

### NOTICE OF PERMIT HEARING OF THE CLEARWATER UNDERGROUND WATER CONSERVATION DISTRICT

In accordance with Governor Abbott's declaration of the COVID-19 public health threat, action to temporarily suspend certain provisions of the Texas Open Meetings Act, and Executive Order, a quorum of CUWCD's Board of Directors will hold this scheduled Public Hearing by telephonic conference call and, for redundancy, videoconference. Notice is hereby given that the Board of Directors for the Clearwater Underground Water Conservation District have set the public hearing set for February 17, 2021 at 1:30 p.m. Applications for Permit as described below will be heard as described above, in compliance with the Texas Open Meetings Act. The public may access this meeting and make public comment by phone, pc, tablet and/or notebook by going to the District Website <u>http://www.cuwcd.org/</u> for the contact information and instructions on February 5, 2021.

Applicant's File Number/Name	Permit Applicant/Holder and Landowner	l be conducted on the following applicatio Location of Well/Wells	Proposed Annual Groundwater Withdrawal Amount & Purpose of Use
Operating Permit N2-20-007G	Victory Rock TX LLC c/o Jon Taliaferro Project Manager Sage ATC Environmental 715 Discovery Blvd, Suite 301 Cedar Park, TX 78613 361-215-9994	Existing well will be reworked and equipped with a maximum 2-inch column pipe for a submersible pump rated at 18.6 gallons per minute on the 283-acre tract located at 7170 Solana Ranch Rd West, Jarrell Texas 76537-5008, Latitude 30.876156° Longitude -97.609424°	Request for an Operating Permit on an existing well, for beneficial use <b>N2-20-007G</b> for withdrawal of 30 acre- ft/year or 9,775,000 gallons per year, from the Hensell layer (Middle) of the Trinity Aquifer with a 2-inch column pipe at 18.6 gallons per minute to produce groundwater for the purpose of mining and crushing aggregates.
		Drilling permit to authorize a new well in the Edwards BFZ aquifer to produce groundwater for public water supply. N2-19-005P is proposed with a 6-inch column pipe at 1000 gpm on a 345.97-acre site located approximately 3 miles south of the Village of Salado Pump, West Side of IH-35, west of the southbound TXDOT rest area, Latitude 30.912222° Longitude -97.556944°	Request for a Drilling Permit to construct and complete a well for public water supply. N2-19-005P drilled and completed for withdrawal 500 ac-ft per year or 162,925,500 gallons per year from the Edwards BFZ Aquifer with a 6- inch column pipe at 1000 gallons per minute to produce groundwater for public water supply.

The Applications for Permit and Permit Amendments, if granted, would authorize the permit holders to operate wells within the Clearwater Underground Water Conservation District according to the terms and conditions set forth in the permit.

### GUIDELINES FOR PUBLIC PARTICIPATION IN CLEARWATER UNDERGROUND WATER CONSERVATION DISTRICT BOARD MEETING, WORKSHOP AND HEARINGS

Clearwater UWCD, in order to maintain governmental transparency and continued government operation while reducing face-to-face contact for government open meetings, is implementing measures according to guidelines set forth by the Office of the Texas Governor, Greg Abbott. In accordance with section 418.016 of the Texas Government Code, Governor Abbott has suspended various open-meetings

provisions that require government officials and members of the public to be physically present at a specified meeting location. CUWCD's adherence to the Governor's guidance temporary suspension procedure ensures public accessibility and opportunity to participate in CUWCD's open meeting, workshop and hearings.

Members of the public wishing to make public comment during the meeting must register by emailing <u>schapman@cuwcd.org</u> prior to 11:30 a.m. on February 17, 2021. This meeting will be recorded, and the audio recording will be available by contacting the CUWCD's staff after the meeting. A copy of the agenda packet will be available on the CUWCD's website at the time of the meeting.

If you would like to support, protest, or provide comments on this application, you must comply with District Rule 6.10 and either appear by phone or video conference during the hearing or submit a written Contested Case Hearing Request that complies with District Rule 6.10 and that must be received by the District prior 11:30 a.m. on the date of the hearing by assessing the from at: http://www.cuwcd.org/wp-content/uploads/2020/03/Hearing-Registration-eForm-19MAR20.pdf

Public Comment forms can be assessed at: http://www.cuwcd.org/wp-content/uploads/2020/03/Public-Comment-eForm-19MAR20.pdf

You may join CUWCD's Board Workshop, Permit Hearing and Regular Board Agenda as follows:

- ✓ CUWCD Public Hearing, Board Workshop and Regular Board Meeting Wed, Feb 17, 2021 1:30 PM - 5:30 PM (CST)
- ✓ Join the meeting from your computer, tablet or smartphone. https://global.gotomeeting.com/join/824981765
- ✓ You can also dial in using your phone. United States (Toll Free): 1 866 899 4679 Access Code: 824-981-765 One-touch: tel:+18668994679,.824981765#
- ✓ New to GoToMeeting? Get the app now and be ready when your first meeting starts: <u>https://global.gotomeeting.com/install/824981765</u>

A person wishing to submit a Contested Case Hearing Request who is unable to appear at the hearing on the date and time set forth above must also file a motion for continuance with CUWCD demonstrating good cause for the inability to not appear by phone and/or video. For additional information about this application or the permitting process, or to request information on the legal requirements on what MUST be included in a Contested Case Hearing Request to be valid, please contact the CUWCD at 700 Kennedy Court (PO Box 1989) Belton, Texas, 76513, 254-933-0120.

ISSUED this 5th day of February 2021 in Belton, Texas, on the recommendation of the General Manager.

I, the undersigned authority, do hereby certify that the above NOTICE OF PERMIT HEARING of the Board of Directors of the Clearwater Underground Water Conservation District is a true and correct copy of said Notice. I have posted a true and correct copy of said Notice at the District office located in Belton, Texas, and said Notice was posted on <u>February 5, 2021</u> and remained posted continuously for at least 10 (ten) days immediately preceding the day of said hearing; a true and correct copy of said Notice was furnished to the Bell County Clerk, in which the above-named political subdivision is located. This amended posting is to postpone said announcement thus will add an additional 7 days to the day preceding announcement posted on March 6, 2020. The purpose of said postponement is to ensure the health and safety of the permittees, potential protestants, interested citizens, staff and directors.

ISSUED this <u>5<sup>th</sup></u> day of <u>February 2021</u> in Belton, Texas, on the recommendation of the General Manager.

I, the undersigned authority, do hereby certify that the above NOTICE OF PERMIT HEARING of the Board of Directors of the Clearwater Underground Water Conservation District is a true and correct copy of said Notice. I have posted a true and correct copy of said Notice at the District office located in Belton, Texas, and said Notice was posted on <u>February 5, 2021</u>, and remained posted continuously for at least 10 (ten) days immediately preceding the day of said hearing; a true and correct copy of said Notice was furnished to the Bell County Clerk, in which the above-named political subdivision is located.

Dated 02/05/2021

Clearwater Underground Water Conservation District

By:

Dirk Aaron, General Manager







# Underground Water Conservation District

## APPLICATION FOR ! ON-EXEMPT WELL CLASSIFICATION 2

Phone: 254-933-0120 Fax: 254-933-8396 Every drop counts!

A NON-EXEMPT WELL, CLASSIFICATION 2 is a well that satisfies the following conditions: 1) A water well used for purposes other than domestic, livestock or poultry; or

2) A water well that is drilled, equipped or completed so that it is capable of producing more than 25,000 gallons/day.

ck one of the following: ODRILLING PERMIT	• OPERATING PERMIT	<b>OPERMIT</b> AMENDMENT	
(Complete Sections 1, 2, 3, 4 & 7)	(Complete Sections 1, 5 & 7: update Sections 2, 3, & 4 if different from Drilling Permit) ✓ Water to Remain in District Water to be Exported Outside District*	Modify Dilling Permit (Complete Sections 1.2.3.4 & 7) Modify Operating Permit (Complete Sections 1.5 & 7) Change in Well Ownership (Complete Sections 1 & 7)	
An application for an <b>Operating Permit</b> must days of completing a new well, or reworking/r existing well. A <b>Hydrogeological Report</b> is required for 1) applications requesting an annual maximum p more than 37 acre-feet: or 2) amendments to it or production capacity of a public water suppl commercial, industrial, agricultural or irrigatio outside casing diameter greater than 6 5/8 incl District Rule 6.9.2. *Requests to export water outside the District r complete Section 7.	e-equipping an Operating Permit ermitted use of torease production y, municipal, n well with an ters as discussed in nust also Coperating Permit ermitted use of torease production torease product	ct Rule 9.3 and State Law TDLR all Well Reports are due to the District of well completion. tot Rule 9.3.3 at completion of all wells Assessment is required by the Pump Well Driller. District Staff will provide uple bottles, and coordinate with Pump ller to retrieve the sample within <u>45</u> <u>1 completion</u> . Temporary pump to is required should the well not have ntly installed in first 45 days. This for operating permits 37 ac. ft. or less.	

Well Owner: Byron Goode	Email:	1	felephone No.:	
Address: P.O Box 297	Jarrell		ТХ	76537
(Street or P.O. Box)		(City)	(State)	(Zip Code)
Contact Person (if other than owner): Mi	ckey Hubicsak	Telep	hone No.: (830) 312	2-2217
If ownership of well has changed, name of	of previous owner		State W	ell No

#### Property Location & Proposed Well Location Owner of property (if different from well owner):

owner of property (	in different from	inen owner).		
Property is located	1.5	miles W	of Prairie Dell	<sub>on</sub> Solana Ranch Rd
	(Number)	(N.S.E.W)	(Nearest City or Town)	(Name of Road)
Acreage: 3.359	Bell CAD Prop	erty ID.# 107127	Latitude: 30.876147	Longitude:97.609449

### 3. Well Description (Submit if State of Texas Well Report is available)

	*Domestic:	Livestock/Poultry;	Agricultural/Irrigation;
30 acre-ft/yr	Industrial:	**Public Supply;	Other.
	per of houses to be serviced		
**Notice is:	required of any application		a Certificate of Convenience and Necessity to
		n water obtained pursuant to the	requested permit.
100 Estimated di	stance from nearest:( <i>feet</i> ) N / S Property Line;	950 E / W <sup>®</sup> Property Li	no: Evisting Contin Looph Fields
3300			ne;Existing Septic Leach Field; ell;Livestock Enclosure;
3300		Existing water w	king/loading, petroleum storage tank, etc.)
	te of withdrawal (GPM): 18	a. Is property sut	oject to flooding: 🔘 Yes 🛛 💿 No
c. Estimated ra			
		) Yes 🖲 No. f — Is the well part	of a multi-well aggregate system? OVes 01
e. Is there anot	her well on the property? C		t of a multi-well aggregate system? OYes ON
e. Is there anot			t of a multi-well aggregate system? OYes O? Well Numbers:
e. Is there anot If yes, how r	her well on the property? C nany wells?		
<ul> <li>e. Is there anot</li> <li>If yes, how r</li> <li>g. Attach the f</li> </ul>	her well on the property? C nany wells? following:	List State V	Vell Numbers:
<ul> <li>e. Is there anot If yes, how r</li> <li>g. Attach the f</li> <li>tax plat</li> </ul>	her well on the property? C nany wells? following: map indicating the location	List State V n of the proposed well or the ex	Well Numbers:
<ul> <li>e. Is there anot If yes, how r</li> <li>g. Attach the f</li> <li>tax plat and adja</li> </ul>	her well on the property? C nany wells? following: map indicating the location acent owners' physical addr	List State V n of the proposed well or the ex esses and mailing addresses. (Be	Well Numbers: isting well to be modified, the subject property ell CAD maps if current will be accepted)
<ul> <li>e. Is there anot If yes, how r</li> <li>g. Attach the f</li> <li>fax plat and adja</li> <li>Indicate</li> </ul>	her well on the property? C nany wells? following: map indicating the location acent owners' physical addr	List State V n of the proposed well or the ex esses and mailing addresses. (Be	Well Numbers:

• CUWCD will provide the location of all existing wells within 1/2 mile radius of the proposed well or the existing well to be modified.

NOTE: If this is a replacement well, indicate location of well that is being replaced and distance from the proposed well. Abandoned well must be properly capped or filled in accordance with state law and the rules of the District. Admin Form 3 Revised February 4, 2020

ame: Alpine Water Well		TDLR Pump Installer License Number:	
Address:(Street or P.O. Box)		TDLR Well Drillers License Number: 02912VVI	
(City) (State) (512) 818-2679	(Zip Code)	alpinewaterwell2912@gmail.com	
(Phone #)	(Fax #)	(E-mail address)	

#### 4. Completion Information

Provide the following information to the extent known and available at the time of application.

NOTE: Provide the complete driller's log and any mechanical log, or chemical analysis, within 60 days of completion of well. Well must be drilled within 30 feet of the location specified and not closer to any existing well or authorized well site than the District's minimum spacing rule requires.

If amending existing permit, explain requested amendment and reason for amendment:

Proposed Total D	epth of Well:ft; Borehol	e Diameter (Dia) 9 inches (in) from 0 to 140 ;
		Casing: Material; Inside Diameter (ID)6in;
Screen: Yes 💿 1	No O Screen Type slotted pvc	; Screen Dia. <u>4.5</u> in from <u>800</u> to <u>880</u> ft;
# of Packers	; Pump Type: submersible	; Power: electric ; Horsepower Rating 5;
Depth:	ft; Column Pipe ID: <del>x</del> 2_in.	
Proposed Water	Bearing Formation: Middle Trinity	Correction to the Column Pipe Size per Jon & Dir Conversation 10:15 am Dec 21st
<b>Operating Permit</b>	ł	

5.

requested below for each well.

Current operating permit annual production: Requested increase/decrease:

Include statement/documentation explaining requested production:

Number of contiguous acres owned or leased on which water is to be produced: 283

- acre-feet or 9775000 Total annual production requested with this operating permit: 30 gallons Requested annual volume to be exported out of the District: 0 Gallons (0 \_% of total pumpage)
- NOTE: (1 acre-foot = 325.851 gallons) Withdrawals from all non-exempt wells Classification 2 must be reported to the District monthly—by the 10th of the following month

#### 6. Export Requirements

If water is to be exported outside the District, describe the following issues and provide documents relevant to these issues:

The availability of water in the District and in the proposed receiving area during the period requested.

- The projected effect of the proposed export on aquifer conditions, depletion, subsidence or effects on existing permit holders or other groundwater users within the District.
- How the proposed export is consistent with the approved regional water plan and certified District Management Plan. 7. Certification

I hereby certify that the information contained herein is true and correct to the best of my knowledge and belief. I certify to abide by the terms of the District Rules, the District Management Plan, and orders of the Board of Directors. I agree to comply with all District well plugging and capping guidelines as stated in the District Rules. 12/18/2020 Mickey Hubicsak

Typed Name of the Owern or Designee

Date

acres

PERMIT TERMS: Drilling Permits—effective for 365 days from the date the permit application is approved by the Board. Combination Drilling / Operating Permits-effective until the end of the calendar year in which it is issued. Permits may be renewed by the General Manager, subject to any changes necessary under proportional adjustment regulations, District Rules, or the District Management Plan.

