Permit Hearing
Stillman Valley Ranchettes
Item #9

NOTICE OF PERMIT HEARING OF THE CLEARWATER UNDERGROUND WATER CONSERVATION DISTRICT

Notice is herby given that the Board of Directors for the Clearwater Underground Water Conservation District will conduct a hearing on two Applications for Permits as described below at 1:30 p.m. on Wednesday, November 10, 2021, in the Clearwater UWCD Board Room located at 700 Kennedy Court, Belton, Texas, in compliance with the Texas Open Meetings Act.

The hearing will be conducted on the following application:

Applicant's File Number/Name	Permit Applicant/Holder and Landowner	Location of Well/Wells	Proposed Annual Groundwater Withdrawal Amount & Purpose of Use
Operating Permit Hearing related to: N2-20-008P Existing Well N2-20-009P Existing Well	Whitley 20 Stillman Valley LLC c/o Russell Spillers Texas Veterans Properties LLC 8127 Mesa Dr. #206-53 Austin TX 78759 (512) 814-7357	The proposed permits are for two wells located at: Well #1 (N2-20-008P): Latitude:30.928700° Longitude: -97.7168527° Well #2 (N2-20-009P): Latitude 30.928214° Longitude -97.717865° Completed to the Hosston Layer of the Trinity Aquifer. The wells are equipped with a maximum 2-inch column pipe with a submersible pump rate not to exceed 17 gallons per minute on the 43.435-acre tract located on the corner of Stillman Valley Road and Firefly Road, Florence, TX	Request for an Operating Permit on an existing well, **Well #1: N2-20-008P** for an operating permit authorized to serve 8 homes and not to exceed 2.6 ac-feet/yr or 855,414 gallons per year. **Well #2: N2-20-008P** for an operating permit of authorized to serve 7 homes and not to exceed 2.3 ac-feet/yr or 748,487 gallons per year. Both wells are completed in the Hosston Layer (Lower Layer) of the Trinity Aquifer to produce groundwater for domestic us in a shared well agreement.
Combination Drilling & Operating Permit N2-21-008P	Zachary & Charlotte Baird c/o William Gamblin P.E. P.O. Box 1292, Salado, TX 76571 (512) 484-2033	New Well: N2-21-008P Latitude: 30.872972° Longitude: -97.602789° Completed to the Hensell Layer of the Trinity Aquifer. The well will be equipped with a maximum 2-inch column pipe with a submersible pump rate not to exceed 30 gallons per minute on the 88.47-acre tract located at 21801 Williamson Road, Salado, TX 76571	Request for a Drilling and Operating Permit for a new well to produce water for domestic use in a shared well system serving no more than 8 homes and no more than 22 people. Proposed annual quantity not to exceed 5.0 acre-feet or 1,657,465 gallons per year total.

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. 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.

For additional information about this application or the permitting process, or to request information on the legal requirements on what MUST be included for a Contested Case Hearing Request to be valid, please contact CUWCD at 700 Kennedy Court (PO Box 1989) Belton, Texas, 76513, 254-933-0120.

ISSUED this **29th** day of **October 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 **October 29, 2021,** 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 **10/29/2021**

Clearwater Underground Water Conservation District

By: _____

Dirk Aaron, General Manager

Stillman Valley Ranchettes
CUWCD Executive Summary

Staff Report

Application for 2 Combination Drilling/Operating Permits N2-20-008P, N2-20-009P

Applicant/Owner: Whitley 20 Stillman Valley, LLC
c/o Russell Spillers
8127 Mesa Dr. #206-53, Austin, TX 78759

Location of Wells:
43.435-acre tract located on the corner of Stillman Valley Road and Firefly Road, Florence TX.
N2-20-008P Well #1: Latitude 30.928700º/ Longitude -97.7168527º
N2-20-009P Well #2: Latitude 30.928214º/ Longitude -97.717865º

Proposed Annual Withdrawal:	**Proposed Use**	**Aquifer:**	**Nearest Existing Wells:**
Initial Rate : 20 gpm **Proposed Rate**: 15 gpm **Withdrawal/Well**: Well #1: 2.6 acre/feet/year 855,414 gallons reduced to 1,738.8 gallons per day or 1.95 acre/feet/ year or 634,662 gallons per year Well #2: 2.3 acre/feet/year 748,487 gallons reduced to 1,738.8 gallons per day or 1.95 acre/feet/ year or 634,662 gallons per year Amended Withdrawal: Combined 3.9 acre/ft/year	Domestic Well #1 serving 8 homes (amended to 7 homes), 2.6 ac-ft or 855,414 gallons per year. Reduced to 1,738.8 gallons per day or 1.95 acre/feet/ year or 634,662 gallons per year Well #2 serving 7 homes, 2.3 ac-ft or 748,487 gallons per year. Reduced to 1,738.8 gallons per day or 1.95 acre/feet/ year or 634,662 gallons per year Amended Withdrawal: Combined 3.9 acre/ft/year	Hosston Layer of the Trinity Aquifer (known as the Lower Trinity)	**Well #1:** 4 @ 1/4 mile 13 @ 1/2 mile **Well #2:** 4 @ 1/4 mile 11 @ 1/2 mile Note: not all wells are completed in the Hosston Layer of the Trinity Aquifer

General Information

Russell Spillers, Texas Veterans Properties LLC, on behalf of Whitley 20 Stillman Valley LLC, has made an application to the Clearwater Underground Water Conservation District (CUWCD) on October 10, 2021, for a Combination Drilling/Operating permit to authorize drilling and withdrawal from two proposed wells in the Lower Trinity Aquifer. The application for each well was stated to have a 1½-inch column pipe and now equipped to produce a maximum of 15 gallons per minute. The total tract of land is *43.435-acre tract* located off Stillman Valley Rd. and Firefly Rd, Florence, TX.

