALS: From 55 ft. to 70 ft., From _____ ft. to _____ ft.
 From _____ ft. to _____ ft., From _____ ft. to _____ ft.
 GRAVEL PACK INTERVALS: From 24 ft. to 73 ft., From _____ ft. to _____ ft.
 From _____ ft. to _____ ft., From _____ ft. to _____ ft.

6 GROUT MATERIAL: 1 Neat cement 2 Cement grout 3 Bentonite 4 Other: hole plug
 Grout intervals: From 4 ft. to 24 ft., From _____ ft. to _____ ft., From _____ ft. to _____ ft.
 What is the nearest source of possible contamination:
 1 Septic tank 4 Lateral lines 7 Pit privy 10 Livestock pens 14 Abandoned water well
 2 Sewer lines 5 Cess pool 8 Sewage lagoon 11 Fuel storage 15 Oil well/Gas well
 3 Watertight sewer lines 6 Seepage pit 9 Feedyard 12 Fertilizer storage 16 Other (specify below)
 13 Insecticide storage
 Direction from well? East How many feet? 110'

FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
0-	26	Clay-Brown			
26	38	Clay-Blue			
38	70	Fine Sand-Brown			
70	73	Clay-Blue			

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) 7-31-89 and this record is true to the best of my knowledge and belief. Kansas
 Water Well Contractor's License No. 182 This Water Well Record was completed on (mo/day/yr) 7-31-89
 under the business name of STRADER DRILLING CO., IONC. by (signature) Keith Holthaus

INSTRUCTIONS: Use typewriter or ball point pen. PLEASE PRESS FIRMLY and PRINT clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water Protection, Topeka, Kansas 66620-7320. Telephone: 913-296-5514. Send one to WATER WELL OWNER and retain one for your records.

OFFICE USE ONLY
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98

CBP

D-10

1 LOCATION OF WATER WELL	Fraction	Section Number	Township Number	Range Number
County: JACKSON	NW 1/4 NW 1/4 SW 1/4	25	T 6 S	R 15 E
Distance and direction from nearest town or city? 1.2 E 2.5 N OF HOLTAN		Street address of well if located within city?		

2 WATER WELL OWNER: John Arnold
 RR#, St. Address, Box #: RT3
 City, State, ZIP Code: Holtan, KS 66436
 Board of Agriculture, Division of Water Resources
 Application Number: _____

3 DEPTH OF COMPLETED WELL: 100 ft. Bore Hole Diameter: 12 in. to _____ ft. and _____ in. to _____ ft.
 Well Water to be used as:
 1 Domestic 3 Feedlot 6 Oil field water supply 8 Air conditioning 11 Injection well
 2 Irrigation 4 Industrial 7 Lawn and garden only 9 Dewatering 12 Other (Specify below)
 10 Observation well
 Well's static water level: 60 ft. below land surface measured on August month 16 day 1980 year
 Pump Test Data: Well water was _____ ft. after _____ hours pumping _____ gpm
 Est. Yield: 40 gpm: Well water was _____ ft. after _____ hours pumping _____ gpm

4 TYPE OF BLANK CASING USED:
 1 Steel 3 RMP (SR) 5 Wrought iron 8 Concrete tile Casing Joints: Glued Clamped _____
 2 PVC 4 ABS 6 Asbestos-Cement 9 Other (specify below) Welded _____
 7 Fiberglass Threaded _____
 Blank casing dia: 5 in. to 0-80 ft., Dia _____ in. to _____ ft., Dia _____ in. to _____ ft.
 Casing height above land surface: 21 in., weight 2.89 lbs./ft. Wall thickness or gauge No: 250

TYPE OF SCREEN OR PERFORATION MATERIAL:
 1 Steel 3 Stainless steel 5 Fiberglass 7 PVC 10 Asbestos-cement
 2 Brass 4 Galvanized steel 6 Concrete tile 8 RMP (SR) 11 Other (specify) _____
 9 ABS 12 None used (open hole)
 Screen or Perforation Openings Are:
 1 Continuous slot 3 Mill slot 5 Gauzed wrapped 8 Saw cut 11 None (open hole)
 2 Louvered shutter 4 Key punched 6 Wire wrapped 9 Drilled holes 10 Other (specify) _____
 7 Torch cut

Screen-Perforation Dia: 5 in. to _____ ft., Dia _____ in. to _____ ft., Dia _____ in. to _____ ft.
 Screen-Perforated Intervals: From 80 ft. to 100 ft., From _____ ft. to _____ ft., From _____ ft. to _____ ft.
 Gravel Pack Intervals: From 15 ft. to 100 ft., From _____ ft. to _____ ft., From _____ ft. to _____ ft.

5 GROUT MATERIAL: 1 Neat cement 2 Cement grout 3 Bentonite 4 Other _____
 Grouted Intervals: From 5 ft. to 15 ft., From _____ ft. to _____ ft., From _____ ft. to _____ ft.

What is the nearest source of possible contamination:
 1 Septic tank 4 Cess pool 7 Sewage lagoon 11 Fertilizer storage 14 Abandoned water well
 2 Sewer lines 5 Seepage pit 8 Feed yard 12 Insecticide storage 15 Oil well/Gas well
 3 Lateral lines 6 Pit privy 9 Livestock pens 13 Watertight sewer lines 16 Other (specify below) _____
 Direction from well: N How many feet: 130 ? Water Well Disinfected? Yes No _____

Was a chemical/bacteriological sample submitted to Department? Yes No _____ If yes, date sample was submitted: August month 22 day 1980 year
 Pump Installed? Yes _____ No
 If Yes: Pump Manufacturer's name _____ Model No. _____ HP _____ Volts _____
 Depth of Pump Intake _____ ft. Pumps Capacity rated at _____ gal./min.
 Type of pump: 1 Submersible 2 Turbine 3 Jet 4 Centrifugal 5 Reciprocating 6 Other _____

6 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed (2) reconstructed, or (3) plugged under my jurisdiction and was completed on August month 18 day 1980 year
 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 182
 This Water Well Record was completed on August month 20 day 1980 year under the business name of STRADER DRIG CO. INC. by (signature) Dale Ashburn

7 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:	FROM	TO	LITHOLOGIC LOG	FROM	TO	LITHOLOGIC LOG
	0	4	TOP SOIL			
	4	65	CLAY, BROWN			
	65	95	FINE SAND, COURSE SAND			
	95	100	CLAY, BLUE			
ELEVATION: <u>1120</u>						

Depth(s) Groundwater Encountered 1. 60 ft. 2. _____ ft. 3. _____ ft. 4. _____ ft. (Use a second sheet if needed)
 INSTRUCTIONS: Use typewriter or ball point pen, please press firmly and PRINT clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Division of Environment, Water Well Contractors, Topeka, KS 66620. Send one to WATER WELL OWNER and retain one for your records.

OFFICE USE ONLY
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25
ALL 1/4 SW 1/4

WATER WELL RECORD Form WWC-5 KSA 82a-1212

D-11

1 LOCATION OF WATER WELL:	Fraction	Section Number	Township Number	Range Number
County: JACKSON	NW 1/4 NE 1/4 NW 1/4	36	T 6 S	R 15 <u>E/W</u>

Distance and direction from nearest town or city street address of well if located within city?

1 north, 2 3/4 E of Holton

2 WATER WELL OWNER: Paul Lierz
 RR#, St. Address, Box # :
 City, State, ZIP Code : Whiting, KS 66552
 Board of Agriculture, Division of Water Resources
 Application Number:

3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:

4 DEPTH OF COMPLETED WELL: 100' ft. ELEVATION:
 Depth(s) Groundwater Encountered: 1. 75' ft. 2. ft. 3. ft.
 WELL'S STATIC WATER LEVEL: 60' ft. below land surface measured on mo/day/yr 6-05-96
 Pump test data: Well water was ft. after hours pumping gpm
 Est. Yield 10 gpm Well water was ft. after hours pumping gpm
 Bore Hole Diameter 12" in. to ft. and in. to ft.
 WELL WATER TO BE USED AS:
 1 Domestic 3 Feedlot 6 Oil field water supply 9 Dewatering 12 Other (Specify below)
 2 Irrigation 4 Industrial 7 Lawn and garden only 10 Monitoring well
 Was a chemical/bacteriological sample submitted to Department? Yes.....No...X.....; If yes, mo/day/yr sample was submitted
 Water Well Disinfected? Yes X No

5 TYPE OF BLANK CASING USED:
 1 Steel 3 RMP (SR) 5 Wrought iron 8 Concrete tile CASING JOINTS: Glued X Clamped
 2 PVC 4 ABS 6 Asbestos-Cement 9 Other (specify below) Welded
 7 Fiberglass Threaded
 Blank casing diameter 5" in. to 0-65 ft., Dia 5" in. to 80-99 ft., Dia in. to ft.
 Casing height above land surface 24" in., weight 2.82 lbs./ft. Wall thickness or gauge No. 258
 TYPE OF SCREEN OR PERFORATION MATERIAL:
 1 Steel 3 Stainless steel 5 Fiberglass 7 PVC 10 Asbestos-cement
 2 Brass 4 Galvanized steel 6 Concrete tile 8 RMP (SR) 11 Other (specify)
 9 ABS 12 None used (open hole)
 SCREEN OR PERFORATION OPENINGS ARE:
 1 Continuous slot 3 Mill slot 5 Gauzed wrapped 8 Saw cut 11 None (open hole)
 2 Louvered shutter 4 Key punched 6 Wire wrapped 9 Drilled holes
 7 Torch cut 10 Other (specify)
 SCREEN-PERFORATED INTERVALS: From 65 ft. to 80 ft., From ft. to ft.
 From 99 ft. to 100 ft., From ft. to ft.
 GRAVEL PACK INTERVALS: From 24 ft. to 100 ft., From ft. to ft.
 From ft. to ft., From ft. to ft.

6 GROUT MATERIAL: 1 Neat cement 2 Cement grout 3 Bentonite 4 Other
 Grout Intervals: From 4 ft. to 24 ft., From ft. to ft., From ft. to ft.
 What is the nearest source of possible contamination:
 1 Septic tank 4 Lateral lines 7 Pit privy 10 Livestock pens 14 Abandoned water well
 2 Sewer lines 5 Cess pool 8 Sewage lagoon 11 Fuel storage 15 Oil well/Gas well
 3 Watertight sewer lines 6 Seepage pit 9 Feedyard 12 Fertilizer storage 16 Other (specify below)
 13 Insecticide storage
 Direction from well? west How many feet? 210'

FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
0	2	Top Soil			
2	32	Clay-Brown			
32	35	Fine Sand-Coarse Sand-Brown			
35	38	FS-CS-Med Gravel-Brown			
38	41	Clay-Brown			
41	62	Clay-Blue			
62	68	Fine Sand-Brown			
68	72	Fine Sand-Coarse Sand-Brown			
72	76	FS-CS-Med-Pea Gravel-Brown			
76	85	Limestone-Grey			
85	100	Shale-Grey			

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) 6-05-96 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 182. This Water Well Record was completed on (mo/day/yr) 6-18-96 under the business name of STRADER DRILLING CO., INC. by (signature) Dale Strader

INSTRUCTIONS: Use typewriter or ball point pen. PLEASE PRESS FIRMLY and PRINT clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Topeka, Kansas 66620-0001. Telephone: 913-296-5545. Send one to WATER WELL OWNER and retain one for your records.

OFFICE USE ONLY
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File #s 49,559 & 49,681
17-T6S-R16E

96°

95°

16E

17E

18E

19E

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JACKSON RWD #3
Wells Reservoir

JEFFERSON

LEAVENWORTH

Barry

0.1

Elmont

0.1

Thompsonville

0.1

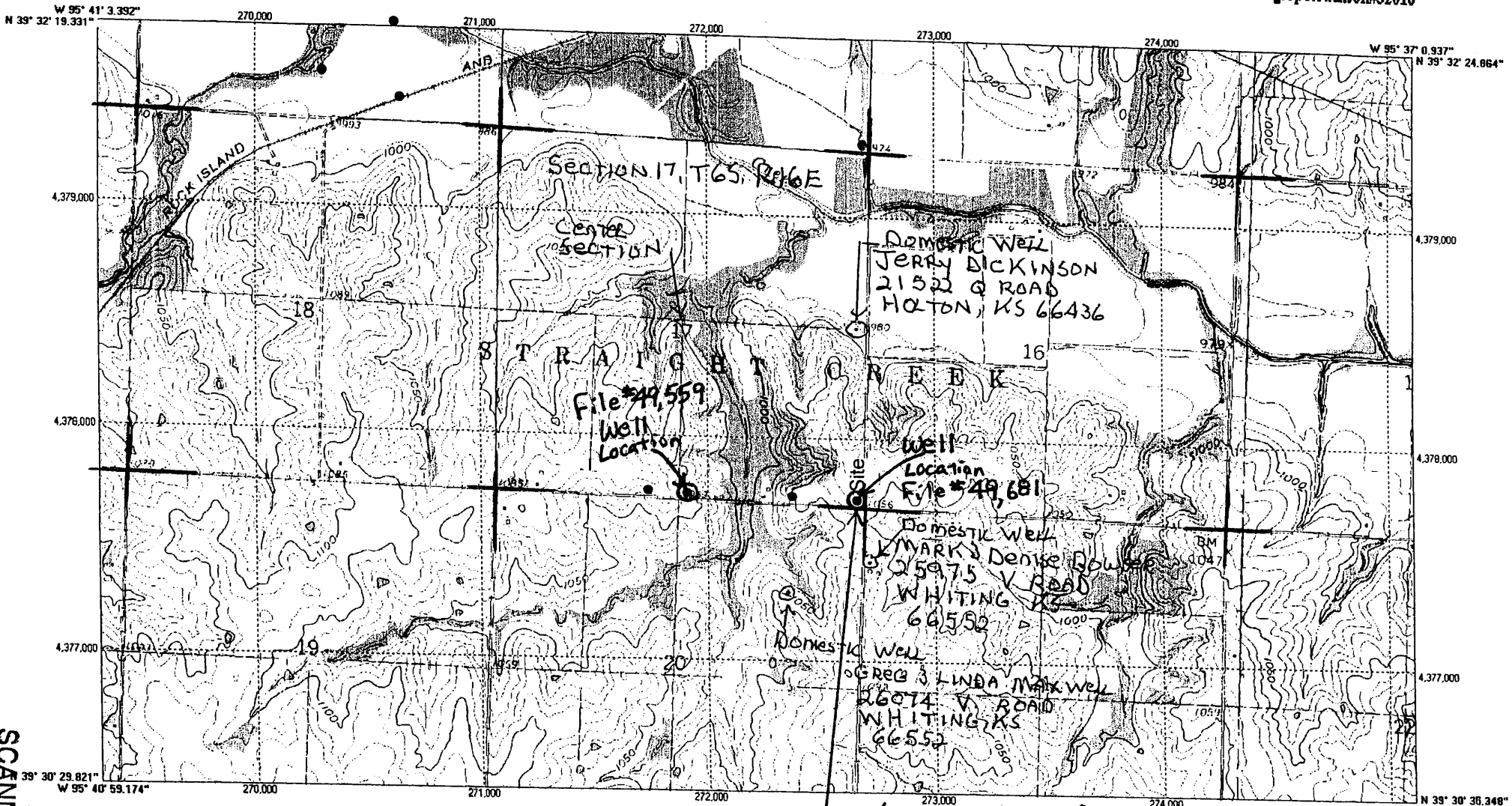
Grantville

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TOPKAW

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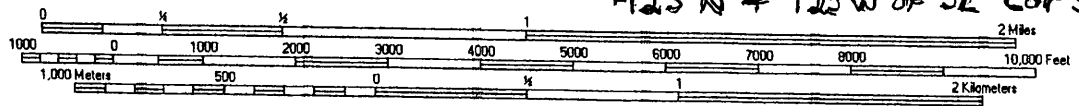
SCANNED

KS DEPT OF AGRICULTURE

AUG 01 2016

WATER RESOURCES RECEIVED

827 North American Datum; 1,000-meter UTM grid zone 15
 Generated by BigTopo (www.bigtopo.com)
 Map compiled from USGS Quads: Netawaka, KS Whiting, KS



Jackson Co. RWD #3

ALL WELLS WITHIN 1/2 MILE ARE LOCATED ON MAP.
 Bud Vincent

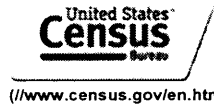
49681

Water Needs

County ID	Name of Public Water Supplier	Year				
		2000	2010	2020	2030	2040
RN	Hutchinson	2,314,049	2,413,900	2,513,695	2,613,546	2,713,397
MG	Independence	631,708	610,194	588,616	567,038	545,525
GY	Ingalls	25,295	26,098	26,901	27,704	28,507
MP	Inman	56,736	63,534	70,333	77,131	83,930
AL	Iola	249,452	242,988	236,564	230,140	223,676
BA	Isabel	6,965	6,224	5,631	5,038	4,520
PR	Iuka	4,641	4,418	4,195	3,971	3,748
JA	Jackson RWD #01	75,329	94,985	114,675	134,403	154,059
JA	Jackson RWD #02	5,387	7,818	10,282	12,713	15,144
JA	Jackson RWD #03	133,651	168,768	203,926	239,002	274,162
CD	Jamestown	12,844	12,047	11,249	10,452	9,654
PT	Janssen Mobile Home Park	721	721	721	721	721
JF	Jefferson RWD #01	81,304	85,374	89,443	93,511	97,619
JF	Jefferson RWD #02	25,338	32,329	39,320	46,311	53,302
JF	Jefferson RWD #03	71,992	86,452	100,913	115,374	129,782
JF	Jefferson RWD #06	4,404	4,820	5,201	5,583	5,964
JF	Jefferson RWD #07	60,828	72,406	83,939	95,472	107,050
JF	Jefferson RWD #08	1,818	1,969	2,151	2,302	2,484
JF	Jefferson RWD #09	6,617	6,671	6,725	6,796	6,850
JF	Jefferson RWD #10	6,415	8,701	11,019	13,305	15,623
JF	Jefferson RWD #11	54,040	86,726	119,630	152,316	185,219
JF	Jefferson RWD #12	118,402	141,569	164,630	187,797	210,914
JF	Jefferson RWD #13	73,454	92,855	112,254	131,614	150,975
JF	Jefferson RWD #14	2,208	3,154	4,100	5,072	6,018
JF	Jefferson RWD #15	4,698	5,083	5,493	5,878	6,263
DC	Jennings	20,356	18,308	16,502	14,815	13,370
HG	Jetmore	66,046	67,461	68,801	70,141	71,482
JW	Jewell	15,723	15,390	15,057	14,723	14,390
JW	Jewell RWD #01	48,948	49,414	49,879	50,345	50,811
DK	Johns Mobile Home Park	2,509	2,509	2,509	2,509	2,509
ST	Johnson City	184,984	201,354	217,598	233,969	250,339
JO	Johnson RWD #01	69,990	78,773	87,633	96,493	105,430
JO	Johnson RWD #06C	56,877	72,802	88,470	104,064	119,547
JO	Johnson RWD #07	143,550	203,940	263,708	322,982	381,994
FI	Johnson Subdivision	2,026	2,026	2,026	2,026	2,026
GE	Junction City	1,117,357	1,157,602	1,197,899	1,238,196	1,278,442
EW	Kanopolis	29,983	29,635	29,337	29,039	28,692
SH	Kanorado	22,465	22,465	22,465	22,465	22,465
WY	Kansas City	10,854,183	10,343,313	9,832,443	9,321,573	8,810,703
SG	Kechi	31,617	40,716	49,815	58,914	68,048
SM	Kensington	29,083	26,163	23,535	21,199	19,097
AN	Kincaid	3,742	3,375	3,032	2,739	2,446
KM	Kingman	215,300	227,589	239,812	252,102	264,391
KM	Kingman RWD #01	6,610	6,610	6,643	6,643	6,643
ED	Kinsley	93,139	89,303	85,468	81,632	77,797
BA	Kiowa	65,997	67,162	68,326	69,491	70,602
PL	Kirwin	12,866	12,403	11,940	11,477	11,014

