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

1. File Number: <b>49,858</b>	2. Status Change Date: 3/5/2018	3. Field Office: <b>01</b>	4. GMD:
5. Status: Approved Denied b	by DWR/GMD	Dismiss by Request/Failu	ire to Return
6. Enclosures: ⊠ Check Valve ⊠ N of C Forr	m ⊠ Water Tube	☑ Driller Copy	⊠ Meter
7a. Applicant(s) Person ID New to system ☐ Add Seq#	7c. Landown New to sy		Person ID Add Seq#
CITY OF SAINT GEORGE PO BOX 33 SAINT GEORGE KS 66535			
7b. Landowner(s) Person ID  New to system   Add Seq#	7d. Misc. New to sy	ystem 🗌	Person ID Add Seq#
7a.	% BF 4806	CONSULTANTS RIAN FOSTER PE VUE DU LAC PLACI HATTAN KS 66503	Ξ
8. WUR Correspondent Person ID New to system ☐ Add Seq#	9. Use of Wa	• •	Yes No
Overlap File (s) WUC Notarized WUC Fo	orm	<del></del>	Surface Water  DEW MUN
7a.	☐ STK ☐ HYD DRG ☐ IND SIC:	_	DOM CON ART RECHRG ER:
10. Completion Date: <b>12/31/2019</b> 11. P	Perfection Date:12/31/2	2038 12. Exp	Date:
13. Conservation Plan Required? ☐ Yes ☒ No Date F			
14. Water Level Measuring Device? ☐ Yes ☐ No □	Date to Comply:	Date WLMD In	stalled:
		Date Prepared: <b>2/19</b> Date Entered: <b>3/7</b>	12018 By: DWS 2018 By: WM

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File No. 49,858	15. Forma	tion Code:	100	(	Drain <b>CRE</b>	age B <b>EK</b>	asin:	VERI	VILLI	ON	<u>)</u> (	County	: PT		Sp	ecial U	se:		Stream:	
16. Points of Diversion					_						17	. Rate	and C	uantity	y					
MOD													Autho	orized				Addition	al	
DEL PDIV ENT Qual	ifier S	Т	R	ID	'N		'W				11	Rate gpm			ntity gy		Rate gpm		Quantity mgy	Overlap PD Files
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18. Storage: Rate		NF (	Quantity <sub>.</sub>					_ ac/ft	Α	.ddition	al Ra	te				NF	Add	itional Qu	antity	ac/ft
19. Limitation:	af/yr at				gpm (				cfs) w	hen co	mbine	ed with	ı file nu	ımber(	s)				•	
Limitation:	af/yr	at		·	gpm (				cfs) w	hen co	mbine	ed with	i file nu	ımber(	s)				<u> </u>	
20. Meter Required? X Yes	□No	To be	e installed	by		12	<u>2/31/</u>	/2019	9		_ D	ate Ac	ceptab	le Met	er Inst	alled _			er.	
21. Place of Use			NE1/4			NV	<b>V</b> 1⁄4			sw	11/4			SI	Ξ1/4		Total	Owner	Chg? No	Overlap Files
MOD DEL ENT PUSE S T	R ID	NE	NW SW	SE 1/4	NE ¼	NW ¼	SW ¼	SE ¼	NE 1⁄4	NW 1/4	SW 1/4	SE ¼	NE ¼	NW 1/4	SW 1/4	SE ¼				
√ 15167 9 10		CITY	OF ST C	SEOF	RGE 8	k IMIV	1EDI.	ATE	VICII	YTIV								7a.	No	*See Below
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Comments: *PU overlap	with File No	os. 38,09	90; 45,5	23; 4	5,524	i; 47,	215;	47,2	18; 4	9,858	; 49	,859;	49,8	82 an	id 49	,910.				

## KANSAS DEPARTMENT OF AGRICULTURE Division of Water Resources <u>M E M O R A N D U M</u>

TO: Files

DATE: February 19, 2018

FROM: Doug Schemm

RE: Application, File No. 49,858

The City of St. George has filed the above referenced application proposing to appropriate 32.585 million gallons of groundwater for municipal use. Please note that the applicant has also filed additional applications, File Nos. 49,859; 49,882; and 49,910 that are still pending. These applications were designed to allow the applicant to test hole drill in multiple areas to determine the most favorable well locations, and multiple supply wells will add flexibility in sources of supply. At this point, the applicant has requested the processing and approval of only the most senior file, Application, File No. 49,858, while they continue to review other options. The application form was signed by a representative of the applicant, stating the City has access to the point of diversion. The City has multiple senior overlapping files in place of use, as follows: File Nos. 38,090; 45,523; 45,524; 47,215; and 47,218.

Application, File No. 49,858 is requesting 32.585 million gallons (100 acre-feet) at a diversion rate of 250 gallons per minute, from a well located in the Northeast Quarter of Section 3, Township 10 South, Range 9 East, within the Vermillion Creek Basin in Pottawatomie County. The applicant identified three domestic wells within one-half mile of the proposed point of diversion, and nearby well owner letters were sent out on October 19, 2017. No responses of any kind were received. There are four other permitted groundwater wells within a two-mile radius according to the WRIS database, with the nearest of these being over 4,400 feet away. Per the requirements in K.A.R. 5-4-4 for all other aquifers, the minimum well spacing should be 1,320 feet to non-domestic wells and 660 feet to domestic wells, and spacing is met to existing wells. Please NOTE that a nearby domestic well (Chris Fox/Jessica Clarke) was completed approximately 455 feet from the proposed well. However, the domestic well was completed on July 21, 2017 (see attached well log), while Application, File No. 49,858 has a priority date of June 15, 2017. Therefore, this pending application is senior to this domestic well completion. A pump test was conducted on the City's supply well and a transducer was installed in the Fox domestic well. The largest drawdown detected at the domestic well was 0.06 feet.

As noted above, the City has five senior water rights, File Nos. 38,090; 45,523; 45,524; 47,215; and 47,218 which overlap in place of use. File No. 38,090 is authorized 9 million gallons, File No. 45,523 is authorized 10.95 million gallons, File No. 45,524 is authorized 10.95 million gallons (only 0.992 million additional), File No. 47,215 is authorized 32.585 million gallons (only 13.405 million additional), and File No. 47,218 is authorized 32.585 million gallons (with 0 additional). File No. 47,218 is limited to 45.99 million gallons with all senior files combined.

The applicant has supplied supporting data to document population growth and has projected a water demand of 116 million gallons by 2040. Rapid population growth is expected to continue at 4% per year and reach 2,100 by the year 2040. The applicant states that the KDOT US-24 Corridor Management Plan indicates this area could more than double in population by 2030, and nearby Manhattan grew at a rate of 6.5%. The applicant is also anticipating several housing developments near the City, which could significantly increase population growth and water needs.

The applicant estimated current use at 85 gpcd, while the average for medium users in this region is 102 gpcd according to the Kansas Municipal Water Use report. Therefore, an estimated quantity of water (20 year projection) can be determined as follows:

2,100 population x 102 gpcd x 365 days/year Potential development (Residential Housing)

= 78.2 million gallons

= <u>37.8 million gallons</u>

Total = 116 million gallons

City of St. George File No. 49,858 Page 2

As noted above, the applicant's current water rights have a total authorized quantity of 45.99 million gallons. Mr. Brad Vincent who has assisted the City with test hole drilling and pump tests, on behalf of the applicant noted the justified quantity of 116 million gallons in his April 17, 2017 cover letter, and stated that the pending applications should be limited to this justified quantity. Therefore, Application, File No. 49,858 will provide for 32.585 million gallons of water (all additional) increasing the total authorized to 78.575 million gallons (45.99 mgy + 32.585 mgy). In addition, this new proposed well will provide the applicant with greater flexibility in their water supply sources, and assist in addressing potential water quality issues.

Based on the geographical location of the well, 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 hole shows a sand layer beginning at 80 feet below ground surface and continuing to 215 feet below ground surface where limestone bedrock was encountered. Static water level was 115.7 feet. As typical for these types of deposits, there is a layer of coarser sand and gravel just above the bedrock formation. The test hole log indicates a saturated thickness of over 100 feet. There is no county geologic bulletin for Pottawatomie County, and the Cenozoic deposits map does not indicate that there is a buried glacial valley in this specific area. However, area well logs depict a glacial valley that generally trends northeast to southwest through this local area. This review of area wells allows for an accurate determine of the extent of the local aquifer, which is a critical component of safe yield assessment in glacial aquifers. Please note that the glacial deposits are not present in the Southeast portion of the 2-mile circle, where wells are completed in bedrock.

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. For File No. 49,858 this evaluation provided an area of consideration of 6,799 acres (truncating out bedrock in the Southeast portion), a potential recharge of 3.6 inches, and 100% of recharge available for appropriation, resulting in a safe yield of 2,074.5 acre-feet. Existing water rights have appropriated 325.14 acre-feet, providing a difference of 1,714.56 acre-feet available for appropriation, and the application requesting 100 acre-feet complies with safe yield.

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 this permit, a check valve will also need to be installed.

Katie Tietsort, Water Commissioner of the Topeka Field Office, recommended approval of the referenced application in a February 16, 2018 e-mail. Based on the above discussion, the additional quantity of water will help the applicant meet future water demands, provide flexibility in pumping points, and approval of the application will not impair senior water rights nor prejudicially or unreasonably affect the public interest, it is recommended that the referenced application be approved.

Douglas W. Schemm Environmental Scientist Topeka Field Office



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

Secretary Jackie McClaskey

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

Governor Jeff Colyer, M.D.

March 8, 2018

CITY OF SAINT GEORGE % TIMOTHY CALMES MAYOR PO BOX 33 SAINT GEORGE KS 66535-0033

Re: Appropriation of Water, File No. 49,858

FILE COPY

Dear Mr. Calmes:

There is enclosed a permit 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 source and at the location specified in the permit, and to use it for the purpose and at the location described in the permit.

Your attention is directed to the enclosures and to the terms, conditions, and limitations specified in these approval documents. A water meter is required on the proposed diversion works and you must install it prior to water being put to beneficial use in order for you to maintain accurate records of water use. The meter should be used to provide the information required on the annual water use report.

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 this permit. Enclosed is a form which may be used to notify the Chief Engineer that the proposed diversion works have been completed. 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 the permit 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 this permit. Failure to comply with this regulation will result in the dismissal of your permit or your water right. Any request for an extension of time shall be accompanied by the required statutory fee, which is currently \$100.00. There is also enclosed an information sheet setting forth the procedure to obtain a Certificate of Appropriation which will establish the extent of your water right. If you have any questions, please contact our office. If you wish to discuss this specific file, please have the file number ready so that we may help you more efficiently.

Sincerely,

Kristen A. Baum

New Application Unit Supervisor

Water Appropriation Program

KAB:dws Enclosures

pc: Topeka Field Office

Brian Foster - BG Consultants



## 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)

This is to certify that I have examined Application, File No. 49,858 of the applicant

CITY OF SAINT GEORGE PO BOX 33 SAINT GEORGE KS 66535-0033

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 June 15, 2017.
- 2. That the water sought to be appropriated shall be used for municipal use within the City of St George and immediate vicinity.
- 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 Northwest Quarter of the Southwest Quarter of the Northeast Quarter (NW½ SW½ NE½) of Section 3, more particularly described as being near a point 3,955 feet North and 2,525 feet West of the Southeast corner of said section, in Township 10 South, Range 9 East, Pottawatomie 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 **250** gallons per minute (0.56 c.f.s.) and to a quantity not to exceed **32.585 million gallons** (100 acre-feet) of water for any calendar year.
- 5. That installation of works for diversion of water shall be completed on or before <u>December 31, 2019</u> 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 <u>December 31, 2038</u> 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.

File No. 49,858 Page 2 of 4

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 an acceptable water flow meter shall be installed and maintained on the diversion works authorized by this permit in accordance with the 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).
- 13. 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.
- 14. That no water user shall engage in nor allow the waste of any water diverted under the authority of this permit.
- 15. 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.
- 16. 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.
- 17. 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.

## RIGHT TO A HEARING AND TO ADMINISTRATIVE REVIEW

If you are aggrieved by this Order, then pursuant to K.S.A. 82a-1901, you may:

- 1) request an evidentiary hearing before the Chief Engineer, or
- 2) request administrative review by the Secretary of Agriculture.

Failure to request an evidentiary hearing before the Chief Engineer does not preclude your right to administrative review by the Secretary.

To obtain an evidentiary hearing before the Chief Engineer, a written request for hearing must be filed within 15 days after service of this Order as provided in K.S.A. 77-531 (i.e., within a total of 18 days after this Order was mailed to you), with: Kansas Department of Agriculture, Attn: Legal Section, 1320 Research Park Drive, Manhattan, Kansas 66502, FAX (785) 564-6777.

If you do not file a request for an evidentiary hearing before the Chief Engineer, you may petition for administrative review of the Order by the Secretary of Agriculture. A petition for review shall be in writing and state the basis for requesting administrative review. The request for hearing may be denied if the request fails to clearly establish factual or legal issues for review. See K.S.A. 77-527. The petition must be filed within 30 days after service of this Order as provided in K.S.A. 77-531 (i.e., within a total of 33 days after this Order was mailed to you), and be filed with: Secretary of Agriculture, Attn: Legal Division, Kansas Department of Agriculture, 1320 Research Park Drive, Manhattan, Kansas 66502, FAX (785) 564-6777.

If neither a request for an evidentiary hearing nor a petition for administrative review is filed as set forth above, then this Order shall be effective and become a final agency action as defined in K.S.A. 77-607(b). Failure to timely request either an evidentiary hearing or administrative review may preclude further judicial review under the Kansas Judicial Review Act.

Ordered this 5	day of March	
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DANIELLE WILSON My Appointment Expires

August 23, 2020

, 2018, in Topeka, Shawnee County, Kansas.

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 day of lower was acknowledged before me this day of lower was acknowledged before me this day of lower was day of lower

**Notary Public** 

## **CERTIFICATE OF SERVICE**

On this day of March , 2018, I hereby certify that the foregoing Approval of Application and Permit to Proceed, File No. 49,858, dated March 54 2018 was mailed postage prepaid, first class, US mail to the following:

CITY OF SAINT GEORGE PO BOX 33 SAINT GEORGE KS 66535

With photocopies to:

BG CONSULTANTS % BRIAN FOSTER PE 4806 VUE DU LAC PLACE MANHATTAN KS 66503

Topeka Field Office

Division of Water Resources

APPLICATION COMPLETE
11/6/2017
Reviewer Dws



## KANSAS DEPARTMENT OF AGRICULTURE

Jackie McClaskey, Secretary of Agriculture

## **DIVISION OF WATER RESOURCES**

David W. Barfield, Chief Engineer

File Number 49858
This item to be completed by the Division of Water Resources.