Whitley 20 Stillman Valley LLC in their initial application was to produce water for beneficial use described as "domestic use" in a proposed annual quantity (for Well #1) of 2.6 acre-feet per year based on an occupancy of 3 people per home x 8 homes thus 855,414 gallons per year and a proposed annual quantity (for Well #2) of 2.3 acre-feet per year per based on an occupancy of 3 people per home x 7 homes thus 748,487 gallons per year. Each well will serve no more than 24 people.

Whitley 20 Stillman Valley LLC planned to develop 15 separate tracts of land between 2.01 acres and 7.19 acres known as the Stillman Valley Ranchettes Subdivision. Their initial plan was to serve 8 tracts with Well #1 in a shared well agreement between the landowners of each respective 8 lots. Their plan is to serve 7 tracts with Well #2 in a shared well agreement between landowners of each respective 7 lots.

Prior to submitting the permit applications, the applicant worked with Wet Rock Groundwater Services, LLC (WRGS) to complete a Groundwater Availability Certification (GAC) for Platting by drilling two exempt wells on the large tract for the purpose of the groundwater availability study. The District approved the two exempt wells (based on the 43-plus acre tract size) with provisions necessitated by the GAC as the applicant intends to pursue a rural plat approval with Bell County. If approved the proposed two well system necessitates a permit for production that the wells would then need to be approved under district rules for an operating permit under non-exempt status. Mr. Andrew Worsley, P.G. completed the report on September 24, 2021 (Worsley, 2021a). Worsley (2021a) describes the results of a groundwater availability study, which included a drilling and testing program, intended to meet the requirements of the Bell County Subdivision Regulations dated April 2, 2001. The information provided by Worsley (2021a) included modeling of the proposed production to assess the potential effects on local water levels.

Following consultation with the District GM and Mike Keester, the applicant revised their proposed water demands down to a total of 3.9 acre-ft per year from the two well system and reduced the total proposed lots of 15 to 14 separate tracts. This was stated in a letter dated November 19, 2021 (Worsley, 2021b). Mr. Worsley provided additional information regarding the potential effects of the proposed production. This additional information has been reviewed by the district consultants.

Required Provisions have been discussed with the applicant to install both a meter and observation tube in each respective well, should the board approve the permits. This would ensure compliance by the potential homeowners with the prescribed provisions of a permit that allows shared wells for two or more homes.

If approved the operating permit is renewable annually by CUWCD staff, unless the permittee fails to meet all required reporting, and/or other special agreed upon provisions. The applicant will need to testify that the future homeowners, under their proposed shared well agreement, will comply with district rules and provisions of the permits. The applicant will also need to testify they understand, should conditions of the Lower Trinity Aquifer merit curtailment, that the permit holders must comply in accordance with District Rules and Chapter 36 necessary to meet the DFC under statutory requirements.

CUWCD consulting hydrogeologist, Mike Keester, and Stephanie Wong LRE Water LLC have reviewed the application, referenced the GAC, and conducted the required drawdown analysis per district rules. Keester & Wong have evaluated the applicant's GAC and have offered their opinion

related to the limited ability of the Hosston Layer of the Trinity Aquifer to meet the full merits of the two well system for 14 homes as prescribed in the GAC.

The district assisted the applicant's driller and consultants during the drilling phase to attain a geophysical log during at the completion of drilling and a minimum 24-hour pump test was conducted to assess aquifer transmissivity and storativity (*see attached Keester/Wong Geoscience Evaluation*).

CUWCD general counsel has reviewed the applications for 2 wells in a shared well agreement by each respective landowner and has advised the District GM on the elements of the applications that the District Board of Directors can deliberate. In addition, they will participate in the public hearing as general counsel to the Board.

This property lies within the Chisholm Trail SUD (City of Georgetown) CCN # 11590 (certificate of convenience and necessity). The applicant has investigated with the City of Georgetown for the possibility of public water supply delivery and *will testify* that public water is currently either not available or unaffordable, thus the need to pursue groundwater rather than public water supply.

Verification and approval of on-site sewage facilities (OSSF) will be conducted by the Bell County Public Health District – Environmental Health Division (BCPH-EHD) once each tract is sold. Staff will confirm with BCPHD-EHD the well locations and assist them in verifying set-back from the proposed on-site septic systems. The two exempt wells do not have a sanitary seal necessary for encroachment of more than 100 feet of all future OSSFs.

Per Rules 6.9 and 6.10

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

1. **Does the application contain all the information requested, is the application accurate? Does it meet spacing and production limitations identified by District Rules, and does it conformed to all application requirements which include public notification and accompanied by the prescribed fees? (Rule 6.10.24(a)(b), TWC 36.116(a)(1), TWC 36.113(d)(1) and Rule 6.9.1(b)(1)(2)**
   The application is complete—all requested information has been provided. The application conforms to said rules with all required application fees. In addition, the applicant has met all notification requirements in a proper manner per District Rules.