Population Estimates

County ID	Name of Public Water Supplier	Year					
		1990	2000	2010	2020	2030	2040
MG	Independence	10,157	9,778	9,445	9,111	8,777	8,444
GY	Ingalls	301	315	325	335	345	355
MP	Inman	1,035	1,160	1,299	1,438	1,577	1,716
AL	Iola	6,351	6,213	6,052	5,892	5,732	5,571
BA	Isabel	104	94	84	76	68	61
PR	Iuka	197	187	178	169	160	151
JA	Jackson RWD #01	1,498	2,133	2,689	3,246	3,804	4,360
JA	Jackson RWD #02	105	164	238	313	387	461
JA	Jackson RWD #03	2,298	3,094	3,907	4,721	5,533	6,347
CD	Jamestown	325	306	287	268	249	230
PT	Janssen MHP	29	25	25	25	25	25
JF	Jefferson RWD #01	1,788	2,011	2,112	2,213	2,314	2,416
JF	Jefferson RWD #02	413	569	726	883	1,040	1,197
JF	Jefferson RWD #03	987	1,389	1,668	1,947	2,226	2,504
JF	Jefferson RWD #06	106	127	139	150	161	172
JF	Jefferson RWD #07	1,082	1,366	1,626	1,885	2,144	2,404
JF	Jefferson RWD #08	50	60	65	71	76	82
JF	Jefferson RWD #09	365	370	373	376	380	383
JF	Jefferson RWD #10	134	202	274	347	419	492
JF	Jefferson RWD #11	70	248	398	549	699	850
JF	Jefferson RWD #12	1,830	2,218	2,652	3,084	3,518	3,951
JF	Jefferson RWD #13	1,367	1,821	2,302	2,783	3,263	3,743
JF	Jefferson RWD #14	45	84	120	156	193	229
JF	Jefferson RWD #15	176	195	211	228	244	260
DC	Jennings	188	169	152	137	123	111
HG	Jetmore	850	887	906	924	942	960
JW	Jewell	529	519	508	497	486	475
JW	Jewell RWD #01	501	505	509	513	517	521
DK	Johns MHP	87	87	87	87	87	87
ST	Johnson City	1,348	1,469	1,599	1,728	1,858	1,988
JO	Johnson RWD #01	1,560	1,809	2,036	2,265	2,494	2,725
JO	Johnson RWD #06C	1,113	1,542	1,974	2,399	2,822	3,242
JO	Johnson RWD #07	2,460	4,317	6,132	7,928	9,709	11,482
FI	Johnson Subdivision	61	61	61	61	61	61
GE	Junction City	20,642	21,711	22,493	23,276	24,059	24,841
EW	Kanopolis	605	604	597	591	585	578
SH	Kanorado	276	276	276	276	276	276
WY	Kansas City	154,942	145,772	138,911	132,050	125,189	118,328
SG	Kechi	517	893	1,150	1,407	1,664	1,922
SM	Kensington	553	498	448	403	363	327
AN	Kincaid	170	153	138	124	112	100
KM	Kingman	3,196	3,241	3,426	3,610	3,795	3,980
KM	Kingman RWD #01	204	199	199	200	200	200
ED	Kinsley	1,875	1,797	1,723	1,649	1,575	1,501
BA	Kiowa	1,160	1,247	1,269	1,291	1,313	1,334
PL	Kirwin	269	250	241	232	223	214
SW	Kismet	421	466	515	564	613	662



Topics
 (<http://www.census.gov/en.html>) Population, Economy

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U.S. Census Quick Facts

QuickFacts

Jackson County, Kansas

QuickFacts provides statistics for all states and counties, and for cities and towns with a **population of 5,000 or more**.

ALL TOPICS	<input checked="" type="checkbox"/> JACKSON COUNTY, KANSAS	ATCHISON COUNTY, KANSAS	JEFFERSON COUNTY, KANSAS
People			
Population			
Population estimates, July 1, 2015, (V2015)	13,338	16,398	18,930
Population estimates base, April 1, 2010, (V2015)	13,462	16,924	19,124
Population, percent change - April 1, 2010 (estimates base) to July 1, 2015, (V2015)	-0.9%	-3.1%	-1.0%
Population, Census, April 1, 2010	13,462	16,924	19,126
Age and Sex			
Persons under 5 years, percent, July 1, 2015, (V2015)	6.3%	6.1%	5.3%
Persons under 5 years, percent, April 1, 2010	6.7%	6.5%	5.7%
Persons under 18 years, percent, July 1, 2015, (V2015)	25.1%	23.2%	23.5%
Persons under 18 years, percent, April 1, 2010	26.5%	24.2%	24.7%
Persons 65 years and over, percent, July 1, 2015, (V2015)	18.1%	16.4%	17.7%
Persons 65 years and over, percent, April 1, 2010	15.4%	15.4%	15.4%
Female persons, percent, July 1, 2015, (V2015)	49.7%	51.1%	49.1%
Female persons, percent, April 1, 2010	49.9%	51.3%	49.3%
Race and Hispanic Origin			
White alone, percent, July 1, 2015, (V2015) (a)	86.5%	90.6%	96.0%
White alone, percent, April 1, 2010 (a)	87.2%	91.0%	96.3%
Black or African American alone, percent, July 1, 2015, (V2015) (a)	0.9%	5.3%	0.7%
Black or African American alone, percent, April 1, 2010 (a)	0.5%	5.0%	0.5%
American Indian and Alaska Native alone, percent, July 1, 2015, (V2015) (a)	8.6%	0.6%	1.1%
American Indian and Alaska Native alone, percent, April 1, 2010 (a)	8.0%	0.5%	0.9%
Asian alone, percent, July 1, 2015, (V2015) (a)	0.5%	0.6%	0.2%
Asian alone, percent, April 1, 2010 (a)	0.4%	0.4%	0.2%
Native Hawaiian and Other Pacific Islander alone, percent, July 1, 2015, (V2015) (a)	Z	0.1%	0.1%
Native Hawaiian and Other Pacific Islander alone, percent, April 1, 2010 (a)	Z	Z	Z
Two or More Races, percent, July 1, 2015, (V2015)	3.5%	2.7%	1.9%
Two or More Races, percent, April 1, 2010	3.1%	2.5%	1.7%
Hispanic or Latino, percent, July 1, 2015, (V2015) (b)	4.8%	3.2%	2.6%
Hispanic or Latino, percent, April 1, 2010 (b)	3.3%	2.3%	1.8%
White alone, not Hispanic or Latino, percent, July 1, 2015, (V2015)	83.9%	87.9%	93.8%
White alone, not Hispanic or Latino, percent, April 1, 2010	85.9%	89.5%	95.0%
Population Characteristics			
Veterans, 2010-2014	1,263	1,075	1,637
Foreign born persons, percent, 2010-2014	1.4%	0.8%	0.5%
Housing			
Housing units, July 1, 2015, (V2015)	5,777	6,934	8,230
Housing units, April 1, 2010	5,779	6,990	8,160
Owner-occupied housing unit rate, 2010-2014	74.6%	72.8%	82.8%
Median value of owner-occupied housing units, 2010-2014	\$118,900	\$85,800	\$126,500
Median selected monthly owner costs -with a mortgage, 2010-2014	\$1,268	\$1,007	\$1,270
Median selected monthly owner costs -without a mortgage, 2010-2014	\$447	\$400	\$468
Median gross rent, 2010-2014	\$702	\$622	\$724

Building permits, 2015	57	2	57
Families and Living Arrangements			
Households, 2010-2014	5,288	6,180	7,498
Persons per household, 2010-2014	2.51	2.49	2.49
Living in same house 1 year ago, percent of persons age 1 year+, 2010-2014	88.5%	85.6%	88.6%
Language other than English spoken at home, percent of persons age 5 years+, 2010-2014	3.3%	1.8%	2.1%
Education			
High school graduate or higher, percent of persons age 25 years+, 2010-2014	94.1%	91.8%	93.1%
Bachelor's degree or higher, percent of persons age 25 years+, 2010-2014	18.1%	19.0%	21.0%
Health			
With a disability, under age 65 years, percent, 2010-2014	9.2%	11.4%	9.6%
Persons without health insurance, under age 65 years, percent	▲ 11.9%	▲ 10.9%	▲ 10.5%
Economy			
In civilian labor force, total, percent of population age 16 years+, 2010-2014	68.4%	62.5%	67.2%
In civilian labor force, female, percent of population age 16 years+, 2010-2014	64.3%	57.1%	65.1%
Total accommodation and food services sales, 2012 (\$1,000) (c)	D	D	D
Total health care and social assistance receipts/revenue, 2012 (\$1,000) (c)	32,480	64,649	D
Total manufacturers shipments, 2012 (\$1,000) (c)	D	635,032	D
Total merchant wholesaler sales, 2012 (\$1,000) (c)	45,339	206,512	5,732
Total retail sales, 2012 (\$1,000) (c)	83,205	126,876	74,016
Total retail sales per capita, 2012 (c)	\$6,187	\$7,546	\$3,907
Transportation			
Mean travel time to work (minutes), workers age 16 years+, 2010-2014	24.6	20.4	28.6
Income and Poverty			
Median household income (in 2014 dollars), 2010-2014	\$55,296	\$44,648	\$56,531
Per capita income in past 12 months (in 2014 dollars), 2010-2014	\$25,030	\$22,446	\$26,259
Persons in poverty, percent	▲ 10.3%	▲ 17.4%	▲ 9.4%
Businesses			
Total employer establishments, 2014	254	353	303
Total employment, 2014	2,933	5,702	2,285
Total annual payroll, 2014	80,914	180,493	84,517
Total employment, percent change, 2013-2014	2.5%	-0.8%	6.0%
Total nonemployer establishments, 2014	767	874	1,213
All firms, 2012	930	925	1,565
Men-owned firms, 2012	537	469	944
Women-owned firms, 2012	253	192	472
Minority-owned firms, 2012	52	52	45
Nonminority-owned firms, 2012	846	759	1,485
Veteran-owned firms, 2012	112	133	132
Nonveteran-owned firms, 2012	782	667	1,384
Geography			
Population per square mile, 2010	20.5	39.3	35.9
Land area in square miles, 2010	656.22	431.17	532.57
FIPS Code	20085	20005	20087

▲ This geographic level of poverty and health estimates are not comparable to other geographic levels of these estimates

Some estimates presented here come from sample data, and thus have sampling errors that may render some apparent differences between geographies statistically indistinguishable. Click the Quick Info icon to the left of each row in TABLE view to learn about sampling error.

The vintage year (e.g., V2015) refers to the final year of the series (2010 thru 2015). Different vintage years of estimates are not comparable.

- (a) Includes persons reporting only one race
- (b) Hispanics may be of any race, so also are included in applicable race categories
- (c) Economic Census - Puerto Rico data are not comparable to U.S. Economic Census data

- D Suppressed to avoid disclosure of confidential information
- F Fewer than 25 firms
- FN Footnote on this item in place of data
- NA Not available
- S Suppressed; does not meet publication standards
- X Not applicable
- Z Value greater than zero but less than half unit of measure shown

QuickFacts data are derived from: Population Estimates, American Community Survey, Census of Population and Housing, Current Population Survey, Small Area Health Insurance Estimates, Small Area Income and Poverty Estimates, State and County Housing Unit Estimates, County Business Patterns, Nonemployer Statistics, Economic Census, Survey of Business Owners, Building Permits.



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QuickFacts

Nemaha County, Kansas

QuickFacts provides statistics for all states and counties, and for cities and towns with a *population of 5,000 or more*.

ALL TOPICS	NEMAHA COUNTY, KANSAS	BROWN COUNTY, KANSAS
People		
Population		
Population estimates, July 1, 2015, (V2015)	10,227	9,776
Population estimates base, April 1, 2010, (V2015)	10,178	9,984
Population, percent change - April 1, 2010 (estimates base) to July 1, 2015, (V2015)	0.5%	-2.1%
Population, Census, April 1, 2010	10,178	9,984
Age and Sex		
Persons under 5 years, percent, July 1, 2015, (V2015)	7.3%	7.0%
Persons under 5 years, percent, April 1, 2010	6.5%	7.3%
Persons under 18 years, percent, July 1, 2015, (V2015)	26.1%	25.2%
Persons under 18 years, percent, April 1, 2010	26.2%	25.4%
Persons 65 years and over, percent, July 1, 2015, (V2015)	19.9%	19.3%
Persons 65 years and over, percent, April 1, 2010	20.1%	18.3%
Female persons, percent, July 1, 2015, (V2015)	49.4%	51.0%
Female persons, percent, April 1, 2010	49.4%	51.3%
Race and Hispanic Origin		
White alone, percent, July 1, 2015, (V2015) (a)	96.7%	86.0%
White alone, percent, April 1, 2010 (a)	97.3%	85.1%
Black or African American alone, percent, July 1, 2015, (V2015) (a)	0.7%	1.6%
Black or African American alone, percent, April 1, 2010 (a)	0.6%	1.2%
American Indian and Alaska Native alone, percent, July 1, 2015, (V2015) (a)	0.7%	9.0%
American Indian and Alaska Native alone, percent, April 1, 2010 (a)	0.5%	9.3%
Asian alone, percent, July 1, 2015, (V2015) (a)	0.3%	0.4%
Asian alone, percent, April 1, 2010 (a)	0.1%	0.3%
Native Hawaiian and Other Pacific Islander alone, percent, July 1, 2015, (V2015) (a)	0.1%	Z
Native Hawaiian and Other Pacific Islander alone, percent, April 1, 2010 (a)	Z	Z
Two or More Races, percent, July 1, 2015, (V2015)	1.4%	2.9%
Two or More Races, percent, April 1, 2010	1.0%	3.2%
Hispanic or Latino, percent, July 1, 2015, (V2015) (b)	1.9%	3.8%
Hispanic or Latino, percent, April 1, 2010 (b)	1.2%	3.1%
White alone, not Hispanic or Latino, percent, July 1, 2015, (V2015)	95.3%	83.9%
White alone, not Hispanic or Latino, percent, April 1, 2010	96.7%	84.0%
Population Characteristics		
Veterans, 2010-2014	650	802
Foreign born persons, percent, 2010-2014	0.9%	1.3%
Housing		
Housing units, July 1, 2015, (V2015)	4,582	4,744
Housing units, April 1, 2010	4,562	4,779
Owner-occupied housing unit rate, 2010-2014	77.4%	68.2%
Median value of owner-occupied housing units, 2010-2014	\$101,300	\$81,600
Median selected monthly owner costs --with a mortgage, 2010-2014	\$1,117	\$925
Median selected monthly owner costs --without a mortgage, 2010-2014	\$389	\$390
Median gross rent, 2010-2014	\$516	\$513
Building permits, 2015	13	1
Families and Living Arrangements		
Households, 2010-2014	4,161	4,157
Persons per household, 2010-2014	2.35	2.35
Living in same house 1 year ago, percent of persons age 1 year+, 2010-2014	89.3%	85.3%
Language other than English spoken at home, percent of persons age 5 years+, 2010-2014	1.2%	2.3%
Education		
	90.6%	91.9%

High school graduate or higher, percent of persons age 25 years+, 2010-2014		
Bachelor's degree or higher, percent of persons age 25 years+, 2010-2014	21.9%	19.6%
Health		
With a disability, under age 65 years, percent, 2010-2014	6.6%	12.4%
Persons without health insurance, under age 65 years, percent	▲ 9.1%	▲ 14.4%
Economy		
In civilian labor force, total, percent of population age 16 years+, 2010-2014	67.0%	64.6%
In civilian labor force, female, percent of population age 16 years+, 2010-2014	61.9%	61.6%
Total accommodation and food services sales, 2012 (\$1,000) (c)	8,220	7,938
Total health care and social assistance receipts/revenue, 2012 (\$1,000) (c)	51,265	58,331
Total manufacturers shipments, 2012 (\$1,000) (c)	413,202	248,770
Total merchant wholesaler sales, 2012 (\$1,000) (c)	140,994	244,363
Total retail sales, 2012 (\$1,000) (c)	156,534	74,783
Total retail sales per capita, 2012 (c)	\$15,449	\$7,568
Transportation		
Mean travel time to work (minutes), workers age 16 years+, 2010-2014	14.5	16.5
Income and Poverty		
Median household income (in 2014 dollars), 2010-2014	\$47,141	\$41,126
Per capita income in past 12 months (in 2014 dollars), 2010-2014	\$25,319	\$22,284
Persons in poverty, percent	▲ 9.9%	▲ 17.3%
Businesses		
Total employer establishments, 2014	370	261
Total employment, 2014	4,700	3,416
Total annual payroll, 2014	182,419	109,078
Total employment, percent change, 2013-2014	2.5%	0.3%
Total nonemployer establishments, 2014	761	709
All firms, 2012	1,013	883
Men-owned firms, 2012	535	305
Women-owned firms, 2012	203	313
Minority-owned firms, 2012	F	36
Nonminority-owned firms, 2012	958	752
Veteran-owned firms, 2012	79	64
Nonveteran-owned firms, 2012	880	713
Geography		
Population per square mile, 2010	14.2	17.5
Land area in square miles, 2010	717.43	570.87
FIPS Code	20131	20013

▲ This geographic level of poverty and health estimates are not comparable to other geographic levels of these estimates

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QuickFacts data are derived from: Population Estimates, American Community Survey, Census of Population and Housing, Current Population Survey, Small Area Health Insurance Estimates, Small Area Income and Poverty Estimates, State and County Housing Unit Estimates, County Business Patterns, Nonemployer Statistics, Economic Census, Survey of Business Owners, Building Permits.