WATER RESOURCES RECEIVED

# 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.)

JUN 1 5 2017 2:30 KS DEPT OF AGRICULTURE

To the Chief Engineer of the Division of Water Resources, Kansas Department of AWATER RESOURCES

1320 Research Park Drive, Manhattan, Kansas 66502:

1.	Name of Applicant (Please Print): City of St. George
1.	Address: 220 First St, PO Box 33
	KS DEFT OF AGRICULTURE
	Telephone Number: ()
2.	The source of water is:    surface water in
	OR groundwater in Kansas River Basin Duls Ipwik (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 100 acre-feet OR 32.585 gallons per calendar year,
	to be diverted at a maximum rate of 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 <u>NOT</u> 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) ☑ Municipal (g) ☐ Stockwatering (h) ☐ Sediment Control
	(i) □ Domestic (j) □ Dewatering (k) □ Hydraulic Dredging (l) □ Fire Protection
	(m) ☐ Thermal Exchange (n) ☐ Contamination Remediation
	YOU <u>MUST</u> 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 Offi F.O Code _	ce Use Only:  GMD Meets K.A.R. 5-3-1(YES/NO) Use MVN Source G/S County By A)W Date 4/5/11  Fee \$ 200 TR # Receipt Date 4/5/11 Check # 205/4

DWR 1-100 (Revised 06/16/2014)

SCANNED Letile Du

## \* \*Pér Site Map. DWS/DWR 11/6/2017.

File No.	49258	
riie ino.	11000	

Woodruff Property in the NE 1/4 Sec 3, T10S, R9E. Test Holes to be drilled to locate well sites

<b>5</b> .	The	location of the proposed wells, pump sites or other works for diversion of water is:
	Note	e: 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 $NW$ quarter of the $SW$ quarter of the $NE$ quarter of Section $3$ , more particularly
		described as being near a point $395$ feet North and $2525$ feet West of the Southeast corner of said
		section, in Township 10 South, Range 9 East/West (circle one), Pottawatomie 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.
	wells the s A ba four not t	e source of supply is groundwater, a separate application shall be filed for each proposed well or battery of s, except that a single application may include up to four wells within a circle with a quarter (¼) mile radius in same local source of supply which do not exceed a maximum diversion rate of 20 gallons per minute per well. Ittery of wells is defined as two or more wells connected to a common pump by a manifold; or not more than wells in the same local source of supply within a 300 foot radius circle which are being operated by pumps o exceed a total maximum diversion rate of 800 gallons per minute and which supply water to a common libution system.
6.		owner of the point of diversion, if other than the applicant is (please print):
0.		imothy Woodruff Trust and Thomas Woodruff 4850 Flint Rock Wamego, KS 66547 785-456-4915
		(name, address and telephone number)
	_	(name, address and telephone number)
	land	must provide evidence of legal access to, or control of, the point of diversion from the landowner or the owner's authorized representative. Provide a copy of a recorded deed, lease, easement or other document 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, 20
	Failu	applicant must provide the required information or signature irrespective of whether they are the landowner.  ure to complete this portion of the application will cause it to be unacceptable for filing and the application will eturned to the applicant.
7.	The	proposed project for diversion of water will consist of \\ \[ \frac{1}{\text{(number of wells, pumps or dams, etc.)}} \] \[ \frac{1}{\text{pws/pws}} \] \[ \text{Per (all to consultant.)} \] \[ \text{pws/pws} \]
	and	(Was)(Will be) completed (by)   December 31 /UTS
8.	The	first actual application of water for the proposed beneficial use was or is estimated to be <u>January 1, 2019</u> .
	(Mo/E	WATER RESOURCES RECEIVED WATER RESOURCES RECEIVED
		SEP 2 2 2017 JUN 1 5 2017 SCANNED

KS DEPT OF AGRICULTURE

KS DEPT OF AGRICULTURE

9.	Wil	I 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.	sub	ou are planning to impound water, please contact the Division of Water Resources for assistance, prior to mitting the application. Please attach a reservoir area capacity table and inform us of the total acres of face drainage area above the reservoir.
		we you also made an application for a permit for construction of this dam and reservoir with the Division of ter 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.	sho	e application <u>must</u> be supplemented by a U.S.G.S. topographic map, aerial photograph or a detailed plat owing the following information. On the topographic map, aerial photograph, or plat, identify the center of the stion, the section lines or the section corners and show the appropriate section, township and range numbers. o, please show the following information:
Vill be ompleted		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.
vhen test oles are	(b)	If the application is for groundwater, please show the location of any existing water wells of any kind within $\frac{1}{2}$ 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 $\frac{1}{2}$ mile, please advise us.
rilled	(c)	If the application is for surface water, the names and addresses of the landowner(s) $\frac{1}{2}$ mile downstream and $\frac{1}{2}$ 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.
		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.	poi	any application, appropriation of water, water right, or vested right file number that covers the same diversion into or any of the same place of use described in this application. Also list any other recent modifications made existing permits or water rights in conjunction with the filing of this application.
	_47	7215, 47218, 38090, 45523, 45524
		WATER RESOURCES RECEIVED WATER RESOURCES RECEIVED
		SEP 2 2 2017 IIIN 1 5 2017

KS DEPT OF AGRICULTURE

T€	est Holes to be Drilled						
	rnish the following well ir s not been completed, g					oundwater. If t	he we
Info	formation below is from:	·风 Test holes	□ Well	as completed	□ Drillers	log attached	
We	ell location as shown in p	oaragraph No.	(A)	(B)	(C)	(D)	
Da	ate Drilled		9 Aug 2017				
Tof	tal depth of well	4	215				
De	epth to water bearing for	mation	_80_				
De	epth to static water level		115.70				
De	epth to bottom of pump in	ntake pipe	214				
(0	Agent owner, tenant, agent or otherw e owner(s) of the proper	•	ter is used, if	other than the	e applicant, is ( <sub>l</sub>	olease print):	
		(name, ad	dress and tele	ephone numb	er)		
	e undersigned states that application is submitte	(name, ad	dress and tele	ephone numb	er)	er knowledge a	nd th
The	s application is submitte	(name, ad at the informatior d in good faith.	dress and tele	ephone numb	er) e best of his/he	,	
The		(name, ad at the informatior d in good faith.	dress and tele	ephone numb	er) e best of his/he	er knowledge a	
The	s application is submitte	(name, ad at the information d in good faith, Kansa	dress and tele	ephone numb	er) e best of his/he	,	
The	s application is submitte ated at <u>St George</u>	(name, ad at the information d in good faith. , Kansa , kansa	dress and tele	ephone numb	er) e best of his/he	,	
The this Da	s application is submitte ated at <u>St George</u> (Applicant Signat	(name, ad at the information d in good faith, Kansa	dress and tele	ephone numb	er) e best of his/he	,	
The this Da	Agent or Officer Signature (Agent or Officer - Plea	(name, ad at the information d in good faith, Kansa	dress and tele	ephone numb ve is true to th day of	er) e best of his/he	,	

WATER RESOURCES RECEIVED

SEP 2 2 2017

INS DEPT OF AGRICULTURE

WATER RESOURCES RECEIVED

JUN 1 5 2017 SCANNED

KS DEPT OF AGRICULTURE

### **SECTION 3: PROJECTED FUTURE WATER NEEDS**

Provide number of current active service connections:

	PLEASE COMPLETE THE	E FOLLOWING TABLE	E SHOWING YOUR FUTUR	RE WATER REQUIREMEN	ITS FOR THE NEXT 20 YEA	RS:	
	Column 1	Column 2	Column 3	Column 4 Water Sold to Your	Column 5 Water Sold to Your	Column 6	Column 7
	Raw Water Diverted Under Your Rights	Water Purchased From All Sources	Water Sold to Other Public Water Suppliers	Industrial, Stock, and Bulk Customers	Residential and Commercial Customers	Other Metered Water	Remaining Water Used (See Explanation on other side)
Year 5	26,675,660		,		24,250,600		2,425,060
Year 10	31,525,780				28,659,800		2,865,980
Year 15	37,588,430				34,171,300		3,417,130
Year 20	47,288,670				42,989,700		4,298,970
	TOTAL WATER =	Columns 1 + 2	AC	COUNTED 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

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

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

LAST 20 YEARS	POPULATION
20 years ago	430
15 years ago	472
10 years ago	554
5 years ago	705
Last Year	773

## PROJECTED FUTURE POPULATION ESTIMATE FUTURE POPULATION AND SUBSTANTIATE NUMBERS ON SEPARATE ATTACHMENTS

NEXT 20 YEARS	POPULATION
Year 5	1,100
Year 10	1,300
Year 15	1,550
Year 20	1,950

324	Residential		Industrial	2	Other (specify) School	
	Commercial T GALLONS PER PER CULATE YOUR GALLO	SON PER DAY NS PER PERSON PER D	Pasture/ Stockwater/ Feedlot		Total	WATER RESOU RECEIVED
Water in Colu	ımns 5, 6, and 7 + P	opulation + 365 Days	Year = Gallons per Person pe	er Day		MAY 15 20
17,033,000	÷ 77	3	÷ 365 Days/Year = 60.4		GALLONS PER PERSON PER DAY.	KS DEPT OF AGRIC
17,033,000  Amount of Columns 5 of Sec	f water in 5, 6, and 7	Population from Last Year of Section 4	÷ 365 Days/Year = 60.4		GALLONS PER PERSON PER DAY.	KS DEPT OF AGRIC
Amount of Columns 5 of Sec	f water in 5, 6, and 7 tion 1	Population from Last Year of Section 4			· · · · · · · · · · · · · · · · · · ·	
Amount of Columns 5 of Sec	f water in 5, 6, and 7 stion 1 D BE SERVED e served or provide the le	Population from Last Year of Section 4			GALLONS PER PERSON PER DAY.  city of water supply system (i.e. Rural Water District	

Applicant's Name	City of St George	
	(Please Print)	

## MUNICIPAL (PUBLIC WATER SUPPLY) APPLICATION SUPPLEMENTAL INFORMATION SHEET

Application File Number
49.858
(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	Column 2	Column 3	Column 4 Water Sold to Your	Column 5 Water Sold to Your	Column 6	Column 7
Raw Water Diverted Under Your Rights	Water Purchased From All Sources	Water Sold to Other Public Water Suppliers	Industrial, Stock, and Bulk Customers	Residential and Commercial Customers	Other Metered Water	Remaining Water Used (See Below Explanation)
20,786,000				17,033,000		3,753,000
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 Column 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:

Percent Unaccounted = <u>Unaccounted For Water</u> x 100

For Water Total Water (Columns 1,2)

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

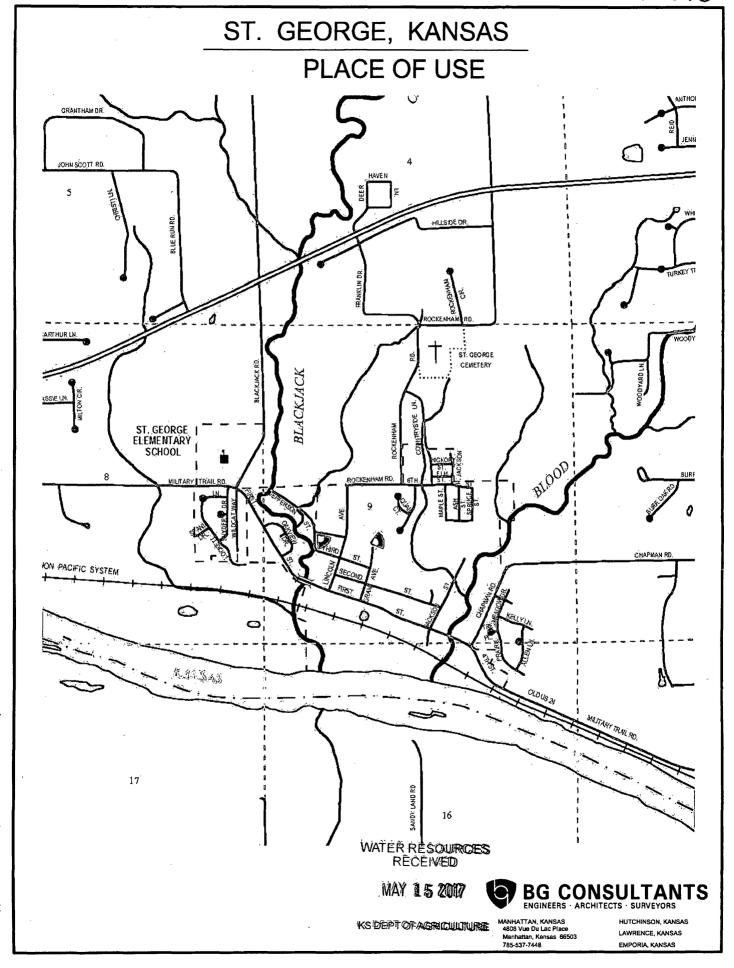
#### **SECTION 2: PAST WATER USE**

COMPLETE THE FOLLOWING TABLE FROM YOUR PAST WATER USE RECORDS.

WATER RESOURCES
RECEIVED

MAY 1 5 2017

	TOTAL WATER	OTAL WATER = Columns 1 + 2 ACCOUNTED FOR WATER = Columns 3 + 4 + 5 + 6							
5 years ago	17,403,000				14,434,000		2,969,000		
10 years ago									
15 years ago									
20 years ago									
	Raw Water Diverted Under Your Rights	Water Purchased From All Sources	Water Sold to Other Public Water Suppliers	Water Sold to Your	Water Sold to Your	Other Metered Water	Remaining Water Used (See Above Explanation)		
	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	KS DEPT OF AGRICULTURE		



## Schemm, Doug [KDA]

From:

Tietsort, Katie [KDA]

Sent:

Friday, February 16, 2018 8:32 AM

To:

Schemm, Doug [KDA]

Subject:

RE: City of St. George 49,858

Hi Doug,

This application appears to meet all the requirements of the KWAA for approval. I agree that it can move forward although the City has other files pending, since they requested such and because this application for a single well isn't tied to the other proposals other than by place of use. The justification is reasonable in the Highway 24 corridor and will ultimately work for the package. One thing Doug- can you be sure to correct all the documents including the application, the memo, the permit, the worksheet, etc to show this as being in the <u>Vermillion Creek Basin</u> please? Some items say Kansas River (WRIS, original app) and some say Vermillion River (app now, memo). The file is located within the DWR identified Vermillion Creek Basin. Thanks.

This should proceed forward for signature, Thanks, Katie

**Katie Tietsort** 

Kansas Department of Agriculture 6531 SE Forbes Ave Ste B Topeka, KS 66619 katie.tietsort@ks.gov Phone 785-296-5733

Achiever~Responsibility~Input~Relator~Arranger

From: Schemm, Doug [KDA]

Sent: Monday, February 12, 2018 8:04 AM

To: Tietsort, Katie [KDA] <Katie.Tietsort@ks.gov>

Subject: City of St. George 49,858

Processing only their most senior file at this point. All additional water.



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 19, 2017

CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS 12<sup>TH</sup> FLOOR E 50 EN TEMPLE SALT LAKE CITY UT 84150

Re:

Pending New Applications, File Nos. 49,858 and 49,910

Dear Sir or Madam:

This is to advise you that the City of St. George has filed the applications referred to above for permits to appropriate groundwater for municipal use. Application, File No. 49,858 is requesting 32.585 million gallons (100 acre-feet) to be diverted at a maximum rate of 250 gallons per minute, from a well located in the Northwest Quarter of the Southwest Quarter of the Northeast Quarter of Section 3, and

Application, File No. 49,910 is requesting 65.17 million gallons (200 acre-feet) to be diverted at a maximum rate of 300 gallons per minute, from a well located in the Northeast Quarter of the Northwest Quarter of the Northeast Quarter of Section 3, both in Township 10 South, Range 9 East, Pottawatomie County, Kansas.

Enclosed is a site map for your review. 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 location 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. If you have any questions or comments, you may also contact me at (785) 296-3495. If you call, please reference the file number so I can help you more efficiently.