SPACING/ACREAGE REQUIREMENTS: Refer to District Rules, Section 9.5. For a well with a column pipe size of 2" or less, a minimum tract size of 2 acres is required, with a 100' setback from other well sites, and a 50' setback from property lines. Acreage and setbacks increase with larger column pipe size.

NOTICE REQUIREMENTS: Permit applicants must provide notice of filing as follows: 1) publication in a newspaper of general circulation in the District; and 2) certified mail, return receipt requested, to all adjacent property owners and owners of wells located within ¼ mile radius of the existing well or proposed well that is the subject of the application. The District will provide the appropriate forms for notification. Applicant must provide 1) proof of publication of public notice; and 2) proof of receipt by certified mail of the public notice to property owners as

### SUBMIT FOR ADMIN REVIEW



-AN ATLAS COMPANY-

12/18/2020

Mr. Dirk Aaron Clearwater UWCD 700 Kennedy Ct Belton, TX, 76513

RE:

Dear Mr. Aaron;

Sage Environmental Consulting is submitting this application on behalf of Victory Rock Texas LLC who will operate the well according to the permit upon approval of the Board.

The 283-acre property is owned by Byron Goode and is leased by Victory Rock Texas LLC for the purpose of mining and crushing aggregates.

The Jarrell Plant is currently authorized under a Tier II Standard Permit (No. R09108323940). A NSR Air Permit is currently under review for authorization that will increase allowable production. Victory Rock Texas LLC is in good standing with the TCEQ.

The wash plant will produce approximately 900,000 tons of material annually. The rock crushing and screening will operate 7300 hours annually and produce 4,380,000 tons annually. Approximately 30 acre-ft/yr of water will be required to operate the crushing and washing operations annually.

The operator will capture and reuse water using a 1-acre sedimentation pond with an estimated depth of 14 ft. The water will be pumped from the pond to an above ground water storage tank that will supply the crushing and washing operations as necessary.

Alpine Water Wells inspected the well on December 1<sup>st</sup>, 2020. The well and casing are in good condition. The well currently has a 1.5 HP submersible pump that will be replaced with a 5 HP submersible pump to supply the 30 acre-ft/yr of water annually.

If you have any questions, please contact Jon Taliaferro (phone: 361-215-9994, email: jon.taliaferro@oneatlas.com).

Sincerely, Sage ATC Environmental Consulting LLC

Jon Taliaferro Project Manager Enclosure

APPLICATION FOR NON-EXEMPT WELL CLASSIFICATION 2

Bell CAD Property Information

Jarrell Mine Water Use Estimate

Jarrell Memo of Lease

cc: Scott Cusick

	Input Values	
Mine Name: XYZ	Storage pond surface area in acres:	Months without rainfall (worst-case): 6
Tons of material washed annually: 900,000	Average pond depth in feet: 14	Rainfall runoff collection efficiency: 60%
Working days per year: 7300	Pond catchment area in acres: 80	Wash water shipped with material: 10%
Working hours per day: 20	Average evaporation in inches: 54.39	Wash water return flow infiltration loss: 10%
Sprayer nozzles: 20	Average precipitation in inches: 33.05	Addhional contingency: 25%
Minimum GPM per nozzle: 2	Maximum GPM per nozzle: 5	
	XY7 Mine Water I See Estimates	
123 tons of washed material daily		
14,735 low estimate of daily water use in gallons	0.05 low estimate of daily water use in acre-feet	331.44 low estimate of annual water use in acte feet
36,986 high estimate of daily water use in gallons	0.11 high estimate of daily water use in acre-feet	828.60 high estimate of annual water use in acre-leel
	XYZ Mine Water Loss Estimates	
33.14 minimum annual water loss for water shipped in washed material in acre-feet	0.00 minimum daily water loss for water shipped in washed material in acre-feet	chipped in washed material in acre-feet
82.86 maximum annual water loss for water shipped in washed material in acre-feet	0.01 maximum daily water loss for water shipped in washed material in acre-feet	shipped in washed material in acre-feet
33.14 minimum annual water loss for return flow inititration in acre-leet	0.00 minimum daily water loss rate for return flow infiltration in acre-feet	turn flow infiltration in acre-feet
82.86 maximum annual water toss rate for return flow infitration in acre-feet	0.01 maximum daily water loss rate for return flow infiltration in acre-feet	turn flow infiltration in acre-feet
1.78 annual net evaporative loss estimate in acre-leet	0.00 average daily net evaporation in acre-feet	e-feet
0.01 Minimum daily consumptive use in acre-feet	0.02 Maximum daily consumptive use in acre-feet	acte-feet
	XYZ Mine Water Input Estimates	
14 volume of pond in acre-teet		
132.20 annual volume of rainlaft runolf collected in pond in acre-leet		
4, potential volume to refill pond resulting from a 1; inch rain in acre-feet		
XYZ Min	XYZ Mine Worst-Case Groundwater Use Estimates	
131 working days in worst-case scenario	26.82 Estimated minimum worst case groundwater needs in acre-feet	
4.00 estimated soil re-wetting volume in acre-leet	29.05 Estimated maximum worst case groundwater needs in acre-leet	

### Clearwater Underground Water Conservation PO Box 1989 Belton, TX 76513



Invoice #: 129 Invoice Date: 12/21/2020 Due Date: 12/21/2020 Project: P.O. Number:

Victory Rock Texas, LLC 531 East 770 North Orem, UT 84097

Bill To:

Date	Description		Amount
2/21/2020	Permit Application Fee		Amount 3,500.04
		Total	\$3,500.00
		Payments/Credits Balance Due	\$0.00 \$3,500.00

Doct 00000391

RECORDING REQUESTED BY Victory Rock Texas, LLC

WHEN RECORDED MAIL TO Victory Rock Texas, LLC 10447 South Jordan Gat South Jorden, UT 84095

531 E 770N. Open, ut 84097

Exhibit B Memorandum of Agreement Form

ED FOR RECOR C Clock

JAN - 6 2015

SPACE ABOVE THIS LINE RESERVED FOR RECORDER'S LISE

## **MEMORANDUM OF AGREEMENT**

273 THIS MEMORANDUM OF AGREEMENT dated this day of May, 2015, is made on behalf of Victory Rock Texas, LLC, a Utah limited liability company, whose address is 10447 South Jordan Gateway, South Jordan, Utah, 84095 (referred to hereinafter as "Lessee").

Pursuant to a Lease Agreement by and between Byron Goode (referred to hereinafter as "Lessor") and Lessee, Lessor leased to Lessee the real property described on Exhibit A (referred to hereinafter as the "Property") attached hereto and incorporated herein by this reference.

This Memorandum of Agreement is prepared to provide record notice that Lessee holds these rights as long as certain obligations are met for Three (3) years and has the option to extend the term for Five (5) additional Ten (10) year terms. This Memorandum of Agreement is prepared for the purpose of recordation, and in no way replaces, modifies, or alters the provisions of the aforementioned Land Lease Agreement.

The undersigned hereby acknowledges and affirms to the below named notary public that (1) [s]he appeared before such notary public and on behalf of the above named corporation or limited liability company by proper authority, either executed the foregoing document before such notary public or acknowledged to such notary public that the undersigned executed the foregoing document,

DATED effective this  $27^{44}$  day of May, 2015.

LESSOR

Byron Goode

### LESSEE

Victory Rock Texas, LLC, a Utah limited liability company

Scott Gusiek,

### ACKNOWLEDGMENT INDIVIDUAL

STATE OF TEXAS

On this  $\underline{\mathcal{A1}}_{-}$  day of May, 2015, before me personally appeared Byron Goode known to me (or proved to me on the basis of satisfactory evidence) to be the person who is described in and who executed the within instrument and acknowledged to me that he executed the same.



Notary Public

### ACKNOWLEDGMENT CORPORATE

STATE OF 10X0 COUNTY OF Williamson

On this <u>A</u> day of <u>May</u>, 2015, before me personally appeared Scott Cusick known to me (or proved to me on the basis of satisfactory evidence) to be the person who is described in and who executed the within instrument as <u>CEO</u> of Victory Rock Texas, LLC and acknowledged to me that he executed the same.



poll Notary Public

## EXHIBIT A

Legal descriptions

283 Acres as described in the Site Plans Dated March 20, 2015 for the Jarrell North Pit and the Goode Ranch South Pit combined.

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	t for Recording in:	
P.O.	County Clerk Box 480 n, Texas 76513	
531 E	R ROCK TEXAS LLC 770 N UT 84097	
	Recording Fees	
Filing Type Numbe		Recording
DR-GOODE B	1 09509 00916 12:24:20p	19.00
C	Collected Amounts	
Payment		Amount
	BUOPDF0227B1	19.00
		19.00

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19.00 19.00	Total Received : Less Total Recordings:
.00	Change Due :

Thank You SHELLEY COSTON - County Clerk

By - Destinee Wilson

Receipt# Date Time 0257119 01/06/2016 12:24p



### Charles Jones Treasurer 101 East Central Avenue Ground Floor Belton TX 76513

Receipt

Employee: 210

**Transaction Information** 

Transaction Type: County Clerk RECORDING Fees ID: RECORDONG Year: 2016 Amount Due: \$19.00 Convenience Fee: \$3.00 Total Amount Due: \$22.00

Payment Information

Payment Method: Credit Card Card Type: VISA Card Holder Name: CUSICK/SCOTT Reference #: 155954 Transaction #: BU0PDF0227B1 Authorization #: 111111 Processed Date: 01/06/2016 Processed Time: 12:24:07 PM

Please Sign Here:

Location: 12

**Transaction Details** 

Phone #: 8015091239

<u>Home</u>

Thank you for your payment!

Your credit card statement will reflect this transaction with the name GOVERNMENT PAYMENTS.

If you should have any questions regarding your credit card transaction you can call us at 956-682-3466 during our business hours of 8:00 AM to 5:00 PM Central Standard Time on Monday through Friday.

Copyright 2012.

## CUWCD Executive Summary

	Application for	off Report an Operating Permit -20-007P	ţ				
		earwater					
Applicant/Owner: Victory Rock LLC c/o Jon Taliaferro Sage ATC Environmental Consulting LLC 715 Discovery Blvd., Suite 301, Cedar Park TX 78613							
Location of Well: 283-acre tract located at 7170 Solana Ranch Rd West, Jarrell Texas 76537-5008, to produce groundwater for beneficial use for the purpose of mining and crushing aggregates. Latitude 30.876156° Longitude -97.609424°							
Proposed Annual Withdrawal:	Proposed Use Mining & Crushing	Aquifer: Hensell Layer of the	Nearest Existing Wells:				
Rate : @ 18.6 gpm Withdrawal/Well: 30 acre/feet/year 9,775,000 gallons	Aggregates	Trinity Aquifer (known as the Middle Trinity)	<i>Total:</i> 1 wells @ 1/4 mile 6 wells @ 1/2 mile.				

## **General Information**

Victory Rock Texas LLC, by Project Manager, Jon Taliaferro with Sage ATC Environmental, has made application to the Clearwater Underground Water Conservation District (CUWCD) on December 6, 2020, for an operating permit to authorize production of groundwater not to exceed 30 ac-ft (9,775,000 gallons) per year from an existing well (N2-20-007G) completed in the Hensell Layer of Trinity aquifer to produce water for beneficial use for the purpose of mining and crushing aggregates.

Victory Rock Texas LLC is proposing an operating permit with agreed upon special provisions that allow permitted production on property leased from Byron Goode totaling 283 contiguous acres. The permit condition is to include an advanced aquifer 36-hour pumping test of the well with enhanced aquifer monitoring to correlate the permitted production with additional understanding of the aquifer conditions in the Hensell Layer of the Trinity Aquifer. The test is designed to yield additional valuable data for Victory Rock and CUWCD for general regulatory purposes and assist the District and other well owners with in-depth scientific discernment of the Hensell Layer of the Trinity aquifer and potential radius of influence on wells within ½ mile of the existing well.

Special Provisions will be discussed with the board should the permit be approved, to ensure compliance per set-back requirements, well construction, district access, water level measurements and conservation. The operating permit are renewed annually by CUWCD staff, unless the permittee fails to meet all required reporting, and/or other special provisions are not complied with, and/or conditions of the Middle Trinity Aquifer merit curtailment of all permit holders in accordance with District Rules and Chapter 36 necessary to meet the DFC under statutory requirements. (*see attached geoscience attachment*)

CUWCD consulting hydrogeologist, Mike Keester LRE Water LLC, has reviewed the application, and has conducted the required drawdown analysis per district rules.

CUWCD general counsel has reviewed the applications for the well and participated with the district staff on January 4, 2021 to discuss the merits of the application with both Sage Environmental, Victory Rock LLC, local well owners and adjacent property owners. General Council answered questions related to the possibility that the applicant may amend their current application during testimony on January 17, 2021 to address the concerns of impact to existing exempt well owners in the Middle Trinity by amending the application to a Drilling & Operating Permit for a new well in the Hosston Layer of the Trinity Aquifer. General Council has advised district GM on the elements of the applications that the district board of directors may deliberate should the applicant wish to amend the application.

The applicant understands that a prescribed aquifer test for up to 72 hours may be recommended by the staff and consultants in-order to improve our understanding of the either the Middle Trinity or the Lower Trinity in this grid cell of the NTWGAM.

## Per Rules 6.9 and 6.10

In deciding whether or not to issue a permit, the Board must consider the following:

## 1) The application contains all the information requested.

The application is complete—all requested information has been provided and all required application fees have been paid. All notification per District Rules have been completed.

## 2) The proposed use of water is dedicated to a beneficial use.

The water produced from the existing well will be used for mining operation and equipped to 18.6 gpm/well. This does qualify as a beneficial use under district rules and chapter 36.

## 3) The applicant agrees to avoid waste and achieve water conservation.

The applicant has agreed to avoid waste and achieve water conservation by signing the application form stating compliance with the District's Management Plan. The applicants and their representatives understand that the District requires recapture and reuse of all water used in the washing and crushing operation. Applicant understands the importance of water conservation measures in the business thus engineered design for capturing the runoff to multiple retention ponds for reuse is vital to the sustainability of the aquifer.

# 4) The applicant has agreed that reasonable diligence will be used to protect groundwater quality and that the applicant will follow well plugging guidelines at the time of well closure.

The applicant has agreed (by signing the application form) should the well deteriorate over time that state law and district rules require such well to be plugged before a replacement well can be drilled.

# 5) The proposed water wells comply with spacing and production limitations identified in these rules.

The existing well will be re-worked to have a column pipe size not to exceed a diameter of 2 inch. Based on this column pipe size, a minimum size tract of 2 acres is required, with a 100-foot spacing requirement from other wells.

The 50-foot setback requirement from adjacent property lines will be meet should the applicant proposed to amend the application for a new well to the Lower Trinity per District Rule 9.5 Spacing Requirements.