2) **Is the proposed use of water dedicated to a beneficial use? (TWC 36.113(d)(3) and District Rule 6.10.24 (d).**
   The water produced from these wells will be used for domestic use and equipped to minimum of 15 gpm/well to provide 7 homes (Well #1) and 7 homes (Well #2) with household water per their GAC Report (Worsley, 2021a,b). This does qualify as a beneficial use under district rules and chapter 36 and appears to not exceed the number of beneficial connections under TCEQ designation of a public water supply.

3) **Has the applicant agreed to avoid waste and achieve water conservation? (TWC 36.113(d)(6) and Rule 6.10.24(f)**
   The applicant has agreed to testify that efforts avoid waste and achieve water conservation. Testimony should address the process for how the applicants intends to memorialize the shared well agreements including but not limited to deed restrictions

and/or an HOA agreement or notes and limits on a future plat. The applicant should testify that by signing the application form the applicant agrees to stating compliance with the District's Management Plan.

Applicant should testify to the importance of water conservation measures in the plat dedications & notes that options for outside water conservation are very limited and vital to the sustainability of the aquifer. The District hopes that the applicant states in testimony they do not intend future homeowners to utilize the groundwater for extensive landscape purposes. These assurances should lay out guidance for conservation in HOA bylaws, and deed restrictions.

4) Has the applicant 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? (TWC 36.113(d)(7) and Rule 6.10.24(g))

The applicant has agreed (*by signing the application form*) and should offer testimony that if either of the 2 wells deteriorate over time or be damaged in such a way that the well is inoperable that state law and district rules require such a well to be plugged before a replacement well can be drilled.

5) Will the proposed water well comply with spacing and production limitations identified in our rules? (TWC 36.116(a)(1) and Rule 6.10.24(b)) and Rule 9.5.2

The two proposed wells will have a column pipe size not to exceed 1½ 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 applicant must testify that the encumbrance of the proposed 7 tracts assist in meeting the minimum tract size. The 50-foot setback requirement from adjacent property lines has been met for each of the proposed wells in the proposed "*Stillman Valley Ranchettes Subdivision*" which includes the new property lines. District Rule 9.5 Spacing Requirements will be adhered to.

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) Will the proposed use of water unreasonably affect existing groundwater and surface water resources or existing permit holders?

Based upon available information, there are the following number of wells as defined:

Well #1: 4 wells within 1/4 mile and 13 wells within 1/2 mile
Well #2: 4 wells within 1/4 mile and 11 wells within 1/2 mile

Total: 4 wells within 1/4 mile and 13 wells within 1/2 mile

All the wells, except for one non-exempt well, are listed as exempt in our database. Only one of the referenced wells is completed in the Lower Trinity Aquifer. *N1-18-004P* (1,386 feet from Well #1 and 1,185 feet from Well #2) and is a non-exempt well for domestic use.

Mike Keester & Stephanie Wong, Hydrogeologists, LRE Water LLC, have reviewed the application and have determined anticipated drawdown and have provided the *attached MK/SW reports for each well*, per their conclusions and recommendations stating that the proposed wells and combined permitted amount of 3.9 acre-feet/year could diminish the ability of other aquifer users to produce water for a beneficial use from the Lower Trinity Aquifer known as the Lower Trinity. Keester will also offer testimony to the limited ability of the Hosston layer of the aquifer to provide long-term needs as prescribed in the requirements of GAC per TCEQ along with the limited groundwater availability from the shallow Hensell layer of the aquifer.

Additionally, the District, to the extent possible, must issue permits up to the point the total volume of exempt and permitted groundwater production will achieve the applicable Desired Future Condition (DFC) per **TWC 36.1132(a)(b) and Rule 6.10.25(a)(b)(c)(d)(e).**

7) The proposed use of water is consistent with the District's Groundwater Water Management Plan related to the approved DFC and the defined available groundwater for permitting.

The District's Management Plan reflects a groundwater availability figure in the Lower Trinity Aquifer of **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.**

The Board, per the District Management Plan, has evaluated groundwater available for permitting the three Layer of the Trinity Aquifer and most recently evaluated the available groundwater for permitting (*consistent with the management plan as stated on pages 9-10*).

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 Lower Trinity Aquifer was set by CUWCD based on drawdown of 330 feet 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 7193 acre-feet per year from the Hosston Layer (Lower) Trinity Aquifer.

A summary of YTD 2021 permit production, HEUP & OP Permit Analysis, pending applications and *Exempt Well Reservations for the Trinity Aquifer, per District Report illustrates current Lower Trinity permits total 4150.78 acre feet/year thus available for permitting is 2,864.22 acre feet/year. *(see attached Trinity Aquifer Status Report, November 2021)*.

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 Trinity Aquifer Status Report, November 2021)*.

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. 178 ac-ft/year vs 53 ac-ft estimated to be used annually in the Lower Trinity. *(see 2020 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 the Lower Trinity Aquifer 7,015 ac-ft per year.

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

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 **35.982** inches of rain received in the last 365 days (11/30/2021) thus 109.03% of annual expected rainfall of 33 inches. The Lower Trinity permit holders in all of 2020 have used only 27.45% of total permitted amounts in the Lower Trinity Aquifer. 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 voluntary drought contingency plan stage.