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Annual and average gallons per capita per day (gpcd) and average and annual percent unaccounted for water (ufw) for public water suppliers in Kansas, 2010–14.

[DWR, Division of Water Resources; RPA, regional planning area; gpcd, gallons per capita per day; ufw, unaccounted for water. Co., county; RWD, rural water district; #, number, na, when a water-use report is not available for the year, insufficient or erroneous information was provided, or the computed unaccounted for water is less than 3 percent.]

Public Water Supplier	DWR ID	EPA Water System Number	Source water RPA	GPCD Region ^{1,2}	GPCD 2010	GPCD 2011	GPCD 2012	GPCD 2013	GPCD 2014	GPCD Average 2010-2014	UFW 2010, in percent	UFW 2011, in percent	UFW 2012, in percent	UFW 2013, in percent	UFW 2014, in percent	UFW Average 2010-2014	In Regional Average
Harveyville	7124	KS2019704	Mc	7S	83	78	74	66	63	73	5	3	5	4	na	4	Yes
Haven	7184	KS2015514	Ew	6ML	124	140	124	95	100	117	23	23	20	21	20	21	Yes
Havensville	7186	KS2014903	Ks	7S	na	na	na	na	na	na	na	na	na	na	na	na	Yes
Haviland	7187	KS2009703	Gb	5	154	174	189	134	136	157	14	6	7	3	15	9	Yes
Hays	7227	KS2005111	Ss	5	91	99	102	88	81	92	7	11	7	9	8	8	Yes
Hays City Suburban Estates	7224	KS2005116	Ss	5	133	162	183	103	103	137	100	100	100	100	na	100	Yes
Haysville	7238	KS2017322	Ew	7L	95	93	97	83	81	90	14	8	15	16	13	13	Yes
Hazelton	7246	KS2000705	Rh	6S	123	128	159	151	178	148	45	5	13	16	28	21	Yes
Herington	7470	KS2004102	Ss	7M	129	136	157	109	103	127	19	35	30	7	12	21	Yes
Hemdon	7491	KS2015302	Ur	2	410	297	509	300	176	338	49	28	47	13	18	31	Yes
Hesston	7561	KS2007902	Ew	7M	174	240	224	158	164	192	15	13	na	4	13	11	Yes
Hiawatha	7590	KS2001305	Mo	8M	112	108	121	98	100	108	6	6	11	6	6	7	Yes
Highland	7636	KS2004306	Mo	8M	107	102	112	108	113	108	14	15	15	14	16	15	Yes
Hill City	7652	KS2006503	Ur	4	225	227	247	250	253	240	24	19	15	25	36	24	Yes
Hillsboro	7699	KS2011505	Ne	7M	105	114	131	113	114	115	na	9	6	5	17	9	Yes
Hoisington	7858	KS2000903	Gb	6ML	98	113	103	100	89	101	20	12	6	14	9	12	Yes
Holcomb	7861	KS2005509	Ua	2	143	173	174	143	131	153	11	14	14	8	10	11	Yes
Holton	21613	KS2008503	Ks	7M	104	110	109	112	92	105	11	15	13	17	14	14	Yes
Holyrood	7958	KS2005305	Gb	6S	134	160	170	106	115	137	6	10	7	na	na	8	Yes
Hope	8005	KS2004101	Ss	7S	89	106	100	68	63	85	5	17	na	na	na	11	Yes
Horace	8013	KS2007101	Us	1	193	206	326	382	390	299	16	11	22	25	24	20	Yes
Horton	8041	KS2001306	Ks	8M	87	77	89	86	80	84	11	10	8	18	15	12	Yes
Howard	8100	KS2004901	Ve	7M	106	108	91	69	77	90	5	12	8	na	9	8	Yes
Howison Heights Water District	32822	KS2016909	Ss	7S	143	135	117	93	86	115	26	20	28	22	16	22	Yes
Hoxie	8123	KS2017901	Ur	3	258	244	311	262	290	273	7	11	11	16	19	13	Yes
Hoyt	55003	KS2008501	Ks	7M	63	na	65	na	60	63	7	na	11	na	6	8	Yes
Hugoton	8223	KS2018901	Ci	2	289	375	382	351	332	346	8	6	6	8	7	7	Yes
Humboldt	8241	KS2000111	Ne	8M	131	124	114	102	102	115	24	20	14	13	10	16	Yes
Hunter	8271	KS2012306	Sr	6S	na	na	na	na	na	na	na	na	na	na	na	na	Yes
Hutchinson	8330	KS2015509	Ew	6ML	165	155	153	137	141	150	13	9	6	8	11	9	Yes
Independence	8379	KS2012508	Ve	7L	136	168	144	125	158	146	26	30	27	21	33	27	Yes
Ingalls	8384	KS2006902	Ua	3	260	na	249	177	153	210	100	na	na	na	8	54	Yes
Inman	8388	KS2011310	Ew	7M	141	135	155	121	121	135	6	6	7	na	7	6	Yes
Iola	8395	KS2000103	Ne	8M	108	126	133	120	120	121	18	20	7	24	24	19	Yes
Isabel	8436	KS2000703	Rh	6S	125	160	132	101	83	120	12	11	14	13	6	11	Yes
Iuka	33046	KS2015107	Gb	6S	84	82	75	68	66	75	6	na	na	na	na	6	Yes
Jackson Co. RWD #01	23895	KS2008511	Ks	7M	na	71	70	63	72	69	na	9	7	8	8	8	Yes
Jackson Co. RWD #03	21090	KS2008510	Ks	7M	98	88	90	88	86	90	16	13	14	17	16	15	Yes
Jamesstown	8540	KS2002902	Sr	7S	65	92	146	82	73	92	20	20	52	14	10	23	Yes
Jefferson Co. RWD #01	8627	KS2008706	Ks	8M	87	104	93	92	81	91	12	15	16	24	21	18	Yes

TABLE 1
POPULATION ESTIMATES AND PROJECTIONS BY CITY BY SELECTED YEAR
1990, 2000, 2010, 2020, 2030 and 2040

County ID	Name of City	Year					
		1990	2000	2010	2020	2030	2040
RN	Abbyville	140	144	148	152	156	160
DK	Abilene	6,242	7,062	7,955	8,848	9,741	10,634
LY	Admire	147	147	147	147	147	147
RP	Agenda	81	73	66	59	53	48
PL	Agra	322	344	348	350	351	353
BT	Albert	229	224	222	221	219	218
RC	Alden	182	169	159	149	139	129
RH	Alexander	85	77	69	62	56	50
LY	Allen	191	196	198	200	203	205
WB	Alma	871	890	921	952	982	1,013
NT	Almena	423	403	409	414	419	425
WB	Alta Vista	477	472	492	511	531	550
LB	Altamont	1,048	1,124	1,204	1,285	1,365	1,446
OB	Alton	115	109	104	98	93	87
WL	Altoona	456	459	461	464	466	469
LY	Americus	891	878	861	843	825	808
SG	Andale	566	651	708	764	821	878
BU	Andover	4,204	5,974	7,941	9,909	11,876	13,844
HP	Anthony	2,516	2,320	2,188	2,056	1,923	1,791
CR	Arcadia	338	304	274	246	222	200
SU	Argonia	529	539	548	557	566	576
CL	Arkansas City	12,762	12,078	11,512	10,946	10,380	9,814
RN	Arlington	457	457	457	457	457	457
CR	Arma	1,542	1,514	1,481	1,449	1,417	1,384
CA	Ashland	1,032	963	912	861	810	759
SA	Assaria	387	408	413	417	421	426
AT	Atchison	10,656	10,095	9,417	8,740	8,062	7,384
SM	Athol	86	77	71	64	58	51
CL	Atlanta	232	232	232	233	233	233
HP	Attica	716	644	580	522	470	423
RA	Atwood	1,388	1,321	1,278	1,234	1,190	1,147
SN	Auburn	908	978	1,024	1,071	1,117	1,163
BU	Augusta	7,876	9,047	10,098	11,150	12,201	13,253
CD	Aurora	101	96	91	87	82	78
MS	Axtell	432	429	417	405	393	381
DG	Baldwin	2,961	3,689	4,436	5,184	5,931	6,678
LC	Barnard	129	118	105	95	85	77
WS	Barnes	167	169	169	169	169	169
LB	Bartlett	107	107	107	107	107	107
LV	Basehor	1,613	1,924	2,150	2,376	2,601	2,827
AL	Bassett	20	18	16	14	13	12
CK	Baxter Springs	4,351	4,417	4,452	4,487	4,522	4,557
NS	Bazine	373	349	334	319	304	288
MS	Beattie	221	218	221	223	226	228

TABLE 1
POPULATION ESTIMATES AND PROJECTIONS BY CITY BY SELECTED YEAR
1990, 2000, 2010, 2020, 2030 and 2040

County ID	Name of City	Year					
		1990	2000	2010	2020	2030	2040
SG	Bel Aire	3,695	5,452	7,092	8,733	10,373	12,014
SU	Belle Plaine	1,649	1,858	2,061	2,263	2,466	2,668
RP	Belleville	2,517	2,427	2,372	2,316	2,261	2,206
MC	Beloit	4,066	3,992	3,926	3,860	3,795	3,729
ED	Belpre	116	109	107	105	104	102
PT	Belvue	207	259	312	364	417	469
WL	Benedict	110	103	98	94	89	84
OT	Bennington	568	597	628	659	690	721
SG	Bentley	360	417	463	510	557	603
BU	Benton	669	800	938	1,075	1,213	1,350
NM	Bern	190	199	204	209	214	219
LC	Beverly	131	128	124	119	115	111
CN	Bird City	467	463	457	451	446	440
RH	Bison	252	246	234	221	209	197
LN	Blue Mound	251	226	203	183	165	148
MS	Blue Rapids	1,131	1,126	1,136	1,146	1,156	1,166
HP	Bluff City	69	97	97	97	97	97
GH	Bogue	182	180	182	183	184	185
JO	Bonner Springs (part)	3	3	3	3	3	3
WY	Bonner Springs (part)	6,410	6,572	6,726	6,881	7,035	7,189
TH	Brewster	296	302	308	314	321	327
BB	Bronson	343	343	343	343	343	343
SA	Brookville	226	226	228	230	233	235
NS	Brownell	44	40	36	32	29	26
FO	Bucklin	710	728	748	767	786	806
WL	Buffalo	296	293	282	271	260	249
RN	Buhler	1,277	1,348	1,401	1,454	1,507	1,560
RS	Bunker Hill	111	107	99	92	84	76
CL	Burden	518	651	791	931	1,071	1,211
PN	Burdett	248	242	241	241	241	240
OS	Burlingame	1,074	1,118	1,159	1,200	1,241	1,282
CF	Burlington	2,735	2,867	2,972	3,077	3,182	3,287
MN	Burns	226	224	217	211	205	199
JW	Burr Oak	278	250	225	203	182	164
HV	Burrton	866	939	963	987	1,012	1,036
LY	Bushong	57	55	52	49	46	43
RC	Bushton	341	341	341	341	341	341
PR	Byers	46	44	42	40	38	37
SU	Caldwell	1,351	1,460	1,578	1,696	1,813	1,931
CL	Cambridge	116	109	103	97	91	85
MG	Caney	2,062	2,057	2,053	2,049	2,045	2,041
MP	Canton	794	857	928	1,000	1,071	1,142
OS	Carbondale	1,526	1,801	2,080	2,360	2,640	2,919
DK	Carlton	39	38	38	38	38	38

TABLE 1
POPULATION ESTIMATES AND PROJECTIONS BY CITY BY SELECTED YEAR
1990, 2000, 2010, 2020, 2030 and 2040

County ID	Name of City	Year					
		1990	2000	2010	2020	2030	2040
BU	Cassoday	95	95	95	95	95	95
MC	Cawker City	588	590	592	593	594	596
SM	Cedar	25	23	21	20	19	17
CS	Cedar Point	39	52	47	42	38	34
CQ	Cedar Vale	760	779	815	851	887	923
NM	Centralia	452	469	486	504	521	539
NO	Chanute	9,488	9,521	9,546	9,571	9,596	9,621
DK	Chapman	1,264	1,380	1,502	1,624	1,746	1,868
RC	Chase	577	563	553	543	532	522
CQ	Chautauqua	132	124	116	109	101	94
SG	Cheney	1,560	1,858	2,184	2,510	2,836	3,162
CR	Cherokee	651	696	748	800	853	905
MG	Cherryvale	2,464	2,373	2,267	2,161	2,055	1,948
LB	Chetopa	1,357	1,372	1,386	1,401	1,415	1,430
GY	Cimarron	1,626	1,772	1,928	2,083	2,239	2,395
JA	Circleville	153	151	151	149	149	147
BT	Clafin	678	670	662	655	647	640
CY	Clay Center	4,613	4,853	5,101	5,348	5,596	5,843
DC	Clayton (part)	14	13	13	12	12	12
NT	Clayton (part)	77	74	71	69	66	63
SG	Clearwater	1,875	2,162	2,397	2,633	2,868	3,104
CY	Clifton (part)	227	220	214	207	201	195
WS	Clifton (part)	334	300	275	250	225	200
GW	Climax	57	57	51	46	42	37
CD	Clyde	793	753	727	701	675	649
PR	Coats	127	124	114	104	93	83
MG	Coffeyville	12,917	12,388	11,975	11,563	11,150	10,738
TH	Colby	5,510	5,578	5,652	5,725	5,798	5,872
CM	Coldwater	939	852	791	731	670	610
TR	Collyer	144	144	145	147	148	149
AN	Colony	447	444	461	479	496	513
CK	Columbus	3,268	3,523	3,770	4,018	4,265	4,513
SG	Colwich	1,091	1,260	1,421	1,582	1,742	1,903
CD	Concordia	6,167	6,167	6,382	6,598	6,813	7,028
SU	Conway Springs	1,384	1,475	1,556	1,636	1,717	1,797
HM	Coolidge	90	83	77	70	63	57
GY	Copeland	290	313	336	359	381	404
NM	Corning	142	164	166	167	168	170
CS	Cottonwood Falls	889	913	919	926	933	939
MR	Council Grove	2,228	2,333	2,458	2,583	2,708	2,833
JO	Countryside	312	313	307	301	295	288
RP	Courtland	343	309	278	250	225	203
WL	Coyville	78	71	63	57	51	46
RP	Cuba	242	234	225	217	208	200

TABLE 1
POPULATION ESTIMATES AND PROJECTIONS BY CITY BY SELECTED YEAR
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County ID	Name of City	Year					
		1990	2000	2010	2020	2030	2040
PR	Cullison	120	117	114	112	109	107
OT	Culver	162	170	174	178	183	187
KM	Cunningham	535	517	506	494	483	472
RO	Damar	112	109	108	106	104	103
HP	Danville	56	50	45	41	37	33
MG	Dearing	428	423	424	425	426	428
KE	Deerfield	677	943	999	1,054	1,110	1,166
JA	Delia	172	182	182	182	182	182
OT	Delphos	494	488	483	478	473	468
JA	Denison	225	239	244	250	256	262
DP	Denton	166	160	161	162	163	164
SG	Derby	14,699	19,559	24,440	29,321	34,202	39,083
JO	DeSoto	2,291	3,279	4,307	5,336	6,364	7,393
CL	Dexter	320	357	401	445	489	533
LE	Dighton	1,361	1,353	1,349	1,345	1,342	1,338
FO	Dodge City	21,129	23,357	25,617	27,877	30,137	32,397
RS	Dorrance	195	193	184	176	168	160
BU	Douglass	1,722	1,829	1,938	2,047	2,157	2,266
OB	Downs	1,119	1,045	987	929	871	813
DC	Dresden	73	66	59	53	48	43
MR	Dunlap	65	61	55	49	44	40
MN	Durham	119	114	108	101	94	88
MR	Dwight	365	383	387	391	395	399
NO	Earlton	69	67	62	57	52	47
SG	Eastborough	896	872	844	817	789	762
LV	Easton	405	405	405	405	405	405
JO	Edgerton	1,244	1,409	1,550	1,691	1,832	1,973
NT	Edmond	37	33	30	27	24	22
LB	Edna	438	439	434	429	424	419
WY	Edwardsville	3,979	4,130	4,403	4,676	4,949	5,222
AT	Effingham	540	547	563	580	596	612
BU	El Dorado	11,504	12,998	14,284	15,571	16,857	18,143
BU	Elbing	184	225	256	287	318	349
CQ	Elgin	118	106	96	86	77	70
MG	Elk City	334	325	314	304	293	282
EK	Elk Falls	122	121	116	111	107	102
MT	Elkhart	2,318	2,292	2,339	2,386	2,433	2,480
BT	Ellinwood	2,329	2,346	2,361	2,376	2,392	2,407
EL	Ellis	1,814	1,792	1,765	1,738	1,711	1,684
EW	Ellsworth	2,294	2,756	2,958	3,160	3,362	3,563
CS	Elmdale	83	90	90	90	90	90
AL	Elsmore	91	82	74	67	60	54
DP	Elwood	1,079	1,048	1,015	983	951	918
PT	Emmett	165	214	269	324	379	434