The District rules do not impose production limitations other than those determined applicable in the review of the today's permit request or to prevent unacceptable level of decline in water quality of the aquifer, or as may be necessary to prevent waste and achieve water conservation, minimize as far as practicable the drawdown of the water table or the reduction of artesian pressure, lessen interference between wells, or control and prevent subsidence. These issues are considered in Items 6 & 7 below and with staff recommendations to address potential concerns of adjacent property owners.

# 6) The proposed use of water does or does not unreasonably affect existing groundwater and surface water resources or existing permit holders.

*Total:* 1 well within 1/4 mile and 6 wells within 1/2 mile

All of these wells are listed as exempt in our database and 3 completed to the Edwards BFZ aquifer and the remaining completed to the Middle Trinity Aquifer. <u>attached</u> <u>proposed Victory Rock LLC Map</u>

Mike Keester, Hydrogeologist, LRE Water, has reviewed this application and has determined anticipated drawdown and has provided the <u>attached MK report</u> with his conclusions and recommendations stating that the proposed permitted amount of 30-acre feet/year <u>will diminish</u> the ability of other exempt aquifer users to produce water for a beneficial use from the Middle Trinity Aquifer known as the Hensell Layer of the Trinity.

He also has assessed the application to a reduction level of 10-acre feet/year and has found this *will also unreasonably impact* those same exempt wells in the first year of production. Mr. Keester will testify as needed to his geologic assessment.

# 7) The proposed use of water is consistent with the District's water management plan.

The District's Management Plan reflects a groundwater availability figure in the Middle Trinity Aquifer of **1099 ac-ft/year Model Available Groundwater** (then reserve 548 ac-ft/year for exempt well use thus only <u>921</u> ac-ft/year is the Manage Available Groundwater for permitting. Currently the district has remaining only 83.3 ac-ft/year of the managed available groundwater for permitting.

Groundwater for the Lower Trinity Aquifer is **7193 ac-ft/year Modeled Available** Groundwater (then reserve 178 ac-ft/year for exempt well use) thus **7,015 ac-ft/year** is the Managed Available Groundwater for permitting. Currently the district has remaining **3100.96 ac-ft/year of the managed available groundwater for** permitting.

The board, per the district management plan, has evaluated groundwater available for permitting the three Layers of the Trinity Aquifer and most recently evaluated the available groundwater for permitting (*consistent with the management plan as stated on pages 9-11*).

The requested permit amount relative to the modeled available groundwater MAG determined by the Texas Water Development Board (TWDB) based on the desired future conditions (DFCs) established by the District for the Middle and Lower Layers of the Trinity Aquifer was set by CUWCD based on drawdown of 137 feet and 330 feet respectfully for the next 60 years. These drawdowns were approved by the board in January 2019. To achieve this DFC, the TWDB used a model that indicated the MAG was equal to 1099 ac-ft/year for the Hensell Layer (Middle) Trinity Aquifer and 7193 acre-feet per year from the Hosston Layer (Lower) Trinity Aquifer.

A summary of YTD 2020 permit production, HEUP & OP Permit Analysis, pending applications and \*Exempt Well Reservations for the Trinity Aquifer, per District Report (*see attached Trinity Aquifer Status Report, February 2020*).

8) The Modeled Available Groundwater calculations determined by the Executive Administrator of the Texas Water Development Board. Refer to #7 above. The modeled available groundwater will not be exceeded but is relatively close for the Middle Trinity as compared to the Lower Trinity by granting this permit. (*see attached Trinity Aquifer Status Report, February 2020*).

# 9) The Executive Administrator of the Texas Water Development Board's estimate of the current and projected amount of groundwater produced under the exemptions in District Rule 8.3.

Refer to #7 above. Reservation of Modeled available groundwater for exempt well use will not be exceeded by granting this permit. 548 ac-ft/year vs 490 ac-ft estimated to be used annually in the Middle Trinity. 178 ac-ft reserved vs 52 ac-ft estimated being used in the Lower Trinity. (*see district exempt use report*)

# 10) The amount of groundwater authorized under permits previously issued by the District.

Refer to #7 above. Existing permits do not exceed the managed available groundwater (modeled available groundwater – exempt well use = Managed available groundwater) for either the Middle (83 ac-ft per year remaining) or the Lower Trinity (7,015 ac-ft per year remaining) Layers of the Aquifer.

# 11) A reasonable estimate of the amount of groundwater that is produced under permits issued by the District.

The total permitted amounts for wells in the Middle Trinity Aquifer in 2020 was **<u>467.70 acre-feet</u>** and the actual production in 2020 was **<u>93.69 acre-feet</u>** (2%) of permitted amount. (*Figures are based upon monthly production reports submitted to Clearwater by the permit holders in 2020*).

The total permitted amounts for wells in the Lower Trinity Aquifer in 2020 was **3914.04 acre**-feet and the actual production in 2020 was **1119.97 acre-feet (28.6%)** of permitted amount. (*Figures are based upon monthly production reports submitted to Clearwater by the permit holders in 2020*).

## 12) Yearly precipitation and production patterns.

Clearwater is currently in no drought management stage based on the PDI system (average running total annual rainfall) over the Aquifer in the District, is currently at **32.586** inches rain received in the last 365 days (2/09/2021) thus 98.74 % of annual expected rainfall of 33 inches. The permit holders in all of 2020 have used only 27.4 % of total permitted amounts in the Trinity Aquifer as a whole. Permit holders did not exceed their total permitted amounts in 2020. The gravity of the drought of 2011-2013, 2018 and again in summer of 2020 necessitated the need for all permit applications to be evaluated based on conservative needs and usage that is not contradicted by the current drought contingency plan stage.

## **Conclusions:**

- CUWCD well records indicate that <u>1 existing well</u> (Edwards BFZ) is located within a <sup>1</sup>/<sub>4</sub>mile radius and 2 existing wells (Edwards BFZ) and <u>4 existing wells</u> (Middle Trinity) within <sup>1</sup>/<sub>2</sub> of the proposed. These wells are listed as exempt with confirmed depths in the either the Edwards BFZ and/or Middle Trinity Aquifer.
- Proposed annual permit amount of <u>30 acre-feet</u> (9,755,000 gallons/year) is an amount that will adversely impact exempt well owners in the defined <sup>1</sup>/<sub>2</sub> mile radius of the proposed operating well from the Middle Trinity causing 11 to 33 feet of drawdown annually. Reducing the production permit to 1 acre feet per year is the level necessary to avoid unnecessary impact to the wells defined in the
- The long-term pumping effects from the proposed well at the requested pumping amount is more than negligible and the effect can have a noticeable long-term effect on aquifer water levels per Keester's review, thus the drawdown will diminish the ability of other exempt aquifer users to produce water for a beneficial use. (*see attached Keester's Report*)

### **Recommendations:**

- 1) The application for the Victory Rock LLC will need to be discussed in the public hearing and options to mitigate the concerns of the district and the affected exempt well owners.
- 2) In addition, the following confirmation of special agreed upon permit conditions:
  - a) Confirm with the applicant that reducing their application for an operating permit to less 1-acre feet per year would not meet their needs for full production of the mining on an annual basis.
  - b) Confirm with the applicant that a conservation plan utilizing construction of retention ponds for recapture purposes will be in place before operation of the proposed production well.
  - c) Confirm the applicant has a 50-year agreement with the property owner to operate the mining operation thus needs long-term assurance of groundwater production.
  - d) Confirm with the applicant's representatives the district's desire is to provide operating permits based on avoiding unnecessary impacts to existing exempt well owners in the prescribed radius of the proposed production well.
  - e) Confirm with the applicant that the district encourages they amend their application in testimony to a combination drilling & operating permit for a new well completed to the Lower Trinity (Hosston Layer) to avoid impacts to existing well exempt well owners.
  - f) Confirm the applicant understands that all "N2" operating permits required that the well will be equipped with a meter for monthly reporting.
  - g) Confirm with the applicant that the district will conduct a pumping aquifer test up to 72 hours for the purpose of assessing the aquifer hydraulics and conditions for clarity on potential impact to future users in the Lower Trinity Aquifer.
  - g) Confirm the applicant will install during well construction a removable plug that is placed in the sanitary seal for clear access into the well for acoustic water level measurements by District personnel.
  - h) Confirm that the well driller/pump installer will install a measuring tube alongside the column pipe to allow for measurement of the water level using an e-line or other direct measurement method.
  - i) Confirm that District will have access to the well head for the purpose of assessing actual changes in water levels due to pumping from the proposed well.
  - j) Confirm that the District will have access for the purpose of water quality screening/testing the groundwater on an annual base.

Attachments are as follows:

Mike Keester, PG Drawdown Analysis CUWCD Trinity Aquifer Status Report CUWCD 2019 Exempt Well Estimate of Use Report Applications, fees and Notification Affidavit Well # N2-20-007P 02/09/2021 12/31/2019 See Attached Trinity Aquifer Status Report - February 2021

rvations	Available Exempt Use Ac-ft (by layer)	0	499	24	125	648
Exempt Well Reservations	2020 Exempt Well Use Estimate Ac-ft (by laver)		194	524	53	771
Exempt	Exempt Well Reserve Ac-ft (by layer)		693	548	178	1419
<u>Pending</u> <u>Applications</u>	Pending Applications Ac-ft (by layer)	Ō	0	30.00	*** 1702.8	1702.8
<u>Pen</u> Applii	Available for Permitting Ac-ft (by layer)	0	146.97	83.30	3100.96	3331.62
<u>2021 YTD</u> <u>Total Prod.</u> Jan 2.14%	2021 YTD Prod. <sup>(by layer)</sup>	0	0.34	6.81	89.37	96.52 (2.14%)
<u>2021</u> <u>Jotal</u> 96.52 2.1	2020 YTD Prod. (by layer)	0	25.85	93.69	1119.97	1239.50 (27.45%)
HEUP and OP Permit Analysis Relative to the Modeled Available Groundwater	Total Permitted Ac-ft (by layer)	0	134.03	467.70	3914.04	4515.77
	OP Ac-ft (by layer)	0	72.13	208.40	2732.64	2996.61
<u>HEUP an</u> Relative	HEUP Ac-ft (by layer)	0	61.9	259.3	1181.4	1502.6
<u>DFC Analysis Over Time</u> (2000-Present) <sup>Modeled</sup> Available Groundwater	MAG ** Ac-ft Current	0	974	1099	7193	9266
	DFC Adopted * Average Drawdown (by layer)	NA	- <b>1.38 ft/yr</b> -83 ft/60 yrs	- <b>2.28 ft/yr</b> -137 ft/60 yrs	- <b>5.50 ft/yr</b> -330 ft/60 yrs	<b>9266</b> 1502.6 2996.61 <b>4515</b> .
	Trinity Aquiffer (by layer)	Pawluxy	Glen Rose (upper)	Hensell (middle)	Hosston (lower)	Total

Desired Future Conditions (DFC) is the description of how the aquifer should look in the future (60 years).
\*\*The Modeled Available Groundwater (MAG) is the estimated amount of water available for permitting assigned to Clearwater UWCD by the Executive Administrator of TWDB.

\*\*\*Pending applications in the Hosston Layer (Lower)

Trinity Oasis LLC Operating Permit N2-13-002P (1702-8 oc-fr/yr) (this permit amount not reflected in Trinity Aquifer total permit amount; production contingent on TCEQ approval and plant construction Victory Rock LLC Operating Permit N2-20-007G (30 ac-ft/yr)

Cleurwater UWCD Status Report - February 17, 2021

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# LRE Water Analysis



### **Technical Memorandum**

То:	Dirk Aaron, General Manager –
	Clearwater Underground Water Conservation District
From:	Michael R. Keester, PG
Date:	February 9, 2021
Subject:	Hydrogeologic Review of the Victory Rock, LLC Operating Permit Application

This technical memorandum provides information related to our review of the permit application with the following parameters:

- Proposed Well ID: N2-20-007G
- Well Name: Victory Rock LLC
- Tract Size: 283 acres
- Column Pipe Size: Maximum 2-inch
- Aquifer: Hensell Layer of the Trinity Aquifer (Middle Trinity)
- Proposed Annual Production: 30 Acre-Feet per Year
- Proposed Instantaneous Pumping Rate: 18.6 Gallons per Minute

The potential effects of the proposed production on local water levels in the aquifer are calculated using the Theis equation<sup>1</sup> which relates water level decline (that is, drawdown) to the pumping rate of a well and properties of the aquifer. While the equation does not account for aquifer conditions which may affect the calculation of long-term water level declines (for example: aquifer recharge, faulting, or changes in aquifer structure), it does provide a very good, reliable, and straightforward method for estimating relatively short-term drawdown in and near a well due to pumping. As the duration of pumping and distance from the well increase, the uncertainty in the calculated drawdown also increases. To assess the potential effects from the proposed production, we used values from the groundwater availability model (GAM) datasets<sup>2</sup>

<sup>&</sup>lt;sup>1</sup> Theis, C.V., 1935, The Relation Between the Lowering of the Piezometric Surface and the Rate and Duration of Discharge of a Well Using Ground-Water Storage: American Geophysical Union Transactions, v. 16, p. 519-524.

<sup>&</sup>lt;sup>2</sup> Groundwater availability model (GAM) datasets include the Northern Trinity/Woodbine GAM (for the Middle Trinity Aquifer) and the modified Northern Trinity/Woodbine GAM (for the Lower Trinity Aquifer).

Mr. Dirk Aaron – Victory Rock Permit Application Review February 9, 2021 Page 2 of 11

and from the results of a pumping test conducted using well N2-14-003P located approximately about seven miles west from the applicant's well<sup>3</sup>.

A transmissivity value is essentially a measure of how easily water can move through an aquifer. In the Theis equation, with all other factors being equal, a higher transmissivity value results in less predicted drawdown. The GAM dataset indicates the transmissivity of the Middle Trinity Aquifer at the applicant's well location is about 375 gallons per day per foot (gpd/ft). However, results from the N2-14-003P pumping test indicate the transmissivity is higher than represented in the GAM with the calculated transmissivity at that location being approximately 1,800 gpd/ft. In addition, drilling reports for nearby wells E-19-034P and E-19-051P indicate potential production from these wells of more than 200 gallons per minute which also suggests aquifer transmissivity values in the GAM are too low.

Table 1 presents the range in calculated drawdown at the proposed well and at other nearby wells completed in the same aquifer using the transmissivity value from the GAM and the value from the N2-14-003P pumping test. For *1-Day Drawdown*, we applied the proposed instantaneous pumping rate for a period of 24 hours. For *30-Day Drawdown*, we assumed peak pumping during the summer of about 15 percent more than the average monthly amount (that is, the proposed annual production rate divided by 12 then multiplied by 1.15). For *1-Year Drawdown*, we used the proposed annual production amount.