Conclusions:

- CUWCD well records indicate that 1 existing well (Lower Trinity) N1-18-004P is located within a ¼-mile radius of Well #2 and 1 existing well (Lower Trinity) N1-18-004P within ½ of Well #1. This well is listed as non-exempt with confirmed depth in the Lower Trinity Aquifer by the District geoscience community.

- Worsley submitted an amended amount in the initial application that a reduction in the proposed groundwater production from the original study (Wet Rock Groundwater Services, LLC, 2021) is warranted and that now they intend to request a plat for 14 lots instead of 15. This reduction includes a reduction to 90 gallons per capita per day instead of 106 gallons which results in a total combined production of 3.9 ac-ft/year or 1,270,819 gallons per year.

  **District notes that the original application requested a collective amount of 4.9 ac-feet/year or 1,596,670 gallons/year.*

  ***For the record this pumping amount is substantially less than the allowed production of one exempt well under Chapter 36 and District rules. Exempt well owners are allowed to produce at the maximum rate of 17 gallons per minute (or 25,000 gallons per day) for 365 days equaling 28 ac-ft/year on tracts of land 10 acres or more.*

- The long-term pumping effects from the proposed two wells at the requested pumping amount are more than negligible at the nearest existing Lower Trinity well. The combined effects from many wells across the District with relatively small pumping rates can have a noticeable long-term effect on aquifer water levels per Keester/Wong's review. Area hydrogeologic conditions along with the additional drawdown could diminish the ability of aquifer users to produce water for a beneficial use. (*see attached Keester/Wong's Report*)

Recommendations:

1) Receive testimony from the District Consultants, prior to deliberation, that the requirements of the TCEQ-GAC and the merits of the long-term assessment prescribed by the TCEQ-GAC are reasonable or not reasonable and that the District General Manager can testify to those as such when the Bell County Commissioners Court request said opinion.

2) Receive testimony from the applicant for the Whitley 20 Stillman Valley LLC assurances, if the permits are approved that the following permit conditions are:

   a) That the buyers are made aware that the water produced from the wells is not safe for human consumption unless treated.
   b) That the buyers are made aware that an alternative source of water may be necessary in less that 20 years.
   c) All "N2" operating permits require that the wells be equipped with a meter for monthly reporting.
   d) Each well is to serve no more than 7 homes and 24 people under the discussed shared well agreements thus permitted amounts meet the anticipated needs of the future homeowners.
   e) Groundwater ownership for the proposed Stillman Valley Ranchettes Subdivision owned by Whitley 20 Stillman Valley LLC described in the "Special Warranty Deed" reservation from conveyance of the groundwater rights to each respective Lot.
   f) Assure the District that no cross connections for the purpose of having an aggregated system for the subdivision will exist.
   g) Assure the District that the applicant will install the prescribed meter at each well head for the purpose of reporting monthly production of groundwater.

f) Assure the District that the 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.
g) Assure the District will have access for the purpose of assessing actual changes in water levels due to pumping from each of the proposed operating permits.
h) Assure the District will have access for the purpose of water quality screening/testing the groundwater from each well on no less than an annual base.

Attachments are as follows:

Keester/Wong, PG Supplement Report	*12/02/2021*
CUWCD Trinity Aquifer Status Report	*11/12/2021*
CUWCD 2020 Exempt Well Estimate of Use Report	*12/31/2020*
CUWCD Site Map	*See Attached*
Applications, fees and Notification Affidavit	*See Attached*

Trinity Aquifer Status Report – November 2021

DFC Analysis Over Time (2000-Present) Modeled Available Groundwater			*HEUP and OP Permit Analysis* Relative to the Modeled Available Groundwater			*2021 YTD Total Prod.* Jan - Oct 1500.62 Ac-ft 31.56%		*Pending Applications*		*Exempt Well Reservations*		
Trinity Aquifer (by layer)	**DFC Adopted *** **Average Drawdown** (by layer)	**MAG **** Ac-ft Current	**HEUP Ac-ft** (by layer)	**OP Ac-ft** (by layer)	**Total Permitted Ac-ft** (by layer)	**2020 YTD Prod.** (by layer)	**2021 YTD Prod.** (by layer)	**Available for Permitting Ac-ft** (by layer)	**Pending Applications Ac-ft** (by layer)	**Exempt Well Reserve Ac-ft** (by layer)	**2020 Exempt Well Use Estimate Ac-ft** (by layer)	**Available Exempt Use Ac-ft** (by layer)
Pawluxy	NA	0	0	0	**0**	0	0	0	0			0
Glen Rose (upper)	**-1.38 ft/yr** -83 ft/60 yrs	974	61.9	71.28	**133.18**	25.85	17.20	147.82	0	693	194	499
Hensell (middle)	**-2.28 ft/yr** -137 ft/60 yrs	1099	259.3	211.25	**470.55**	93.69	57.46	80.45	0	548	524	24
Hosston (lower)	**-5.50 ft/yr** -330 ft/60 yrs	7193	1181.4	2969.38	**4150.78**	1119.97	1425.98	2864.22	0	178	53	125
Total		**9266**	1502.6	3251.91	**4754.51**	1239.50 (27.45%)	1500.62 (31.56%)	3092.49	**0**	1419	771	648