TABLE 1
POPULATION ESTIMATES AND PROJECTIONS BY CITY BY SELECTED YEAR
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County ID	Name of City	Year					
		1990	2000	2010	2020	2030	2040
LY	Emporia	25,512	26,463	26,959	27,454	27,950	28,446
CA	Englewood	96	90	85	80	75	70
GY	Ensign	192	192	191	190	189	188
DK	Enterprise	865	961	1,047	1,133	1,219	1,306
NO	Erie	1,276	1,248	1,223	1,198	1,173	1,148
JW	Esbon	167	153	148	143	138	133
WB	Eskridge	518	544	574	604	634	664
DG	Eudora	3,006	4,239	5,301	6,363	7,425	8,486
GW	Eureka	2,974	2,737	2,512	2,287	2,062	1,837
BR	Everest	310	290	273	255	238	220
BR	Fairview	306	287	272	256	241	225
JO	Fairway	4,173	4,158	4,156	4,153	4,150	4,148
GW	Fall River	113	116	117	119	120	121
MN	Florence	636	674	709	743	777	812
MI	Fontana	131	158	185	212	239	266
FO	Ford	247	269	294	319	344	369
JW	Formoso	128	137	137	137	137	137
BB	Fort Scott	8,362	8,559	8,796	9,033	9,271	9,508
ME	Fowler	571	617	687	756	825	895
MS	Frankfort	927	928	928	928	928	928
WL	Fredonia	2,599	2,554	2,514	2,474	2,434	2,394
RC	Fredrick	18	16	15	13	12	11
HP	Freeport	10	9	8	7	7	6
CR	Frontenac	2,588	3,024	3,323	3,622	3,921	4,220
BB	Fulton	191	188	185	181	178	175
BT	Galatia	47	42	38	34	31	28
CK	Galena	3,308	3,256	3,218	3,180	3,142	3,104
NO	Galesburg	160	158	158	158	158	158
MP	Galva	651	668	680	691	702	714
FI	Garden City	24,097	27,090	30,139	33,187	36,232	39,281
SG	Garden Plain	731	785	840	894	948	1,002
JO	Gardner	3,191	5,805	8,520	11,235	13,950	16,665
PN	Garfield	236	233	220	208	196	183
AN	Garnett	3,210	3,260	3,301	3,341	3,382	3,423
AL	Gas	505	705	915	1,125	1,335	1,545
SM	Gaylord	173	156	140	126	114	102
TH	Gem	104	105	103	101	99	97
RC	Geneseo	382	381	381	380	379	379
CL	Geuda Springs (part)	34	31	28	25	22	20
SU	Geuda Springs (part)	185	178	173	168	163	159
CR	Girard	2,794	2,662	2,567	2,472	2,377	2,282
PL	Glade	101	101	101	101	101	101
CD	Glasco	556	533	505	478	450	423
MC	Glen Elder	448	435	421	406	391	377

TABLE 1
POPULATION ESTIMATES AND PROJECTIONS BY CITY BY SELECTED YEAR
1990, 2000, 2010, 2020, 2030 and 2040

County ID	Name of City	Year					
		1990	2000	2010	2020	2030	2040
SG	Goddard	1,804	1,973	2,123	2,273	2,423	2,573
MN	Goessel	506	536	568	600	632	664
NM	Goff	157	153	149	145	141	137
SH	Goodland	4,983	5,205	5,251	5,298	5,345	5,392
RS	Gorham	284	267	246	226	206	186
GO	Gove City	103	98	93	89	84	79
GO	Grainfield	357	348	341	334	327	320
GE	Grandview Plaza	1,233	1,281	1,323	1,364	1,406	1,447
BT	Great Bend	15,427	15,895	16,415	16,934	17,454	17,974
AN	Greeley	339	350	361	373	385	397
CY	Green	150	143	136	130	123	117
WS	Greenleaf	353	318	286	257	232	208
KW	Greensburg	1,792	1,729	1,664	1,599	1,535	1,470
EK	Grenola	256	264	285	306	327	348
CF	Gridley	356	374	389	404	419	434
GO	Grinnell	348	337	327	316	305	295
SA	Gypsum	365	358	348	339	330	321
WS	Haddam	195	176	158	142	128	115
HV	Halstead	2,015	2,074	2,127	2,180	2,233	2,287
GW	Hamilton	301	314	322	331	339	348
BR	Hamlin	50	45	41	36	33	30
WS	Hanover	696	667	660	652	644	637
HG	Hanston	326	307	287	267	247	227
BA	Hardtner	198	194	192	190	188	186
HP	Harper	1,735	1,653	1,621	1,590	1,559	1,528
AN	Harris	39	38	36	33	31	28
LY	Hartford	541	534	529	525	520	516
WB	Harveyville	267	263	257	251	245	239
MG	Havana	121	104	97	90	83	76
RN	Haven	1,198	1,248	1,288	1,327	1,366	1,406
PT	Havensville	135	151	169	186	204	221
KW	Haviland	624	637	652	667	682	697
EL	Hays	17,807	19,541	20,855	22,168	23,482	24,796
SG	Haysville	8,364	9,294	10,335	11,375	12,415	13,455
BA	Hazelton	128	110	101	91	81	71
CR	Hepler	150	148	141	134	126	119
DK	Herington	2,685	2,860	3,028	3,197	3,365	3,533
RA	Herndon	170	156	146	137	128	118
HV	Hesston	3,012	3,670	4,352	5,035	5,717	6,399
BR	Hiawatha	3,603	3,664	3,718	3,771	3,825	3,879
DP	Highland	942	921	935	948	962	975
GH	Hill City	1,835	1,652	1,486	1,338	1,204	1,084
MN	Hillsboro	2,704	3,092	3,513	3,934	4,354	4,775
BT	Hoisington	3,182	3,341	3,501	3,661	3,821	3,981

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County ID	Name of City	Year					
		1990	2000	2010	2020	2030	2040
FI	Holcomb	1,400	2,189	2,932	3,675	4,418	5,161
WS	Hollenburg	28	34	34	34	34	34
JA	Holton	3,196	3,508	3,810	4,112	4,414	4,715
EW	Holyrood	492	471	424	386	355	324
DK	Hope	404	427	451	475	499	523
GL	Horace	168	180	191	203	214	226
BR	Horton	1,885	1,935	1,985	2,035	2,085	2,135
EK	Howard	815	799	791	782	774	765
SD	Hoxie	1,342	1,208	1,087	978	880	792
JA	Hoyt	489	560	630	700	770	840
SF	Hudson	159	153	151	150	149	147
SV	Hugoton	3,179	3,400	3,639	3,878	4,117	4,356
AL	Humboldt	2,178	2,146	2,102	2,058	2,014	1,970
SU	Hunnewell	87	91	91	92	93	94
MC	Hunter	116	106	101	96	91	86
AT	Huron	75	70	65	60	55	50
RN	Hutchinson	39,308	41,437	43,225	45,012	46,800	48,588
MG	Independence	9,942	9,563	9,230	8,896	8,562	8,229
GY	Ingalls	301	315	325	335	345	355
MP	Inman	1,035	1,160	1,299	1,438	1,577	1,716
AL	Iola	6,351	6,213	6,052	5,892	5,732	5,571
BA	Isabel	104	94	84	76	68	61
PR	Iuka	197	187	178	169	160	151
CD	Jamestown	325	306	287	268	249	230
DC	Jennings	188	169	152	137	123	111
HG	Jetmore	850	887	906	924	942	960
JW	Jewell	529	519	508	497	486	475
ST	Johnson City	1,348	1,469	1,599	1,728	1,858	1,988
GE	Junction City	20,642	21,711	22,493	23,276	24,059	24,841
EW	Kanopolis	605	604	597	591	585	578
SH	Kanorado	276	276	276	276	276	276
WY	Kansas City	151,521	141,919	134,905	127,890	120,876	113,863
SG	Kechi	517	893	1,150	1,407	1,664	1,922
SM	Kensington	553	498	448	403	363	327
AN	Kincaid	170	153	138	124	112	100
KM	Kingman	3,196	3,241	3,426	3,610	3,795	3,980
ED	Kinsley	1,875	1,797	1,723	1,649	1,575	1,501
BA	Kiowa	1,160	1,247	1,269	1,291	1,313	1,334
PL	Kirwin	269	250	241	232	223	214
SW	Kismet	421	466	515	564	613	662
LB	Labette	74	73	72	70	68	67
RH	LaCrosse	1,427	1,459	1,459	1,459	1,459	1,459
LN	LaCygne	1,066	1,260	1,387	1,513	1,639	1,765
AL	LaHarpe	650	676	702	729	755	781

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County ID	Name of City	Year					
		1990	2000	2010	2020	2030	2040
JO	Lake Quivira (part)	943	982	1,018	1,054	1,089	1,125
WY	Lake Quivira (part)	40	46	53	60	67	73
KE	Lakin	2,060	2,303	2,589	2,875	3,161	3,447
AT	Lancaster	299	304	305	306	307	308
FR	Lane	247	264	288	313	338	363
RN	Langdon	62	56	50	45	41	37
LV	Lansing	7,120	8,544	10,037	11,531	13,025	14,518
PN	Larned	4,490	4,505	4,638	4,772	4,905	5,039
BU	Latham	160	162	165	167	170	172
MR	Latimer	20	18	16	14	13	12
DG	Lawrence	65,608	80,610	95,893	111,175	126,458	141,740
LV	Leavenworth	38,495	40,827	43,205	45,584	47,958	50,337
JO	Leawood	19,693	27,874	35,194	42,513	49,832	57,152
SM	Lebanon	364	328	295	265	239	215
CF	Lebo	835	956	1,073	1,189	1,305	1,422
DG	Lecompton	619	667	721	775	830	884
MN	Lehigh	180	197	202	207	212	217
JO	Lenexa	34,034	41,504	48,894	56,284	63,674	71,064
NT	Lenora	329	294	264	238	214	193
BU	Leon	707	817	900	984	1,067	1,150
DP	Leona	39	35	32	28	26	23
RL	Leonardville	374	367	364	361	358	355
WH	Leoti	1,738	1,725	1,732	1,740	1,747	1,754
CF	Leroy	568	587	603	620	636	653
ED	Lewis	451	428	415	401	388	374
SW	Liberal	16,573	17,913	19,428	20,942	22,456	23,971
MG	Liberty	140	132	126	120	114	108
RH	Liebenthal	112	124	115	106	97	88
LC	Lincoln Center	1,381	1,243	1,119	1,007	906	815
MN	Lincolnvile	197	195	185	175	165	155
MP	Lindsborg	3,077	3,501	3,937	4,374	4,810	5,246
WS	Linn	472	468	468	469	470	471
LV	Linwood	409	451	488	527	564	603
RC	Little River	496	523	552	581	610	639
PL	Logan	633	570	513	461	415	374
AN	Lone Elm	32	31	31	31	31	31
PL	Long Island	170	162	153	144	135	126
CY	Longford	68	79	84	88	92	96
EK	Longton	389	390	394	398	403	407
EW	Lorraine	147	147	147	147	147	147
MN	Lost Springs	106	99	99	99	99	99
MI	Louisburg	1,964	2,344	2,724	3,105	3,485	3,865
PT	Louisville	215	250	261	271	282	292
RS	Lucas	452	456	463	470	477	484

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County ID	Name of City	Year					
		1990	2000	2010	2020	2030	2040
RS	Luray	261	235	211	190	171	154
OS	Lyndon	964	1,086	1,179	1,271	1,363	1,456
RC	Lyons	3,688	3,765	3,854	3,943	4,031	4,120
SF	Macksville	488	557	557	557	557	557
GW	Madison	845	864	872	879	887	895
WS	Mahaska	98	101	105	109	113	118
SG	Maize	1,520	1,819	2,085	2,351	2,617	2,883
DK	Manchester	80	86	92	98	104	110
PT	Manhattan (part)	143	147	147	147	147	147
RL	Manhattan (part)	37,569	43,079	49,508	55,937	62,366	68,795
JW	Mankato	1,037	933	840	756	680	612
ST	Manter	186	183	182	182	182	181
WB	Maple Hill	406	448	485	521	558	595
BB	Mapleton	96	105	115	125	135	145
MN	Marion	1,906	1,861	1,792	1,723	1,654	1,585
MP	Marquette	593	589	584	580	575	570
MS	Marysville	3,359	3,487	3,631	3,775	3,919	4,063
CS	Matfield Green	33	30	27	24	22	20
JA	Mayetta	267	272	282	292	302	312
SU	Mayfield	110	116	116	116	116	116
RH	McCracken	231	232	228	224	220	216
CR	McCune	462	459	476	492	509	525
RA	McDonald	184	167	151	136	122	110
WB	McFarland	224	270	290	309	329	349
JF	McLouth	719	963	1,151	1,339	1,528	1,716
MP	McPherson	12,422	13,279	14,193	15,108	16,022	16,937
ME	Meade	1,526	1,552	1,580	1,609	1,638	1,666
BA	Medicine Lodge	2,453	2,247	2,155	2,062	1,970	1,877
OS	Melvern	423	394	366	338	310	282
TH	Menlo	50	52	52	53	54	54
JF	Meriden	622	733	846	959	1,072	1,185
JO	Merriam	11,819	12,321	12,717	13,114	13,510	13,906
SU	Milan	109	110	113	115	118	120
AL	Mildred	46	44	41	39	36	34
GE	Milford	579	538	523	508	493	478
CD	Miltonvale	484	529	567	606	644	683
OT	Minneapolis	1,983	2,064	2,101	2,137	2,173	2,210
CA	Minneola	705	710	718	726	733	741
JO	Mission	9,504	9,848	10,416	10,985	11,554	12,123
JO	Mission Hills	3,446	3,512	3,491	3,470	3,449	3,428
JO	Mission Woods	182	182	183	184	185	186
EK	Moline	473	481	488	496	503	511
GY	Montezuma	838	993	1,181	1,369	1,557	1,745
AL	Moran	551	537	531	526	520	515

TABLE 1
POPULATION ESTIMATES AND PROJECTIONS BY CITY BY SELECTED YEAR
1990, 2000, 2010, 2020, 2030 and 2040

County ID	Name of City	Year					
		1990	2000	2010	2020	2030	2040
CY	Morganville	181	186	191	195	200	205
GH	Morland	234	211	190	171	154	138
BR	Morrill	299	299	299	299	299	299
WS	Morrowville	173	177	180	183	185	188
SV	Moscow	252	268	289	310	332	353
LN	Mound City	789	815	846	877	907	938
LB	Mound Valley	405	392	390	387	385	382
MP	Moundridge	1,531	1,564	1,619	1,674	1,729	1,784
SG	Mount Hope	805	825	847	870	892	914
CR	Mulberry	555	576	576	576	576	576
KW	Mullinville	289	297	303	310	317	324
SG	Mulvane (part)	3,466	3,961	4,377	4,793	5,209	5,625
SU	Mulvane (part)	1,208	1,381	1,526	1,671	1,815	1,960
RP	Munden	143	129	116	104	94	84
AT	Muscotah	194	188	184	180	176	173
RP	Narka	113	102	92	82	74	67
KM	Nashville	118	118	114	111	107	104
OB	Natoma	392	353	318	286	257	231
WL	Neodesha	2,837	2,762	2,712	2,662	2,612	2,562
WO	Neosho Falls	157	153	151	148	146	143
LY	Neosho Rapids	235	246	250	254	257	261
NS	Ness City	1,724	1,593	1,526	1,458	1,391	1,323
JA	Netawaka	167	167	167	167	167	167
WL	New Albany	60	60	60	60	60	60
SA	New Cambria	152	162	161	160	159	158
CF	New Strawn	428	464	500	536	572	608
HV	Newton	16,700	17,634	18,602	19,569	20,536	21,504
RN	Nickerson	1,137	1,192	1,259	1,327	1,394	1,462
CQ	Niotaze	99	95	91	87	83	79
DC	Norcatour	198	178	160	144	130	117
HV	North Newton	1,262	1,623	1,967	2,311	2,656	3,000
NT	Norton	3,017	3,103	3,192	3,281	3,370	3,459
JF	Nortonville	643	707	774	842	909	977
KM	Norwich	455	484	490	496	503	509
CY	Oak Hill	13	12	11	9	9	8
LG	Oakley (part)	1,987	2,039	2,052	2,065	2,078	2,091
TH	Oakley (part)	58	60	60	60	61	61
DC	Oberlin	2,197	1,977	1,780	1,602	1,441	1,297
ED	Offerle	228	215	213	212	210	209
RL	Ogden	1,494	1,301	1,304	1,307	1,310	1,313
MS	Oketo	116	99	89	80	72	65
JO	Olathe	63,352	76,487	94,131	111,775	129,418	147,062
OS	Olivet	59	68	68	68	68	68
BT	Olmitz	130	135	134	133	131	130

TABLE 1
POPULATION ESTIMATES AND PROJECTIONS BY CITY BY SELECTED YEAR
1990, 2000, 2010, 2020, 2030 and 2040

County ID	Name of City	Year					
		1990	2000	2010	2020	2030	2040
LY	Olpe	431	456	455	453	452	450
PT	Olsburg	192	223	252	280	309	338
PT	Onaga	761	794	816	837	859	881
NM	Oneida	79	70	63	56	51	46
OS	Osage City	2,689	2,900	3,103	3,306	3,509	3,711
MI	Osawatomie	4,590	4,973	5,393	5,813	6,233	6,653
OB	Osborne	1,778	1,655	1,527	1,400	1,273	1,145
JF	Oskaloosa	1,074	1,200	1,320	1,440	1,560	1,680
LB	Oswego	1,870	1,883	1,897	1,912	1,927	1,941
RH	Otis	385	373	380	387	394	401
FR	Ottawa	10,667	12,421	14,241	16,061	17,881	19,701
OS	Overbrook	920	1,081	1,246	1,411	1,576	1,741
JO	Overland Park	111,790	145,628	179,216	212,803	246,391	279,978
SU	Oxford	1,143	1,201	1,211	1,222	1,233	1,244
JF	Ozawkie	458	492	542	592	642	692
RO	Palco	295	266	244	221	199	179
WS	Palmer	121	117	110	103	96	89
MI	Paola	4,698	4,774	4,846	4,918	4,990	5,062
RS	Paradise	66	64	62	60	58	55
GO	Park	150	146	143	141	138	136
SG	Park City	5,050	5,956	6,991	8,027	9,063	10,099
LN	Parker	256	275	278	282	286	290
MR	Parkerville	28	25	23	21	19	17
LB	Parsons	11,924	11,103	10,433	9,764	9,094	8,425
RN	Partridge	213	207	187	168	151	136
BT	Pawnee Rock	367	477	524	571	618	665
WB	Paxico	174	218	254	290	326	362
MN	Peabody	1,349	1,316	1,286	1,255	1,224	1,194
KM	Penalosa	21	19	17	15	14	12
JF	Perry	881	978	1,037	1,095	1,154	1,213
CQ	Peru	206	209	209	209	209	209
PL	Phillipsburg	2,828	2,632	2,600	2,569	2,538	2,506
CR	Pittsburg	17,789	18,434	19,046	19,659	20,272	20,884
ME	Plains City	957	994	1,041	1,089	1,137	1,184
RO	Plainville	2,173	2,057	1,918	1,778	1,638	1,499
LN	Pleasanton	1,231	1,394	1,562	1,729	1,897	2,064
RN	Plevna	117	116	115	114	113	112
FR	Pomona	835	894	956	1,018	1,080	1,142
OB	Portis	129	122	120	118	116	114
BU	Potwin	448	465	482	499	516	533
BR	Powhattan	111	107	106	106	105	105
PL	Prairie View	111	101	93	85	77	68
JO	Prairie Village	23,186	23,696	24,226	24,756	25,286	25,816
PR	Pratt	6,687	6,715	6,750	6,785	6,820	6,855