Table 1 provides the predicted drawdown using the rates provided in the application. However, to achieve 30 acre-feet per year at 18.6 gallons per minute would require the well to operate continuously (that is, 24 hour per day for the entire year). If we assume a 33 percent operational time, the annual production reduces to 10 acre-feet per year. It would be unusual for a well to operate continuously for a full year and we believe the 33 percent operational time is more reasonable. As such we also simulated the effects of production from the well with the same instantaneous rate, but with the annual rate of 10 acre-feet per year. As shown in Table 2, reducing the annual production by one-third also reduces the predicted drawdown by about one-third.



<sup>&</sup>lt;sup>3</sup> RS Materials Well pumping test conducted January 2-5, 2018.

# Table 1.Predicted drawdown at existing wells completed in the Middle Trinity<br/>Aquifer located within one mile of the Victory Rock, LLC well (CUWCD ID:<br/>N2-20-007G).

	Distance from Proposed Well	1-Day	30-Day	1-Year
Well Name	(feet)	Drawdown (feet)	Drawdown (feet)	Drawdown (feet)
Victory Rock LLC (N2-20-007G)	1	20 to 84	28 to 122	27 to 120
E-20-123P (Baird)	1,634	20 to 87	28 to 122	27 to 120
E-20-124P (Dewees)	2,077	3 to 5	7 to 26	9 to 36
E-19-051P (Baird)	2,156	2 to 3	7 to 23	9 to 34
E-20-111P (Watkins)	2,548	2 to 3	7 to 22	9 to 33
N2-19-002P (Centex Acres 2)	3,112	2	6 to 20	8 to 31
N2-19-001P (Centex Acres 1)	3,239	1 to Negligible	6 to 17	8 to 29
E-19-221P (Marsden)	3,513	1 to Negligible	6 to 17	8 to 29
E-19-233P (Pahlke)	4,369	1 to Negligible	5 to 16	8 to 28
E-02-1551G (Sybert)	4,460	Negligible	5 to 13	7 to 25
E-19-034P (Butler)	5,148	Negligible	5 to 13	7 to 25
E-06-048P (KSC Properties)	5,427	Negligible	4 to 11	7 to 23



Table 2.	Predicted drawdown from 10 acre-feet per year of production at existing
	wells completed in the Middle Trinity Aquifer located within one mile of the
	Victory Rock, LLC well (CUWCD ID: N2-20-007G).

Well Name	Distance from Proposed Well (feet)	1-Day Drawdown (feet)	30-Day Drawdown (feet)	1-Year Drawdown (feet)
Victory Rock LLC (N2-20-007G)	1	20 to 87	9 to 41	9 to 40
E-20-123P (Baird)	1,634	3 to 5	2 to 9	3 to 12
E-20-124P (Dewees)	2,077	2 to 3	2 to 8	3 to 11
E-19-051P (Baird)	2,156	2 to 3	2 to 7	3 to 11
E-20-111P (Watkins)	2,548	2	2 to 7	3 to 10
N2-19-002P (Centex Acres 2)	3,112	1 to Negligible	2 to 6	3 to 10
N2-19-001P (Centex Acres 1)	3,239	1 to Negligible	2 to 6	3 to 10
E-19-221P (Marsden)	3,513	1 to Negligible	2 to 5	3 to 9
E-19-233P (Pahlke)	4,369	Negligible	2 to 4	2 to 8
E-02-1551G (Sybert)	4,460	Negligible	2 to 4	2 to 8
E-19-034P (Butler)	5,148	Negligible	1 to 4	2 to 8
E-06-048P (KSC Properties)	5,427	Negligible	1 to 4	2 to 8

The predicted drawdown presented in Table 1 and Table 2 is based on our current understanding of the aquifer hydraulic properties for the Hensell layer of the Trinity Aquifer (that is, Middle Trinity Aquifer) and the estimated production from the proposed well. The predicted drawdown values presented do not include the effects from other wells pumping near the proposed well. Predicted drawdown of less than one foot is considered negligible for analysis purposes due to inherent uncertainty in the aquifer hydraulic characteristics. Table 1 and Table 2 present the predicted drawdown in the Middle Trinity at existing wells within one-mile of the applicant's well when it is producing 30 acre-feet per year and 10 acre-feet per year, respectively. For the predicted drawdown to be negligible at the nearest existing well, production from the applicant's well would have to be approximately one (1) acre foot per year.



Mr. Dirk Aaron – Victory Rock Permit Application Review February 9, 2021 Page 5 of 11

On October 9, 2020 the District measured the static water level in the applicant's well as being 454 feet below ground level (BGL). We compared the measurement to other nearby measurements and found the depth to water in the applicant's well to be similar to the values at other nearby Middle Trinity well locations. Using this water level, completion information from the State Well Report for the well, predicted drawdown (Table 1), and annual water-level decline<sup>4</sup> we calculated the available drawdown in the well (that is, the height of water above a minimum pumping level). For the minimum pumping level, we assumed the pump is set at the top of the screen and that the pumping water level must remain 20 feet above the pump to maintain operation. Using the available drawdown and other date, we then estimated number of years of groundwater available at the proposed pumping rate (see Table 3).

Parameter	30 Acre-Feet per Year	10 Acre-Feet per Year		
Static Water Level	454 feet BGL			
Top of Screen	800 feet BGL			
Minimum Pumping Water Level	Water Level 780 feet BGL			
Current Available Drawdown	326 feet			
1-Year Drawdown	27 to 120 feet	9 to 40 feet		
Instantaneous Drawdown	20 to 84 feet			
1-Year Pumping Water Level	501 to 658 feet BGL	483 to 578 feet BGL		
1-Year Available Drawdown	122 to 279 feet	202 to 297 feet		
Approx. Annual Water-Level Decline	10 feet per year			
Approx. Groundwater Availability	12 to 28 years	20 to 30 years		

## Table 3.Estimated years of groundwater available to the well from the Middle Trinity<br/>Aquifer based on available information.

Based on the current aquifer conditions and the transmissivity from the GAM datasets, at the proposed pumping rate the pump would need to be lowered into the screen interval after about 12 years. After about 12 years at the proposed pumping rate, water levels would begin falling below the top of the screen interval which could introduce oxidizing conditions into the aquifer. These conditions could create water quality concerns at the well location or affect productivity as water levels continue to decline. If the aquifer conditions are similar to the N2-14-003P location, we would expect water levels to remain above the minimum pumping level for about 28 years. With the range and uncertainty in Middle Trinity Aquifer transmissivity estimates for the location, we recommend conducting a 72-hour pumping test using the well to provide for better



<sup>&</sup>lt;sup>4</sup> Calculated using the CUWCD Aquifer Status Tool.

Mr. Dirk Aaron – Victory Rock Permit Application Review February 9, 2021 Page 6 of 11

planning of future pump lowering and well maintenance required to due declining water levels.

Figure 1 is a map identifying known wells completed in the Middle Trinity Aquifer that are located within one mile of the applicant's well. The wells shown on Figure 1 are the same as those for which drawdown estimates are provided in Table 1. As an alternative to the Middle Trinity, the applicant may consider completing a well to the deeper Lower Trinity Aquifer. According the District virtual bore tool, the Lower Trinity Aquifer (that is, Hosston Formation) is about 1,200 feet BGL and 250 feet thick (see Figure 2).

As shown on Figure 3, there are currently no other wells completed in the Lower Trinity Aquifer within one mile of the applicant's well. Review of the District's modified GAM indicates the transmissivity of the Lower Trinity at the well site is about 24,000 gpd/ft. With the higher transmissivity, the predicted drawdown at the well location is about two (2) feet after one year at the proposed production rate with no drawdown in the nearby Middle Trinity wells. Also, predicted drawdown one-quarter mile from the well would be negligible. Based on current conditions, we would expect Lower Trinity Aquifer water levels to remain above the minimum pumping level for about 40 to 50 years (see Table 4).

Parameter	Value		
Static Water Level	400 feet BGL		
Top of Screen	1,200 feet BGL		
Minimum Pumping Water Level	1,180 feet BGL		
Current Available Drawdown	780 feet		
1-Year Drawdown	2 feet		
Instantaneous Drawdown	1.5 feet		
1-Year Pumping Water Level	404 feet BGL		
1-Year Available Drawdown	776 feet		
Approx. Annual Water-Level Decline	15 to 20 feet per year		
Approx. Groundwater Availability	40 to 50 years		

# Table 4.Estimated years of groundwater available to the well from the Lower Trinity<br/>Aquifer based on available information.



Mr. Dirk Aaron – Victory Rock Permit Application Review February 9, 2021 Page 7 of 11



Figure 1. All known wells completed in the Middle Trinity Aquifer (Hensell layer) within one mile of the applicant's well.





### Figure 2. Estimated depth to the formations at the applicant's well location





Figure 3. Radius map generated by CUWCD illustrating all wells completed in the Lower Trinity Aquifer (Hosston layer) within one-half mile and one mile of the applicant's well.



Mr. Dirk Aaron – Victory Rock Permit Application Review February 9, 2021 Page 10 of 11

## **Conclusions and Recommendations**

There is uncertainty regarding the Middle Trinity Aquifer transmissivity at the Victory Rock, LLC well location. Information from nearby wells suggest the transmissivity may be higher than the value from the GAM datasets. However, due to the uncertainty we recommend using the transmissivity value from the GAM as a conservative value for considering the potential drawdown associated with the proposed production.

Using the conservative transmissivity value for the Middle Trinity Aquifer, the predicted drawdown at the requested 30 acre-feet per year is 120 feet after one (1) year of pumping. Assuming the well will only operate 33 percent of the time (that is, eight hours per day on average), reduces the pumping amount to 10 acre-feet per year and results in 40 feet of predicted drawdown. At the nearest existing Middle Trinity Aquifer well, the predicted drawdown at these annual rates is 33 and 11 feet, respectively. To reduce the predicted drawdown to a negligible amount at the nearest existing well would require an annual pumping rate from the applicant's well of approximately one (1) acre-foot per year.

Lower Trinity Aquifer conditions at the well site suggest greater long-term groundwater availability. The predicted drawdown from the proposed production only about two (2) feet at the well location. In addition, there are no nearby wells completed in the Lower Trinity Aquifer and the drawdown caused by a well completed in the Lower Trinity would have no or negligible impact on a well completed in the Middle Trinity Aquifer. In addition, predicted drawdown one-quarter mile from a well completed at the site in the Lower Trinity Aquifer producing 30 acre-feet per year would be negligible.

As a "N2" permitted well, we are aware the applicant will be required to have a meter on the discharge pipe and a water-level monitoring tube installed in the well. The following summarizes our additional recommendations associated with approval of the operating permit:

- Upon discussion and coordination with the District, consider the installation of automated water-level monitoring equipment, for potential incorporation into the District's water-level monitoring network.
- For the Middle Trinity Aquifer, conduct a 72-hour pumping test to determine the site-specific transmissivity and storativity of the aquifer. Testing could be performed with the assistance of District personnel. The results of testing would allow the applicant to better plan for necessary lowering of the pump in the well and the potential impact on other nearby wells completed in the same aquifer.
- For the Lower Trinity Aquifer:
  - Obtain a geophysical log of the open hole following drilling



Mr. Dirk Aaron – Victory Rock Permit Application Review February 9, 2021 Page 11 of 11

- Conduct a 24 to 72 hour pumping test to assess aquifer transmissivity
- Coordinate with District staff regarding the specifications for the geophysical logging and pumping test

If you have any questions regarding our review, please let us know.

## **Geoscientist Seal**

This report documents the work of the following licensed professional geoscientist with LRE Water, LLC, a licensed professional geoscientist firm in the State of Texas (License No. 50516).

Michael R. Keester, P.G. Senior Project Manager | Hydrogeologist





# CUWCD Exempt Well Use


#### **CUWCD Exempt Well Use Summary**

As of: 2/9/2021

Aquiller	Total Active Registered Exempt Wells <sup>1</sup>	Registered Domestic Wells	Estimated Domestic Use Gations/Day <sup>12</sup>	Estimated Domestic Use Ac- ft/Year <sup>12</sup>	Registered Stock Wells	Estimated Stock	Estimated Stock	Total Estimated Use Gallons/Day <sup>2</sup>	Total Estimated Exempt Well Use Ac-ft/Year <sup>7</sup>	MAG Reserved
Glen Rose (Upper Trinity)	433	351	102,689	115	82	70,845	79	173 537	194	Exmpt
Hensell (Middle Trinity)	965	905	415,691	466	60	51,840	58	467,531	524	Well Use
Hosston (Lower Trienty)	140	129	37,740	42	A Photos and a St	9.504	11	47,244	53	
Trinity (Tatali	1,535	1.385	556,120	523	152	101 151	145	585,312	771	1.41
Edwards BF2	210	579	198,643	223	121	213.754	117	311 532	349	82
Edwards Equivalent	490	387	113,221	127		88,992	100	202,213	227	
Buda	28	15	4,388		1888 18 v.s. 13	11,232		15,620	17	
Lake Waco	8	3	878	「「「「「」」」を見たる」	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	4,320	Contration Section 199 5	5,198	6	00000000
Austin Chalk	226	142	41,544	- 47	84	- 72,576	-energeten - 81	114,120	128	SOIGLO
Ozan	166	118	34,522	nun in namen 39	S a r S - 48	41,472	s 672. · · · · · ·	75,994	85	
Pecan Gap	67	44	12,873	tess Americant 14	23	19,872	22	32,745	37	
Kemp	15	- 11	3,218	STRATE COLORINAL	4	3.456		6,674	7	- CHA
Allaviam	570	362	105,907	119	208	179,712	201	285,619	320	1.08.00.
Other	1.570	1,082	316,550	355	485	421,632	472	738,182	827	
CUWCD Total Active	3,918	3,146	1.071.318	1,200	772	667,008	747	1,738,326	1,947	

1. Domestic use estimate assumes 106 galions/person per day (USGS estimate of domestic use outside of a municipal water system) and 2.76 persons/household (U.S. Census Bureau, Population Estimates Program (PEP) July 1, 2019)

2. Benjamin G. Wherley, Ph D. Associate Professor- Turfgrass Science & Ecology Dept. of Soil and Crop Sciences Texas A&M University estimate of 2,000ft<sup>2</sup> warm season turfgrass requires 38,855gal/yr/lawn or 106gal/day/lawn; "Ranchette" Avg. lawn size is 13,042ft<sup>2</sup>, 6 5X larger; 6 5 X 106gal/day/lawn= 689gal/day/lawn; -217 "Ranchette" Middle Trinity Wells; 669 X 217=an additional 150,924gal/day/lawn; **490ac-ft/yr or an 89% increase in Middle Trinity exempt well use from the 2018 estimate of 258ac-ft/yr**.

3. Exempt well use estimate factors out all plugged, capped, monitor and inactive wells in the database.

4. Source of stock water estimates is Texas Agril/e Extension @ 18 gallons water per day per cow Livestock water use estimates are based on the 2017 Census of Agriculture, USDA National Agricultural Statistics Service 36,868 cows / 771 stock wells= 48 cows/stock well, 48\* 18gpd= 846 gal/day/stock well 747ac-ft/yr or a 34% increase in annual stock use from the 2018 estimate of SS6ac-ft/yr.