**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*

Stillman Valley Ranchettes

LRE Water LLC
Hydrogeologic Review

LRE WATER
CONNECTING WATER TO LIFE

Technical Memorandum

To:	Dirk Aaron, General Manager – Clearwater Underground Water Conservation District
From:	Michael R. Keester, P.G. and Stephanie Wong, Ph.D.
Date:	December 3, 2021
Subject:	Hydrogeologic Review of the Whitley 20 Stillman Valley LLC Applications for Two Non-Exempt Wells Classification 2 Completed in the Lower Trinity Aquifer

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This technical memorandum provides information related to our review of the permit applications submitted by Whitley 20 Stillman Valley LLC. These are for two wells as follows:

- **Proposed Well IDs:** *N2-20-008P and N2-20-009P*
- **Well Names:** *Stillman Valley Ranchettes Well #1 and #2*
- **Tract Size:** *44.7 acres (Bell CAD Property ID: 15092, 79.8 acres)*
- **Column Pipe Size:** *Unspecified*
- **Aquifer:** *Hosston Layer of the Trinity Aquifer (Lower Trinity)*
- **Proposed Annual Production:**
    - *Requested amounts:*
        - *Well # 1 – 2.3 Acre-Feet per Year*
        - *Well # 1 – 2.6 Acre-Feet per Year*
    - *Subsequent discussion of a combined total of 3.9 Acre-Feet per Year (1,738.8 gallons per day per well)*
- **Proposed Instantaneous Pumping Rate:**
    - *Requested amount: 20 Gallons per Minute per well*
    - *Subsequent discussion: 15 Gallons per Minute per well*

Prior to submitting the permit applications, the applicant worked with Wet Rock Groundwater Services, LLC (WRGS) to complete a Groundwater Availability Certification for Platting. Mr. Andrew Worsley, P.G. completed the report on September 24, 2021 (Worsley, 2021a). Worsley (2021a) describes the results of a groundwater availability study, which included a drilling and testing program, intended to meet the requirements of the Bell County Subdivision Regulations dated April 2, 2001. The Bell County Subdivision Regulations state that the certification is required to demonstrate "that adequate groundwater is available for the subdivision … [and] lack of certification

that suitable and adequate groundwater is available is grounds for denial of plat approval."

The full requirements for certification of groundwater availability are defined in 30 TAC §230. In general, as part of the certification process a Texas licensed professional engineer or Texas licensed professional geoscientist must:

1. Assess the projected water demands for the proposed subdivision
2. Assess the general groundwater resources beneath the proposed subdivision
3. Obtain site-specific groundwater data through a drilling and testing program, including:
    a. Aquifer hydraulic properties
    b. Local groundwater quality
4. Determine if the groundwater is of sufficient quantity and quality to meet the intended use

When considering groundwater availability in relation to the Bell County Subdivision Regulations, the key questions are:

1. Is the local groundwater **suitable** for the intended use?
2. Is there **adequate** local groundwater for the intended use?

The first question suggests an assessment of the quality of the local groundwater for use within the homes to be constructed. The second questions focuses on the quantity of groundwater and for how long that groundwater will be available to meet the needs of future homeowners. The purpose of the certification of groundwater availability as defined in 30 TAC §230 is gather the information necessary to answer these questions and to provide a professional opinion certifying to the public that there is sufficient groundwater available to meet their needs and investment expectations.

Worsley (2021a) provides information meeting the requirements of 30 TAC §230 including modeling of the proposed production to assess the potential effects on local water levels. Following consultation with the District, the applicant revised their proposed water demands down to a total of 3.9 acre-feet per year from the two wells with an instantaneous rate of 15 gallons per minute (gpm) and, in a letter dated November 19, 2021 (Worsley, 2021b), Mr. Worsley provided additional information regarding the potential effects of the proposed production. Our analyses focus on the reduced production amount presented in the November 19, 2021 letter report.

Worsley (2021a) analyzed data collected during an aquifer test using the two wells completed on the property to draw water from the Lower Trinity Aquifer. Worsley (2021a) reported the calculated transmissivity of the Lower Trinity Aquifer to be 11.59 feet squared per day (ft^2/d) based on data collected from the pumping well. A transmissivity value is essentially a measure of how easily water can move through an aquifer. The transmissivity value from the testing is lower than was expected based on previously existing data. For comparison, the transmissivity values from the groundwater availability model (GAM) datasets[1] indicate a transmissivity of more than 1,200 ft^2/d which is more than 100 times greater than the value from the aquifer testing analysis.

During the aquifer test, water levels were also collected in an observation well located 376 feet from the pumping well. Based on data collected from the observation well, Worsley (2021a) reported the calculated aquifer transmissivity to be 10.88 ft^2/d with a storage coefficient of 0.0000207. Worsley (2021a) conducted both analyses using the Cooper-Jacob method which is an approximation of the Theis equation[2]. A key limitation of the Cooper-Jacob method is that it is only applicable when one of the coefficients is less than 0.01[3]. Review of reported results indicates this coefficient is greater than 0.06 suggesting the Cooper-Jacob method is not applicable.

Directly using the Theis equation to match a theoretical curve with the observed water-level data to determine the transmissivity (T) and storage coefficient (S) is still applicable. Figure 1 illustrates our Theis curve match with the measured water-level data from the observation well. Based on our analysis the local transmissivity is slightly lower than reported and the storage coefficient is slightly higher than reported. However, the results from all of the analyses indicate the transmissivity and storage coefficient are low which will limit groundwater production. With the general agreement in low aquifer hydraulic property coefficients, for consistency with potential impact estimates provided by Worsley (2021b) we also used the aquifer hydraulic property coefficients he reported in our analyses and compared those results when necessary

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[1] 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).