TABLE 1
POPULATION ESTIMATES AND PROJECTIONS BY CITY BY SELECTED YEAR
1990, 2000, 2010, 2020, 2030 and 2040

County ID	Name of City	Year					
		1990	2000	2010	2020	2030	2040
LN	Prescott	301	339	372	404	436	468
PR	Preston	177	166	156	146	136	126
RN	Pretty Prairie	601	610	620	630	640	650
FR	Princeton	275	308	341	374	407	440
CM	Protection	625	569	527	484	442	400
OS	Quenemo	369	396	422	447	473	498
GO	Quinter	945	985	1,028	1,072	1,116	1,159
SF	Radium	47	45	43	42	41	39
MN	Ramona	114	109	106	102	99	96
JW	Randall	96	94	91	88	84	81
RL	Randolph	129	204	220	236	252	269
NS	Ransom	386	392	388	384	380	375
FR	Rantoul	200	227	257	288	318	348
RC	Raymond	125	114	107	100	93	86
LY	Reading	264	264	264	264	264	264
BB	Redfield	143	143	143	143	143	143
RP	Republic	177	159	143	129	116	105
BR	Reserve	108	103	101	99	97	96
TH	Rexford	171	181	181	181	181	181
MT	Richfield	50	45	41	36	33	30
FR	Richmond	528	547	567	587	607	627
RL	Riley	804	853	910	966	1,022	1,078
BR	Robinson	268	303	345	388	430	473
JO	Roeland Park	7,706	7,700	7,704	7,707	7,711	7,714
MT	Rolla	387	511	544	577	610	643
BU	Rose Hill	2,399	3,380	4,373	5,367	6,360	7,354
CK	Roseland	98	100	102	104	105	107
SN	Rossville	1,052	1,109	1,168	1,228	1,287	1,347
PN	Rozel	187	180	170	159	148	138
RH	Rush Center	177	172	170	168	165	163
RS	Russell	4,781	4,694	4,641	4,589	4,536	4,484
LG	Russell Springs	29	26	23	21	19	17
BR	Sabetha (part)	6	6	6	6	6	7
NM	Sabetha (part)	2,335	2,446	2,569	2,691	2,814	2,936
SA	Salina	42,299	45,425	48,766	52,107	55,449	58,790
HS	Satanta	1,073	1,209	1,356	1,503	1,651	1,798
AL	Savonburg	93	91	82	74	66	60
PR	Sawyer	183	176	169	163	156	150
CK	Scammon	466	471	474	476	479	481
RP	Scandia	421	379	341	307	276	249
EL	Schoenchen	200	196	190	184	178	172
SC	Scott City	3,785	4,206	4,602	4,999	5,396	5,793
MC	Scottsville	26	23	21	19	17	15
OS	Scranton	674	712	738	765	792	819

TABLE 1
POPULATION ESTIMATES AND PROJECTIONS BY CITY BY SELECTED YEAR
1990, 2000, 2010, 2020, 2030 and 2040

County ID	Name of City	Year					
		1990	2000	2010	2020	2030	2040
CQ	Sedan	1,306	1,246	1,196	1,146	1,096	1,046
HV	Sedgwick (part)	1,306	1,350	1,389	1,429	1,469	1,508
SG	Sedgwick (part)	132	137	142	148	153	158
SD	Selden	248	256	253	250	247	244
NM	Seneca	2,027	2,049	2,071	2,094	2,116	2,139
DP	Severance	98	92	87	81	76	71
GW	Severy	357	373	399	424	450	476
SF	Seward	71	64	58	52	47	42
BA	Sharon	256	242	236	230	223	217
WA	Sharon Springs	872	857	839	821	803	785
JO	Shawnee	37,962	44,997	52,049	59,101	66,153	73,205
SN	Silver Lake	1,390	1,510	1,593	1,676	1,758	1,841
MC	Simpson	107	106	105	104	103	103
SM	Smith Center	2,016	1,848	1,693	1,539	1,385	1,231
SA	Smolan	195	201	213	224	235	246
JA	Soldier	135	137	141	145	150	154
DK	Solomon	939	1,065	1,188	1,311	1,434	1,557
SU	South Haven	420	420	415	410	404	399
RN	South Hutchinson	2,444	2,613	2,712	2,812	2,911	3,011
FO	Spearville	716	759	794	829	864	899
PL	Speed	64	64	62	59	56	54
KM	Spivey	88	96	102	109	115	121
JO	Spring Hill (part)	2,084	2,427	2,727	3,027	3,326	3,626
MI	Spring Hill (part)	107	143	180	216	252	288
NO	St Paul	687	696	706	715	724	734
CN	St. Francis	1,495	1,475	1,478	1,480	1,482	1,485
PT	St. George	397	486	575	664	753	842
SF	St. John	1,357	1,221	1,099	989	890	801
PT	St. Marys	1,791	2,374	2,902	3,429	3,956	4,483
SF	Stafford	1,344	1,248	1,182	1,115	1,048	982
NO	Stark	79	86	88	89	91	93
RC	Sterling	2,191	2,098	2,035	1,973	1,910	1,847
RO	Stockton	1,507	1,484	1,474	1,464	1,454	1,444
CS	Strong City	617	621	621	621	621	621
HS	Sublette	1,378	1,472	1,565	1,658	1,751	1,844
MS	Summerfield	169	152	137	123	111	100
BA	Sun City	88	85	84	84	83	82
BT	Susank	61	59	56	54	51	49
LC	Sylvan Grove	321	318	316	314	312	310
RN	Sylvia	308	303	302	302	301	300
HM	Syracuse	1,606	1,651	1,697	1,742	1,787	1,833
MN	Tampa	113	101	95	88	82	76
OT	Tescott	317	333	336	339	342	346
NO	Thayer	435	450	455	461	467	472

TABLE 1
POPULATION ESTIMATES AND PROJECTIONS BY CITY BY SELECTED YEAR
1990, 2000, 2010, 2020, 2030 and 2040

County ID	Name of City	Year					
		1990	2000	2010	2020	2030	2040
RH	Timken	87	80	76	71	67	63
MC	Tipton	267	249	230	211	192	173
LV	Tonganoxie	2,347	2,962	3,510	4,057	4,605	5,152
SN	Topeka	119,883	127,816	135,649	143,481	151,314	159,146
WO	Toronto	317	296	271	246	221	196
BU	Towanda	1,289	1,490	1,665	1,840	2,015	2,190
CK	Treece	172	192	212	232	252	272
GL	Tribune	918	867	824	782	739	696
DP	Troy	1,073	1,121	1,130	1,138	1,147	1,156
RN	Turon	393	402	417	433	448	464
MG	Tyro	243	235	235	234	233	233
CL	Udall	824	809	799	789	779	769
GT	Ulysses	5,474	6,336	7,222	8,109	8,996	9,883
BB	Uniontown	290	319	346	374	401	429
NS	Utica	208	199	193	188	183	178
SG	Valley Center	3,624	4,212	4,766	5,320	5,874	6,428
JF	Valley Falls	1,253	1,315	1,379	1,443	1,506	1,570
MS	Vermillion	113	114	115	117	119	120
EL	Victoria	1,157	1,262	1,362	1,463	1,564	1,664
CY	Vining (part)	35	36	37	39	40	42
WS	Vining (part)	20	19	17	16	15	13
SG	Viola	185	206	224	241	259	276
GW	Virgil	91	84	78	71	64	58
TR	Wakeeney	2,161	1,965	1,817	1,668	1,519	1,370
CY	Wakefield	900	913	932	950	969	987
RS	Waldo	57	51	46	42	37	34
HP	Waldron	19	17	15	14	12	11
WA	Wallace	75	72	70	67	65	62
CR	Walnut	214	215	215	215	215	215
HV	Walton	226	229	231	233	235	237
PT	Wamego	3,706	4,668	5,509	6,350	7,191	8,032
WS	Washington	1,304	1,315	1,324	1,333	1,341	1,350
MS	Waterville	601	629	662	694	727	760
DP	Wathena	1,160	1,191	1,216	1,242	1,267	1,292
CF	Waverly	618	628	645	662	679	696
JW	Webber	39	35	32	28	26	23
CK	Weir	730	829	918	1,008	1,098	1,187
SU	Wellington	8,517	8,738	8,997	9,256	9,515	9,774
FR	Wellsville	1,563	1,669	1,796	1,923	2,050	2,177
CK	West Mineral	226	220	210	202	194	184
PT	Westmoreland	541	588	642	696	749	803
AN	Westphalia	152	150	142	135	127	120
JO	Westwood	1,772	1,773	1,771	1,769	1,767	1,765
JO	Westwood Hills	383	391	378	366	354	341

TABLE 1
POPULATION ESTIMATES AND PROJECTIONS BY CITY BY SELECTED YEAR
1990, 2000, 2010, 2020, 2030 and 2040

County ID	Name of City	Year					
		1990	2000	2010	2020	2030	2040
NM	Wetmore	284	315	349	383	416	450
PT	Wheaton	106	117	129	142	154	167
MR	White City	533	547	570	593	615	638
DP	White Cloud	255	254	249	244	239	234
BU	Whitewater	683	725	770	815	860	905
JA	Whiting	213	223	236	249	263	276
SG	Wichita	304,011	331,672	357,984	384,297	410,609	436,922
SN	Willard	110	99	89	80	72	65
FR	Williamsburg	261	278	285	292	300	307
BR	Willis	86	83	81	78	76	73
RN	Willowbrook	95	90	85	80	75	70
CM	Wilmore	78	70	63	57	51	46
MR	Wilsey	149	148	141	135	128	121
EW	Wilson	834	787	742	697	652	607
JF	Winchester	613	628	646	665	683	701
MP	Windom	136	126	122	118	113	109
CL	Winfield	11,931	12,285	12,683	13,080	13,478	13,875
LG	Winona	194	189	185	181	177	173
DK	Woodbine	186	199	211	224	236	249
RO	Woodston	121	116	111	106	101	96
WO	Yates Center	1,815	1,910	1,885	1,860	1,834	1,809
KM	Zenda	96	139	144	148	152	157
RO	Zurich	151	141	127	114	103	92



Topeka Field Office
6531 SE Forbes Ave., Suite B
Topeka, Kansas 66619

Jackie McClaskey, Secretary
David W. Barfield, Chief Engineer
Katherine A. Tietsort, Water Commissioner

Phone: (785) 296-5733
Fax: (785) 862-2460
www.agriculture.ks.gov
Sam Brownback, Governor

October 24, 2016

MARK BOWSER
25975 V ROAD
WHITING KS 66552

Re: Pending Applications, File Nos. 49,559 and 49,681

Dear Mr. Bowser:

This will acknowledge our telephone discussion on October 24, 2016, in which you expressed concerns regarding the appropriation of ground water for municipal use by Jackson County Rural Water District No. 3 under the above referenced applications. Your concerns were related to both your domestic well, and the watershed district reservoir utilized for cattle watering. In addition, you noted that the neighboring domestic well owners (Greg and Linda Maxwell) had similar concerns regarding their domestic well. We are in the process of thoroughly reviewing Application, File Nos. 49,559 and 49,681 to ensure that they comply with the Kansas Water Appropriations Act and applicable rules and regulations. The Chief Engineer is required to approve applications for water appropriations unless the proposed appropriation will impair existing water rights or prejudicially and unreasonably affect the public interest per K.S.A. 82a-711.

The applicable rules and regulations (K.A.R. 5-4-4) require that new non-domestic wells must meet specific spacing guidelines based on the source of water supply in order to minimize the potential that existing water wells of any kind would be impaired. The source of water for the pending applications would be glacial deposits, based on the test hole logs that were submitted. This aquifer requires a minimum well spacing of 1,320 feet from any existing non-domestic well, and 660 feet from any existing domestic well in the same source of supply. Our review indicates that the proposed well locations comply with minimum well spacing criteria from all wells.

Your comments will be considered, and approval of the applications if granted, will authorize diversion of water only when it does not impair existing rights. Additionally, the rules and regulations (K.A.R. 5-4-1) require the Chief Engineer to investigate any complaint that a prior right to the use of water is being impaired. If such impairment is found, the Chief Engineer must secure water to satisfy prior water rights. Therefore, if these permit applications are approved by the Chief Engineer and you believe the diversion of water is impairing your existing water right, you should notify Katie Tietsort, Water Commissioner, Topeka Field Office, as follows, so that an investigation can be made.

Division of Water Resources
Topeka Field Office
6531 SE Forbes Ave., Suite B
Topeka, KS 66619
Telephone: (785) 296-5733

If an applicant without cause fails to comply with the provisions of the permit and its terms, conditions and limitations, it could result in the forfeiture of the priority date, revocation of the permit and dismissal of the application. If you have any further questions, please contact me at 785-296-3495. If you wish to discuss a specific file, please have the file number ready so that I may help you more efficiently.

Sincerely,

A handwritten signature in cursive script that reads "Doug Schemm".

Douglas W. Schemm
Environmental Scientist
Topeka Field Office

pc: Greg & Linda Maxwell


Kansas
Department of Agriculture
Division of Water Resources

Topeka Field Office
6531 SE Forbes Ave., Suite B
Topeka, Kansas 66619

Jackie McClaskey, Secretary
David W. Barfield, Chief Engineer
Katherine A. Tietsort, Water Commissioner

Phone: (785) 296-5733
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Sam Brownback, Governor

October 5, 2016

GREG & LINDA MAXWELL
26074 V ROAD
WHITING KS 66552

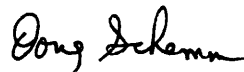
Re: Pending Applications, File Nos. 49,559 and 49,681

Dear Sir or Madam:

This is to advise you that Jackson County Rural Water District No. 3 has filed the applications referred to above for permits to appropriate groundwater for municipal use. Application, File No. 49,559 is requesting to appropriate 39.102 million gallons (120 acre-feet) of groundwater per calendar year to be diverted at a maximum rate of 200 gallons per minute from one (1) well located in the Southwest Quarter of the Southwest Quarter of the Southeast Quarter of Section 17; and Application, File No. 49,681 is requesting to appropriate 52.136 million gallons (160 acre-feet) of groundwater per calendar year to be diverted at a maximum rate of 300 gallons per minute from one (1) well located in the Southeast Quarter of the Southeast Quarter of the Southeast Quarter of Section 17, both in Township 6 South, Range 16 East, in Jackson County, Kansas.

A map is enclosed indicating the locations of the proposed wells. Records in this office indicate that you may have a well or wells in this vicinity and you are being notified of receipt of these applications in order that you may be fully informed of the proposed locations of the applicant's points of diversion and proposed use of water. Consideration will be given to comments or other information which you desire to submit to this office within **15 days** from the date of this letter. You may also contact me at (785) 296-3495 with any questions or comments.

Sincerely,



Doug Schemm
Environmental Scientist
Topeka Field Office

Enclosure

pc: Jackson County RWD No. 3
Brad Vincent – Ground Water Associates, Inc.



Topeka Field Office
6531 SE Forbes Ave., Suite B
Topeka, Kansas 66619

Jackie McClaskey, Secretary
David W. Barfield, Chief Engineer
Katherine A. Tietsort, Water Commissioner

Phone: (785) 296-5733
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www.agriculture.ks.gov
Sam Brownback, Governor

October 5, 2016

MARK & DENISE BOWSER
25975 V ROAD
WHITING KS 66552

Re: Pending Applications, File Nos. 49,559 and 49,681

Dear Sir or Madam:

This is to advise you that Jackson County Rural Water District No. 3 has filed the applications referred to above for permits to appropriate groundwater for municipal use. Application, File No. 49,559 is requesting to appropriate 39.102 million gallons (120 acre-feet) of groundwater per calendar year to be diverted at a maximum rate of 200 gallons per minute from one (1) well located in the Southwest Quarter of the Southwest Quarter of the Southeast Quarter of Section 17; and Application, File No. 49,681 is requesting to appropriate 52.136 million gallons (160 acre-feet) of groundwater per calendar year to be diverted at a maximum rate of 300 gallons per minute from one (1) well located in the Southeast Quarter of the Southeast Quarter of the Southeast Quarter of Section 17, both in Township 6 South, Range 16 East, in Jackson County, Kansas.

A map is enclosed indicating the locations of the proposed wells. Records in this office indicate that you may have a well or wells in this vicinity and you are being notified of receipt of these applications in order that you may be fully informed of the proposed locations of the applicant's points of diversion and proposed use of water. Consideration will be given to comments or other information which you desire to submit to this office within **15 days** from the date of this letter. You may also contact me at (785) 296-3495 with any questions or comments.

Sincerely,

A handwritten signature in black ink that reads "Doug Schemm".

Doug Schemm
Environmental Scientist
Topeka Field Office

Enclosure

pc: Jackson County RWD No. 3
Brad Vincent – Ground Water Associates, Inc.