Sincerely,

Douglas W. Schemm Environmental Scientist Topeka Field Office

Enclosure

pc:

City of St. George

Brian J. Foster, P.E. – BG Consultants



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 19, 2017

LWN PROPERTIES PO BOX 1285 MANHATTAN KS 66505

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Sincerely,

Douglas W. Schemm Environmental Scientist Topeka Field Office

Enclosure

pc:

City of St. George

Brian J. Foster, P.E. – BG Consultants



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 19, 2017

CHRISTOPHER J FOX JESSICA A CLARKE 13548 MEGAN LANE WAMEGO KS 66547

Re:

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Sincerely,

Douglas W. Schemm Environmental Scientist Topeka Field Office

Enclosure

pc:

City of St. George

Brian J. Foster, P.E. – BG Consultants



Nearby Domestic Well

WATER V	WELL R	<b>ECORD</b>	Form '	WWC-5	136	1228	Divis	sion of Water					
✓ Original R	Record 🔲	Correction	Chang	ge in Well Use			Resou	rces App. No		ا We	il ID		
1 LOCATION			L:	Fraction			Secti	ion Number	Township Nun			ge Number	
County:	Pottawato	mie		SE 1/4 SE 1/4	, NE ½	4 NW 1/4		3	T 10 S	,	R 9	☑E □ W	
2 WELL O	WNER: La	ast Name: FOX	Κ	First: CHRI	S	Street o	r Rura	ıl Address w	here well is locate	d (if un!	known,	distance and	
Business:						direction	from ne	arest town or in	ntersection): If at own	ier's ado	dress, c	check here: 🔽	
Address: Address:	13548 Meg	han Lane											
i	Wamego		State: Kan	sazip: 66547	,	-							
3 LOCATE													
WITH "X"		4 DEPTH	OF COM	1PLETED W	ELL:	188	ft.	5 Latitud	le: 39.2140	920		(decimal degrees)	
SECTION				Encountered:									
N		2)	It.	3) ft., TER LEVEL: .	or 4)								
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sw	SE			vater was									
3₩ -	- 315			s pumping		. gpm		6 Elevati	on: 1198	A 171 C	Fround	Level D TOC	
S		Estimated Y	iela:! <del>.i</del> Viamotor:	gpm 10 in. to	188	f and			☐ Land Survey ☐				
1 mile	e	Bole Hole L	manneter	in. to		ff		33333	Other KOLAR				
7 WELL W.		BE USED A				11.							
1. Domestic:	TILL IO			iter Supply: we	ell ID			10. □ Oil l	Field Water Supply:	lease			
☐ Househo	ld			g: how many					ole: well ID				
☑ Lawn &				echarge: well l					ed 🗌 Uncased 🗀				
Livestock		8. 🗆	Monitorin	g: well ID			••••		rmal: how many bor				
2.  Irrigation	1			al Remediation					ed Loop    Horizo				
3. ☐ Feedlot 4. ☐ Industria	1		Air Sparge   Recovery			Extraction	1		n Loop   Surface I  r (specify):				
Was a chemi				nitted to KDF	IE?	Yes 🔽	No .	If yes, date s	ample was submit	tea:		•••••	
Water well di				0.00			A CINI	C IODITC.	☑ Glued ☐ Clamp		37-11-	1 D Tl 1. 1	
Cosing diameter	casing 6	in to	188 PV	Oiner	• • • • • • • • • • • • • • • • • • • •	C	ASIIN	d JUINIS:	M Glued ☐ Clamp	ea 🔲 v	weided	I ∐ Inreaded	
Casing diamete	ahove land s	urface	18 ir	Weight		. III. 10 Ihe	: /fi	Wall thickne	ter in. to	H 40	11.		
TYPE OF SC							200		oo or gaage roor				
☐ Steel		iless Steel	☐ Fiber		] PVC			☐ Other	(Specify)				
☐ Brass	☐ Galv	anized Steel	☐ Conc	rete tile	] None	used (oper	n hole)						
SCREEN OR													
☐ Continue		Mill Slot							Other (Specify)	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •		
Louvere	d Shutter	☐ Key Punch	ied ∐ W	ire Wrapped	\S 188	aw Cut	∐ No	one (Open Hol	e) ft., From .		Ω 4-	Δ	
SCREEN-PE	AVEL DAC	ED INTERVA	ALS: From	n!99 11. t	o . 18	п., г	rom	II. 10 .	ft., From .		. II. 10	II.	
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Nearest source				,				,					
☐ Septic Ta			Lateral Line	es 🔲 Pit	Privy		$\Box$ L	ivestock Pens	☐ Insec	ticide S	torage		
☐ Sewer Li			Cess Pool		wage L	agoon		uel Storage	☐ Aban			Well	
☐ Watertigh			Seepage Pit		edyard			ertilizer Stora			; Well		
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		SAND FINE	OLAT LA	NI LINO		-							
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		SHALE GRE	Y			_							
11 CONTRA	ACTOR'S	OR LANDO	WNER'S	S CERTIFIC	ATIO	N: This	water	well was 🔽	constructed,  re	constru	icted.	or plugged	
under my juri	isdiction ar	id was compl	eted on (n	no-day-year).	07/21/2	2017	and th	nis record is	true to the best of oleted on (mo-day-	my knc	wleds	ge and belief.	
Kansas Water	r Well Con	tractor's Lice	ense No. S	)14	This W	ater Wel	l Reco	ord was comp	oleted on (mo-day-	year) .	77./25	/20.17	
under the bus	siness name	of Hint.Hil	ıs Drilling	TELL OUR TER			<u>.</u>	1- T C## ^	0 for a selection of the contract of the contr		· · · · · · ·		
		sena one copy to	WAIERW	ELL OWNER a	na retain	one for you	ar record	us. ree of \$5.0	0 for each constructed	WEIL		705 206 2565	

## Analysis Results

The selected PD is in an area to new appropriations. The safe yield, based on the variables listed below is 2,039.70 AF. Total prior appropriation in the circle is 789.54 AF.  $-5\infty$  AF = 289.54 AF + 35.6 AF = 325.14 AF Total quantity of water available for appropriation is 1,250.16 AF.

## Safe Yield Variables

1.714.56AF

The area used for the analysis is set at 6799 acres. Potential annual recharge of the area is estimated to be 3.6 inches. The percent of recharge available for appropriation is 100%.

Authorized Quantity values are as of 26-OCT-2017 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 10 water right(s) and 8 point(s) of diversion within the circle.

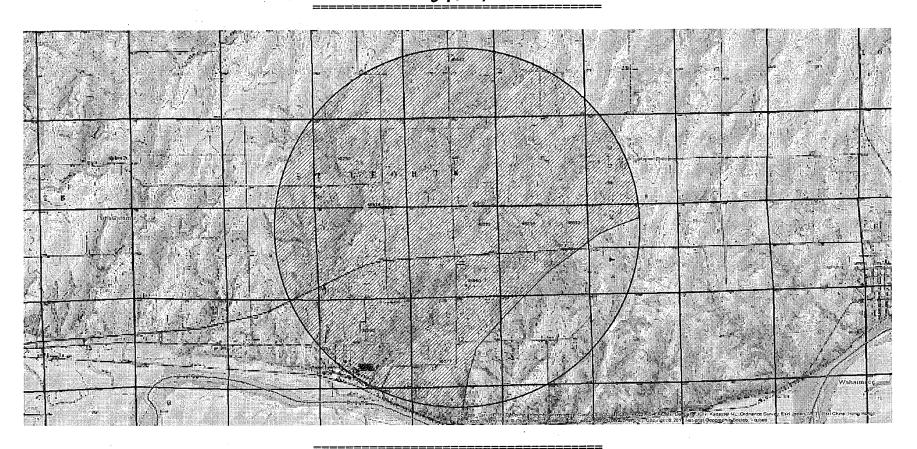
File	Number		Use	ST	SR	Q4	Q3	Q2	Q1	FeetN	FeetW	Sec	Twp	Rng	ID	Qind	Auth_Quant	Add_Quant	Tacres Nacres
 А	38090	00	MUN	 NK	 G		SE	SE	 NW	3200	2920	09	10	09E	3	WR	27.62	27.62	 V
Α	45523	00	MUN	LO	G		NE	NM	NE	5122	1671	04	10	09E	2	WR	33.60	33.60 <i>•</i>	
A	<b>★</b> 45524	00	MUN	LO	G		NW	NM	NE	5278	2360	04	10	09E	3	WR	33.60	3.04	V +30.56
A	46443	00	MUN	LO	G		SW	SW	NE	3100	2575	27	09	09E	2	WR	184.13	184.13	1 25 52 3 38.090 +
А	47215	00	MUN	LO	g <sup>°</sup>		NE	NW	NE	5122	1671	04	10	09E	2	WR	100.00	41.14	0/L 45,5231
A	47218	00	MUN	LO	G		NW	NW	NE	5278	2360	04	10	09E	3	WR	100.00	0.00	0/L 45,523, 38,090 + 1
A	49858	00	MUN	ΑY	G				NE	3960	1320	03	10	09E	2	WR	100.00	1 <b>0</b> 0.00	
A	49859	00	MUN	ΑY	G				NW	3960	3960	Ó2	10	09E	1	WR	100,00	100.00	
A	49882	00	MUN	ΑY	G				NE	3960	1320	02	10	09E	2	WR	100.00	100 00	
A	49910	00	MUN	ΑY	G		NE	NW	NE	5230	1645	03	10	09E	3	WR	200.00	200.00	_
====			====:	=:			===:	:	====		=====	====:	====	<b></b>	====	=====		500 AT	<del>-</del> ====================================

\$ 9157; 36,782 + 38,383
Dismissed Dismissed
outside of 2 mile circle - 1.3 mgy

\* 45,524 - could pump all quantity within limitation 5.04 47,215 Limited to 141.14 AF with 3 series files in enels + 936 AF (1414) 27.62-336-36.18

45,524

Safe Yield Report Sheet
Proposed Water Right Application
Point of Diversion in SWSWNWNE 03-10S-09E
3955'N + 2525'W



#49,858

Report Date Thursday, October 26 2017

All wello > 1/4 mile

meets spacing

Water Rights and Points of Diversion Within 2.00 miles of point defined as: 3955 ft N and 2525 ft W of the SE Corner of Section 3, T 10S, R 9E 96.397766 West Longitude and 39.213740 North Latitude Located at:

GROUNDWATER ONLY

\_\_\_\_\_\_

	File 1	Number	Use	ST	SR Dist	(ft)	Q4	Q3	Q2	Q1	FeetN	FeetW	Sec	Twp	Rng	ID	Batt Auth_Quan	Add_Quan	Unit	
	A	38090 00	NUM C	NK	G	8298		SE	SE	NW	3200	2920	9	10	9E	3	27.62	27.62	AF	
	A	45523 00	NUM C	LO	G	4498		NE	NW	NE	5122	1671	4	10	9E	2	33.60	33.60	AF	
	A	45524 00	NUM C	LO	G	5204		NW	NW	NE	5278	2360	4	10	9E	3	33.60	3.04	AF	
	A	46443 00	NUM C	LO	G	9722		SW	SW	NE	3100	2575	27	9	9E	2	184.13	184.13	AF	
	A	47215 00	MUN C	LO	G	4498		NE	NW	NE	5122	1671	4	10	9E	2	100.00	41.14	AF	
	A	47218 00	MUN C	LO	G	5204		NW	NW	NE	5278	2360	4	10	9E	3	100.00	.00	AF	
_	A	49858 00	NUM C	AY	G	1205				NE	3960	1320	3	10	9E	2	100.00	100.00	AF	
	A	49859 00	MUN C	AY	G	3801				NW	3960	3960	2	10	9E	1	100.00	100.00	AF	
	A	49882 00	NUM C	AY	G	6441				NE	3960	1320	2	10	9E	2	100.00	100.00	AF	
	A	49910 00	NUM C	AY	G	1549		NE	NW	NE	5230	1645	3	10	9E	3	200.00	200.00	AF	
		=======		====		=====	===	===:	===	===:	=====		====		=====			=======		
	Total	Net Quar	ntitie	es A	Authoriz	ed:	Di	rect	t		Sto	rage								
	Total	Request	ed Amo	ount	(AF) =		50	0.00	0			.00								
	Total	Permitte	ed Amo	ount	(AF) =			.00	0			.00								
					(3.71)				_			0.0								

Total Inspected Amount (AF) = 261.92 . 00 Total Pro\_Cert Amount (AF) = .00 .00 Total Certified Amount (AF) = 27.62 .00 Total Vested Amount (AF) = .00 .00 TOTAL AMOUNT (AF) = 789.54 .00

An \* after the source of supply indicates a pending application for change for the file number.

An  $\star$  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:

96.397766 West Longitude and 39.213740 North Latitude

GROUNDWATER ONLY

WATER USE CORRESPONDENTS:

\_\_\_\_\_\_

File Number Use ST SR

A\_\_ 38090 00 MUN NK G

> CITY OF SAINT GEORGE

> PO BOX 33

> SAINT GEORGE KS 66535

45523 00 MUN LO G

> CITY OF SAINT GEORGE

> PO BOX 33

> SAINT GEORGE KS 66535

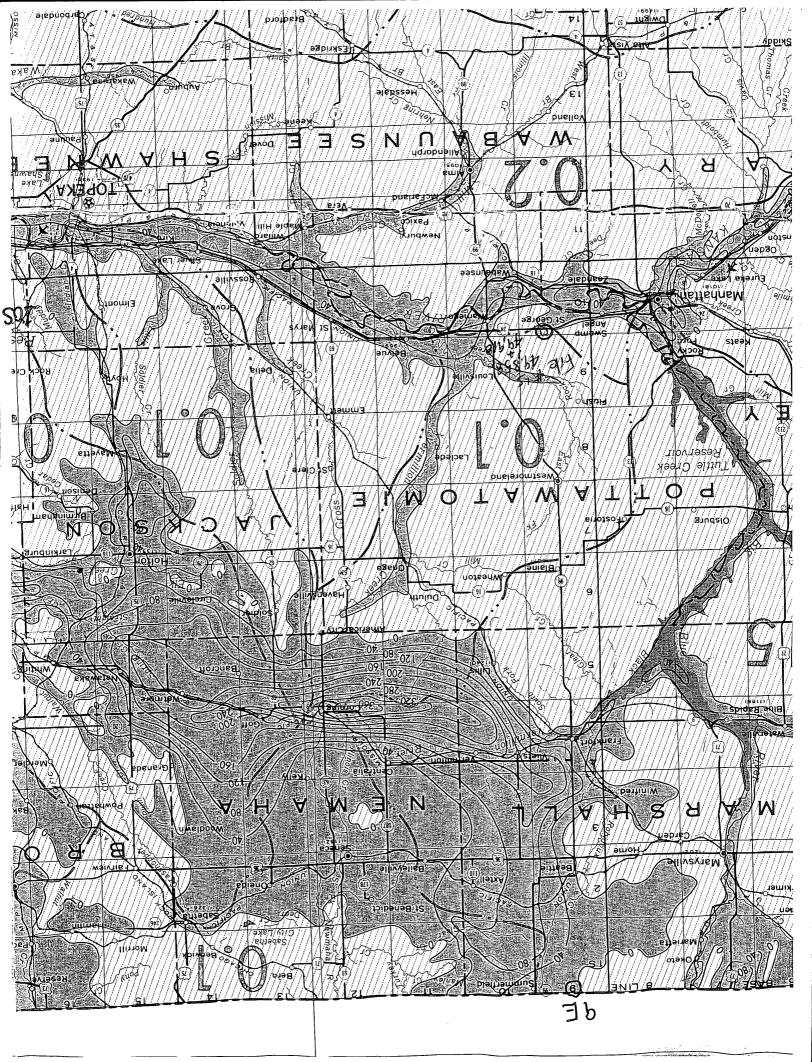
\\_\_\_\_\_

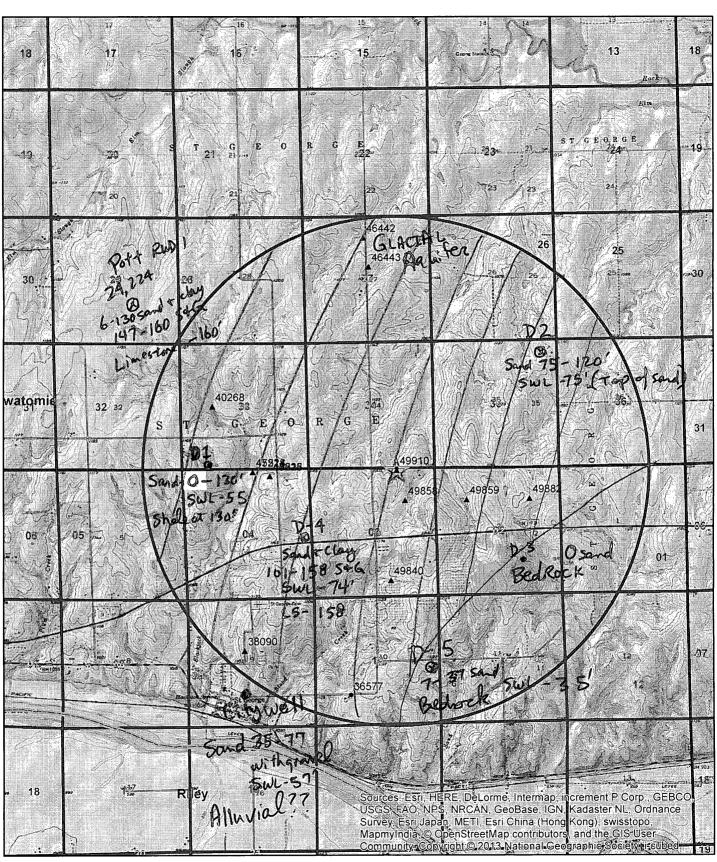
A 45524 00 MUN LO G

> CITY OF SAINT GEORGE

> PO BOX 33

> SAINT GEORGE KS 6.6535		*	
>			
A 46443 00 MUN LO G			
> POTTAWATOMIE RWD 01			
>			
> PO BOX 233			
> WAMEGO KS 66547			
>			
A 47215 00 MUN LO G			
>			
> PO BOX 33			
> SAINT GEORGE KS 66535			
>			
A 47218 00 MUN LO G			
> CITY OF SAINT GEORGE			
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> PO BOX 33			
> SAINT GEORGE KS 66535			
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A_ 49858 00 MUN AY G			
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> CITY OF SAINT GEORGE			
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> PO BOX 33			
> SAINT GEORGE KS 66535			
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A 49859 00 MUN AY G			
> CITY OF SAINT GEORGE			
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A 49882 00 MUN AY G			
> CITY OF SAINT GEORGE			
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> SAINT GEORGE KS 66535			
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A 49910 00 MUN AY G			
> CITY OF SAINT GEORGE			
>			
> PO BOX 33			
> SAINT GEORGE KS 66535			
>			





N

	W	ATER WELL REC	ORD Form WWC-5	KSA 82a-	1212 ID No	)		
1 LOCATION OF W	ATER WELL:	Fraction		Sec	ction Number	Township Nu	mber Range N	_
			SW 1/4 5W		33	<u>т 9</u>	s R 9	<b>(€)</b> w
		~	ddress of well if located	within city?		•		
5/65 ROU	KENHAM R	<b>v</b> .						
2 WATER WELL OV	VNER: GLE	NNA OSE	מובעטט					-
RR#, St. Address, Box City, State, ZIP Code	5061	PARGE . WC	44535			Application I	iculture, Division of Water Number:	
3 LOCATE WELL'S L	OCATION WITH	4 DEPTH OF C	OMPLETED WELL	/37	ft. ELEVAT	rion: <del> </del>		
AN "X" IN SECTION	I BOX:	Depth(s) Groun	dwater Encountered	15	Zft.	2	ft. 3 day/yr <i>5/28/05</i>	ft.
N N		WELL'S STATION	WATER LEVEL5	5ft. beld	ow land surface	e measured on mo/	day/yr <i>5./28/0</i> >	
	1	Pur	np test data: Well wat	er was	tt. a	after	hours pumping	gpm
NW	NE			Public water			11 Injection well	gpiii
			→ 3 Feedlot 6	Oil field water	r supply	9 Dewatering	12 Other (Specify be	low)
W	E	2 Irrigation	4 Industrial 7	Domestic (lav	vn & garden)	10 Monitoring well.		
	1					\ <u></u>		
SW	SE	1	l/bacteriological sample	submitted to		es No ater Well Disinfected	; If yes, mo/day/yrs samp	le was sub- Vo
_ X		mitted			VVa	ater wen Dismected	ir res $\searrow$	40 ,
S							, \ <u> </u>	
5 TYPE OF BLANK 1 Steel	CASING USED: 3 RMP (S		5 Wrought iron 6 Asbestos-Cement	8 Concre	ete tile (specify below)		NTS: Glued Clamp Welded	ed
2 PVC	4 ABS	,,,,	7 Fiberglass				Threaded	
Blank casing diamete	r	in. to			in. to	ft., Dia	in. to	ft.
Casing height above I	and surface	24	in., weight			lbs./ft. Wall thicknes	ss or guage No. <i>SD.K.</i> Z.	- <b>]</b>
TYPE OF SCREEN C	· · · · — · · · · · · · · · · · · · · ·			7 PV			estos-Cement	•
1 Steel	3 Stainles 4 Galvani		<ul><li>5 Fiberglass</li><li>6 Concrete tile</li></ul>	8 RN 9 AB	MP (SR)		r (Specify) e used (open hole)	
2 Brass				•				, - hala\
SCREEN OR PERFO		NGS ARE:		zed wrapped wrapped		8 Saw cut 9 Drilled holes	11 None (ope	n noie)
1 Continuous slo 2 Louvered shutt		VIIII SIOT	7 Tord			10 Other (specify	)	ft.
SCREEN-PERFORAT			/7 # to .	/マフ	ft From		ft. to	
OGNEEN EN ONA	LD INTERIOREC	From	ft. to		ft., From		ft. to	ft.
GRAVEL PA	ACK INTERVALS	6: From <b>2</b> -	<b>.</b>	132	ft., From		ft. to	ft.
		From	t. to		ft., From	••••••	ft. to	π.
6 GROUT MATERI	AL: 1 Nea	at cement	2 Cement grout	Ben	tonite 4	Other		
Grout Intervals: Fro	om3	ft. to2.5	ft., From	ft. 1	to	ft., From	ft. to	fţ.
What is the nearest se	ource of possible	e contamination:			10 Livest	ock pens	14 Abandoned water	
1 Septic tank		eral lines	7 Pit privy		11 Fuels		15 Oil well/Gas well	
2 Sewer lines		•	8 Sewage	lagoon	12 Fertiliz	zer storage	6 Other (specify be	
3 Watertight sew	er lines 6 See	page pit	9 Feedya	rd		icide storage	HOUTE	
Direction from well?	WEST	-			How man	·		
FROM TO	ļ	LITHOLOGIC	LOG	FROM	ТО	PLU	GGING INTERVALS	·
Q 3/		FINK						
31 33	۔ مصا	AS, COBBL.	ÆS				· · · · ·	<del> </del>
35 7/		TINA		-				
72 708		okhy						<del></del>
	JANNY F	EN/R_	مدامته سامت م					
130 137	SILVE		eaus corner	+				
130 137	JUNIUM	, GKAY						
7 CONTRACTOR'S	OR LANDOWN	ER'S CERTIFICA	TION: This water well v	vas (1) constr	ucted, (2) reco	instructed, or (3) pl	ugged under my jurisdicti	on and was
completed on (mo/day)	/year)	1.46/0>			and this red	cord is true to the be	st of my knowledge and be	lief. Kansas
Water Well Contractor	's Licence No	760	This Wate	r Well Record	was completed	d on (mo/day/yr)	16/15/05	
under the business na	me of ASSO	XXATEN L	ROUGHER	1	by (:	signature)	Will	
							<del></del>	

INSTRUCTIONS: Use typewriter of 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.