5. The "Other" designation is the total of minor aquifer and alluvium source designation of the exempt wells

6. Trinity Aquifer wells registered with unknown depth are assigned to the Middle Trinity per Board decision.

7 All estimates of groundwater use by exempt well owners is based on assumptions and scientific data, but by no means are they to be interpreted as recommended practices by CUWCD

## Notification

#### **NOTICE OF APPLICATION FOR AN OPERATING PERMIT**

Name Address City, State Zip

## VIA CERTIFIED MAIL RETURN RECEIPT REQUESTED

RE: Application for an Operating Permit Associated with an Existing Well

To Whom It May Concern:

On behalf of Victory Rock Texas LLC, I Jon Taliaferro as Project Manager with Sage ATC Environmental, have made application to the Clearwater Underground Water Conservation District (CUWCD) on December 6, 2020, for an operating permit to authorize production of groundwater not to exceed 30 ac-ft (9,775,000 gallons) per year from an existing well (N2-20-007G) completed in the Hensell Layer of Trinity aquifer to produce water for beneficial use for the purpose of mining and crushing aggregates.

Victory Rock Texas LLC is proposing an operating permit with agreed upon special provisions that allow permitted production on property leased from Byron Goode totaling 283 contiguous acres. The permit condition is to include an advanced aquifer 36 hour pumping test of the well with enhanced aquifer monitoring to correlate the permitted production with additional understanding of the aquifer conditions in the Hensell Layer of the Trinity Aquifer. The test is designed to yield additional valuable data for Victory Rock and CUWCD for general regulatory purposes and assist the District and other well owners with indepth scientific discernment of the Hensell Layer of the Trinity aquifer and potential radius of influence on wells within ½ mile of the existing well.

The operator will be required to install a metering device for required monthly reporting of production to CUWCD. In addition, the applicant will install an observation tremie tube inside the well casing to the pump depth, for monthly static water level measurements necessary for CUWCD to monitor aquifer conditions.

CUWCD well #N2-20-007G is currently registered as an exempt well and has been inactive for an unknown amount of time. The well is competed to 880 feet below land surface, screened in the Hensell Layer of the Trinity Aquifer at 800 – 880 feet below land surface. The well will be reworked and equipped with a maximum 2-inch column pipe for a submersible pump rated at 18.6 gallons per minute on the 283-acre tract located at 7170 Solana Ranch Rd West, Jarrell Texas 76537-5008, Latitude 30.876156', Longitude -97.609424' to produce groundwater for beneficial use for the purpose of mining and crushing aggregates.

This application will be set for hearing before the CUWCD Board upon notice posted at the Bell County Courthouse Annex and at the CUWCD Office. If you would like to support, protest, or provide comments on this application, you must appear at the hearing and comply with District Rule 6.10. For additional information about this application or the permitting process, please contact CUWCD at 700 Kennedy Court (PO Box 1989), Belton, Texas 76513, 254-933-0120. I, the applicant's representative, Mr. Jon Taliaferro may be contacted at 715 Discovery Blvd., Suite 301, Cedar Park TX 78613, or by calling (361)215-9994.

Sincerely,

Jon Taliaferro Project Manager Sage ATC Environmental Consulting LLC

## NOTICE OF APPLICATION TO FOR AN OPERATING PERMIT FROM THE <u>CLEARWATER UNDERGROUND WATER CONSERVATION DISTRICT</u>

Victory Rock Texas LLC, by Project Manager, Jon Taliaferro with Sage ATC Environmental, has made application to the Clearwater Underground Water Conservation District (CUWCD) on December 6, 2020, for an operating permit to authorize production of groundwater not to exceed 30 ac-ft (9,775,000 gallons) per year from an existing well (N2-20-007G) completed in the Hensell Layer of Trinity aquifer to produce water for beneficial use for the purpose of mining and crushing aggregates.

Victory Rock Texas LLC is proposing an operating permit with agreed upon special provisions that allow permitted production on property leased from Byron Goode totaling 283 contiguous acres. The permit condition is to include an advanced aquifer 36-hour pumping test of the well with enhanced aquifer monitoring to correlate the permitted production with additional understanding of the aquifer conditions in the Hensell Layer of the Trinity Aquifer. The test is designed to yield additional valuable data for Victory Rock and CUWCD for general regulatory purposes and assist the District and other well owners with indepth scientific discernment of the Hensell Layer of the Trinity aquifer and potential radius of influence on wells within ½ mile of the existing well.

The operator will be required to install a metering device for required monthly reporting of production to CUWCD. In addition, the applicant will install an observation tremie tube inside the well casing to the pump depth, for monthly static water level measurements necessary for CUWCD to monitor aquifer conditions.

CUWCD well #N2-20-007G is currently registered as an exempt well and has been inactive for an unknown amount of time. The well is competed to 880 feet below land surface, screen in the Hensell Layer of the Trinity Aquifer at 800 – 880 feet below land surface. The well will be reworked and equipped with a maximum 2-inch column pipe for a submersible pump rated at 18.6 gallons per minute on the 283-acre tract located at 7170 Solana Ranch Rd West, Jarrell Texas 76537-5008, Latitude 30.876156', Longitude -97.609424' to produce groundwater for beneficial use for the purpose of mining and crushing aggregates.

This application will be set for hearing before the CUWCD Board upon notice posted at the Bell County Courthouse Annex and at the CUWCD Office. If you would like to support, protest, or provide comments on this application, you must appear at the hearing and comply with District Rule 6.10. For additional information about this application or the permitting process, please contact CUWCD at 700 Kennedy Court (PO Box 1989), Belton, Texas 76513, 254-933-0120. As the applicant's representative, Mr. Jon Taliaferro may be contacted at 715 Discovery Blvd., Suite 301, Cedar Park TX 78613, or by calling (361)215-9994.

## **Publisher's Affidavit**

State of Texas County of Bell

Before Me, The Undersigned Authority, this day personally appeared Jane Moon after being by me duly sworn, says that she is the Classified Manager Inside Sales of the Temple Daily Telegram, a newspaper published in Bell County, Texas and that the stated advertisement was published in said newspaper on the following date(s):

January 15, 2021

For: Victory Rock Texas LLC Ad #: 16664650 Cost: \$223.80 Times Published: 1

noor

Jane Moon Classified Manager Inside Sales

Subscribed and sworn to before me, this day: January 15, 2021

orning Notary Public in and for

Bell County, Texas

(Seal)



#### NOTICE OF APPLICATION FOR AN OPERATING PERMIT FROM THE CLEARWATER UNDERGROUND WATER CONSERVATION DISTRICT

Victory Rock Texas LLC, by Project Monager, Jon Talioferra with Sage ATC Environmental, has made application to the Clearwater Underground Water Conservation District (CUWCO), on December 5, 323, for an operating permit to authorize production of groundwater bol to exceed 30 ac-fl (9.773,000 satilans) per year fram an existing well (N2-30,0076) completed in the Hensell Layer of Trialty capifer to produce water for beneficial use for the surpose of mining and crushing cognegates.

Victory Rock Texos LLC is proposing an operating permit with agreed upon special provisions that allow permitted production on property leased from Byron Goode totoling 233 continuous occus. The permit condtion is to include an advanced oratifer 28-bour punning test of the well with embanced soutifer maniforing to carrelate the permitted production with additional understanding of the acuiter conditions in the Hensel Layer of the Triaty Acuiter. The test is designed to yield additional valueble data for Victory Rock and CUWCD for general resultancy surposes and assist the District and other well owners with in-destin clearing additional or the existing values of influence on wrells within 16 mile of the existing well.

The operator will be required to lastall a meterina device for resulted monthly reporting of production to CUWCD. In addition, the opplicant will install an abservation tramile tube inside the well casing to the pump depth, for monthly static water level measurements necessary for CUWCD to monthly gentler conditions.

CUWCD well \$N2-20-007G is currently resistend as an exempt well and has been inactive for an unknown omount of time. The well is competed to \$30 feet below land surface; screen is after the test Lawer of the Trin ity Aquiler of 100 - 80 feet below land surface. The well will be revarted and equipped with a impairment 24.6 abloss per minute of the Store fract located at 12.6 abloss per minute of the Store fract located at 170 Solono Ranch Rd West, Jarrell Texas 74537-5606. Latitude 30.175156. Longitude 47.694024 to produce groundwater for beneficial use for the ourboas of mining and crushing agarents.

Ing and crushing agaragates. This application will be set for hearing before that CUWCD Board upon adice posted at the Bell County Courthexise "Annex" and at the CUWCD Office. If you would like to support, protest, or provide coorsinents on this application, you must appear of the hearing and compty with District, Rule \$10. Fee additional Information about this application or the permittings practions between the support, Rule \$10. Fee additional Information about this application or the permittings practions, please contact, CUWCD at 2000 Kemisck. Court (PO Equilibrium Court, Policy and State States), Safety applicant's representative, Mr. John Talloferro may be contacted at 715 Discovery Blivd., Suite 301, Cedar Park TX 78413, or by calling (331)215-9994.

#### 68:// BEMPLE BARA TELE







<ol> <li>A water well used for purpos</li> </ol>	ounts? <b>ION 2</b> is a well that satisfies the following es other than domestic, livestock or poultry quipped or completed so that it is capable o	; or
k one of the following:  DRILLING PERMIT	OOPERATING PERMIT	OPERMIT AMENDMENT
(Complete Sections 1, 2, 3, 4 & 7)	(Complete Sections 1, 5 & 7; update Sections 2, 3, & 4 if different from Drilling Permit)	Modify Dilling Permit (Complete Sections 1,2,3,4 & 7)
Replacement Well	Water to Remain in District	Modify Operating Permit (Complete Sections 1,5 & 7)
	Water to be Exported Outside District	Change in Well Ownership     (Complete Sections 1 & 7)
An application for an <b>Operating Permit</b> must days of completing a new well, or reworking/r existing well. A <b>Hydrogeological Report</b> is required for 1) applications requesting an annual maximum p more than 37 acre-feet; or 2) amendments to in or production capacity of a public water suppli- commercial, industrial, agricultural or irrigatic putside casing diameter greater than 6 5/8 inch District Rule 6.9.2. Requests to export water outside the District r complete Section 7.	e-equipping an Operating Permit ermitted use of trease production y, municipal, n well with an tes as discussed in nusst also	ict Rule 9.3 and State Law TDLR all Well Reports are due to the District s of well completion. IncuRule 0.45 at completion of all wells Assessment is required by the Pump r Well Driller. District Staff will provide mple bottles, and coordinate with Pump iller to retrieve the sample within 45 dl completion. Temporary pump to is required should the well not have ently installed in first 45 days. This for operating permits 37 ac. ft. or less.

construction and operation.			
Well Owner: 7KX Ranches Em	ail:	_Telephone No.: 254-94	7-5577
Address: P.O. Box 297	Salado	тх	76571
(Street or P.O. Box)	(City)	(State)	(Zip Code)
Contact Person (if other than owner): Glenn Hodg	jeTel	ephone No.:	
If ownership of well has changed, name of previous of	owner	State W	ell No.

## 2. Property Location & Proposed Well Location 7KX Investments

Owner of property (if differ	ent from well owner): Trotti		5
Property is located1	miles SW	<sub>of</sub> Salado	on FM 2843
(Nur	nber) (N,S,E,W)	(Nearest City or Town)	(Name of Road)
Acreage: 374.03 Bell C	AD Property ID # 109974	Latitude: 30.912222	Longitude: -97.556944

#### 3. Well Description (Submit if State of Texas Well Report is available)

a. Proposed use of well and estimated amount of water to be used for each purpose:

\*Domestic; \_\_\_\_\_Livestock/Poultry; \_\_\_\_\_Agricultural/Irrigation; \_\_\_\_\_Industrial; \_\_\_\_\_\_\*\*Public Supply; \_\_\_\_\_Other.

\*Total number of houses to be serviced by the well\_ 1.666

\*\*Notice is required of any application to the TCEQ to obtain or modify a Certificate of Convenience and Necessity to provide water or wastewater service with water obtained pursuant to the requested permit.

#### b. Estimated distance from nearest:(feet)

486	N / S Property Line;	1,400	E / W Property Line;	900	Existing Septic Leach Field;
200	River, Stream or Lake;	900	Existing Water Well;		Livestock Enclosure:
	Other Source of Contam	ination	(cemetery, pesticide mixing/	loading,	petroleum storage tank, etc.)

Estimated rate of withdrawal (GPM): 1,000	d. Is property subject to flooding:	O Yes	O No
---	-------------------------------------	-------	------

e. Is there another well on the property? • Yes O No f. Is the well part of a multi-well aggregate system? • Yes O No If yes, how many wells? 2 • List State Well Numbers:

g. Attach the following:

 tax plat map indicating the location of the proposed well or the existing well to be modified, the subject property, and adjacent owners' physical addresses and mailing addresses. (Bell CAD maps if current will be accepted)

- Indicate the location of the proposed well or the existing well to be modified with a circle and dot, and the distance to
  the well from property lines.
- CUWCD will provide the location of all existing wells within ½ mile radius of the proposed well or the existing well to be modified.

NOTE: If this is a replacement well, indicate location of well that is being replaced and distance from the proposed well. Abandoned well must be properly capped or filled in accordance with state law and the rules of the District. Admin Form 3 Revised February 4, 2020

Tom Lovelace	the second s	and the second sec	TDLR Pump Installer License Number:	4920
dares 4997 Em Gr	ove Rd.		TDLR Well Drillers License Number:	4920
(Street or P.O. F	loii)		Comments/notes	
Belton	T%	76513		and the second
(6%) 254-780-1800	(Suite)	(Zip Code)	lovelacewaterweil@att.na	H KJ
(Phale a)		(Fan #)	(E-mail address)	

4. Completion Information

Provide the following information to the extent known and available at the time of application.

NOTE: Provide the complete driller's log and any mechanical log, or chemical analysis, within 60 days of completion of well. Well must be drilled within 30 feet of the location specified and not closer to any existing well or authorized well site than the District's minimum spacing rule requires.

If amending existing permit, explain requested amendment and reason for amendment:

Proposed Total Depth of Well: 195 ft; Borehole Diameter (Dia) 18 inches (in) from 0 to 125;
Dia. (2) 12 in. from 125 to 195 Casing: Material steel ; Inside Diameter (ID) 14 in;
Screen: Yes O No O Screen Type TBD ; Screen Dia, TBD in from to ft;
# of Packers; Pump Type: Sub Turbing Power: Electric ; Horsepower Rating 100 ;
Depth: <u>125</u> ft; Column Pipe ID: TBD6 in. Date Completed Mar 2021
Proposed Water Bearing Formation: 🥑

#### 5. Operating Permit

NOTE: If requesting operating permits or permit renewals for multiple wells, please attach a separate sheet with the information requested below for each well.