Topeka Field Office
6531 SE Forbes Ave., Suite B
Topeka, Kansas 66619

Jackie McClaskey, Secretary
David W. Barfield, Chief Engineer
Katherine A. Tietsort, Water Commissioner

Phone: (785) 296-5733
Fax: (785) 862-2460
www.agriculture.ks.gov
Sam Brownback, Governor

October 5, 2016

JERRY DICKINSON
21522 Q ROAD
HOLTON KS 66436

Re: Pending Applications, File Nos. 49,559 and 49,681

Dear Sir or Madam:

This is to advise you that Jackson County Rural Water District No. 3 has filed the applications referred to above for permits to appropriate groundwater for municipal use. Application, File No. 49,559 is requesting to appropriate 39.102 million gallons (120 acre-feet) of groundwater per calendar year to be diverted at a maximum rate of 200 gallons per minute from one (1) well located in the Southwest Quarter of the Southwest Quarter of the Southeast Quarter of Section 17; and Application, File No. 49,681 is requesting to appropriate 52.136 million gallons (160 acre-feet) of groundwater per calendar year to be diverted at a maximum rate of 300 gallons per minute from one (1) well located in the Southeast Quarter of the Southeast Quarter of the Southeast Quarter of Section 17, both in Township 6 South, Range 16 East, in Jackson County, Kansas.

A map is enclosed indicating the locations of the proposed wells. Records in this office indicate that you may have a well or wells in this vicinity and you are being notified of receipt of these applications in order that you may be fully informed of the proposed locations of the applicant's points of diversion and proposed use of water. Consideration will be given to comments or other information which you desire to submit to this office within **15 days** from the date of this letter. You may also contact me at (785) 296-3495 with any questions or comments.

Sincerely,

A handwritten signature in black ink that reads "Doug Schemm".

Doug Schemm
Environmental Scientist
Topeka Field Office

Enclosure

pc: Jackson County RWD No. 3
Brad Vincent – Ground Water Associates, Inc.

Ground Water Associates, Inc.

109 W. 1st Ave., P.O. Box 792, Goddard, Ks 67052 • 316-262-3322

July 27, 2016

David Barfield, P.E. - Chief Engineer
Division of Water Resources
1320 Research Park Drive
Manhattan, Kansas 66502-5000

WATER RESOURCES
RECEIVED

AUG 01 2016

KS DEPT OF AGRICULTURE

Subject: Jackson Co. RWD #3 Application 49,559 and New Application

Dear Mr. Barfield:

This letter is written to transmit the enclosed applications for two permits to appropriate water for Jackson County Rural Water District #3. The previously filed application, 49559, information is complete and is being returned. We are currently filing a new application for an east site in the SE ¼, Section 17, T6S, R16E.

We have drilled four test holes and two test wells in the SE ¼ of Section 17. Both sites have been test pumped and KDHE samples collected.

The west site (TH 1-16), application 49,559, has 66.53' of water and has a specific capacity of 12.76 gallons per foot of drawdown, pumping for 180 minutes at 73 gallons per minute.

The east site (TH 3-16) was pumped for 210 minutes at 70 gpm and has a specific capacity of 36.07 gallons per foot of drawdown. This site has 66.55' of water.

Section 17 is located over a large buried glacial valley that runs northwest to southeast with the deepest portion starting in the northwest corner of T5S, T15E and continuing to the southeast corner of T6S, R16E. The valley then turns in T6S, R17E and continues towards the east. We have included a bedrock topographic map with a cross section from Bulletin 229, Hydrogeology and Geochemistry of Glacial Deposits, Jane Denne, et al, KGS 1998, which shows this large buried valley.

Additionally, we are including a topographic map with drill log information from previous and current Jackson Co. RWD #3 exploration and other state WWC5 logs showing this buried valley. On this map, shale elevations are highlighted in yellow. Elevations were estimated using 7.5 minute series topographic maps. Drill logs from these sites can be provided per your request.

Please advise us if other information is needed for your processing of these applications.



Best regards,

A handwritten signature in black ink that reads "Brad Vincent". The signature is written in a cursive style with a long horizontal stroke at the end.

Brad Vincent, P.G.
Ground Water Associates, Inc.

pc: Brenda L. Adkins, MBA, Manager
Jackson County RWD #3

**WATER RESOURCES
RECEIVED**

AUG 01 2016

KS DEPT OF AGRICULTURE

1320 Research Park Drive
Manhattan, Kansas 66502
(785) 564-6700



900 SW Jackson, Room 456
Topeka, Kansas 66612
(785) 296-3556

Jackie McClaskey, Secretary

Governor Sam Brownback

July 25, 2016

JACKSON CO RWD 3
BRENDA ADKINS
411 NEW YORK AVE PO BOX 350
HOLTON KS 66436

FILE COPY

Re: Pending Application,
File No. 49,559

Dear Ms Adkins:

The Division of Water Resources returned the above referenced application to you for additional information on February 25, 2016, and the current deadline for your response is August 15, 2016. The purpose of this letter is to provide a reminder that in order for you to retain your priority of filing, the original application and requested information needs to be returned to this office on or before **August 15, 2016**, or within any authorized extension of time thereof. According to law, default in refiling of the completed application and attachments within the time allowed shall constitute forfeiture of priority date and dismissal of the application.

If an extension of time is necessary to supply the requested information, please request the extension of time in writing before **August 15, 2016**. Provide information as to why the additional time is needed and how much additional time is requested. Please note that since there are instances when the Chief Engineer may deny your request for an extension of time, there is no guarantee that future requests for more time will be granted.

If you have any questions, please contact me at (785) 564-6631 or by email at alexander.whitesell@kda.ks.gov. If you wish to discuss a specific file, please have the file number ready so that I may help you more efficiently.

Sincerely,

Alex Whitesell
Environmental Scientist
Water Appropriation Program

pc: Topeka Field Office
Ground Water Associates

SCANNED

1320 Research Park Drive
Manhattan, Kansas 66502
(785) 564-6700



900 SW Jackson, Room 456
Topeka, Kansas 66612
(785) 296-3556

Jackie McClaskey, Secretary

Governor Sam Brownback

June 14, 2016

JACKSON CO RWD 3
BRENDA ADKINS
411 NEW YORK AVE PO BOX 350
HOLTON KS 66436

Re: Pending Application,
File No. 49,559

Dear Sir or Madam:

In response to the written request by electronic mail received in this office on June 9, 2016, the Chief Engineer is allowing an extension of time for sixty (60) days, in which to supply further information concerning the above referenced file. The original application was returned to you on February 25, 2016, and with this extension of time, the revised deadline will be **August 15, 2016**.

Extension requests are evaluated on a case by case basis. Since it appears that no pending application would be adversely affected by granting this extension, you are being allowed an additional 60 days. If you determine that additional time will be needed, you may submit another request for an extension prior to the deadline given above. Please note that since there are instances when the Chief Engineer may deny your request for an extension of time, there is no guarantee that future requests for more time will be granted.

In order to retain its priority of filing, the original application and attachments must be returned to this office with the requested information on or before **August 15, 2016**, or within any authorized extension of time thereof. According to law, default in refiling of the completed application and attachments within the time allowed shall constitute forfeiture of priority date and dismissal of the application.

If you have any questions, please contact me at (785) 564-6631 or by email at alex.whitesell@kda.ks.gov. If you wish to discuss a specific file, please have the file number ready so that I may help you more efficiently.

Sincerely,

Alex Whitesell
Environmental Scientist
Water Appropriation Program

pc: Topeka Field Office
Ground Water Associates

SCANNED

June 9, 2016

Alex Whitesell – Environmental Scientist
Water Appropriation Scientist
Division of Water Resources
1320 Research Park Drive
Manhattan, Kansas 66502-5000

**WATER RESOURCES
RECEIVED**

JUN 14 2016

KS DEPT OF AGRICULTURE

Subject: Jackson County RWD #3, Pending Application 49,559

Dear Mr. Whitesell,

This letter is written to request additional time to complete our investigation of Section 17, T6S, R16E for Jackson County Rural Water District #3. We thank-you for your letter dated April 4, reminding us of the June 13, 2016 dismissal date of this application.

Due to the excessive rain we have not been able to drill our two 5" test wells until this week. The west test well site is ½ mile down a dirt road and does not allow access of the drill rig or the water truck during rain. Straders Blue Valley Drilling have drilled the first 5" test well this week, we have run our pumping test and collected the Kansas Department of Health (KDHE) water samples. We are drilling the second 5" test well today and will run the test pumping and collect KDHE samples early next week.

Before we select a final well site we need to review the analysis of the KDHE water samples. We are requesting an additional 60 days to provide the additional information required. Please contact us with further questions.

Best regards,

Brad C. Vincent, P.G.
Ground Water Associates
316-734-8567

Pc: Brenda L. Adkins, MBA, Manager
Jackson RWD #3

SCANNED

Whitesell, Alex

From: Brad Vincent <vincentbrad@hotmail.com>
Sent: Thursday, June 09, 2016 9:54 AM
To: Whitesell, Alex
Cc: Brenda Adkins
Subject: File No. 49,559 (Jackson Co. RWD #3
Attachments: Jackson Co#3 DWR letter 2nd.doc

Alex,

Attached is our request for an extension of 60 days on pending file 49,559 for Jackson County Rural Water District #3. I can mail you a hard copy when I return to Wichita this weekend...if you need one.

Brad Vincent
Ground Water Associates
316-734-8567

**WATER RESOURCES
RECEIVED**

JUN 14 2016

KS DEPT OF AGRICULTURE

1320 Research Park Drive
Manhattan, Kansas 66502
(785) 564-6700



900 SW Jackson, Room 456
Topeka, Kansas 66612
(785) 296-3556

Jackie McClaskey, Secretary

Governor Sam Brownback

May 12, 2016

JACKSON CO RWD 3
BRENDA ADKINS
411 NEW YORK AVE PO BOX 350
HOLTON KS 66436

Re: Pending Application,
File No. 49,559

Dear Sir or Madam:

The Division of Water Resources returned the above referenced application to you for additional information on February 25, 2016, and the current deadline for your response is June 13, 2016. The purpose of this letter is to provide a reminder that in order for you to retain your priority of filing, the original application and requested information needs to be returned to this office on or before **June 13, 2016**, or within any authorized extension of time thereof. According to law, default in refiling of the completed application and attachments within the time allowed shall constitute forfeiture of priority date and dismissal of the application.

If an extension of time is necessary to supply the requested information, please request the extension of time in writing before **June 13, 2016**. Provide information as to why the additional time is needed and how much additional time is requested. Please note that since there are instances when the Chief Engineer may deny your request for an extension of time, there is no guarantee that future requests for more time will be granted.

If you have any questions, please contact me at (785) 564-6631 or by email at alex.whitesell@kda.ks.gov. If you wish to discuss a specific file, please have the file number ready so that I may help you more efficiently.

Sincerely,

Alex Whitesell
Environmental Scientist
Water Appropriation Program

pc: Topeka Field Office
Ground Water Associates

SCANNED

MAR 25 2016

KS DEPT OF AGRICULTURE

Ground Water Associates, Inc.

109 W. 1st Ave., P.O. Box 792, Goddard, Ks 67052 • 316-262-3322

April 23, 2016

Alex Whitesell – Environmental Scientist
Water Appropriation Scientist
Division of Water Resources
1320 Research Park Drive
Manhattan, Kansas 66502-5000

Subject: Jackson County RWD #3, Pending Application 49,559

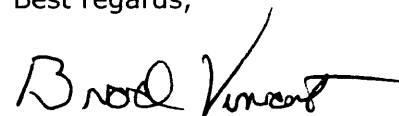
Dear Mr. Whitesell,

This letter is written to request additional time to complete our investigation of Section 17, T6S, R16E for Jackson County Rural Water District #3. We thank-you for your letter dated March 14, reminding us of the April 12, 2016 dismissal date of this application.

Strader's Blue Valley Drilling have drilled four test holes (map included); placed 2" PVC pipe in two of the sites (TH 1-16, TH 3-16) and airlifted household water samples. We have scheduled Strader's to return and drill two 5" test wells at these two sites. We will then run pumping tests and collect KDHE (Kansas Department of Health & Environment) water samples before we designate our final production well site. KDHE samples collected routinely require six to eight weeks to receive the analysis back. Both water quality and quantity are both extremely important when selecting a site for a municipal water supply.

We are requesting an additional 60 days to provide the additional information required. Please contact us with further questions and comments.

Best regards,



Brad C. Vincent, P.G.
Ground Water Associates
316-550-6177

Pc: Brenda L. Adkins, MBA, Manager
Jackson RWD #3



1320 Research Park Drive
Manhattan, Kansas 66502
(785) 564-6700



900 SW Jackson, Room 456
Topeka, Kansas 66612
(785) 296-3556

Jackie McClaskey, Secretary

Governor Sam Brownback

April 4, 2016

JACKSON CO RWD 3
BRENDA ADKINS
411 NEW YORK AVE PO BOX 350
HOLTON KS 66436

Re: Pending Application,
File No. 49,559

Dear Ms. Adkins:

In response to your written request by mail received in this office on March 25, 2016, the Chief Engineer is allowing an extension of time for sixty (60) days, in which to supply further information concerning the above referenced file. The original application was returned to you on February 25, 2016, and with this extension of time, the revised deadline will be **June 13, 2016**.

Extension requests are evaluated on a case by case basis. Since it appears that no pending application would be adversely affected by granting this extension, you are being allowed an additional 60 days. If you determine that additional time will be needed, you may submit another request for an extension prior to the deadline given above. Please note that since there are instances when the Chief Engineer may deny your request for an extension of time, there is no guarantee that future requests for more time will be granted.

In order to retain its priority of filing, the original application and attachments must be returned to this office with the requested information on or before **June 13, 2016**, or within any authorized extension of time thereof. According to law, default in refiling of the completed application and attachments within the time allowed shall constitute forfeiture of priority date and dismissal of the application.

If you have any questions, please contact me at (785) 564-6631 or by email at alex.whitesell@kda.ks.gov. If you wish to discuss a specific file, please have the file number ready so that I may help you more efficiently.

Sincerely,

Alex Whitesell
Environmental Scientist
Water Appropriation Program

pc: Topeka Field Office
Ground Water Associates

SCANNED

1320 Research Park Drive
Manhattan, Kansas 66502
(785) 564-6700



900 SW Jackson, Room 456
Topeka, Kansas 66612
(785) 296-3556

Jackie McClaskey, Secretary

Governor Sam Brownback

March 14, 2016

JACKSON CO RWD 3
BRENDA ADKINS
411 NEW YORK AVE PO BOX 350
HOLTON KS 66436

Re: Pending Application,
File No. 49,559

Dear Ms Adkins:

The Division of Water Resources returned the above referenced application to you for additional information on February 25, 2016, and the current deadline for your response is April 12, 2016. The purpose of this letter is to provide a reminder that in order for you to retain your priority of filing, the original application and requested information needs to be returned to this office on or before **April 12, 2016**, or within any authorized extension of time thereof. According to law, default in refiling of the completed application and attachments within the time allowed shall constitute forfeiture of priority date and dismissal of the application.

If an extension of time is necessary to supply the requested information, please request the extension of time in writing before **April 12, 2016**. Provide information as to why the additional time is needed and how much additional time is requested. Please note that since there are instances when the Chief Engineer may deny your request for an extension of time, there is no guarantee that future requests for more time will be granted.

If you have any questions, please contact me at (785) 564-6631 or by email at alexander.whitesell@kda.ks.gov. If you wish to discuss a specific file, please have the file number ready so that I may help you more efficiently.

Sincerely,

Alex Whitesell
Environmental Scientist
Water Appropriation Program

pc: Topeka Field Office

SCANNED

1320 Research Park Drive
Manhattan, Kansas 66502
(785) 564-6700



900 SW Jackson, Room 456
Topeka, Kansas 66612
(785) 296-3556

Jackie McClaskey, Secretary

Governor Sam Brownback

February 25, 2016

JACKSON CO RWD 3
BRENDA ADKINS
411 NEW YORK AVE PO BOX 350
HOLTON KS 66436

Re: Pending Application,
File No. 49,559

Dear Ms. Adkins:

After a preliminary review of your above referenced application for permit to appropriate water received in this office on February 12, 2016, it is being returned to you for additional information. In your original application, you requested a 60-day period of time in which to determine the precise location for your point of diversion within a specified quarter section tract of land described as the Southeast Quarter (SE¼) of Section 17, in Township 6 South, Range 16 East, Jackson County, Kansas.

Once you've determined the precise location for your point of diversion, complete the rest of Paragraph No. 5 of your application by providing the description for the 10-acre tract location of the point of diversion as well as the feet distances North and West of the Southeast corner of the Section. The location of the point of diversion must also be plotted on the topographical map included. In the case of a battery of wells, please provide the description of the location of the proposed geographic center of the well battery, as well as **the location for each of the individual wells comprising the battery of wells**.

The locations of all other water wells of every kind within one-half mile (½) of the point of diversion must be plotted on the topographical map as well. Each well should be identified as to its use (e.g. domestic, irrigation, industrial, etc.) and must include the name and mailing address of the well owner. A **signed statement** should be included on the map declaring that all wells within one-half mile (½) of the point of diversion have been plotted, or it should declare that none exist. Please provide this information once you have established your point of diversion.

Paragraph No. 13 of the application requests well information so the source of supply of the proposed well may be determined. Pursuant to K.A.R. 5-3-4d, this office requires a stratigraphic log of a well or test hole within 300 feet of the proposed point of diversion. Please supply the indicated information and a test hole log or a driller's log with the returned application. Also, the enclosed "Minimum Desirable Streamflow" form must be signed and notarized, and the enclosed "Municipal Use Supplemental Sheet" form must be completed. These forms should be returned with your application as well.

In order to retain its priority of filing, the original application and attachments must be returned to this office with the requested information on or before **April 12, 2016**, or within any authorized extension of time thereof. According to law, default in refileing of the completed application and attachments within the time allowed shall constitute forfeiture of priority date and dismissal of the application.

SCANNED

(over)

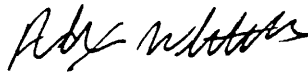
JACKSON CO RWD 3

February 25, 2016

Page 2 of 2

If you have any questions, please contact me at (785) 564-6631 or by email at alexander.whitesell@kda.ks.gov. If you wish to discuss a specific file, please have the file number ready so that I may help you more efficiently.