[2] 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.

[3] $u = r^2S/4Tt$ – After determination of T and S the values should be used in the equation to determine if $u < 0.01$ which is the key condition for the applicability of the Cooper-Jacob method (Batu, V., 1988, Aquifer Hydraulics: A Comprehensive Guide to Hydrogeologic Data Analysis. New York: John Wiley & Sons, Inc.)

with the estimated impacts using the values calculated using the Theis analysis (Figure 1).

The potential effects of the proposed production on local water levels in the aquifer are calculated using the Theis equation 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.

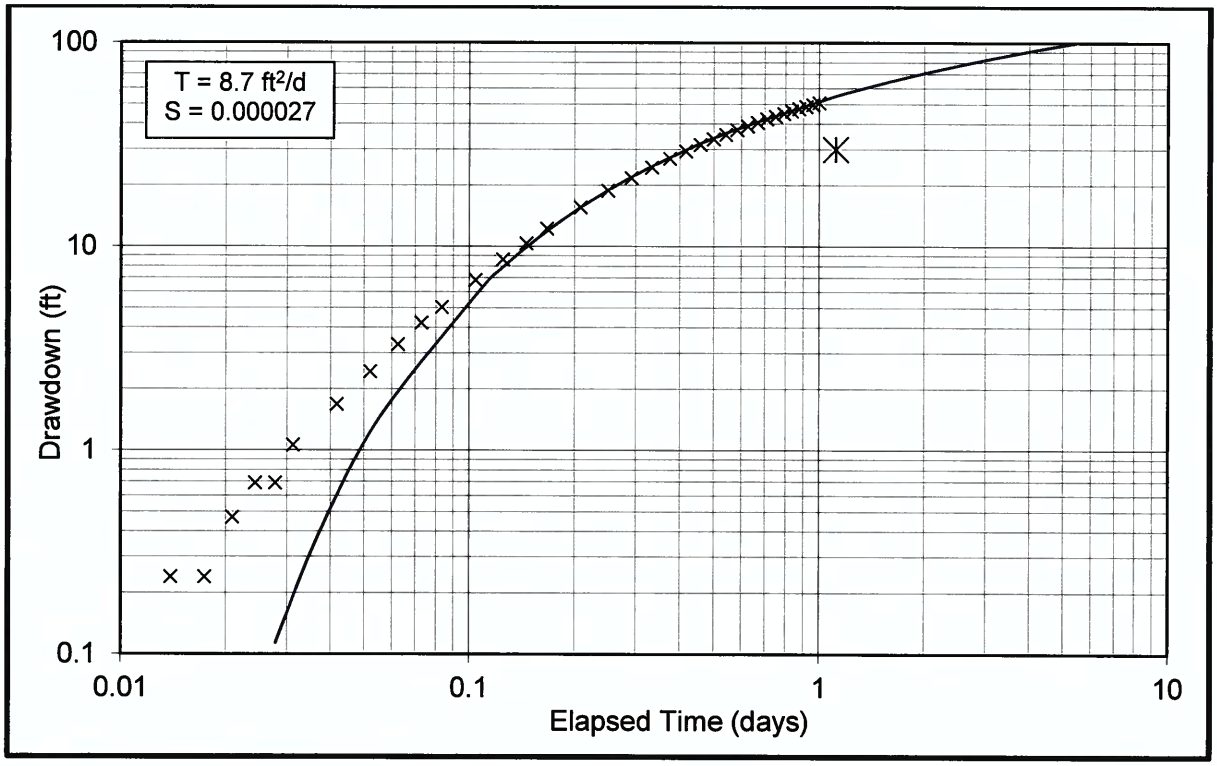


Figure 1. Theis curve match of the data collected from the observation well during the aquifer test.

Currently there are two wells completed in the Lower Trinity Aquifer within one mile of the applicant's wells. Well N1-18-004P is 0.24 miles and well N2-20-004P is 0.87 miles away from the applicant's wells, respectively (see Figure 2). Table 1 presents the range in calculated drawdown, using the reported aquifer hydraulic property coefficients

(Worsley, 2021a), at the applicant's wells and other Lower Trinity wells within one mile of the applicant wells. 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.