1.00.500		ER WELL RECORD	Form WWC-				<u></u>	
LOCATION OF WATER WELL	L: Fraction  **NE 1	116		ction Number	Township No		Range Nu	<i>を</i> り し
County: <b>FOTT</b> Distance and direction from nea	rest town or city etreet	address of well if loca	NE 1/4	11 J	T 7	(s)	R /	(EW
24 thin Go	I will and		ted within city?	from Win	1190 200 3	a mil	5 Wr5]	on
WATER WELL OWNER:			V VV	/3/				
RR#, St. Address, Box # : 🔊	R				0 d - f A	and a color const. Di		
		66547				•	vision of Water	Hesources
City, State, ZIP Code : V	Vamigo, HS	60391	IND		Application	Number:		
LOCATE WELL'S LOCATION AN "X" IN SECTION BOX:	WITH DEPTH OF	COMPLETED WELL.	1. 2.0	ft. ELEVAT	'ION:			
N	Depth(s) Groun	dwater Encountered	کشیکی در ۱	ft. 2		ft. 3.		n.
	**	C WATER LEVEL						L
NW NE		np test data: Well wa				•		
		.Ø gpm: Well wa						
w	Bore Hole Dian	neter <i>/</i> in. t	io12.0				to	
w ! ! !	WELL WATER	TO BE USED AS:	5 Public wa	ter supply	B Air conditioning		jection well	
SW SE	1 Domestic		6 Oil field w		9 Dewatering		ther (Specify b	
	2 Irrigation			-	0 Monitoring well			
	Was a chemica	l/bacteriological sample	e submitted to (	•				oie was sub-
<u> </u>	mitted				er Well Disinfecte		No -	
TYPE OF BLANK CASING U		5 Wrought iron	8 Cond				Clamp	
	RMP (SR)	6 Asbestos-Cemen		r (specify below	•		<b></b>	
1	ABS	7 Fiberglass		• • • • • • • • • • • • • • • • • • • •			led	
llank casing diameter 5.								
casing height above land surface		in., weight >CP. YC						
YPE OF SCREEN OR PERFO			7 P	_		estos-cemen		
	Stainless steel	5 Fiberglass		MP (SR)				• • • • • • • •
	Salvanized steel	6 Concrete tile	9 A	BS		ne used (ope	•	
CREEN OR PERFORATION (		ואח מו	uzed wrapped		8 Saw cut		11 None (oper	n nole)
1 Continuous slot	3 Mill slot	) 6 WIF	e wrapped		9 Drilled holes			
2 Louvered shutter	4 Key punched	100 7 Tor	ch cut		10 Other (specify			
			/ 2 0					
SCREEN-PERFORATED INTER					1			
SCREEN-PERFORATED INTER	From	ft. to		ft., Fron	1	ft. to		ft.
GRAVEL PACK INTER	From			ft., Fron	1	ft. to		ft.
GRAVEL PACK INTE	From RVALS: From From	ft. to  ft. to  ft. to	/.20	ft., Fron	1	ft. to ft. to ft. to		ft. ft. ft.
GRAVEL PACK INTER	From RVALS: From From I Neat cement	ft. to		ft., Fron ft., Fron ft., Fron	1	ft. to ft. to ft. to		ft. ft. ft.
GRAVEL PACK INTER	From RVALS: From From  Neat cement  Cft. to 2	## 15 to ##		ft., Fron ft., Fron ft., Fron tonite to	1	ft. to	. ft. to	
GRAVEL PACK INTER GROUT MATERIAL: Grout Intervals: From What is the nearest source of page 1.1.	From  RVALS: From  From  Neat cement  Cft. to 2.  possible contamination:	tt. to  tt. to  tt. to  2.5 ft. to  ft. to  2 Cement grout  5 ft., From  Now CL	Ben	toft., From	n	ft. to ft. to ft. to	ft. to andoned water	
GRAVEL PACK INTER  GROUT MATERIAL: 1  frout Intervals: From  That is the nearest source of p  1 Septic tank	From  RVALS: From  From  Neat cement  Cft. to 2.  cossible contamination:  4 Lateral lines	2 Cement grout  tt. to  2 Cement grout  tt., From  Nom Cu 7 Pit privy	Ben ft.	to	n	ft. to ft. to ft. to ft. to	. ft. to andoned water well/Gas well	
GRAVEL PACK INTER GROUT MATERIAL: frout Intervals: From  That is the nearest source of post 1 Septic tank 2 Sewer lines	From  RVALS: From From  Neat cement  Cft. to2.  possible contamination: 4 Lateral lines 5 Cess pool	2 Cement grout  Compared to the privy  Respond to the private to	Ben ft.	to	n	ft. to ft. to ft. to ft. to	ft. to andoned water	
GRAVEL PACK INTER  GROUT MATERIAL:  rout Intervals: From  /hat is the nearest source of p  1 Septic tank 2 Sewer lines 3 Watertight sewer lines	From  RVALS: From From  Neat cement  Cft. to2.  possible contamination: 4 Lateral lines 5 Cess pool	2 Cement grout  tt. to  2 Cement grout  tt., From  Nom Cu 7 Pit privy	Ben ft.	ft., From ft., From tonite to	nn  Other	ft. to ft. to ft. to ft. to	. ft. to andoned water well/Gas well	
GRAVEL PACK INTER  GROUT MATERIAL:  rout Intervals: From  /hat is the nearest source of p  1 Septic tank 2 Sewer lines 3 Watertight sewer lines	From  RVALS: From From  Neat cement  Cft. to2.  cossible contamination: 4 Lateral lines 5 Cess pool 6 Seepage pit	2 Cement grout  Compared to the privy  Read Sewage lates a sewage	Ben ft.	to	Other	ft. to ft. to ft. to ft. to	. ft. to andoned water well/Gas well her (specify be	
GRAVEL PACK INTER  GROUT MATERIAL:  rout Intervals: From  /hat is the nearest source of p  1 Septic tank 2 Sewer lines 3 Watertight sewer lines	From  RVALS: From From  Neat cement  Cft. to2.  possible contamination: 4 Lateral lines 5 Cess pool	2 Cement grout  Compared to the privy  Read Sewage lates a sewage	Ben ft.	to	Other	14 Ab	. ft. to andoned water well/Gas well her (specify be	
GRAVEL PACK INTER  GROUT MATERIAL:  rout Intervals: From  /hat is the nearest source of p  1 Septic tank 2 Sewer lines 3 Watertight sewer lines	From  RVALS: From From  Neat cement  Cft. to2.  cossible contamination: 4 Lateral lines 5 Cess pool 6 Seepage pit	2 Cement grout  Compared to the privy  Read Sewage lates a sewage	Ben ft.	to	Other	14 Ab	. ft. to andoned water well/Gas well her (specify be	
GRAVEL PACK INTER  GROUT MATERIAL: rout Intervals: From /hat is the nearest source of p 1 Septic tank 2 Sewer lines 3 Watertight sewer lines irection from well?	From  RVALS: From From  Neat cement  Cft. to2.  cossible contamination: 4 Lateral lines 5 Cess pool 6 Seepage pit	2 Cement grout  Compared to the privy  Read Sewage lates a sewage	Ben ft.	to	Other	14 Ab	. ft. to andoned water well/Gas well her (specify be	
GRAVEL PACK INTER  GROUT MATERIAL: rout Intervals: From  /hat is the nearest source of page 1. Septic tank 2 Sewer lines 3 Watertight sewer lines irrection from well?  FROM TO	From  RVALS: From From  Neat cement  Cft. to2.  cossible contamination: 4 Lateral lines 5 Cess pool 6 Seepage pit	2 Cement grout  Compared to the privy  Read Sewage lates a sewage	Ben ft.	to	Other	14 Ab	. ft. to andoned water well/Gas well her (specify be	
GRAVEL PACK INTER  GROUT MATERIAL: rout Intervals: From /hat is the nearest source of page 1. Septic tank 2. Sewer lines 3. Watertight sewer lines irrection from well? FROM TO  D	From  RVALS: From From  Neat cement  Cft. to2.  cossible contamination: 4 Lateral lines 5 Cess pool 6 Seepage pit	2 Cement grout  Compared to the privy  Read Sewage lates a sewage	Ben ft.	to	Other	14 Ab	. ft. to andoned water well/Gas well her (specify be	
GRAVEL PACK INTER  GROUT MATERIAL: rout Intervals: From  that is the nearest source of particular intervals.  Sewer lines  Watertight sewer lines irrection from well?  FROM TO  Brock  TS	From  RVALS: From From  Neat cement  Cft. to2.  cossible contamination: 4 Lateral lines 5 Cess pool 6 Seepage pit	2 Cement grout  Compared to the privy  Read Sewage lates a sewage	Ben ft.	to	Other	14 Ab	. ft. to andoned water well/Gas well her (specify be	
GRAVEL PACK INTER  GROUT MATERIAL: rout Intervals: From  that is the nearest source of particular intervals: 1 Septic tank 2 Sewer lines 3 Watertight sewer lines irrection from well? FROM TO	From  RVALS: From From  Neat cement  Cft. to2.  cossible contamination: 4 Lateral lines 5 Cess pool 6 Seepage pit	2 Cement grout  Compared to the privy  Read Sewage lates a sewage	Ben ft.	to	Other	14 Ab	. ft. to andoned water well/Gas well her (specify be	
GRAVEL PACK INTER  GROUT MATERIAL: rout Intervals: From  that is the nearest source of particular intervals.  Sewer lines  Watertight sewer lines irrection from well?  FROM TO  Brock  TS	From  RVALS: From From  Neat cement  Cft. to2.  cossible contamination: 4 Lateral lines 5 Cess pool 6 Seepage pit	2 Cement grout  Compared to the privy  Read Sewage lates a sewage	Ben ft.	to	Other	14 Ab	. ft. to andoned water well/Gas well her (specify be	
GRAVEL PACK INTER  GROUT MATERIAL: rout Intervals: From  that is the nearest source of particular intervals.  Sewer lines  Watertight sewer lines irrection from well?  FROM TO  Brock  TS	From  RVALS: From From  Neat cement  Cft. to2.  cossible contamination: 4 Lateral lines 5 Cess pool 6 Seepage pit	2 Cement grout  Compared to the privy  Read Sewage lates a sewage	Ben ft.	to	Other	14 Ab	. ft. to andoned water well/Gas well her (specify be	
GRAVEL PACK INTER  GROUT MATERIAL: rout Intervals: From  that is the nearest source of particular intervals: 1 Septic tank 2 Sewer lines 3 Watertight sewer lines irrection from well? FROM TO	From  RVALS: From From  Neat cement  Cft. to2.  cossible contamination: 4 Lateral lines 5 Cess pool 6 Seepage pit	2 Cement grout  Compared to the privy  Read Sewage lates a sewage	Ben ft.	to	Other	14 Ab	. ft. to andoned water well/Gas well her (specify be	
GRAVEL PACK INTER  GROUT MATERIAL: rout Intervals: From  that is the nearest source of particular intervals: 1 Septic tank 2 Sewer lines 3 Watertight sewer lines irrection from well? FROM TO	From  RVALS: From From  Neat cement  Cft. to2.  cossible contamination: 4 Lateral lines 5 Cess pool 6 Seepage pit	2 Cement grout  Compared to the privy  Read Sewage lates a sewage	Ben ft.	to	Other	14 Ab	. ft. to andoned water well/Gas well her (specify be	
GRAVEL PACK INTER  GROUT MATERIAL: rout Intervals: From  that is the nearest source of particular intervals.  Sewer lines  Watertight sewer lines irrection from well?  FROM TO  Brock  TS	From  RVALS: From From  Neat cement  Cft. to2.  cossible contamination: 4 Lateral lines 5 Cess pool 6 Seepage pit	2 Cement grout  Compared to the privy  Read Sewage lates a sewage	Ben ft.	to	Other	14 Ab	. ft. to andoned water well/Gas well her (specify be	
GRAVEL PACK INTER  GROUT MATERIAL:  rout Intervals: From  /hat is the nearest source of page 1. Septic tank 2. Sewer lines 3. Watertight sewer lines  irrection from well?  FROM TO  Jop  Jop  Jop  Jop  Jop  Jop  Jop  Jo	From  RVALS: From From  Neat cement  Cft. to2.  cossible contamination: 4 Lateral lines 5 Cess pool 6 Seepage pit	2 Cement grout  Compared to the privy  Read Sewage lates a sewage	Ben ft.	to	Other	14 Ab	. ft. to andoned water well/Gas well her (specify be	
GRAVEL PACK INTER  GROUT MATERIAL:  irout Intervals: From  /hat is the nearest source of particular intervals:  1 Septic tank 2 Sewer lines 3 Watertight sewer lines  Direction from well?  FROM TO  // Jop // Brook // Server	From  RVALS: From From  Neat cement  Cft. to2.  cossible contamination: 4 Lateral lines 5 Cess pool 6 Seepage pit	2 Cement grout  Compared to the privy  Read Sewage lates a sewage	Ben ft.	to	Other	14 Ab	. ft. to andoned water well/Gas well her (specify be	
GRAVEL PACK INTER GROUT MATERIAL: Grout Intervals: From Vhat is the nearest source of particle tank 2 Sewer lines 3 Watertight sewer lines Direction from well? FROM TO D J Jop J Brook 6 75 Serve	From  RVALS: From From  Neat cement  Cft. to2.  cossible contamination: 4 Lateral lines 5 Cess pool 6 Seepage pit	2 Cement grout  Compared to the privy  Read Sewage lates a sewage	Ben ft.	to	Other	14 Ab	. ft. to andoned water well/Gas well her (specify be	
GRAVEL PACK INTER  GROUT MATERIAL:  irout Intervals: From  /hat is the nearest source of p 1 Septic tank 2 Sewer lines 3 Watertight sewer lines Direction from well?  FROM TO 0 / Jop / 6 Brow 6 75 Serve 7 5 /20 Find	From  RVALS: From From  I Neat cement  Cft. to  cossible contamination: 4 Lateral lines 5 Cess pool 6 Seepage pit  LITHOLOGIC  So, L  W. Choy  Ly Choy  Send	tt. to  2.5	Ben ft.	to	n	ft. to ft. to ft. to ft. to ft. to	. ft. to	ftftft. well
GRAVEL PACK INTER  GROUT MATERIAL:  rout Intervals: From  /hat is the nearest source of proceedings of the second of the	From  RVALS: From From  I Neat cement  Cft. to  cossible contamination: 4 Lateral lines 5 Cess pool 6 Seepage pit  LITHOLOGIC  So, L  W. Choy  Ly Choy  Send	tt. to  2.5	Ben ft.	ft., Fron ft., Fron ft., Fron tonite  10 Livest 11 Fuel s 12 Fertili: 13 Insect How mar TO	n	ft. to	ft. to	on and was
GRAVEL PACK INTER  GROUT MATERIAL: rout Intervals: From /hat is the nearest source of page 1. Septic tank 2. Sewer lines 3. Watertight sewer lines irrection from well? FROM TO	From	TION This water well	Ben ft. sagoon FROM	ft., Fron ft., Fron ft., Fron tonite to	notructed, or (3) and is true to the be	ft. to	ft. to	on and was
GRAVEL PACK INTER  GROUT MATERIAL: rout Intervals: From  that is the nearest source of page 1. Septic tank 2 Sewer lines 3 Watertight sewer lines irection from well? FROM TO  O	From	TION This water well	Ben ft. ft. ft. agoon Was (1) const	ft., Fron ft., Fron ft., Fron tonite  10 Livest 11 Fuel s 12 Fertili: 13 Insect How mar TO	nother	ft. to	ft. to	nt

Jo BWS 3.28.809 Form WWC-5 KSA 82a-1212 WATER WELL RECORD Section Number Range Number 1 LOCATION OF WATER WELL Fraction Township Number County: Pottawatomie SW NW 1/4 SE 29 Т Street address of well if located within city? Distance and direction from nearest town or city? 2.5 N. St. Geo. , Ks. 2 WATER WELL OWNER: Pottawatomie CO. RWD No. 1 RR#, St. Address, Box # : P.O. Box 101 Board of Agriculture, Division of Water Resources WELL # 3 24224 City State ZIP Code Louisville, Ks. 66450 Application Number: 3 DEPTH OF COMPLETED WELL 160 ......ft. Bore Hole Diameter ... 24....... in. to .160 ...... ft., and .......... 8 Air conditioning 5 Public water supply 11 Injection well Well Water to be used as: 9 Dewatering 6 Oil field water supply 12 Other (Specify below) 1 Domestic 3 Feedlot 10 Observation well 4 Industrial 7 Lawn and garden only 2 Irrigation Pump Test Data Well water was 121'7" ft. after 5 hours pumping. 250 gpm: Well water was ft. after 5 Wrought iron 4 TYPE OF BLANK CASING USED: 8 Concrete tile Casing Joints: Glued . . . . Clamped . . . . . . 6 Asbestos-Cement 1 Steel 9 Other (specify below) Welded . . . X . . . . . . . . . . . . . . 3 RMP (SR) 2 PVC 7 Fiberglass Threaded...... Blank casing dia 10 ... in. to 145 ... ft., Dia ... in. to ... ft., Dia ... ft., Di Casing height above land surface 36 in, weight 35 lbs./ft. Wall thickness or gauge No ... 307 TYPE OF SCREEN OR PERFORATION MATERIAL: 10 Asbestos-cement 3 Stainless steel 5 Fiberglass 8 RMP (SR) 1 Steel 12 None used (open hole) 4 Galvanized steel 6 Concrete tile 9 ABS 2 Brass 8 Saw cut 5 Gauzed wrapped 11 None (open hole) Screen or Perforation Openings Are: 9 Drilled holes 6 Wire wrapped 1 Continuous slot 3 Mill slot 7 Torch cut 2 Louvered shutter 4 Key punched Screen-Perforated Intervals: Gravel Pack Intervals: 2 Cement grout 3 Bentonite 4 Other ..... 5 GROUT MATERIAL: 1 Neat cement What is the nearest source of possible contamination: Open Pasture 10 Fuel storage 14 Abandoned water well 15 Oil well/Gas well 1 Septic tank 4 Cess pool 7 Sewage lagoon 11 Fertilizer storage 12 Insecticide storage 8 Feed yard 16 Other (specify below) 2 Sewer lines 5 Seepage pit 9 Livestock pens 13 Watertight sewer lines 3 Lateral lines 6 Pit privy If Yes: Pump Manufacturer's name Jacuzzi Model No. 8MCA14 HP 40 Volts 460 1 Submersible 2 Turbine 3 Jet 4 Centrifugal 5 Reciprocating 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 1 day 1979
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 March month 10 day 1980 year under the business name of strader Drilling Co., Inc. Holton, Ks. by (signature) Lale LOCATE WELL'S LOCATION FROM WITH AN "X" IN SECTION 0 LITHOLOGIC LOG FROM TO 6 Top Soil BOX: 6 130 Sand & clay lenses 147 Blue clay 130 147 156 Fine sand Coarse sand & pea gravel 156 160 Limestone - grey 160 × **ELEVATION:** (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.

USE TYPEWRITER OR BALL POINT PEN-PRESS FIRMLY, PRINT CLEARLY.

Kansas State Dept. Of Health (Water Well Contractors) Forbes–Bldg. 740 Topeka, Kansas 66620

			K3A 82a-				orbes-Bldg. 740 Opeka, Kansas 66620	
	County	Township name	Fraction	Section	on number	¬	Town number	Range number 9
1 Location of well:	POTTAWA Tomie	ST. George	XI = NE	<b>\$</b>	10	<u> </u>	10-	95
Distance and direct	ion from nearest town or cit	1.	j			ber 7	SPAIN	PANSASTAVIET
Street address of we	ell location if in city:	T. Geo. K		Address: R	7 (	5 T	( Geo., N	(AASA)
Locate with "X" in	···	Sketch map:					I depth: <u>60</u> ft. D	Date of completion 8-6-79
	1 1 1					5 🔲	Cable tool 🔀 Rotary	
	-    - <b>/-</b>						Hollow rod Jetted : Domestic Public	Bored Reverse rotary
w	-\\\E							onditioning Commercial
	-!!-X-!		150 x				ing: Material Puc	
	S		p	1		Dia	m	ourface <b>2</b> 1 in . Weight <b>2</b> 1 <b>3</b> 3 lbs ./ft
2	Mile -			΄. Τ <sub>-</sub>			in. to ft. depth [ in. to ft. depth	Orive shoe? Yes No
		e and color of material		From	То	8 Scre Mai	een: nufacturer <b>Pumpo</b>	0
	Fine SAn	d		_ 0	//	Тур	PUC 1	Dia
	Gellon C.	lay		//	26	Set	between <b>150</b> ft, and	<b>20</b> ft
	GREY SI	hale	· · · · · · · · · · · · · · · · · · ·	26	59	Gra	ings: ivel pack XYes No	Size range of material X
	Yellow L	ines Tone		59	61	9 Stat	ic water level:No7	
	GREY S	hale		61	85	10 Pum	ping level below land sur	faces: Air TesT  pumping g.p.m.
	Shaley GR.	y Sands To	ne.	8.5	97	_		pumping g.p.m.
	Grey S	hale		97	108	11 Wat	ter sample submitted:	
	GREY SA	nde Tone		108	120	12 Wel	Yes X No Date  I head completion:	Apped
•	GREY S	hale		120	45		Pitless adapter 24 I grouted? 🛭 Yes	Inches above grade
	GREY L	mes Tone		145	153	X	Neat cement Bentoni	
	Grey 5	halo		153	160		arest source of possible co	ntamination:
						We	ll disinfected upon comple	etion? Yes No
						15 Pum Mai	np: nufacturer's name	Not installed
							del number l gth of drop pipe l	HP Volts ft. capacity g.m.p.
						τ <sub>yp</sub>		Turbine
	luca	a second sheet if needed	1)				Jet [	Reciprocating Other
16 Remarks: elevat		The state of the s	,		1	17 Wat	ter well contractor's certif	ication:
,02						l	s well was drilled under m ort is true to the best of m	y knowledge and belief.
Topography:						S IRA	der Drilling	Co. Inc 182
<b>⊠</b> Slope						Add		ton Kansas dise Date 8-12-75
Upland						) Sigi	Authorized represe	entative

WATER WELL RECORD KSA 82a-1201-1215

Forward the white, blue and pink copies to the Kansas State Dept. Of Health.