Sincerely,

A handwritten signature in black ink, appearing to read "Alex Whitesell".

Alex Whitesell
Environmental Scientist
Water Appropriation Program

enclosures

pc: Topeka Field Office

1320 Research Park Drive
Manhattan, Kansas 66502
Jackie McClaskey, Secretary



Phone: (785) 564-6700
Fax: (785) 564-6777
Email: ksag@kda.ks.gov
www.agriculture.ks.gov
Sam Brownback, Governor

February 15, 2016

JACKSON COUNTY RURAL WATER DISTRICT 3
411 NEW YORK AVE PO BOX 350
HOLTON KS 6436

RE: Application
File No. 49559

Dear Sir or Madam:

Your application for permit to appropriate water in 17-6S-16E in Jackson County, was received and has been assigned the file number noted above.

As a matter of record, the Division of Water Resources has on hand a large number of applications awaiting processing. Therefore to be fair to all concerned, and so that we can process those applications on hand in the order they were received, we intend to concentrate on the backlog of applications until the issue is resolved. Once review of your application has begun, we will contact you, if additional information is required.

In accordance with the provisions of the Kansas Water Appropriation Act, a portion of which is included below, the use of water as proposed prior to approval of the application is unlawful. Once approved, compliance with the terms, conditions and limitations of the permit is necessary. Conservation of the water resources of Kansas is required.

Section 82a-728 of the Kansas Water Appropriation Act, provides (a) except for the appropriation of water for the purpose of domestic use, . . . it shall be unlawful for any person to appropriate or threaten to appropriate water from any source without first applying for and obtaining a permit to appropriate water in accordance with the provisions of the Water Appropriation Act or for any person to violate any condition of a vested right, appropriation right or an approved application for a permit to appropriate water for beneficial use.

(b) (1) The violation of any provision of this section by any person is a class C misdemeanor . . .

A class C misdemeanor is punishable by a fine not to exceed \$500 and/or a term of confinement not to exceed one month in the county jail. Each day that the violation occurs constitutes a separate offense.

If you have any questions, please contact me at (785) 564-6634. If you wish to discuss a specific file, please have the file number ready so that we may help you more efficiently.

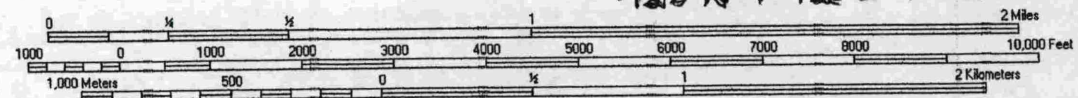
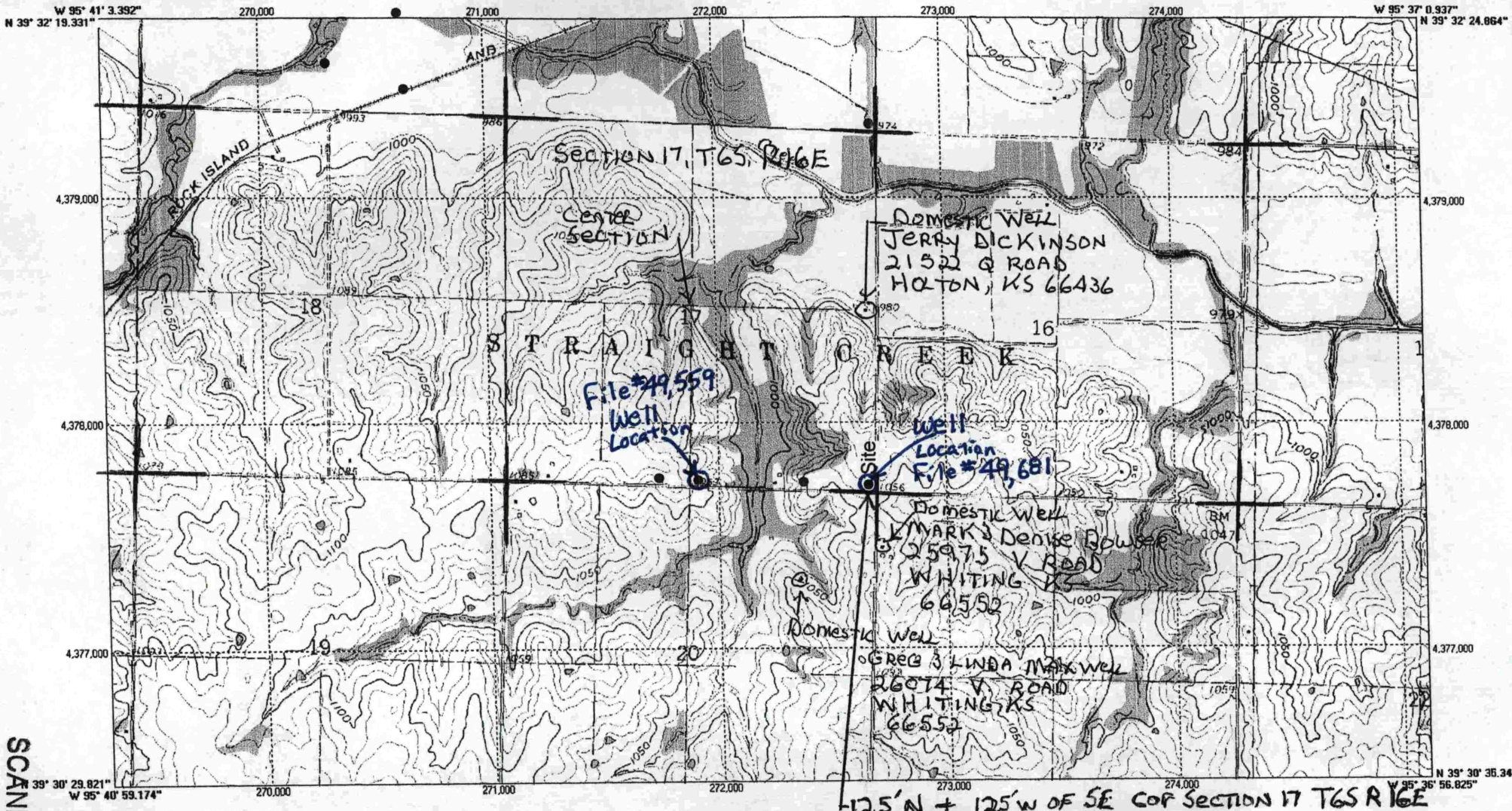
Sincerely,

A handwritten signature in black ink, appearing to read "K. Kopp", written over a white background.

Kenneth A. Kopp, P.G.
New Application Unit Supervisor
Water Appropriation Program

KAK: DLW
pc: TOPEKAField Office
GMD

SCANNED



Jackson Co. RWD #3

ALL WELLS WITHIN 1/2 MILE ARE LOCATED ON MAP.
Brod Vinson

SCANNED

KS DEPT OF AGRICULTURE

AUG 01 2016

WATER RESOURCES RECEIVED

927 North American Datum; 1,000-meter UTM grid zone 15
Generated by BigTopo (www.bigtopo.com)
Map compiled from USGS Quads: Netawaka: KS Whiting: KS

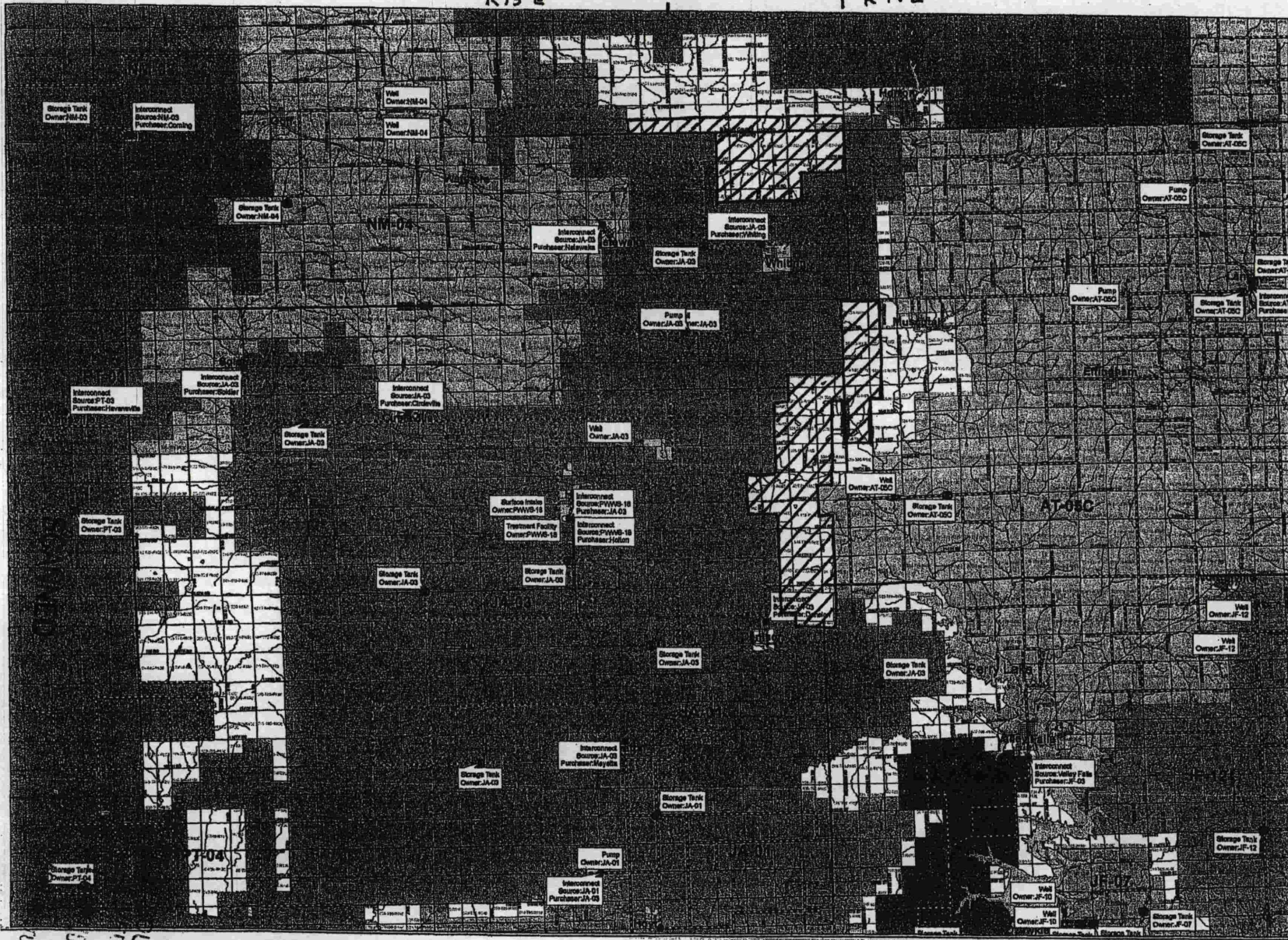
49681

49,559 & 49,681

* File No. 44,249
* RAK/our 4/20/11
PU Change

R15 E Jackson RWD #03 | R17 E

REQUESTED
PLACE OF USE
IN ADDITION
TO CURRENT
AUTHORIZED
AREA



T4S
T5S
T6S
T7S
T8S

Legend

- Interconnects
- ⊕ Pump
- ▣ Storage Tank
- Surface Intake
- Q Treatment Facility
- M Well

Mainline Diameter

- Pipelines Outside of Study Area
- - - Less than 4 inch
- 4 to 6 inch
- Greater than 6 inch

- Roads
- ~ Streams
- ▭ PLSS
- ▭ County Boundary
- ▭ City Boundary
- ▭ Lakes

0 1.5 3 6 Miles

+

T7S

T8S

Locator Map: Study Area

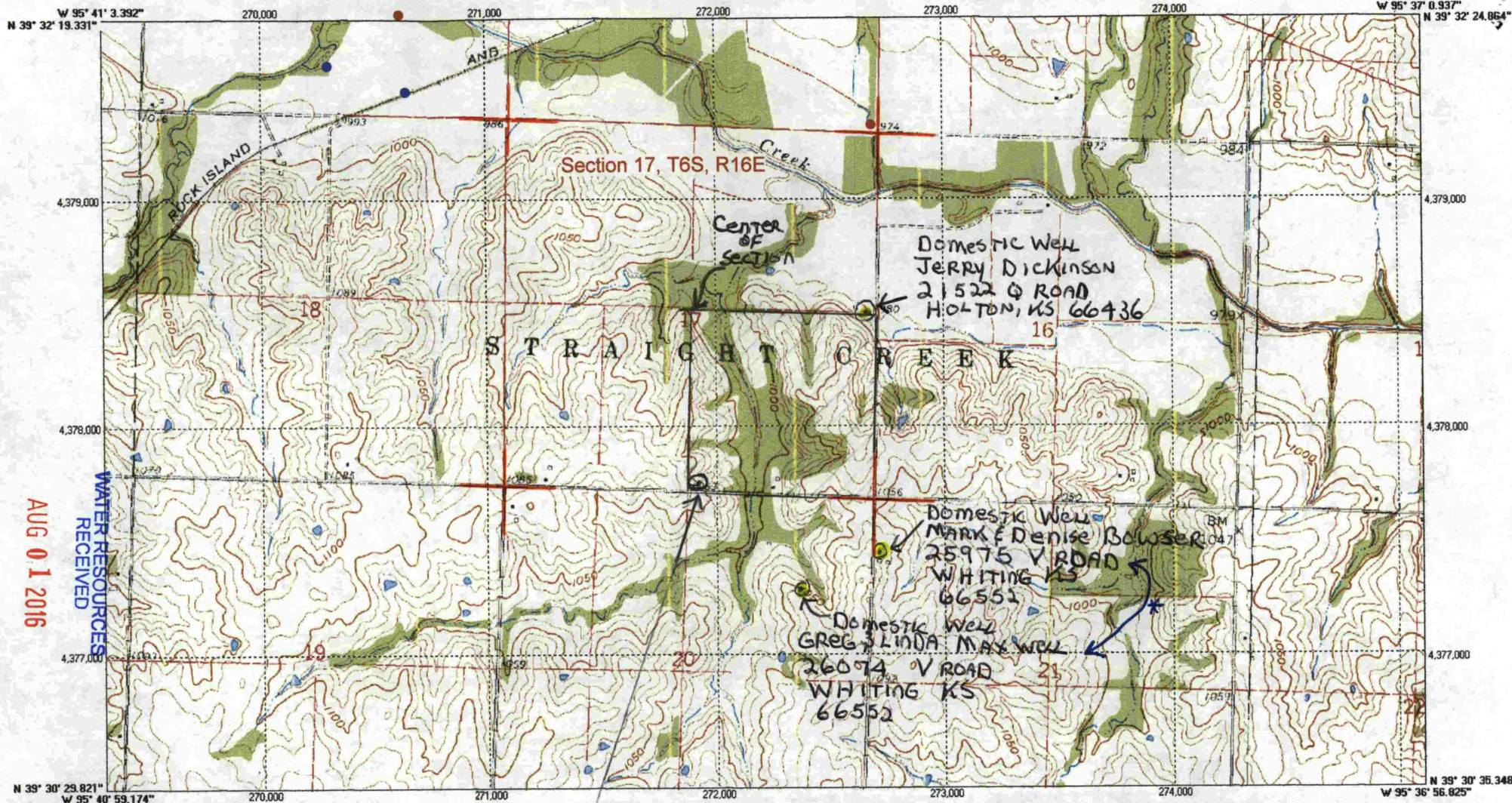


Jackson RWD #03
November 2005

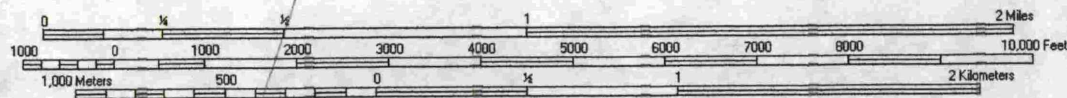
FILE NO. 44,249

R16 E | R17 E

URCES



1327 North American Datum; 1,000-meter UTM grid zone 15.
 Generated by BigTopo (www.igage.com)
 Map compiled from USGS Quads: Netawaka; KS Whiting; KS



Jackson Co. RWD #3

KS DEPT OF AGRICULTURE

AUG 01 2016

WATER RESOURCES RECEIVED

KS DEPT OF AGRICULTURE

FEB 12 2016
SCANNED

WATER RESOURCES RECEIVED

CENTER OF BATTERY.
 ← 100' N + 2570' W OF SE cor Sec 17, T6S, R16E

* These well owner addresses are switched around. DWS 10R 10/24/16

ALL WELLS WITHIN 1/2 MILE ARE LOCATED ON MAP.