Current operating permit annual production: 402.3 Requested increase/decrease:

Include statement/documentation explaining requested production:

Cor

Number of contiguous acres owned or leased on which water is to be produced:	795	acres
Total annual production requested with this operating permit: 500	acre-feet or 162,925,500	gallons
Requested annual volume to be exported out of the District:	Gallons (0 % of total	pumpage)

NOTE: (1 acre-foot = 325,851 gallous) Withdrawals from all non-exempt wells Classification 2 must be reported to the District monthly-by the 10<sup>th</sup> of the following month

#### 6. Export Requirements

- If water is to be exported outside the District, describe the following issues and provide documents relevant to these issues:
  - The availability of water in the District and in the proposed receiving area during the period requested.
  - The projected effect of the proposed export on aquifer conditions, depletion, subsidence or effects on existing permit holders or other groundwater users within the District.
  - How the proposed export is consistent with the approved regional water plan and certified District Management Plan.

#### 7. Certification

I hereby certify that the information contained herein is true and correct to the best of my knowledge and belief. I certify to abide by the terms of the District Rules, the District Management Plan, and orders of the Board of Directors. I agree to comply with all Diffic well plyging and copping guidelines as stated in the District Rules.

Typed Name of the Owern or Designee

Date

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**PERMIT TERMS:** Drilling Permits—effective for 365 days from the date the permit application is approved by the Board. Combination Drilling / Operating Permits—effective until the end of the calendar year in which it is issued. Permits may be renewed by the General Manager, subject to any changes necessary under proportional adjustment regulations, District Rules, or the District Management Plan.

SPACING/ACREAGE REQUIREMENTS: Refer to District Rules, Section 9.5. For a well with a column pipe size of 2" or less, a minimum tract size of 2 acres is required, with a 100' setback from other well sites, and a 50' setback from property lines. Acreage and setbacks increase with larger column pipe size.

NOTICE REQUIREMENTS: <u>Permit applicants must provide notice of filing as follows</u>: 1) publication in a newspaper of general circulation in the District; and 2) certified mail, return receipt requested, to all adjacent property owners and owners of wells located within ¼ mile radius of the existing well or proposed well that is the subject of the application. The District will provide the appropriate forms for notification. Applicant must provide 1) proof of publication of public notice; and 2) proof of receipt by certified mail of the public notice to property owners as

## SUBMIT FOR ADMIN REVIEW

January 11, 2020

Clearwater Underground Water Conservation District P. 0. Box 1989 Belton, TX 76513

Attn: Dirk Aaron, General Manager Re:

Subject: 7KX Ranches Drilling Permit Application

Dear Sir:

KX Investments (dba 7KX Ranches) proposes to construct one public water supply well on its property ID: 109974 (345.97 acre tract) south of the Village of Salado in Bell County, Texas. 7KX Ranches currently owns two (2) groundwater production wells with Historic & Existing use permits from Clearwater Underground Water Conservation District (District), State Number 58-04-512 (CUWCD #N2-02-010G) and 58-04-513 (CUWCD #N2-20-011G), and wholesales water from those wells to Salado Water Supply Corporation (Salado WSC) for retail domestic use.

CUWCD identifies the two (2) existing groundwater wells as N-02-010G (7KX #8) and N-02-011G (7KX #9). For our identification purposes, the proposed well is identified as 7KX#10 (N2-19-005P) and is to be completed in the Edwards BFZ aquifer for beneficial use as a public water supply well.

This transmittal letter includes required pertinent information and data, as required by District rules, for application for a drilling permit for a new groundwater well. This formal transmittal letter includes the following information in support of our drilling permit application:

- 1. Drilling Permit Application fee for the 7KX#10 Well N2-NON-EXEMPT WELL, CLASSIFICATION 2 @ \$5,000.00.
- 2. Location map showing location of wells and information required by the District.
- 3. Drilling permit application for proposed well 7KX#10 known as CUWCD N2-19-005P.
- 4. Proposed well casing and installation will be based on current hydrogeological understanding of the location described driller notes related to exempt well E02-3442G aforementioned in the application, attached legacy driller's report and this cover letter.

While 7KX Ranches owns its existing wells, Salado WSC operates the 7KX Ranches water wells and purchases wholesale water from 7KX Ranches. Water is supplied from the 7KX Ranches Edwards Aquifer wells to the Salado WSC distribution system via a 12" water line crossing Interstate Highway 35. All water produced by 7KX Ranches is currently used within the Salado WSC Certificate of Convenience and Necessity (CCN) area. Salado WSC CCN service area is wholly within Bell County, Texas and within District boundaries.

In addition to Salado WSC, 7KX Ranches may provide, at a future date, wholesale water to a planned 800-acre development west of 7KX Ranches. At the present time, this planned development is within the CCN service area of the City of Georgetown. That area was recently acquired by the City of Georgetown from Chisholm Trail SUD. For service to occur at that site, the CCN area would have to be released by the City of Georgetown to the developer for a formation of a Municipal Utility District (MUD).

The proposed well will be drilled and completed into the Edwards BFZ aquifer, per the attached application, to ultimately pursue an operating permit of 500 ac-ft/year (or 162,925,500 gallons per year). Location of the proposed well is shown on the attached location map (Lat 30.912222<sup>o</sup>/Long - 97.556944<sup>o</sup>) along with required setbacks from adjacent property's. The well will be constructed to requirements of Chapter 290 of the Texas Commission on Environmental Quality (TCEQ) rules, Texas Department of Licensing and Regulation (TDLR) regulations, and all applicable District Rules. A typical conceptual design for the proposed well will be provided as needed with this application.

The proposed location of the well is Latitude 30.912222°/Longitude-97.556944°. The groundwater well will be completed and equipped to produce up to 1,000 gallons per minute, depending on aquifer conditions. The pump will be a submersible turbine type equipped with a 100-horsepower motor. The proposed well casing will be Schedule 40 steel, 14" in diameter. Bore hole for the surface casing will be a minimum of 18" in diameter to allow for at least 2" of pressure cement around the casing. The 14" diameter casing will extend from the ground surface to the top of the Edwards Aquifer (approximately 123 feet below land surface). A 12" diameter bore hole will be drilled through the Edwards Aquifer formation. Due to the nature of the Edwards formation at this location, it is anticipated that the well will need to be acidized for maximize production.

Since the proposed production well will be operated by Salado WSC for its use, the Water Conservation and Drought Contingency Plan, as adopted by Salado WSC Board of Directors, will govern the use of all groundwater pumped from the well. Salado WSC has borrowed money from the Texas Water Development Board (TWDB) for system improvements. As such the water conservation plan has been approved by TWDB as complying with State law. As part of their water conservation strategy, both 7KX Ranches (applicant) and Salado WSC (operator) will comply with the District's Management Plan that includes a drought contingency plan utilizing short-term proportional curtailments if necessary to protect and maintain spring-flow of the Salado Springs Complex at 1.68 CFS or 100 ac-ft/month.

If the proposed Edwards BFZ well requires abandonment or is closure in the future, 7KX Ranches will hire a licensed well driller to plug such well, at its cost, in accordance with TDLR regulations. District rules, if more stringent than TDLR plugging requirements, will also be followed in the plugging and capping of the wells with appropriate documents filed at with TDLR.

At the current time, 7KX Ranches has no intent to export any of the water produced outside of the District boundaries. All water will be used within the District boundaries. If the need arises, in the future, to transport any groundwater from the District boundaries, appropriate permits provisions necessary for transport will be applied for (per districts rules) prior to any such transportation or use.

The location map, as attached, shows the location of the proposed well on 7KX BellCAD Property ID:109974 tract size of 345.97-acres. It is my understanding that the District will provide 7KX Ranches with the location of any registered wells with the ½ radius of inclusion on this map. I also understand that the District will provide 7KX Ranches the necessary notification language based on current adjacent property owners within ½ mile radius of the proposed well 7KX#10 and the necessary language for the newspaper notification per District Rule 6.9.1 & 6.9.2.

Since the water produced from this well is intended for wholesale public water supply use in a contractual arrangement Salado WSC for its retail use thus no CCN expansion and/or CCN modification is required by the Public Utility Commission (PUC) for construction of this proposed well. The existing Salado CCN is sufficient for retail domestic use of this water in a legally defined beneficial use. No groundwater will be sold to any other public, private and/or investor-owned utility, without first

acquiring an appropriate CCN from the PUC and additional permit privileges, per District rules, by making application to amend any future operating permit.

Groundwater will be used to provide the 2,600 retail connections of Salado WSC with potable water in accordance with TCEQ regulations. TCEQ requires that all retail entities provide a minimum of 0.6 gallons per minute per connection for its retail customers. Therefore, Salado WSC needs a minimum of 1,560 gpm in water supply to meet this requirement. Annually, Salado WSC customers use approximately 1,740 ac-feet of groundwater under existing permits with the District. Salado WSC is adding approximately 100 connections annually to its customer base. Additionally, a large retail and residential development is planned in its CCN directly across Interstate 35 from the proposed wells. Additional water supplies are needed by Salado WSC to meet these growing demands as recognized in the State Water Plan.

A detailed hydrological report will be developed in accordance with the proposed drilling permit provisions, per District rules, requiring the development of a formal hydrogeologic report within a prescribed amount of time necessary for 7KX Ranches to submit "step two" for a final operating permit on the well based on the results of the aquifer conditions described in our hydrogeologic report.

7KX Ranches understands the components of the required hydrogeologic report and as part of that report will adhere to the need for a pumping test as described in the District Hydrogeologic Report Guidelines. Specifically, the development of the well and the subsequent pumping tests of the well, both a steady state minimum 36-hour pump test and a necessary step production test will be performed and reported to the district once the final application for an operating permit has been submitted. Data will also be collected on recovery of the well after the respective pumping periods. In addition, data, in the form of water level measurements, will be collected from near by observation wells, as identified by the District, to fully evaluate the effects on the aquifer during the prescribed pumping tests.

7KX Ranches acknowledges that the elements of the final hydrogeologic report including but not limited to the pumping test and associate detailed hydrological report can be formally deferred, per District Rules under section 6.9.2(g), until after the proposed wells are drilled under this proposed drilling permit thus the appropriate test pumping equipment will be installed to accurately perform the necessary test. 7KX Ranches, concurs that by not requiring the hydrogeologic report during the drilling permit step #1, that 7KX Ranches will be able to provide more accurate and complete data as requested the "Guidelines for Preparation of Hydrogeological Reports for Submission in Support of Applications for Permitted Use of Groundwater", dated March 24, 2009. This will then support a final application for an "operating permit" based on current aquifer conditions thus deliberation by the District.

If you have any questions or need additional information, please feel free to contact me.

Sincerely, lase Glenn Hodde

First Texas Brokerage

Proposed Well Location Quick Inc. Survey Propoerty ID: 109974

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## CUWCD Executive Summary

Staff Report Application for Drilling Permit N2-19-005P							
Clearwater Margane var i Margane							
Applicant/Ourport 71	ZV Im-	o o tra o m to	Every drop counts?				
		estments					
		X Ranches)					
4		nn Hodges					
-	.O. Bo						
S	alado	ГХ 76571					
Location of Well: 34	45.97-a	cre site					
Located approximately 3	3 miles	south of the Villag	e of Salado, West Side o	f IH-35,			
west of the southbound	<b>FXDO</b>	T rest area,					
Latitude 30.912222°							
Longitude -97.556944°							
Proposed Annual		Aquifer:	Proposed Use:	Nearest Existing			
Withdrawal;		Edwards BFZ	Public Water Supply	Well:			
Rate of Withdrawal:		Luwalus DI Z	r done water Suppry	6 wells within $\frac{1}{4}$			
@ 1000 gpm				mile;			
				17 wells within $\frac{1}{2}$			
Total: <b>500 ac-ft/yr</b> or				mile.			
162,925,500 gallons/yea	r						

## **General Information**

Glenn Hodge, on-behalf of KX Investments (dba 7KX Ranches), has made application to the Clearwater Underground Water Conservation District (CUWCD) on January 11, 2021, for a drilling permit to authorize drilling of a new well in the Edwards BFZ aquifer to produce groundwater for public water supply.

7KX Well #10 (N2-19-005P) is the proposed new well with a 6-inch column pipe and rated at 1000gpm on a 345.97-acre site located approximately 3 miles south of the Village of Salado Pump, West Side of IH-35, west of the southbound TXDOT rest area, Latitude 30.9122220 / Longitude -97.5569440 with a proposed annual withdraw of 500 ac-ft/year or 162,925,500 gallons per year.

7KX Investments is proposing only a drilling permit at this time per District Rule 6.9. The application states that the future operating permit [per District Rule 6.9.2(e)1)] will be applied for upon completion of the well and the prescribed Hydrogeologic Report [per District Rule 6.9.2(f)].

CUWCD hydrogeologic report guidelines include an advanced aquifer pumping test of 24 to 72 hours of the new well with enhanced aquifer monitoring to correlate the future production with additional understanding of the aquifer conditions in the Edwards BFZ Aquifer. The test is designed to yield additional data for 7KX Investments and CUWCD for regulatory purposes thus managing to the desired future conditions of the Northern Segment of the Edwards BFZ aquifer. This will assist 7KX

Investments, CUWCD and other well owners with in-depth scientific discernment of the Edwards BFZ aquifer and the well's potential radius of influence on wells within <sup>1</sup>/<sub>2</sub> mile of the existing well.

The drilling permit authorization is good until December 31, 2021 and can be renewed annually by CUWCD staff in an administrative manner.

CUWCD consulting hydrogeologist, Mike Keester LRE Water LLC, has reviewed the application, and has conducted the required drawdown analysis per district rules. Keester has described the need of the board to understand that the hydrogeologic report and the scientific results will inform the board and the applicant on the capacity of the aquifer to produce at the prescribe levels requested by the applicant. The well will be constructed in the outcrop of the Edwards BFZ Aquifer. at a maximum rate of 1000 gallons per minute (gpm). The applicants letter describes their understanding of the drilling permit and its

## Per Rules 6.9 and 6.10

In deciding whether or not to issue a permit, the Board must consider the following:

1) **The application contains all the information requested.** The application is complete—all requested information has been provided.

## 2) The proposed use of water is dedicated to a beneficial use.

The water produced from this well will be used for public water supply needs described by the applicant to supply groundwater to Salado Water Supply Corporation (SWSC) of which is a beneficial use.

## 3) The applicant agrees to avoid waste and achieve water conservation.

The applicant has agreed to avoid waste and achieve water conservation by signing the application form stating compliance with the District's Management Plan. Applicant understands the importance of water conservation measures in the business thus options for outside water conservation are vital to the sustainability of the aquifer. The District acknowledges that the applicant has stated they do not intend to utilize the groundwater for landscape purposes.

# 4) The applicant has agreed that reasonable diligence will be used to protect groundwater quality and that the applicant will follow well plugging guidelines at the time of well closure.

The applicant has agreed (by signing the application form) should a well deteriorate over time that state law and district rules require such well would be plugged, before a replacement well can be drilled.