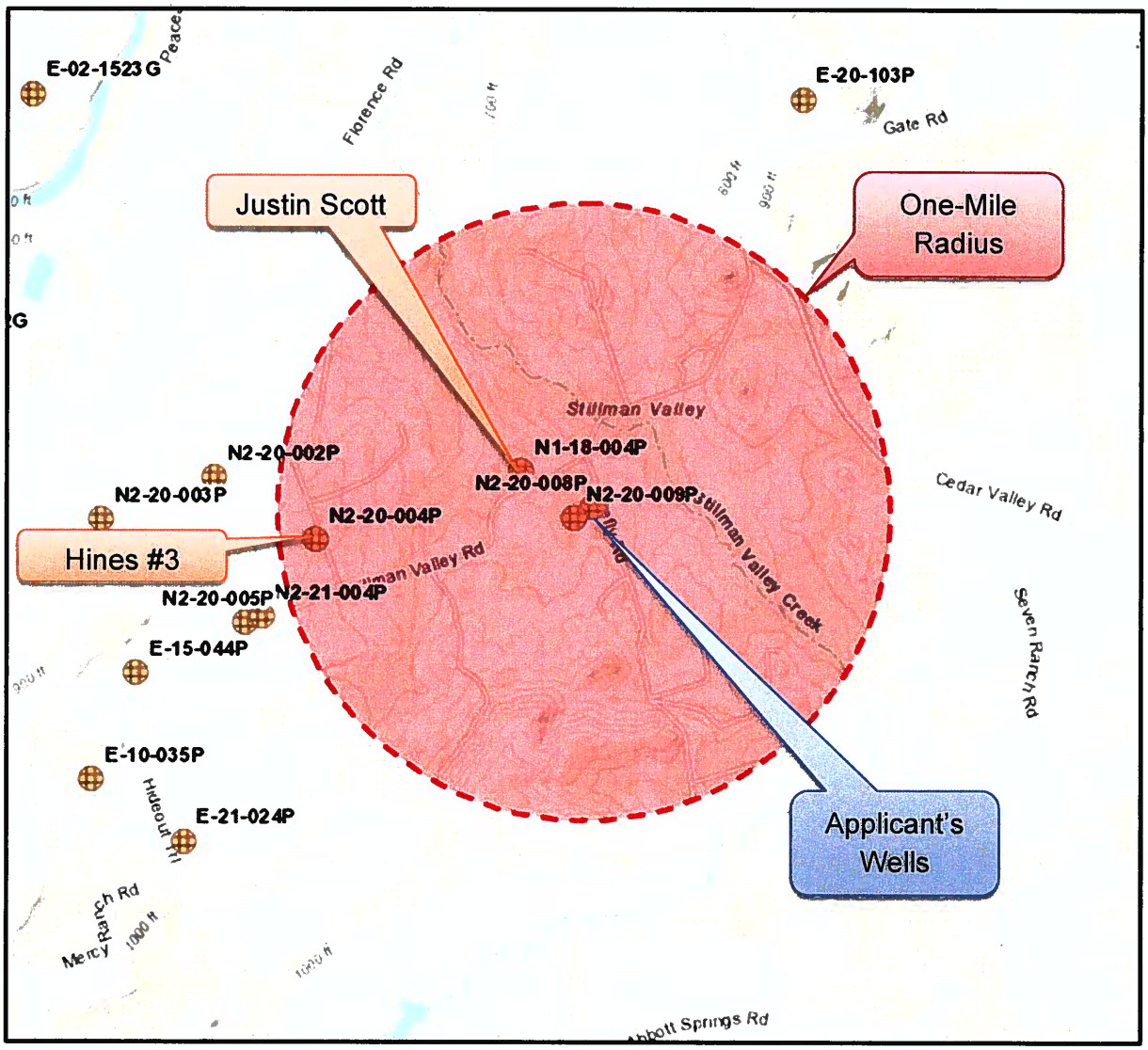


Figure 2. **Location of applicant's and nearby wells completed in the Lower Trinity Aquifer.**

Table 1. Predicted drawdown at the proposed Whitley 20 Stillman Valley, LLC Lower Trinity wells and nearby wells within one (1) mile of the applicant wells completed in the Lower Trinity Aquifer.

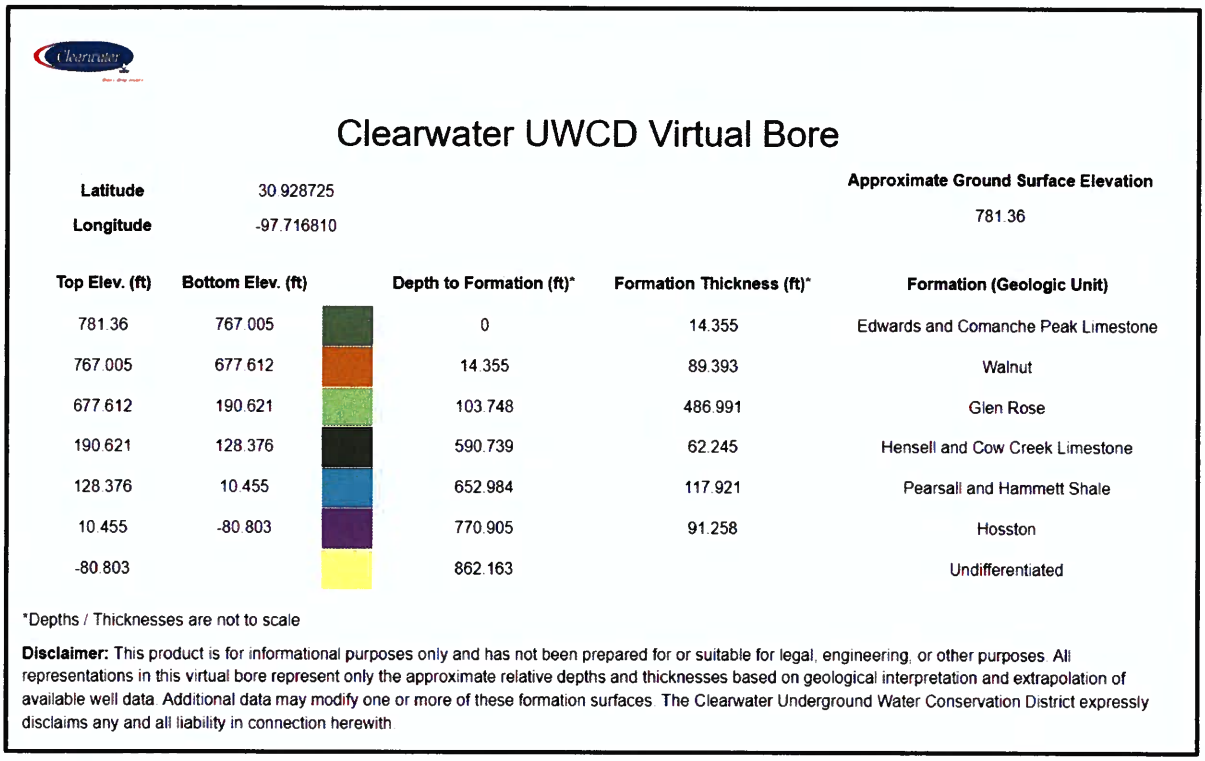
Well Name	1-Day Drawdown (feet)	30-Day Drawdown (feet)	1-Year Drawdown (feet)
Proposed Wells	279 (175.61*)	33	38
Justin Scott Well (N1-18-004P)	8	12	24
Hines Texas, LLC #3 (N2-20-004P)	0	6	19