Form WWC-5

			WATER	WELL RECORD	Form WW	C-5 KSA 82	a-1212	<b>Y</b>		
1 LOCATI	ON OF WA	TER WELL:	Fraction			Section Number	Township	p Number	Range Number	
County:	POTTAW	ATOMIE	NE 1/4 I	VE 1/4 SE	1/4	4	T 10	0 s	R 9E E	E/W
Distance a	and direction	from nearest town of	or city street add	ress of well if locat	ted within cit	y?				
<b>_</b>										
μ	R WELL OV									
RR#, St. /	Address, Bo	×#: 6240 S	alzer					•	ivision of Water Reso	
	, ZIP Code			<u> </u>						
3 LOCATE	E WELL'S L	OCATION WITH 4	DEPTH OF CO	MPLETED WELL	. 156.'	ft. ELEVA	ATION:			
AN X	IN SECTIO	N BOX: De	pth(s) Groundwa	ter Encountered	1	ft.	2	ft. 3.		ft.
ī	!	I WE	ELL'S STATIC W	ATER LEVEL	7.4 ! 1	t. below land su	rface measured	on mo/day/yr	7/10/97	
	NW	NE	Pump to	est data: Well wa	ter was	ft. a	after	hours pun	nping	gpn
	1 1/44	Est	. Yield 60	. gpm: Well wa	ter was	ft. a	after	hours pur	nping	gpn
<u>•</u>	i	Во	re Hole Diamete	r. 12" in. to	o		and	. , , in.	to	ft
wile w	ı	i X E WE	LL WATER TO	BE USED AS:	5 Public v	ater supply	8 Air condition	ning 11 la	njection well	
7	1	1	1 Domestic	3 Feedlot	6 Oil field	water supply	9 Dewatering	12 (	Other (Specify below)	)
-	- SW	SE	2 Irrigation	4 Industrial						
	i	Wa	is a chemical/bad	teriological sample	submitted to	Department? Y	esNo	X; If yes,	mo/day/yr sample wa	ıs sul
1		s mit	ted			Wa	ater Well Disinfe	ected? Yes	X No	
5 TYPE C	OF BLANK	CASING USED:	5	Wrought iron	8 Co	ncrete tile	CASING	JOINTS: Glued	. X Clamped	
1 Ste	eel	3 RMP (SR)	6	Asbestos-Cement	t 9 Oth	er (specify belo			d	
2 PV	/C	4 ABS		Fiberglass				Thread	ded	
Blank casi	ng diameter	5"in.	to 0-144.	ft., Dia	.5"in.	to 154-15	96ft., Dia	ir	n. to	ft.
Casing hei	ight above I	and surface	24"in	., weight 2 •	.82	Ibs.	ft. Wall thickne	ss or gauge No		
TYPE OF	SCREEN O	R PERFORATION M	ATERIAL:		7_	PVC	10 /	Asbestos-cemer	it	
1 Ste	eel	3 Stainless ste	el 5	Fiberglass	8	RMP (SR)	11 (	Other (specify) .		
2 Bra	ass ·	4 Galvanized	steel 6	Concrete tile	9	ABS	12 /	None used (ope	:n hole)	
SCREEN (	OR PERFO	RATION OPENINGS	ARE:	5 Gau	zed wrapped	!	8 Saw cut		11 None (open hole)	)
1 Co	ntinuous slo	ot 3 Mill sl	ot	6 Wire	wrapped		9 Drilled hole	es		
2 Lo	uvered shut	- 7 (-		7 Toro						
SCREEN-F	PERFORAT	ED INTERVALS:	From14	$4\ldots$ ft. to .	154	ft., Fro	m	ft. to		ft.
			From	ft. to .		ft., Fro	m	ft. to		ft.
G	BRAVEL PA	CK INTERVALS:	From 2	.4 ft. to .	156	ft., Fro	m	ft. to		<i>.</i> ft.
			From	ft. to		ft., Fro				
6 GROUT	MATERIAL	.: 1 Neat cem	ent 2	Cement grout	3 Be	ntonite 4	Other			
Grout Inter	vals: Fro	m 4 ft.	to 24	ft., From	. , f	. to	ft., From			ft.
What is the	e nearest so	ource of possible con	tamination:			10 Lives	tock pens		andoned water well	
	ptic tank	4 Lateral lin	nes	7 Pit privy		11 Fuel	-		well/Gas well	
2 Se	wer lines	5 Cess poo	ol .	8 Sewage lag	goon	12 Fertil	izer storage	16, Oth	ner (specify below)	
3 Wa	atertight sew	er lines 6 Seepage	pit	9 Feedyard		13 Insec	ticide storage			
Direction fr		North					ny feet? 80		TEOVALO	
FROM 0	то 11	Fine Sand-S	ITHOLOGIC LO		FROM	то		PLUGGING IN	TERVALS	
			7:11							
11	27	Clay-Brown-								
27-		Fine Sand-B				_				
31	34	Clay-Brown-	SILTY							
34	38	Fine Sand-B	rown-Silty	·						
38	46_	Clay-Brown-	SILTY							
46	64	Fine Sand-B	cown							
64	89	Clay-Brown-								
89	99	Fine Sand-B								<del></del>
99	100_	_Clay=Brown_								
101	<u> 151</u>	Fine Sand-B								
151	154	Fine Sand-Co								
154	158	FS-CS-Med-Pe				1 1				
158_		Limestone-G	rey							
7 CONTR	RACTOR'S	OR LANDOWNER'S	CERTIFICATION	: This water well v	vas (1) cons	tructed, (2) reco	enstructed, or (3	l) plugged unde	r my jurisdiction and	was
		/year)	102			and this reco	rd is true to the	best of my know	wledge and belief. Ka	ınsas
Water Well	Contractor'	s License No	TQZ	This Water V	Well Record	was completed	on (mo/day)yr)	3-2-	<i>7 </i>	
		me of STRADER				by (signa	700	lells.	pron	
INSTRUC	CTIONS: Use ty	pewriter or ball point pen. <u>I</u> ent, Bureau of Water, Tope	PLEASE PRESS FIRM	LY and PRINT clearly, PI	lease fill in blant	s, underline or circle	the correct answers	s. Send top three co	pies to Kansas Department	t
or neartr	ו מווט בוועווטווח	en, dureau or water, rope	na, nansas 00020-00	o. rerepriorie. 313-296-	JUNG. JEHU ONE	W TIMILE WELL UI	unu icialii Ull	2 .01 your 1000103.		

WATER WELL RECORD Form WWC-5 KSA 82a-1212 Fraction Range Number 1 LOCATION OF WATER WELL: Township Number Section Number County: POTTAWATOMIE NF: 1/4 SE 1/4 10 S 9F. E/W Distance and direction from nearest town or city street address of well if located within city? WATER WELL OWNER: City of St. George City Hall WELL #4 RR#, St. Address, Box # : Board of Agriculture, Division of Water Resources St. George, KS 66535 City, State, ZIP Code Application Number: LOCATE WELL'S LOCATION WITH 4 DEPTH OF COMPLETED WELL ... 7.7.1...... ft. ELEVATION: AN "X" IN SECTION BOX: WELL'S STATIC WATER LEVEL .. 57!-7." It, below land surface measured on mo/day/yr .. 8-04-92 ...... Pump test data: Well water was  $62!-7\frac{1}{5}!$  ft. after 1 hours pumping 35 gpm Est. Yield 54.5 gpm: Well water was  $62!-7\frac{1}{5}!$  ft. after 5 hours pumping 54.5 gpm NW --- NF -Bore Hole Diameter . 24" ... in. to ... ... ft., and ... ... in. to ... ... ft. W 5 Public water supply 8 Air conditioning OTTICE. WELL WATER TO BE USED AS: 11 Injection well 1 Domestic 3 Feedlot 6 Oil field water supply 9 Dewatering 12 Other (Specify below) SW - SE -7 Lawn and garden only 10 Monitoring well ...... 2 Irrigation 4 Industrial Was a chemical/bacteriological sample submitted to Department? Yes........No......; If yes, mo/day/yr sample was sub-Water Well Disinfected? Yes X No TYPE OF BLANK CASING USED: 5 Wrought iron 8 Concrete tile CASING JOINTS: Glued . . - X -. Clamped . . . . . . Welded . . X . . . . . . . . . . . . . . . . 3 RMP (SR) 6 Asbestos-Cement 9 Other (specify below) 1 Steel 2 PVC 4 ABS 7 Fiberglass 10 Asbestos-cement TYPE OF SCREEN OR PERFORATION MATERIAL: 7 PVC 1 Steel 3 Stainless steel JohnsonFiberglass 8 RMP (SR) 4 Galvanized steel .060 6 Concrete tile 9 ABS 12 None used (open hole) 2 Brass SCREEN OR PERFORATION OPENINGS ARE: 5 Gauzed wrapped 8 Saw cut 11 None (open hole) 3 Mill slot 6 Wire wrapped 9 Drilled holes 1 Continuous slot 7 Torch cut 2 Louvered shutter 4 Key punched SCREEN-PERFORATED INTERVALS: From. 38 ... ft. to ... 77 ... ft., From ... ft. to ... ft. GRAVEL PACK INTERVALS: ft., From From ft. to 6 GROUT MATERIAL: 1 Neat cement 2 Cement grout 3 Bentonite What is the nearest source of possible contamination: City owned land 14 Abandoned water well 10 Livestock pens 15 Oil well/Gas well 4 Lateral lines 7 Pit privy 11 Fuel storage 1 Septic tank 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? How many feet? PLUGGING INTERVALS FROM LITHOLOGIC LOG FROM TO TO 28 Fine Sand-Silty-Brown 0 28 35 Clay-Brown-Silty 35 50 Fine Sand-Brown-Silty 50 58 Fine Sand-Brown-Silty-Clay-Brown 58 60 Clay-Brown-Silty 60 67 Fine Sand-Silty-Brown 67 68 Fine Sand-Coarse Sand-Med-Gravel, Brown 69 68 Boulders Fine Sand-Coarse Sand-Med-Gravel-Brown 69 71 71 72 Clay-Brown 72 77 Fine Sand-Coarse Sand-Med-some pea gravel-Brown-dirty 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) ..... 7-31-92 ...... and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. . . . . . . . . . . . . . . . . . This Water Well Record was completed on (mo/qay/yr) by (signature) under the business name of STRADER DRILLING CO., INC. 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.

USE TYPEWRITER OR BALL POINT PEN-PRESS FIRMLY, PRINT CLEARLY.

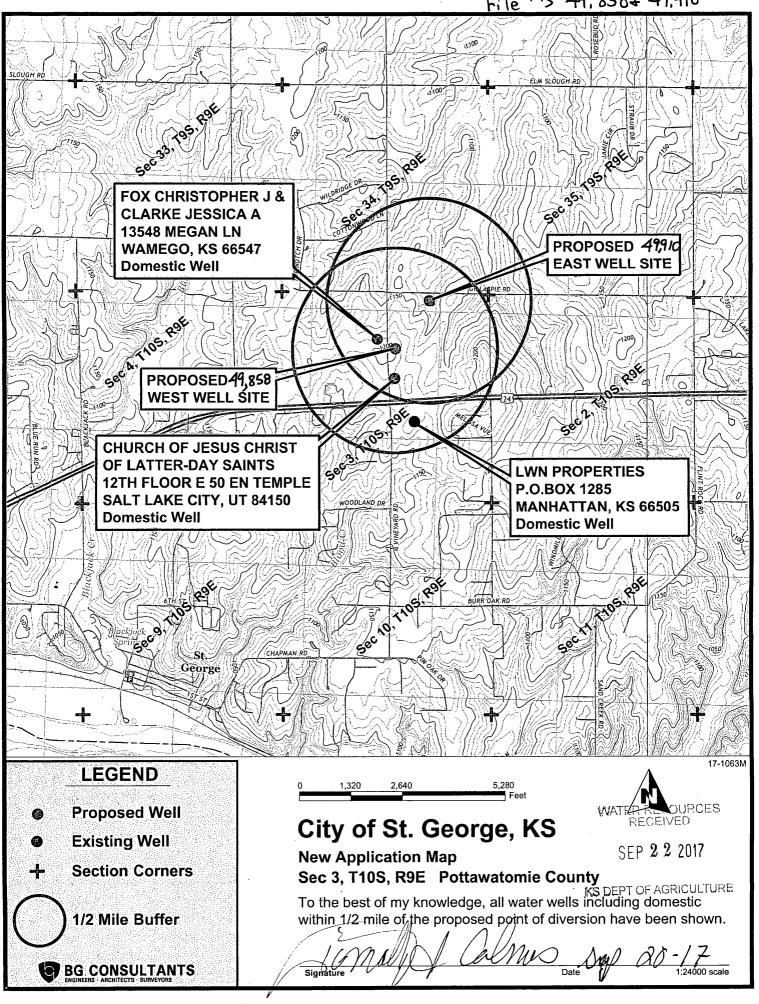


## WATER WELL RECORD KSA 82a-1201-1215

Kansas Department of Health and Environment-Division of Environment (Water well Contractors) Topeka, Kansas 66620

	inge number	
1. Location of well: POTTOWATOMIC NE 1/4 NE 1/4 SE 1/4 10 T 10 G R	9	<b>E)</b> W
2. Distance and direction from nearest town or city:   E OF 3. Owner of well: GARY SMITH	•	
Street address of well location if in city: 5T. GeoRge  R.R. or street:  City, state, zip code: Ranchyoh 777 (26)	RR. 1 2)	
, , , , , , , , , , , , , , , , , , ,	2554	—
4. Locate with "X" in section below:  Sketch map:  Sketch map:  Sketch map:  Well depth Lot ft.	9-8-78	
7 Cable tool 1 Rotary		
8. Use: L'Domestic _ Public si Irrigation _ Air cond		
LownOil field	ld waterOt	her
9. Casing: Material <b>PVC.</b> Hei Threaded Welded iSur!		1
Threaded		in. Llbs./ft.
1 Mile 1 Mile 1 Dia. 5 in. to 100 ft. depth!Wa		
5. Type and color of material From To Diain. toft. depth gas 10. Screen: Manufacturer's name _		•
Pumaco on OT		
Top Soll. 0 7 Type NVC Dia Siolygauze +020 Len	o	
FINE SAND 7 37 Set between 30 ft. or	and	ft.
Shale, grey  Shale, grey  Shale, grey  St. andft. and  Gravel pack? L Size range of		XXXO
Top Soll.  Fine Sand  7 37  Shale, grey  Limes Tone, gray  Shale, grey Red  115 160  Type NVC Dia  Sloygauze 1020 Leng Sloygauze 1020 Leng St. and Gravel pack? L Size range of  11. Static water level:  5 ft. below land surface  12. Pumping level below land surface ft. after hrs. pu	Date 9-8">	/day/yr.
Shale, aper Red 115 160 12. Pumping level below land surfa		
ft. after hrs. pu		. g.p.m.
Estimated maximum yield	John Maring	.g.p.m. _g.p.m.
13. Water sample submitted:		/day/yr.
Yes No Date  14. Well head completion:		
Pitless adapter	Inches above	grade
15. Well grouted? With: Neat cement Ber		
Depth: From S ft. to 15		" k
16. Nearest source of possible control ft. 200 Direction	tamination:	710
ft. 200 Direction Well disinfected upon completion?	Yes _	No
17. Pump:	Not installed	~ \C
Manufacturer's name HP	P Vol	<u></u>
Length of drop pipe ft.		
Type: Submersible	Turbine	
Jet	Recipro	1 6
(Use a second sheet if needed)Centrifugal	Other	——  <u> </u>
18. Elevation: 19. Remarks: 20. Water well contractor's certific This well was drilled under my juris		1 -
OWNER TO INSTAIL SIAL is true to the best of my knowledge	e and belief.	- IN
Topography:    VHill   Business name   Phill   Business name   Phill   Business name   Phill   Phill	)82 Lice	ense No.
Slope Address RT L Ho/Ta	in, )25	
Upland Signed Signed Signed Authorized represents	Date ,	7-11-78 2 157

File #15 49,858+ 49,910



## **Ground Water Associates, Inc.**

109 W. 1st AVENUE, P.O. BOX 792 • GODDARD, KS 67052 • 316-550-6177

Aug 17, 2017

Lane Letourneau, L.G., Water Appropriation Program Mgr. Division of Water Resources 1320 Research Park Drive Manhattan, Kansas 66502-5000

WATER RESOURCES RECEIVED

SEP 2 2 2017

Subject: City of St. George

KS DEPT OF AGRICULTURE

Dear Lane,

This letter is written to transmit additional information on the NE ¼ of Section 3, T10S, R9E where water right application 49858 (TW 9-17 site) is pending, and a second application (TW 8-17 site) is being filed a quarter mile northeast.