## 5) The proposed water wells comply with spacing and production limitations identified in these rules.

The proposed well will have a column pipe with an inside diameter of not exceed 6inch. Based on this column pipe size, a minimum size tract of 10 acres is required, with a 300-foot spacing requirement from other wells, but the 300-foot setback requirement from adjacent property lines is met from all property lines. District Rule 9.5.2 all property line setbacks would prevail should the applicant need to replace the existing new well.

The District rules do not impose production limitations other than those determined applicable in the review of the future operating permit and/or to prevent unacceptable level of decline in water quality of the aquifer, or as may be necessary to prevent waste and achieve water conservation, minimize as far as practicable the drawdown of the water table or the reduction of artesian pressure, lessen interference between wells, or control and prevent subsidence. These issues are considered in Items 6 & 7 below and with staff recommendations to address potential concerns of adjacent property owners.

## 6) The proposed use of water does or does not unreasonably affect existing groundwater and surface water resources or existing permit holders.

Based upon available information, there are 1 well within <sup>1</sup>/<sub>4</sub> mile of the well site (owned by the applicant) and reported as inactive and completed in the Edwards BFZ aquifer, and approximately 200 feet from the proposed well. (Well will serve as an observation well during the pumping test). There are 2 additional well within <sup>1</sup>/<sub>2</sub> mile, of which both are listed as active exempt well.

Mike Keester, Hydrogeologist, LRE Water, has reviewed this application and has determined the anticipated drawdown and has provided the <u>attached report</u>, with his conclusions and recommendations stating that the proposed well and drilling permit amount of 500 acre-feet/year is reasonable at this time and that the anticipated production of 500 acre-feet/year would likely capture groundwater otherwise discharge from the Salado Springs complex. While the drilling permit application indicates a requested annual volume of 500 acre-feet pr year from the proposed well, the amount considered for and operating permit should be based on the site-specific hydrogeologic conditions and not on the conditions at the nearby well. He will also offer testimony as needed.

## 7) The proposed use of water is consistent with the District's water management plan.

The District's Management Plan reflects a groundwater availability figure in the Edward B aquifer of **6,469 ac-ft/year Modeled Available Groundwater** (then reserve 825 ac-ft/year for exempt well use) thus **5,644 ac-ft/year is the Managed Available Groundwater for permitting.** 

The board, per the district management plan, has evaluated groundwater available for permitting the Edwards BFZ Aquifer and most recently evaluated the available groundwater for permitting (*consistent with the management plan as stated on pages 9-11*).

The requested permit amount relative to the modeled available groundwater MAG determined by the Texas Water Development Board (TWDB) based on the desired future conditions (DFCs) established by the District for the Edwards BFZ Aquifer was set by CUWCD based on spring flow of 200 ac-ft/month in January 2019. To achieve

this DFC, the TWDB used a model that indicated the MAG was equal to 6,469 acrefeet per year from the Edwards BFZ Aquifer.

A summary of 2020 permit production, HEUP & OP Permit Analysis, pending applications and \*Exempt Well Reservations are for the Edwards BFZ Aquifer which is provided per District Report (*see attached Edwards BFZ Aquifer Status Report*).

8) The Modeled Available Groundwater calculations determined by the Executive Administrator of the Texas Water Development Board. Refer to #7 above. The modeled available groundwater will not be exceeded by granting this permit. (see attached District Edwards BFZ Aquifer Status Report).

# 9) The Executive Administrator of the Texas Water Development Board's estimate of the current and projected amount of groundwater produced under the exemptions in District Rule 8.3.

Refer to #7 above. Reservation of Modeled available groundwater for exempt well use will not be exceeded by granting this permit. 825 ac-ft is reserved vs 349 ac-ft estimated being used. (*see district annual exempt use report for 2020*)

## 10) The amount of groundwater authorized under permits previously issued by the District.

Refer to #7 above. Existing permits do not exceed the managed available groundwater (*modeled available groundwater – exempt well use = Managed available groundwater*) for the Edwards BFZ aquifer <u>5,644 ac-ft per year</u>.

## 11) A reasonable estimate of the amount of groundwater that is actually produced under permits issued by the District.

The actual production from all permitted wells in the Edwards BFZ Aquifer in 2020 was **2,189.47 acre-feet (87.13%)** (*Figures are based upon monthly production reports submitted to Clearwater by the permit holders in 2019 and 2020*).

## 12) Yearly precipitation and production patterns.

Clearwater is currently in no drought management stage based on the PDI system (average running total annual rainfall) over the Aquifer in the District, is currently at **29.948** inches rain received in the last 365 days (3/12/120) thus 90.75% of annual expected rainfall of 33 inches. Permit holders did not exceed their total permitted amounts in 2020. The gravity of the drought of 2011-2015, 2018 and again in 2020 necessitated the need for all non-exempt permit applications to be evaluated based on conservative needs and usage that is not contradicted by the current drought contingency plan stage. Successful curtailments under SWSC drought plan as advised by CUWCD occurred in the summer and early fall of 2020. Spring flow stabilized to levels necessary to protect spring flow.

## **Conclusions:**

- MK, LRE Water LLC states "The potential future operating permit of 500 acre-feet per year associated with the proposed well appears reasonable based on the provided information. With the population growth in the area, the amount for public water supply use by the system is reasonable."
- MK, LRE Water LLC states "The anticipated production of 500 acre-feet per year from the proposed well would likely capture groundwater that would otherwise discharge from the Salado Springs complex."
- MK, LRE Water LLC, While the drilling permit application indicates a requested annual volume of 500 acre-feet from the proposed well, the amount considered for an operating permit should be based on the site-specific hydrogeologic conditions and not on the conditions at the nearby well, thus deliberation on the future operating permit supported by the required hydrogeologic report will occur.
- As a "N2" permitted well, the applicant is aware they will be required to have a meter on the discharge pipe and a water-level monitoring tube installed in the well.

## **Recommendations:**

- 1) Approve the application for the drilling permit and confirm the following at the public hearing well with the following special permit conditions:
  - a) The applicant must construct the well to the TCEQ public water supply standards and provide evidence of such with the final application for an operating permit supported by the required hydrogeologic report.
  - b) To assess actual changes in water levels due to pumping from the proposed well, the well will need to have a removable plug in the sanitary seal is in place to allow clear access into the well for water level measurement by District personnel.
  - c) In addition, the pump installer should install a measuring tube alongside the column pipe to allow for measurement of the water level using an e-line or other direct measurement method.
  - d) As an N2 non-exempt well, the well owner is required to have a meter installed for monthly reporting of all production.

Edwards (BFZ) Aquifer Status Report – February 2021

Exempt Well Reservations	t Exempt Available Well Use Exempt on Estimation Use Ac-ft Ac-ft	349 476
	Exempt Well Reservation Ac-ft	825
Pending Applications	Pending Applications Ac-ft	500.00
Pending	Available for Permitting Ac-ft	3131.21
2021 YTD Prod. Jan 110.09 Ac-ft 4.38%	2020 Actual Production	2,189.47 Ac-ft 87.13%
<u>it Analysis</u> e oundwater	Total Permitted <sub>Ac-ft</sub>	2512.79
<u>HEUP and OP Permit Analysis</u> Relative to the Modeled Available Groundwater	OP Ac-ft	303.09
<u>HEUP a</u> Modele	HEUP Ac-ft	2209.7
	MAG *** Ac-ft	6469
<u>DFC Analysis Over Time</u> (2000-Present) Modeled Available Groundwater	Status of DFC ** Current / Low	598.37 Ac-ft 2/8/2021 vs 270 Ac-ft
DFC Analys (2000-1 10deled Availa	DFC Adopted * Minimum Spring Flow	100 Ac-ft per month or
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		Edwards (BFZ)

\*Desired Future Conditions (DFC) established by Clearwater UWCD and approved by GMA8 and TWBD, is the description of how the aquifer should look in the future (50 years based on maintaining the Salado Spring Complex discharge during a repeat of drought conditions similar to the drought of record in the 1950's, under drought of record, a five-day average of discharge amounting to 200 ac-ft-month is preferred and 100 ac-ft-fmonth is the minimum acceptable spring flow. Spring flow is measured and estimated by the USGS Gage in Salado Creek located below the Salado Creek Spring Complex.

\*\*Status of the DFC is the estimated spring flow over a five-day average from the springs releasing artesian pressure from the Edwards BFZ Aquifer expressed as acre feet per month of spring flow into Salado Creek.

# 7KX Investments N2-19-005P (500 ac-ft/yr)



Clearwater UWCD Status Report - February 17, 2021

## LRE Water Analysis



## **Technical Memorandum**

То:	Dirk Aaron, General Manager – Clearwater Underground Water Conservation District
From:	Michael R. Keester, PG
Date:	February 9, 2021
Subject:	Review of the 7KX Ranches Drilling Permit Application

This technical memorandum provides information related to our review of the drilling permit application with the following parameters:

- Proposed Well ID: N2-19-005P
- Well Name: 7KX #10
- Tract Size: 374.03 acres
- Column Pipe Size: To be determined
- Aquifer: Edwards (BFZ)
- Proposed Annual Production: 500 Acre-Feet per Year
- Proposed Instantaneous Pumping Rate: 1,000 Gallons per Minute

The potential effects of the proposed production on local water levels in the aquifer are calculated using the Theis equation<sup>1</sup> which relates water level decline (that is, drawdown) to the pumping rate of a well and properties of the aquifer. While the equation does not account for aquifer conditions which may affect the calculation of long-term water level declines (for example: aquifer recharge, faulting, or changes in aquifer structure), it does provide a very good, reliable, and straightforward method for estimating relatively short-term drawdown in and near a well due to pumping. As the duration of pumping and distance from the well increase, the uncertainty in the calculated drawdown also increases. Typically, to assess the potential effects from the proposed production, we use values from the groundwater availability model (GAM) datasets.<sup>2</sup> However, the GAM dataset at the well location has an aquifer transmissivity value that is unrealistically low.

A transmissivity value is essentially a measure of how easily water can move through an aquifer. In the Theis equation, with all other factors being equal, a higher

<sup>&</sup>lt;sup>1</sup> Theis, C.V., 1935, The Relation Between the Lowering of the Piezometric Surface and the Rate and Duration of Discharge of a Well Using Ground-Water Storage: American Geophysical Union Transactions, v. 16, p. 519-524.

<sup>&</sup>lt;sup>2</sup> Groundwater availability model (GAM) datasets for the Edwards (BFZ) Northern Segment.

Mr. Dirk Aaron – 7KX Drilling Permit Application Review February 9, 2021 Page 2 of 7

transmissivity value results in less predicted drawdown. The GAM dataset indicates the transmissivity of the Edwards (BFZ) Aquifer at the applicant's well location is about 2,000 gallons per day per foot (gpd/ft). However, in 1999 well E-02-3442G was drilled less than 200 feet west of the proposed well site. Pumping test data for E-02-3442G indicates that the well was pumped at 604 gallons per minute with a constant drawdown of 18 feet over a 24-hour period. The specific capacity of this well is the pumping rate divided by the drawdown or 33.6 gallons per minute per foot (gpm/ft) of drawdown. Using an empirical relationship correlating specific capacity to transmissivity<sup>3</sup> we can estimate the local aquifer transmissivity is about 60,000 gpd/ft which suggests aquifer transmissivity values in the GAM are too low. Therefore, we used the estimated transmissivity from the pumping test data for calculating the potential drawdown at other nearby wells completed in the Edwards (BFZ) Aquifer.

Table 1 presents the calculated drawdown at the proposed well and at other nearby wells completed in the same aquifer using the transmissivity value of 60,000 gpd/ft. For *1-Day Drawdown*, we applied the proposed instantaneous pumping rate for a period of 24 hours. For *30-Day Drawdown*, we assumed peak pumping during the summer of about 15 percent more than the average monthly amount (that is, the proposed annual production rate divided by 12 then multiplied by 1.15). For *1-Year Drawdown*, we used the proposed annual production amount.

Well Name	Distance from Proposed Well (feet)	1-Day Drawdown (feet)	30-Day Drawdown (feet)	1-Year Drawdown (feet)
N2-19-005P	0	14.5	7.5	8.0
E-02-3442G	177	2.4	3.0	4.1
E-04-035P	857	Negligible	Negligible	2.3
M-08-001G	1,066	Negligible	Negligible	2.0
E-02-3445G	1,123	Negligible	Negligible	2.0
E-02-3441G	1,289	Negligible	Negligible	1.8
E-02-3443G	1,302	Negligible	Negligible	1.8
N2-05-005G	1,316	Negligible	Negligible	1.8
E-04-034P	1,699	Negligible	Negligible	1.5
E-02-728G	1,967	Negligible	Negligible	1.3
E-02-3439G	2,538	Negligible	Negligible	1.0

## Table 1.Predicted drawdown at existing wells completed in the Edwards (BFZ)<br/>Aquifer located within one mile of the proposed well (CUWCD ID: N2-19-<br/>005P). Only wells with non-negligible drawdown values shown.



<sup>&</sup>lt;sup>3</sup> Transmissivity (gpd/ft)  $\approx$  Specific Capacity (gpm/ft)  $\times$  1,800

Mr. Dirk Aaron – 7KX Drilling Permit Application Review February 9, 2021 Page 3 of 7

The predicted drawdown presented in Table 1 is based on our current understanding of the aquifer hydraulic properties for the Edwards (BFZ) Aquifer and the estimated production from the proposed well. The predicted drawdown values presented do not include the effects from other wells pumping near the proposed well. Predicted drawdown of less than one foot is considered negligible for analysis purposes due to inherent uncertainty in the aquifer hydraulic characteristics. While there are 35 wells located within one mile of the proposed well, non-negligible drawdown was only predicted at 10 of the wells. Figure 1 is a radius map illustrating known wells completed in the Edwards (BFZ) Aquifer that are located within one mile of the applicant's well.

The Edwards (BFZ) Aquifer is a karst aquifer with groundwater flow primarily occurring through fractures and solution cavities in the rock. The Salado Springs complex discharges from the Edwards (BFZ) Aquifer to Salado Creek near where I-35 crosses the creek. Using water-level measurements collected from wells completed in the aquifer, we are able to estimate water levels throughout the aquifer (see Figure 2). Within the aquifer, groundwater generally flows perpendicular to the contour lines of the water-level elevation. As shown on Figure 2, the water-level elevation contours converge around the wells near the proposed well and Salado Springs.

The convergence of the water-level elevation contours suggests that groundwater flow in the Edwards (BFZ) Aquifer is concentrated toward the proposed well. The groundwater flow appears to go toward the existing wells near the proposed well before discharging at the springs. As such, in addition to the predicted drawdown at nearby wells, the proposed production from the well will also impact the springs by capturing groundwater that may otherwise discharge as spring flow. The impact on spring flow from the proposed production would be in addition to impacts from other existing wells capturing groundwater flow. However, we do not expect the impact of the proposed production on the spring flow would be a one-to-one impact; that is, we would not expect each acre-foot of pumping to result in one acre-foot of decreased spring flow.