Bruce Hunt

49, 559

23 MAR 2016

Sec 7 T6S, R16E;
W 95° 40' 48.499" 27m nnn
N 39° 32' 13.835490 Holton Well;

B (909')

271,000

272,000

273,000

274,000

W 95° 37' 19.724"

N 39° 32' 18.593"

•35489 Holton Well;

•23 (921');

Section 17, T6S, R16E

Creek

S P R A I G H T C R E E K

TH4-16;

TH1-16;

TH2-16;

TH3-16;

C (945');

A (950');

BM
1047

WATER RESOURCES
RECEIVED

MAR 25 2016

KS DEPT OF AGRICULTURE

N 39° 30' 12.793"

W 95° 40' 43.845"

270,000

271,000

272,000

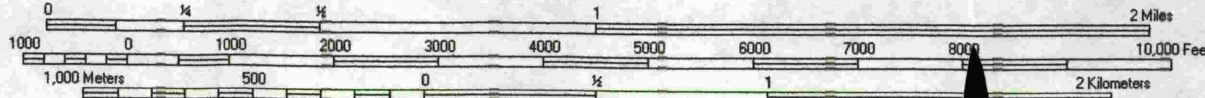
273,000

274,000

W 95° 37' 15.170"

N 39° 30' 17.552"

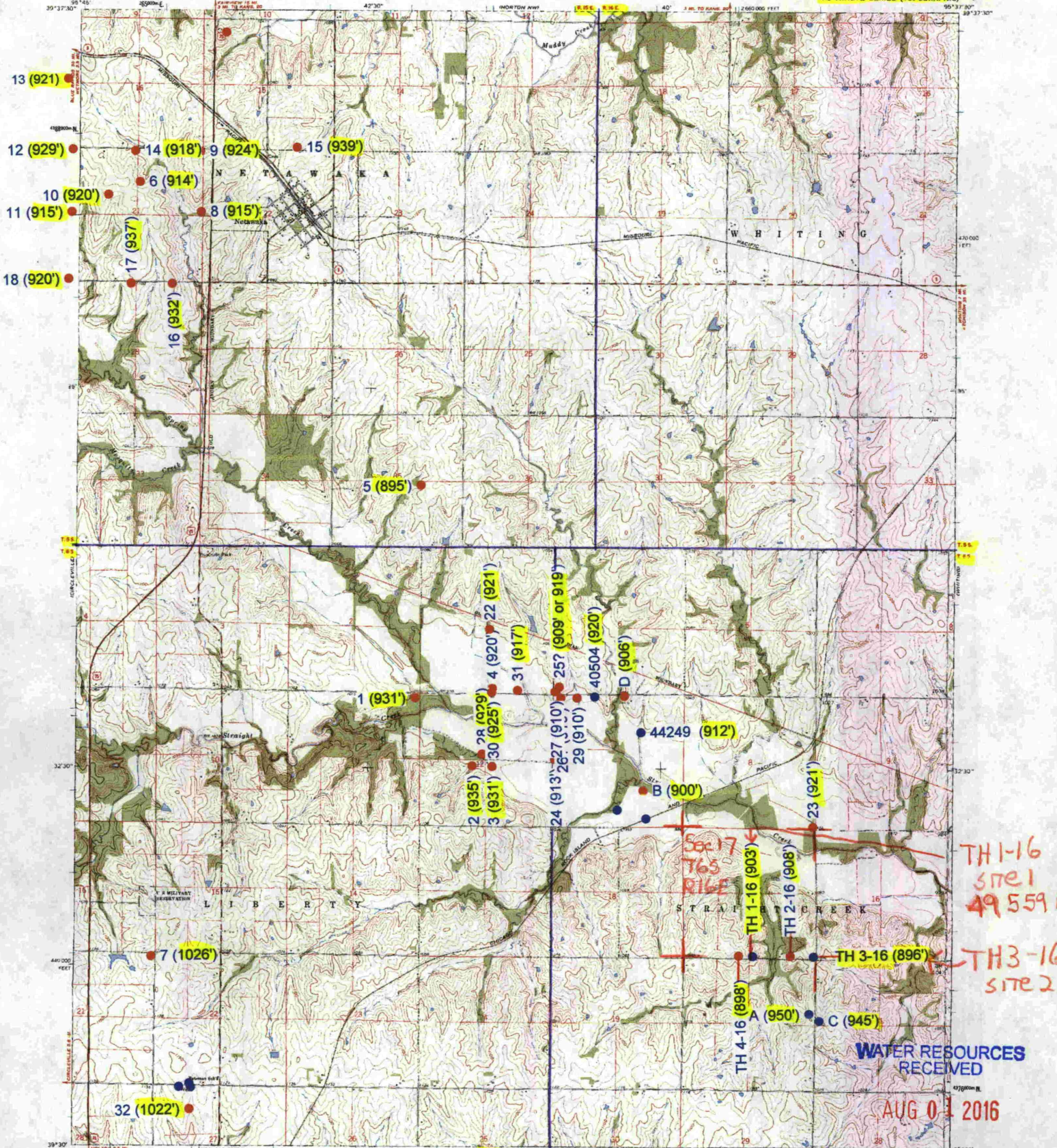
1927 North American Datum; 1,000-meter UTM grid zone 15
Generated by BigTopo (www.igage.com)
Map compiled from USGS Quads: Netawaka, KS Whiting, KS



SHALE (ELEVATION) DURIED GLACIAL VALLEY FROM DRILL LOGS

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

NETAWAKA QUADRANGLE
KANSAS-JACKSON CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)



TH 1-16
SITE 1
49.559 FID

TH 3-16
SITE 2

WATER RESOURCES
RECEIVED

AUG 01 2016

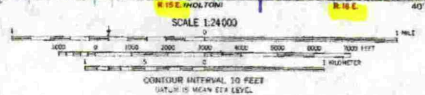
KS DEPT OF AGRICULTURE

NETAWAKA, KANS.
N 3330—W 5337 5/7.5

1961

Mapped, edited, and published by the Geological Survey
Control by USGS and USCS&GS
Topography by photogrammetric methods from aerial
photographs taken 1957. Field checked 1961.
Polyconic projection. 1927 North American datum
10,000-foot grid based on Kansas coordinate system, north zone
1000-meter Universal Transverse Mercator grid ticks
zone 15 shown in blue
Fine red dashed lines indicate defaced fence and field lines where
generally visible on aerial photographs. This information is unchecked

APPROXIMATE MEAN
DECLINATION, 1961



THIS MAP COMPLES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER 25, COLORADO OR WASHINGTON 25, D.C.
AND BY THE STATE GEOLOGICAL SURVEY, LAWRENCE, KANSAS
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

ROAD CLASSIFICATION
Heavy-duty Light-duty
Medium-duty Unimproved dirt
U.S. Route State Route

ATCHI

JACKSON

WATER RESOURCES RECEIVED

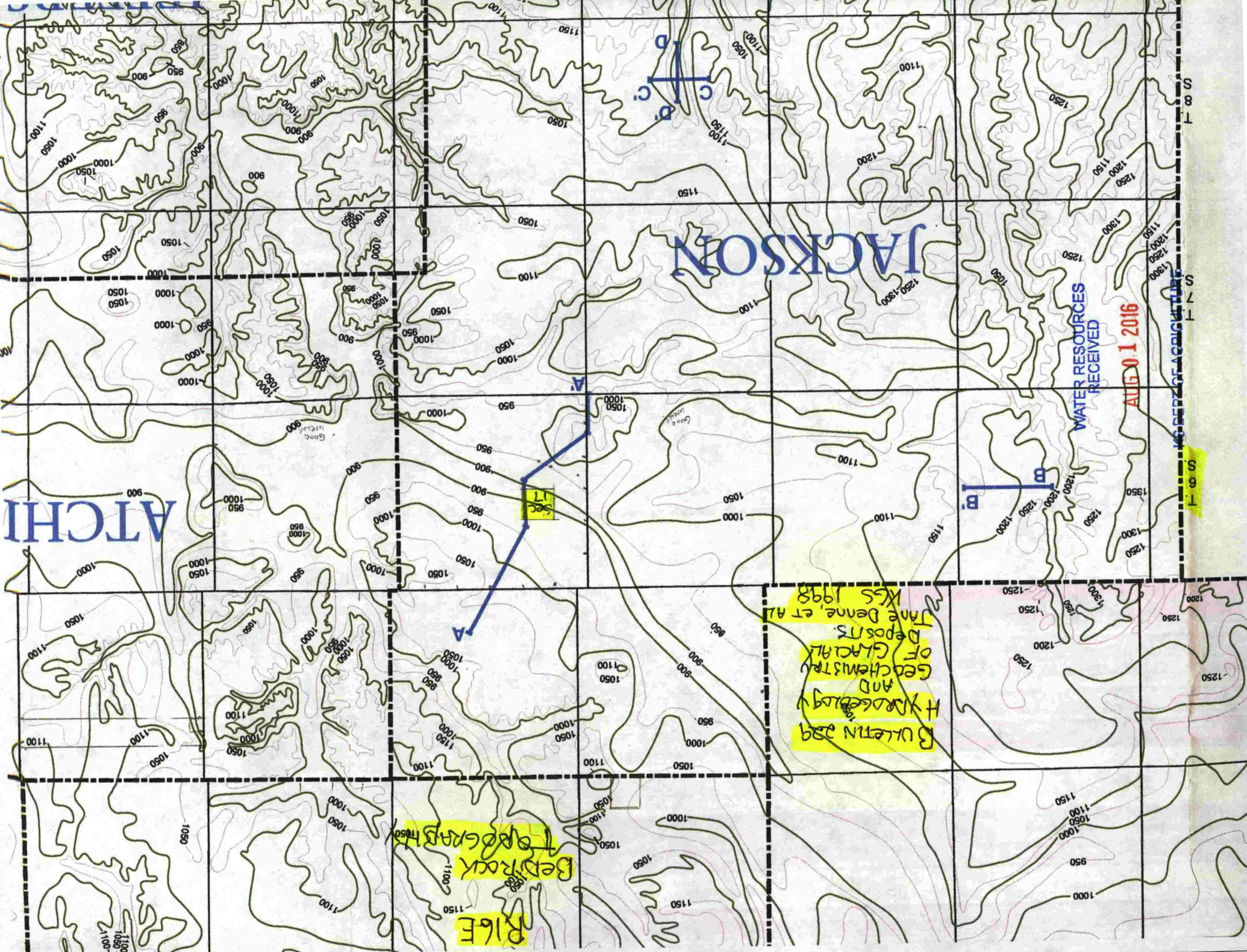
AUG 01 2016

MISSISSIPPI DEPARTMENT OF AGRICULTURE

S 8 T 1

S 7 T 1

S 6 T 1



RISE
BEDROCK
TOPOGRAPHY

BULLETIN 229
AND
HYDROGEOLOGY
OF GLACIAL
TILL DEPOSITS.
TANE DENNE, ET AL.
KGS 1998

Sec 17

JACKSON CO. RWD #3
 Section 17, Township 6 South, Range 16 East
 Jackson County

← Off Cenozoic MAP

15E

16E

5S

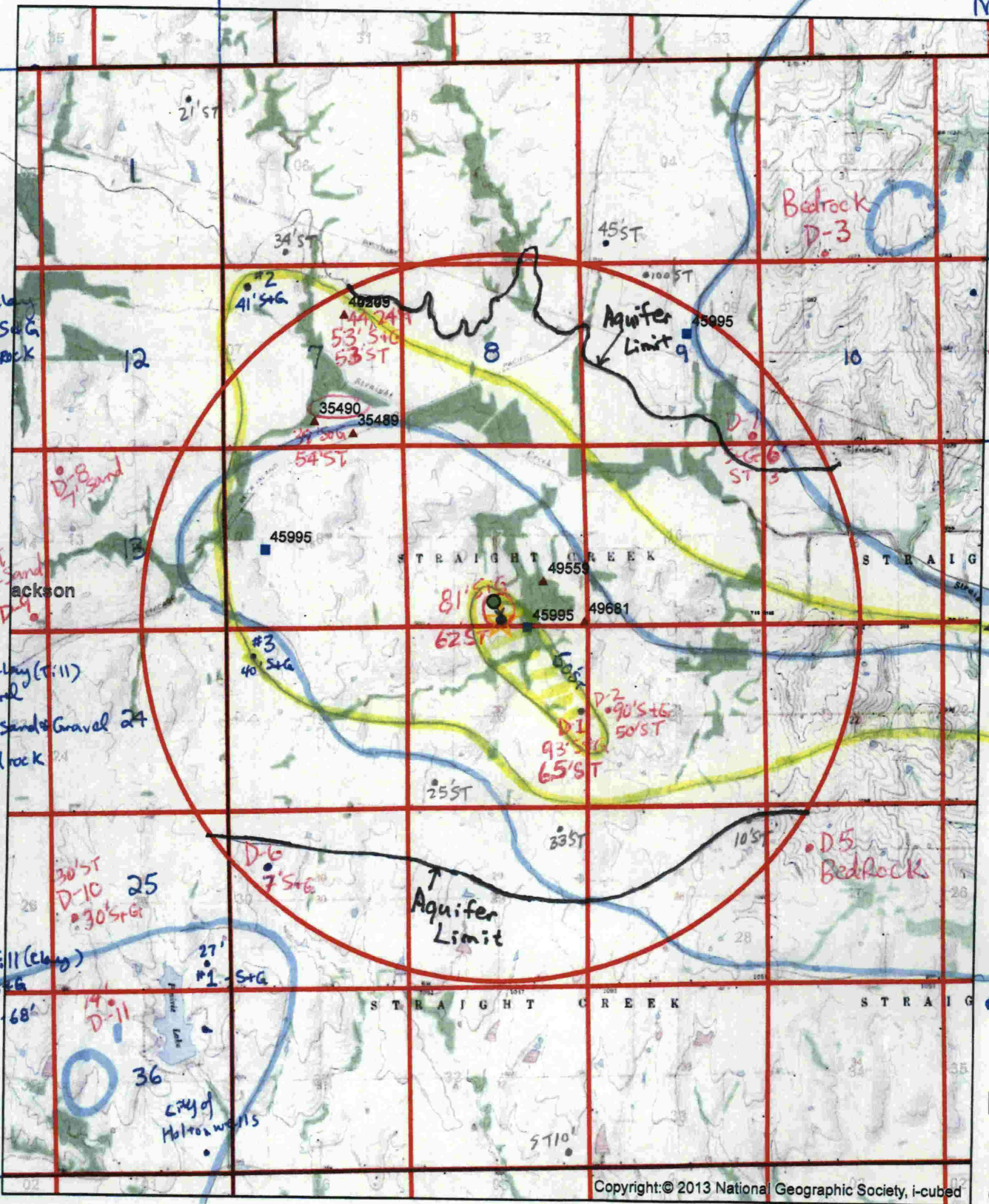
#2
 0-26-Clay
 26-67-S&G
 67'-Bedrock

6S

#3
 0-77-Clay (Till)
 5' of gravel
 100-110-Sands & Gravel
 140'-bedrock

#1
 0-41-Till (clay)
 41-68-S&G
 Bedrock shale

7S

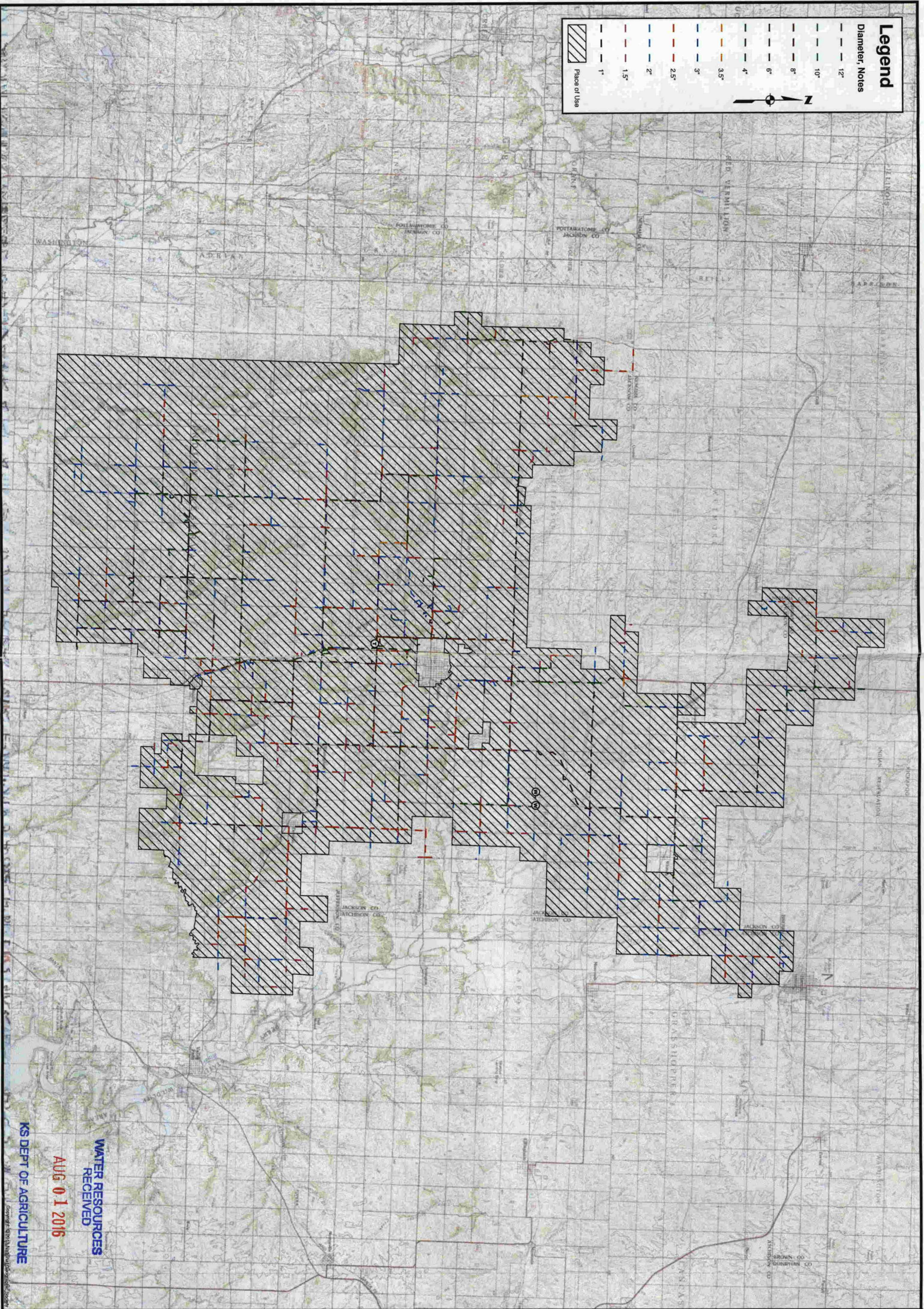


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1:48,000

● Proposed Point of Diversion

My View



Legend

Diameter, Notes

- 12"
- 10"
- 8"
- 6"
- 4"
- 3.5"
- 3"
- 2.5"
- 2"
- 1.5"
- 1"

Place of Use

**WATER RESOURCES
RECEIVED**

AUG 01 2016

KS DEPT OF AGRICULTURE

DESIGNED:	UGA
DRAWN BY:	UGA
APPROVED BY:	---
PROJ NO:	1000.100
SCALE:	N.T.S.
DATE:	JULY 2016
DRAWING NO:	1
SHEET NO:	1 of 1

PLACE OF USE MAP

WATER SUPPLY PROJECT
RURAL WATER DISTRICT NO. 3
JACKSON COUNTY, KANSAS

**UNDERGROUND
ASSOCIATES, LLC**

311 ST. JOSEPH STREET - P.O. BOX 572
WATHERNA, KANSAS 66090



#	DATE	DESCRIPTION	BY