To assist with these applications, we are providing additional information. Table 1 summarizes the test holes and 5" test wells drilled in Section 2 & 3, T10S, R9E for the City of St. George. From this data, current WWC5's and a previous investigation in Section 22, 27, 28, T10S, R9E, we have identified a buried glacial valley which is shown on the topographic map that is included with this letter.

Pumping tests were run on both TW 8-17 and TW 9-17 (wr appl. 49858) and we are including the data collected along with the Aquifer Test 4.0 analysis.

After application 49858 was filed, a domestic well (Jessica Clarke domestic well) was drilled 455 feet west of Test Well 9-17. We understand that Flint Hills Drilling of Westmoreland, Kansas drilled this well, but no WWC5 appears in the state records as of September 15, 2017. August 22, 2017, the day of the pumping test, no pump had been set in this domestic well. A transducer was installed by Clarke Drilling, and data was collected in the Jessica Clarke domestic well during the TW 9-17 test. We have included this information with the Aquifer Test data.

Brian Foster, P.E., BG Consultants of Manhattan, has completed a projection showing the City of St. George water use of 116 million gallons per year (MGY), 256 acre feet. We understand that currently the city has water rights of 46 MGY, 141 acre feet. We understand that there will be a limiting factor on the two current and two proposed water wells at 116 MGY.

Currently the City of St. George has three other applications pending, 49840, 49859 and 49882. The city will decide if they wish to do any more drilling at these sites. If any additional information is needed or there are additional questions, please contact me at 316-550-6177.



Best regards

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

Pc. Brian Foster, P.E. BG Consultants 4806 Vue Du Lac Place Manhattan, KS 66503

> WATER RESOURCES RECEIVED



5

6

7

296

356

683

714

S 23 5

#### Ground Water Associates 109 W. 1st, P.O. Box 792 Goddard, KS 67052

103.55

103.56

103.55

103.54

Pumping Test - Water Level Data	Page 1 of 1
Project: St George (West)	
Number:	
Client:	

Location	n: NW 1/4 Sec 3 T10S R9	E (West)	Pumping	Test: Pumping Test 1	Pumping well: TW 9-17
Test cor	nducted by: Clarke Drilling	9	Test date	e: 8/22/2017	Discharge: variable, average rate 73.996 [U.S. gal/m
Observa	ation well: 6" Domestic W	ell	Static wa	ter level [ft]: 103.50	Radial distance to PW [ft]: 455
	Time [min]	Water Le	evel	Drawdown [ft]	,
1	65	103.5	0	0.00	1
2	169	103.5	1	0.01	1
3	187	103.5	3	0.03	000000000000000000000000000000000000000
4	235	103.5	4	0.04	RECOMPLY STARTS @ 2021

0.05

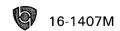
0.06

0.05

0.04

TRANSDUCER READINGS FROM NEW
6" DOMESTIC WELL. NO pump in Well YET.

DRILLED AFTER 49858 APPLIATION FILED



## Water Demand Memo

To:

Kansas Department of Agriculture,

Division of Water Resources

From:

Brain Foster, P.E.

Date:

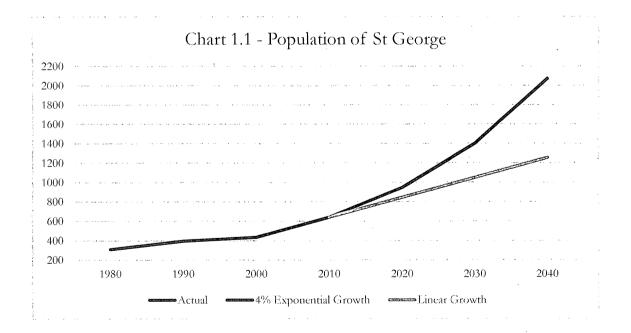
August 31, 2017

Re:

St George Water Demand Projections

The City of St. George is experiencing substantial growth and is in need of additional water allocations. The following data was compiled for planning purposes for the City.

US Census results from 1980 to 2010 shown in Chart 1.1 indicates that the population of St. George is in a period of exponential growth. From 1980 to 2010 the population increased at a rate of 2.42% per year, then from 2000 to 2010 the growth rate was 3.87%. Exponential growth is generally followed by a period of linear growth and then declining growth as an area reaches a saturation point.



Based on the City's annual water use reports from 2012, 2014 and 2015, the total raw water diverted averaged 21.5 MGY (58,934 gpd). 2012 was the highest water usage when 23.0 MGY (63,082 gpd) of water was diverted.

WATER RESOURCES

WATER RESOURCES

RECEIVED

WATER RESOURCES RECEIVED

SEP 2 2 2017

SEP 2º2 2017

· From 2010 to 2015, the City's water demand has increased at a rate of 3.55% per year. This closely parallels the rate of population growth of 3.87% per year from 2000 to 2010. The City's water demand is projected to continue to parallel the population. Assuming a 4% exponential growth rate, the average daily demand for 2040 is projected to increase to 157,000 gpd or 57.3 MGY.

	Water (1,000 Gallons)					
	2010	2011	2012	2014	2015	Average
Raw Water Diverted	17,403	18,604	23,025	20,722	20,786	20,108
Water Sold to Commercial &	-					
Residential	14,434	16,065	18,494	17,524	17,033	16,710
Metered Water Provided Free	0	0	1,252	1,212	0	493
Unaccounted for Water	2,969	2,539	3,279	1,986	3,753	2,905
Percent Water Loss	17.1%	13.6%	14.2%	9.6%	18.1%	14.5%
Max Month Raw Water						
Diverted	-	2,628	3,295	2,654	2,404	2,196

Table 1.2 – Summary of Municipal Water Use Reports (2010-2012 and 2014-2015).

The entire area between Manhattan and Wamego is growing at a rapid rate and most expect this growth to continue or increase. The KDOT US-24 Corridor Management Plan indicates that this area could more than double in population by 2030. From 2000 to 2010 the population of Manhattan grew at a rate of approximately 6.5%. New area is becoming limited in Manhattan and population growth is shifting to the Hwy 24 Corridor area between Manhattan and Wamego.

The potential exists for several areas located adjacent to the existing City limits to be developed into residential housing. If this were to happen, these new housing developments could potentially be supplied with water from the City of St. George. Therefore, to assist in long term planning for the City, these areas have been identified and evaluated for their potential future water demand. The enclosed Figure 1, identifies the areas that were evaluated as part of this report.

To estimate a future water demand for these areas, the total acreage for each area was determined. Using three recent housing developments within the City of St. George as a benchmark, an average of 0.3 acres per lot was used to determine the total number of lots for each area. This yielded a total of 1,326 potential lots between all of the areas identified. Using the current usage of 85 gallons per capita per day (gpcd) and an average household size of 2.7 from the 2010 census of Pottawatomie County, the potential future annual water demand of these areas would be approximately 93 MGY in addition to the current demand of 23 MGY for a total of 116 MGY.

This is an exciting time for St George as multiple developers are in active discussion with the City about developing some of these areas adjacent to the City. If these discussions become developments in the next 5 years, the previously mentioned population growth rate of 4% will be exceeded. The City believes there is good potential that this entire area will become fully developed in the next 20 years.

WATER RESOURCES



9 Aug 2017

### St George

TW 9-17 1408' S & 130' E. of NW cor. of NE ¼ Section 3, T10S, R9E Elevation 1200' N 39 12.819' W 96 23.869'

SWL 115.70' @GL

6 & 210)

Set 5" pvc, screen 213'- 163'.

Gravel Pack to 60' and holeplug 60' to 0.

Logged by Brad Vincent, Ground Water Associates GPS - Garmin hand held using 1927 North American datum

> WATER RESOURCES RECEIVED

> > SEP 2 2 2017

KS DEPT OF AGRICULTURE



Pumping Test - \Vater Level Data	Page 1 of 2
Project: St George TW 8-17	
Number:	
Client:	

Location: NE 1/4 Sec 3, T10S, R9E (East) Pumping Test: Pumping Test 1 Pumping well: TW 8-17 Test conducted by: Clarke drilling Test date: 8/21/2017 Discharge: variable, average rate 99.951 [U.S. gal/min] Observation well: TW 8-17 Static water level [ft]: 47.91 Radial distance to PW [ft]: -Time Water Level Drawdown [min] [ft] [ft] 56.45 8.54 2 2 56.74 8.83 3 3 56.87 8.96 4 5 56.96 9.05 5 7 57.02 9.11 6 9 57.08 9.17 7 11 57.12 9.21 8 15 57.14 9.23 9 20 57.17 9.26 10 25 57.19 9.28 11 30 57.20 9.29 12 35 57.21 9.30 13 40 57.22 9.31 45 57.22 9.31 15 50 57.22 9.31 16 60 57.23 9.32 17 70 57.23 9.32 80 18 57.25 9.34 19 90 57.25 9.34 20 100 57.26 9.35 21 120 57.27 9.36 22 150 57.24 9.33 23 180 57.25 9.34 24 202 57.25 9.34 25 203 48.44 0.53 26 204 48.50 0.59 27 205 48.34 0.43 28 206 48.25 0.34 29 207 48.18 0.27 30 208 48.14 0.23 31 209 48.11 0.20 32 210 48.08 0.17 211 33 48.05 0.14 34 212 48.03 0.12 35 213 48.01 0.10 36 214 48.00 0.09 37 215 47.99 0.08 38 216 47.98 0.07 39 217 47.97 0.06 40 218 47.96 0.05 41 219 47.96 0.05 42 220 47.95 0.04 43 221 47.95 0.04 222 47.95 0.04 44 45 223 47.94 0.03 WATER RESOURCES RECEIVED 46 224 47.94 0.03



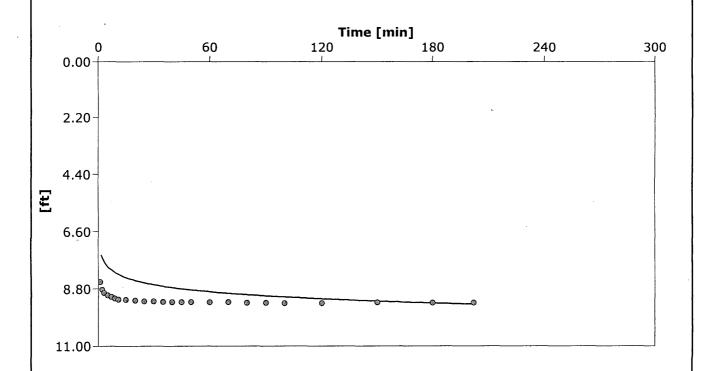
Pumping Test - Water Level Data	Page 2 of 2
Project: St George TW 8-17	
Number:	
Client:	

	Time [min]	Water Level [ft]	Drawdown [ft]
47	225	47.94	0.03
48	226	47.93	0.02
49	237	47.92	0.01
50	250	47.91	0.00



Pumping Test Analysis Report		
Project: St George TW 8-17		
Number:		
Client:		

Location: NE 1/4 Sec 3, T10S, R9E (East)	Pumping Test: Pumping Test 1	Pumping well: TW 8-17
Test conducted by: Clarke drilling		Test date: 8/21/2017
Analysis performed by: Brad Vincent	Drawdown	Date: 8/22/2017
Aguifer Thickness: 94 09 ft	Discharge: variable, average rate 99.95	i1 (U.S. gal/min)



Calculation after Theis	alculation after Theis				
Observation well	Transmissivity	К	Storage coefficient	Radial distance to PW	
	[U.S. gal/d-ft]	[U.S. gal/d-ft²]		[ft]	
TW 8-17	2.90 × 10 <sup>4</sup>	3.08 × 10 <sup>2</sup>	1.30 × 10 <sup>-6</sup>	0.21	

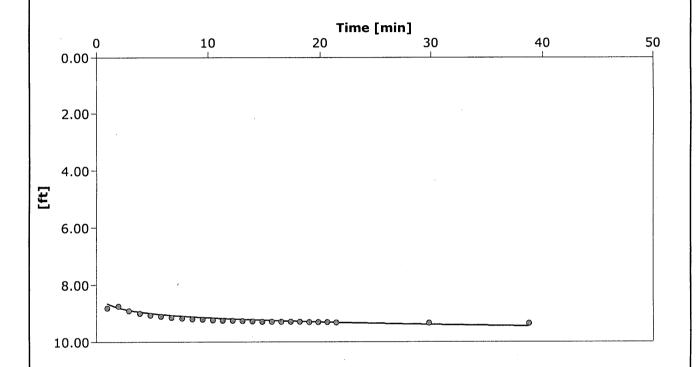
· · ·

WATER RESOURCES RECEIVED



Pumping Test Analysis Report		
Project: St George TW 8-17		
Number:		
Client:		

• · · · · · · · · · · · · · · · · · · ·			
Location: NE 1/4 Sec 3, T10S, R9E (East)	Pumping Test: Pumping Test 1	Pumping well: TW 8-17	
Test conducted by: Clarke drilling		Test date: 8/21/2017	
Analysis performed by: Brad Vincent	Recovery	Date: 9/15/2017	
Aguifer Thickness: 94.09 ft	Discharge: variable, average rate 99.951 [U.S. gal/min]		



Calculation after AGARWAL + Theis					
Observation well	Transmissivity	К	Storage coefficient	Radial distance to PW	
	[U.S. gal/d-ft]	[U.S. gal/d-ft²]		[ft]	
TW 8-17	5.28 × 10 <sup>4</sup>	5.61 × 10 <sup>2</sup>	1.21 × 10 <sup>-15</sup>	0.21	

STORAGE COEFFICIENT INCORRECT. PUMPING WELL



Pumping Test - Water Level Data	Page 1 of 2
Project: St George TW 8-17	
Number:	4
Client:	

Location: NE 1/4 Sec 3, T10S, R9E (East) Pumping Test: Pumping Test 1 Pumping well: TW 8-17 Test conducted by: Clarke drilling Test date: 8/21/2017 Discharge: variable, average rate 99.951 [U.S. gal/min] Observation well: TH 5-17 Static water level [ft]: 47.49 Radial distance to PW [ft]: 33.15 Water Level Time Drawdown [min] [ft] [ft] 48.69 1.20 1 2 2 49.06 1.57 3 3 49.22 1.73 4 5 49.31 1.82 5 6 49.38 1.89 6 7 49.42 1.93 7 8 49.45 1.96 8 9 49.47 1.98 9 10 49.49 2.00 10 11 49.51 2.02 11 12 49.52 2.03 12 13 49.53 2.04 13 15 2.05 49.54 14 17 49.55 2.06 15 20 49.56 2.07 16 23 49.57 2.08 17 39 49.58 2.09 18 41 49.59 2.10 19 52 49.60 2.11 20 57 49.61 2.12 21 66 2.13 49.62 22 90 49.63 2.14 23 117 49.64 2.15 24 202 49.65 2.16 RECOVERY 25 203 48.31 0.82 26 204 48.07 0.58 27 205 47.91 0.42 28 206 47.82 0.33 29 207 47.76 0.27 30 208 0.23 47.72 31 209 47.68 0.19 32 210 47.64 0.15 33 211 47.61 0.12 34 212 47.60 0.11 35 213 47.58 0.09 36 214 47.57 0.08 37 215 0.07 47.56 38 216 47.55 0.06 39 217 47.54 0.05 40 218 47.53 0.04 41 219 47.53 0.04 42 220 47.53 0.04 43 221 47.52 0.03 44 222 47.52 0.03 WATER RESOURCES 45 0.02 RECEIVED 223 47.51 46 224 47.51 0.02 SEP 2 2 2017