The permit application indicates 1,666 houses will be served with water from the well. Assuming 140 gallons per person per day and 3 persons per house, the annual demand would be more than 780 acre-feet per year. The proposed future operating permit amount of 500 acre-feet per year appears reasonable based on the provided information.

Based on the drillers report for well E-02-3442G, there is a cavern located from 123 to 127 feet below ground level at that site. While the proposed well is less than 200 feet east of the existing well, there is no guarantee that the cavern is present in the



Mr. Dirk Aaron – 7KX Drilling Permit Application Review February 9, 2021 Page 4 of 7

subsurface at the proposed well location. If a cavern is not present at the proposed well site, the proposed production rates of 1,000 gallons per minute and 500 acre-feet per year may not be attainable. Consideration of a future operating permit will need to be based on the hydrogeological conditions at the well site and not the conditions at well E-02-3442G which were used for this preliminary analysis. The hydrogeological report submitted with operating permit application should address the site specific hydrogeologic conditions and include a discussion of the anticipated impact on Salado Springs due to captured groundwater flow.

## **Conclusions and Recommendations**

The potential future operating permit of 500 acre-feet per year associated with the proposed well appears reasonable based on the provided information. With the population growth in the area, the amount for public water supply use by the system is reasonable.

Based on this preliminary review using the hydrogeologic conditions reported at well E-02-3442G, the predicted drawdown from the proposed well would not inhibit the ability of other existing users to produce groundwater. The anticipated production of 500 acrefeet per year from the proposed well would likely capture groundwater that would otherwise discharge from the Salado Springs complex. While the drilling permit application indicates a requested annual volume of 500 acre-feet from the proposed well, the amount considered for an operating permit should be based on the site-specific hydrogeologic conditions and not on the conditions at the nearby well.

As a "N2" permitted well, we are aware the applicant will be required to have a meter on the discharge pipe and a water-level monitoring tube installed in the well. The following summarizes our additional recommendations associated with approval of the drilling permit:

- A water-level data logger should be installed in the well to allow for continuous water-level monitoring.
- The hydrogeologic report submitted with the future operating permit application should include a discussion of the anticipated impact on Salado Springs due to captured groundwater flow.

If you have any questions regarding our review, please let us know:



Mr. Dirk Aaron – 7KX Drilling Permit Application Review February 9, 2021 Page 5 of 7

## **Geoscientist Seal**

This report documents the work of the following licensed professional geoscientist with LRE Water, LLC, a licensed professional geoscientist firm in the State of Texas (License No. 50516).

N Michael R. Keester, P.G. Senior Project Manager | Hydrogeologist



WATER

Mr. Dirk Aaron – 7KX Drilling Permit Application Review February 9, 2021 Page 6 of 7



Figure 1. Radius map illustrating all wells completed in the Edwards (BFZ) Aquifer within one mile of the applicant's well (N2-19-005P).



Mr. Dirk Aaron – 7KX Drilling Permit Application Review February 9, 2021 Page 7 of 7



Figure 2. CUWCD Aquifer Status Tool map illustrating the estimated water levels in the Edwards (BFZ) Aquifer on December 31, 2020 based on available water level measurements at wells.



## CUWCD Exempt Well Use



#### **CUWCD Exempt Well Use Summary**

As of: 2/9/2021

Aquifer	Total Active Registered Exempt Wells <sup>3</sup>	Registered Domestic Wells	Estimated Domestic Use Galions/Day <sup>1,2</sup>	Estimated Domestic Use Ac- ft/Year <sup>1,2</sup>	Registered Stock Wells	Estimated Stock Use Gations/Day <sup>4</sup>	Estimated Stock Use Ac-ft/Year <sup>4</sup>	Total Estimated Use Gallons/Day <sup>7</sup>	Total Estimated Exempt Well Use Ac-ft/Year <sup>7</sup>	MAG Reserved Exmpt
Glen Rose (Upper Trinity)		351	102,689	115	And weithin the 82	70,848	3. Sanda Ro 40-46-58 79	173,537	194	Well Use
Hensell (Middle Trinity)	965	905	415,691	466	60	51,840	4	467,531	524	Well Use
Hosston (Lower Trinity)	140	129	37,740	42	11 - A. P. C. M. M. M. M. M.	9.504	140 Bart 11	47,244	53	
Trinity (Total)	1,538	1,385	556,120	623	153	132,192	148	688,312	771	1,419
Edwards BFZ	810	679	198,648	223	131	113,184	127	311,832	349	825
Edwards Equivalent	490	387	113,221	127	103	88,992	100	202,213	227	
8uda 🛛	28	15	4,388	5	- 13 Jan - 13 Mar 1 13		13	15.620	17	
Lake Waco	8	3	878	1		4,320		5,198	6	Self Inner Hereit
Austin Chalk	226	142	41,544	47				114,120	128	1- 1 11
Özan	166	118	34,522	39	48	41,472	······ 46	75,994	85	Carl Carl Street
Pecan Gap	67	44	12,873	- 14	- 23			32,745	37	A DOMESTIC OF
Kemp	15	11	3,218	4	4	3,456	ann 19 anns ann 1974 4	6,674	7	
Alfuvium	570	362	105,907	· 119	208		201	285,619	320	March 1978
Other <sup>5</sup>	1,570	1,082	316,550	355			.472	738,182	827	A DECK
CUWCD Total Active	3,918	3,146	1,071,318	1,200	772	667,008	747	1,738,326	1,947	

1. Domestic use estimate assumes 106 gallons/person per day (USGS estimate of domestic use outside of a municipal water system) and 2.76 persons/household (U.S. Census Bureau, Population Estimates Program (PEP) July 1, 2019)

2. Benjamin G. Wherley, Ph.D. Associate Professor-Turfgrass Science & Ecology Dept. of Soil and Crop Sciences Texas A&M University estimate of 2,000ft<sup>2</sup> warm season turfgrass requires 38,855gal/yr/lawn or 106gal/day/lawn; "Ranchette" Avg. lawn size is 13,042ft<sup>2</sup>, 6.5X larger; 6.5 X 106gal/day/lawn= 689gal/day/lawn; ~217 "Ranchette" Middle Trinity Wells; 689 X 217=an additional 150,924gal/day/lawn; 490ac-ft/yr or an 89% increase in Middle Trinity exempt well use from the 2018 estimate of 258ac-ft/yr.

3. Exempt well use estimate factors out all plugged, capped, monitor and inactive wells in the database.

4. Source of stock water estimates is Texas Agnilife Extension @ 18 gallons water per day per cow. Livestock water use estimates are based on the 2017 Census of Agriculture, USDA National Agricultural Statistics Service. 36,868 cows / 771 stock wells= 48 cows/stock well, 48\* 18gpd= 846 gal/day/stock well, 747ac-ft/yr or a 34% increase in annual stock use from the 2018 estimate of 556ac-ft/yr.

5. The "Other" designation is the total of minor aquifer and alluvium source designation of the exempt wells.

6. Trinity Aquifer wells registered with unknown depth are assigned to the Middle Trinity per Board decision.

7. All estimates of groundwater use by exempt well owners is based on assumptions and scientific data, but by no means are they to be interpreted as recommended practices by CUWCD.

## Notification



#### **NOTICE OF APPLICATION FOR DRILLING PERMIT**

Name Address City, State Zip

### VIA CERTIFIED MAIL RETURN RECEIPT REQUESTED

RE: Application for Drilling Permit

To Whom It May Concern:

I, Glenn Hodge, on-behalf of KX Investments (dba 7KX Ranches), has made application to the Clearwater Underground Water Conservation District (CUWCD) on January 11, 2021, for a drilling permit to authorize drilling of a new well in the Edwards BFZ aquifer to produce groundwater for public water supply.

7KX Well #10 (N2-19-005P) is the proposed new well with a 6-inch column pipe and rated at 1000-gpm on a 345.97-acre site located approximately 3 miles south of the Village of Salado Pump, West Side of IH-35, west of the southbound TXDOT rest area, Latitude  $30.912222^{\circ}$  / Longitude -97.556944° with a proposed annual withdraw of 500 ac-ft/year or 162,925,500 gallons per year.

KX Investments is proposing only a drilling permit at this time per District Rule 6.9. The application states that the future operating permit [per District Rule 6.9.2(e)1)] will be applied for upon completion of the well and the prescribed Hydrogeologic Report [per District Rule 6.9.2(f)]. CUWCD hydrogeologic report guidelines include an advanced aquifer pumping test of 24 to 72 hours of the new well with enhanced aquifer monitoring to correlate the future production with additional understanding of the aquifer conditions in the Edwards BFZ Aquifer. The test is designed to yield additional data for KX Investments and CUWCD for regulatory purposes thus managing to the desired future conditions of the Northern Segment of the Edwards BFZ aquifer. This will assist KX Investments, CUWCD and other well owners with in-depth scientific discernment of the Edwards BFZ aquifer and the well's potential radius of influence on wells within ½ mile of the existing well.

This application will be set for hearing before the CUWCD Board upon notice posted at the Bell County Courthouse Annex and at the CUWCD Office. If you would like to support, protest, or provide comments on this application, you must appear at the hearing and comply with District Rule 6.10. For additional information about this application or the permitting process, please contact the CUWCD at P.O. Box 1989, 700 Kennedy Court, Belton, Texas 76513, 254-933-0120. I may be contacted 254-947-5577; P.O. Box 297 Salado, TX 76571.

Sincerely,

Glenn Hodge First Texas Brokerage

## Mailing List

.

Kevin & Robin Spurlock	16482 Kuykendall Branch Rd	Salado	ТХ	76571
7KX Investments	PO Box 297	Salado	ТХ	76571
Jim Boynton	3565 FM 2843	Salado	ТХ	76571
Verlon Tweedle, Jr	13602 Cedar Valley Rd	Salado	ТХ	76571
Benjamin & Heather Blankenship	17164 Kuykendall Branch Rd	Salado	ТХ	76571
David Stanford	PO Box 1145	Salado	ТХ	76571
Rita Zbranek	PO Box 242	Salado	ТХ	76571

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David Stanford	Rita Zbranek	David Stanford	Benjamin & Heather Blankenship	7KX Investments	Verlon Tweedle, Jr	Jim Boynton	7KX Investments	7KX Investments	7KX Investments	Kevin & Robin Spurlock	Kevin & Robin Spurlock		7KX Investments	Name	
PO Box 1145	PO Box 242	PO Box 1145	17164 Kuykendall Branch Rd	PO Box 297	13602 Cedar Valley Rd	3565 FM 2843	PO Box 297	PO Box 297	PO Box 297	16482 Kuykendall Branch Rd	16482 Kuykendall Branch Rd	3565 FM 2843	PO Box 297	Address	<u>N2-1</u>
Salado	Salado	Salado	Salado	Salado	Salado	Salado	Salado	Salado	Salado	Salado	Salado	Salado	Salado	<u>City</u>	N2-19-005P Contact Li
X	X	XL	х	XL	TX	XL	XL	XL	XL	XL	ΥT	TX	ТХ	State	Contact
76571	76571	76571	76571	76571	76571	76571	76571	76571	76571	76571	76571	76571	76571	Zip	List
											E-20-038GU Active	E-20-054GU Active	E-02-3448G Active	Well # Status	
											175	152	125	Depth	
											Edwards BFZ	Edwards BFZ	Edwards BFZ	Aquifer	
											Domestic	Domestic	Livestock/Poultry	Use	
											2,358 ft	2,307 ft	72 ft	Distance	

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## NOTICE OF APPLICATION FOR DRILLING PERMIT FROM THE CLEARWATER UNDERGROUND WATER CONSERVATION DISTRICT

KX Investments (dba 7KX Ranches), has made application to the Clearwater Underground Water Conservation District (CUWCD) on January 11, 2021, for a drilling permit to authorize drilling of a new well in the Edwards BFZ aquifer to produce groundwater for public water supply.

7KX Well #10 (N2-19-005P) is the proposed new well with a 6-inch column pipe and rated at 1000-gpm on a 345.97-acre site located approximately 3 miles south of the Village of Salado Pump, West Side of IH-35, west of the southbound TXDOT rest area, Latitude 30.9122220 / Longitude-97.5569440 with a proposed annual withdraw of 500 ac-ft/year or 162,925,500 gallons per year.

KX Investments is proposing only a drilling permit at this time per District Rule 6.9. The application states that the future operating permit [per District Rule 6.9.2(e)1)] will be applied for upon completion of the well and the prescribed Hydrogeologic Report [per District Rule 6.9.2(f)]. CUWCD hydrogeologic report guidelines include an advanced aquifer pumping test of 24 to 72 hours of the new well with enhanced aquifer monitoring to correlate the future production with additional understanding of the aquifer conditions in the Edwards BFZ Aquifer. The test is designed to yield additional data for KX Investments and CUWCD for regulatory purposes thus managing to the desired future conditions of the Northern Segment of the Edwards BFZ aquifer. This will assist KX Investments, CUWCD and other well owners with in-depth scientific discernment of the Edwards BFZ aquifer and the well's potential radius of influence on neighboring wells within ½ mile of the proposed well.

This application will be set for hearing before the CUWCD Board upon notice posted at the Bell County Courthouse Annex and at the CUWCD Office. If you would like to support, protest, or provide comments on this application, you must appear at the hearing and comply with District Rule 6.10. For additional information about this application or the permitting process, please contact the CUWCD at P.O. Box 1989, 700 Kennedy Court, Belton, Texas 76513, 254-933-0120. I may be contacted 254-947-5577; P.O. Box 297 Salado, TX 76571.

## **Publisher's Affidavit**

## State of Texas County of Bell

Before Me, The Undersigned Authority, this day personally appeared Jane Moon after being by me duly sworn, says that she is the <u>Classified Manager Inside Sales</u> of the Temple Daily Telegram, a newspaper published in Bell County, Texas and that the stated advertisement was published in said newspaper on the following date(s):

January 25, 2021

For: 7KX Investments Ad #: 16664842 Cost: \$186.35 Times Published: 1

INL Moon

Jane Moon Classified Manager Inside Sales

Subscribed and sworn to before me, this day: January 26, 2021

Pino

Notary Public in and for Bell County, Texas

(Seal)



#### NOTICE OF APPLICATION FOR DRILLING PERMIT FROM THE CLEARWATER UNDERGROUND WATER CONSERVATION DISTRICT

7KX Investments (dba 7KX Ranches), has mode application to the Clearwater Underground Water Conservation District (CUWCD) on Jonuary 11, 2021, for a drilling permit to authorize drilling of a new well in the Edwards BFZ aquifer to produce groundwater for public water supply.

7KX Well #10 (N2-19-005P) is the proposed new well with a 4-inch column pipe and rated at 1000-gpm on a 35.57-obre site located approximately 3 miles south of the Village of Salado Pump, West Side of IH-35, west of the southbound TXDOT rest area, Latilude 30.912220 / Longitude -97.556740 with o proposed aneucol withdraw of 500 ac-filyeor or 162,925,500 gallons per year.

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