Pumping Test - Water Level Data	Page 2 of 2
Project: St George TW 8-17	
Number:	
Client:	

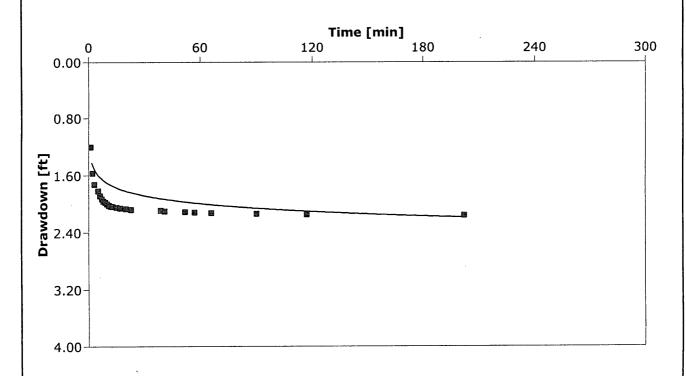
	Time [min]	Water Level [ft]	Drawdown [ft]
47	225	47.51	0.02
48	226	47.51	0.02
49	230	47.50	0.01
50	240	47.49	0.00

WATER RESOURCES RECEIVED



Pumping Test Analysis Report		
Project: St George TW 8-17		
Number:		
Client:		

Location: NE 1/4 Sec 3, T10S, R9E (East) Pumping Test: Pumping Test 1		Pumping well: TW 8-17
Test conducted by: Clarke drilling	Test date: 8/21/2017	
Analysis performed by: Brad Vincent Drawdown		Date: 8/22/2017
Aguifer Thickness: 94 09 ft Discharge: variable, average rate 9		51 (U.S. gal/min)

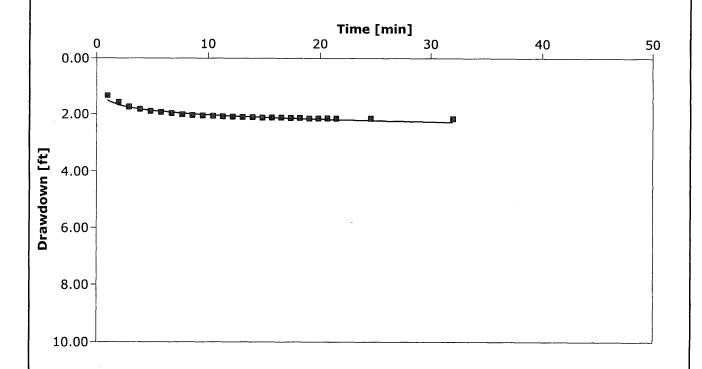


Calculation after Theis					
Observation well	Transmissivity	К	Storage coefficient	Radial distance to PW	
	[U.S. gal/d-ft]	[U.S. gal/d-ft²]		[ft]	
TH 5-17	7.12 × 10 <sup>4</sup>	7.57 × 10 <sup>2</sup>	3.35 × 10 <sup>-6</sup>	33.15	



Pumping Test Analysis Report		
Project: St George TW 8-17		
Number:		
Client:		

Location: NE 1/4 Sec 3, T10S, R9E (East) Pumping Test: Pumping Test 1		Pumping well: TW 8-17	
Test conducted by: Clarke drilling		Test date: 8/21/2017	
Analysis performed by: Brad Vincent Recovery		Date: 9/15/2017	
Aquifer Thickness: 94.09 ft	Discharge: variable, average rate 99.951 [U.S. gal/min]		



Calculation after AGARWAL + Theis					
Observation well	Transmissivity	К	Storage coefficient	Radial distance to PW	
	[U.S. gal/d-ft]	[U.S. gal/d-ft²]		[ft]	
TH 5-17	5.28 × 10 <sup>4</sup>	5.61 × 10 <sup>2</sup>	8.78 × 10 <sup>-6</sup>	33.15	

WATER RESOURCES RECEIVED



Pumping Test - Water Level Data	Page 1 of 1
Project: St George (West)	
Number:	
Client:	

Location: NW 1/4 Sec 3 T10S R9E (West)	Pumping Test: Pumping Test 1	Pumping well: TW 9-17
Test conducted by: Clarke Drilling	Test date: 8/22/2017	Discharge: variable, average rate 73.996 [U.S. gal/
Observation well: TW 9-17	Static water level [ft]: 115.70	Radial distance to PW [ft]: -

Observati	on well: TW 9-17	Static w	Static water level [ft]: 115.70			Radial distan	
	Time [min]	Water Level [ft]	Drawdown [ft]		1		
1	1	123.68	7.98	7			
2	2	123.78	8.08				
3	3	123.84	8.14	1			
4	4	123.79	8.09	1 .			
5	5	123.83	8.13				
6	7	123.85	8.15	7			
7	9	123.86	8.16	· .			
8	11	123.86	8.16				
9	15	123.87	8.17				
10	20	123.87	8.17	7.			
11	25	123.88	8.18				
12	30	123.88	8.18				
13	35	123.89	8.19	1 .			
14	40	123.89	8.19	7			
15	45	123.89	8.19	7			
16	50	123.91	8.21	7			
17	60	123.90	8.20	1			
18	70	123.91	8.21	7			
19	80	123.91	8.21	1	•		
20	90	123.92	8.22	7			
21	100	123.93	8.23	7			
22	120	123.95	8.25	1 .			
23	150	124.00	8.30	1			
24	180	124.05	8.35	1			
25	202	124.08	8.38	1	**** A	~	
26	203.5	115.88	0.18	ACTION CONTRACTOR OF THE PARTY	START	18	
27	204.5	115.86	0.16	1			
28	205	115.84	0.14	1			
29	207	115.81	0.11	1			
30	209	115.81	0.11	7			
31	211	115.82	0.12	7			
32	213	115.78	0.08	7			
33	217	115.77	0.07	7			
<del></del>							

RECOVERY

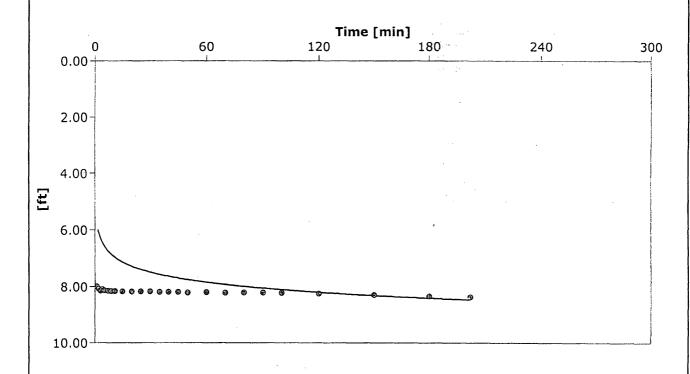
WATER RESOURCES RECEIVED



Pumping Test Analysis Report				
Project:	St Georgė (West)			
Number				

Client: Pumping well: TW 9-17

Location: NW 1/4 Sec 3 T10S R9E (West) Pumping Test: Pumping Test 1 Test date: 8/22/2017 Test conducted by: Clarke Drilling Analysis performed by: Brad Vincent Drawdown Date: 8/22/2017 Aquifer Thickness: 97.30 ft Discharge: variable, average rate 73.996 [U.S. gal/min]



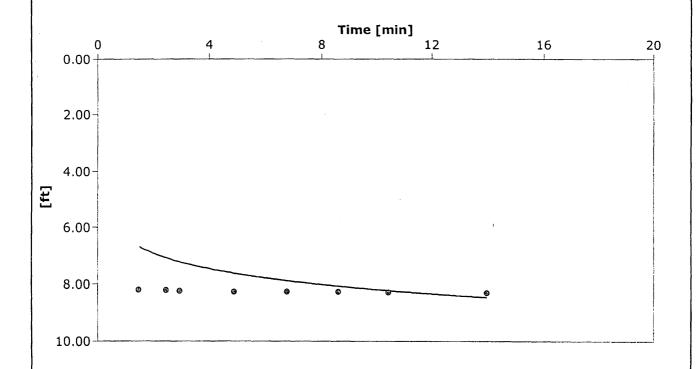
Calculation after Theis with Jacob Correction Observation well Transmissivity Storage coefficient Radial distance to PW [U.S. gal/d-ft] [U.S. gal/d-ft²] [ft] 1.77 × 104  $1.82 \times 10^{2}$ TW 9-17 .7.59 × 10<sup>-4</sup> 0.21



I	Pumping Test Analysis Report			
	Project:	St George (West)		
	Number:			

Client:

Location: NW 1/4 Sec 3 T10S R9E (West)	Pumping Test: Pumping Test 1	Pumping well: TW 9-17		
Test conducted by: Clarke Drilling		Test date: 8/22/2017		
Analysis performed by: Brad Vincent	Recovery	Date: 8/24/2017		
Aquifer Thickness: 97.30 ft	Discharge: variable, average rate 73.996 [U.S. gal/min]			



Calculation after AGARWAL + Theis with Jacob Correction

Observation well Transmissivity		K	Storage coefficient	Radial distance to PW	
	[U.S. gal/d-ft]	[U.S. gal/d-ft²]	_	[ft]	
TW 9-17	1.15 × 10 <sup>4</sup>	1.18 × 10 <sup>2</sup>	1.30 × 10 <sup>-2</sup>	0.21	





## WATER RESOURCES RECEIVED

MAY 1 5 2017

#### **TRANSMITTAL**

KS DEPT OF AGRICULTURE

To:

Chief Engineer

Date:

5-15-17

Address:

Kansas Department of Ag

Division of Water Resources

1320 Research Park Drive Manhattan, KS 66502 Project:

St George Water Appropriation

Description: Appl

Application

From:

Brian J. Foster

**Transmitted** 

Via:

Action:

■ For Approval

☐ For Review

☐ For Your Use

□ As Requested

Copies	Description			
1	Application Form D-100			
1	Application Fee \$200			
1	Maps			

#### Comments:

Please feel free to contact myself at 785-320-0768 or Brad Vincent at 316-550-6177 if you have any questions regarding this application



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

September 15, 2017

CITY OF SAINT GEORGE 220 FIRST ST PO BOX 33 SAINT GEORGE KS 66535

Re: Pending Applications, File Nos. 49,858 and 49,859

Dear Sir or Madam:

The original applications referred to above were returned to you for additional information on August 17, 2017, with a required response date of October 17, 2017. The purpose of this letter is to provide a reminder that in order for you to retain your priority of filing, the original applications, and requested information, need to be returned to this office on or before October 17, 2017. According to the law, default in the refiling of the completed, original applications and attachments, within the time allowed, shall constitute forfeiture of priority date and dismissal of the applications.

If an extension of time is necessary to supply the requested information, please request the extension of time, in writing, before <u>October 17, 2017</u>. Provide information on why the additional time is needed and how much additional time is requested. 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 or comments, you may also contact me at (785) 296-3495. If you call, please reference the file number so I can help you more efficiently.

Sincerely,

Douglas W. Schemm Environmental Scientist 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

June 16, 2017

CITY OF ST. GEORGE 220 FIRST ST. PO BOX 33 ST GEORGE KS 66535

FILE COPY

RE: Application File No. 49858

Dear Sir or Madam:

Your application for permit to appropriate water in 3-10S-9E in Pottawatomie 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) 564-6645. If you wish to discuss a specific file, please have the file number ready so that we may help you more efficiently.

Sincerely,

Kristen A. Baum

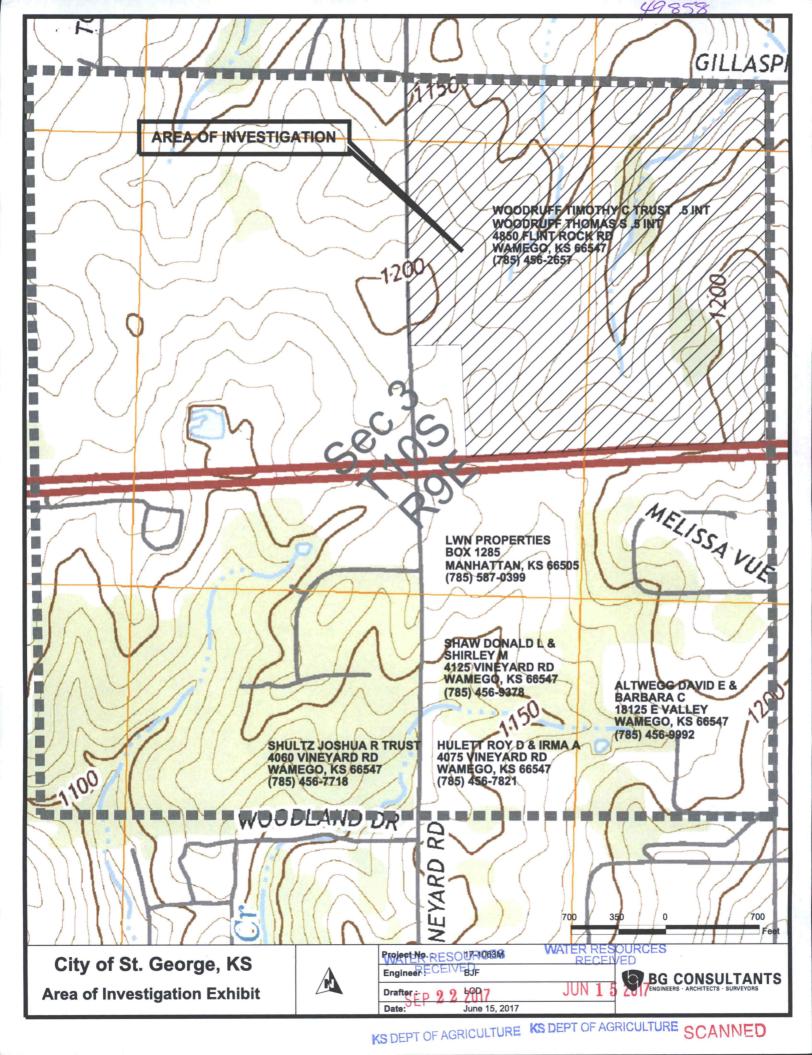
New Applications Unit Supervisor Water Appropriation Program

BAT:

dlw

pc: TOPEKA Field Office

GMD



City of St. George

Test Hole/ Test Well	Elevation	Sand (Feet)	Shale/LS (Elevation)	Water Feet	SWL (Elevation)	
TH 1-17 (SE Sec 3)	1130	0' - 94'	94′ (1036)	37.55′	56.45′ (1073)	
TH 2-17 (SE Sec 3)	1185	22 – 36	42′ (1143)			
TH 3-17 (SE Sec 3)	1150	0 - 5 6 - 37 40 -52	54 (1096)			
TH 4-17 (NE Sec3) Silty sand	1150	112 - 158 162 -167	3 167 (983)			
TH 5-17 (NE Sec 3)	1130	35 - 140	140 (990)	92.2	47.90 (1082)	
TH 6-17 (NW Sec 2)	1140	25 – 38	57 (1083)			
TH 7-17 (NW Sec 2)	1180	51 - 62	83 (1097)			
TW 8-17 (NE Sec 3) (TH 5-17 site)	1130	36 - 82 92 - 94 97 - 142	142 (988)	93.42	48.58 (1081)	
TW 9-17 (NE Sec 3)	1200	80 - 215	5 215 (985)	99.00	116.00 (1084)	19858 WR)
TH 10-17 (NE Sec 3)	1153	42 - 92	92 (1061)			

WATER RESOURCES
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SEP 2 2 2017

KS DEPT OF AGRICULTURE

TABLE I