** Observed drawdown after 24 hours during the aquifer test.*

At the proposed production of 1,738.8 gallons per day (gpd) per well, the predicted drawdown at each applicant's well location is about 38 feet after one year with about 20 feet of interference drawdown from each well upon the other. Using the combined production from the wells of 3.9 acre-feet per year, the predicted drawdown after one year of the proposed production is about 24 feet at Well N1-18-004P and at Well N2-20-004P is about 19 feet. To reduce the predicted drawdown at the nearest well (N1-18-004P) to less than one foot (referred to as "negligible" in previous analyses), production from the from the applicant's wells would need to be about 145 gallons per day which is insufficient for the proposed use.

According the District's virtual bore tool, the Lower Trinity Aquifer (that is, the Hosston Formation) is about 771 feet below ground level (BGL) and 91 feet thick at Well #1 (see Figure 3) and about 778 feet BGL and 124 feet thick at Well #2 (see Figure 4). According to Worsley (2021a), the Lower Trinity Aquifer (the Sligo/Hosston Formation) is about 676 feet BGL and 92 feet thick at Well #1 and about 676 feet BGL and 104 feet thick at Well #2. Review of the geophysical logs for the two wells suggests that the aquifer is shallower than the virtual bore suggests. The new data will be incorporated into future versions of the virtual bore.

With the shallower depth to the top of the formation, the available drawdown in the well is also reduced. Available drawdown is the height of water in the well above the point at which the anticipated production could no longer be maintained (that is, the minimum pumping water level). For the two wells, we calculated the available drawdown as the difference between the reported static water level and the top of the screen interval. While it is possible to draw the water down into the screen interval, the ability to maintain production may be diminished when this occurs.



Clearwater UWCD Virtual Bore

Latitude	30.928725
Longitude	-97.716810

Approximate Ground Surface Elevation
781.36

Top Elev. (ft)	Bottom Elev. (ft)	Depth to Formation (ft)*	Formation Thickness (ft)*	Formation (Geologic Unit)
781.36	767.005	0	14.355	Edwards and Comanche Peak Limestone
767.005	677.612	14.355	89.393	Walnut
677.612	190.621	103.748	486.991	Glen Rose
190.621	128.376	590.739	62.245	Hensell and Cow Creek Limestone
128.376	10.455	652.984	117.921	Pearsall and Hammett Shale
10.455	-80.803	770.905	91.258	Hosston
-80.803		862.163		Undifferentiated

*Depths / Thicknesses are not to scale

Disclaimer: This product is for informational purposes only and has not been prepared for or suitable for legal, engineering, or other purposes. All representations in this virtual bore represent only the approximate relative depths and thicknesses based on geological interpretation and extrapolation of available well data. Additional data may modify one or more of these formation surfaces. The Clearwater Underground Water Conservation District expressly disclaims any and all liability in connection herewith.

Figure 3. Estimated depth to the formations at the applicant's well location for Stillman Valley Ranchettes Well #1.

Clearwater UWCD Virtual Bore

Latitude	30.928173		
Longitude	-97.717904		
		Approximate Ground Surface Elevation	786.72

Top Elev. (ft)	Bottom Elev. (ft)	Depth to Formation (ft)*	Formation Thickness (ft)*	Formation (Geologic Unit)
786.72	769.430	0	17.290	Edwards and Comanche Peak Limestone
769.430	657.460	17.290	111.970	Walnut
657.460	190.442	129.260	467.018	Glen Rose
190.442	129.536	596.278	60.906	Hensell and Cow Creek Limestone
129.536	8.999	657.184	120.537	Pearsall and Hammett Shale
8.999	-114.676	777.721	123.675	Hosston
-114.676		901.396		Undifferentiated

*Depths / Thicknesses are not to scale

Disclaimer: This product is for informational purposes only and has not been prepared for or suitable for legal, engineering, or other purposes. All representations in this virtual bore represent only the approximate relative depths and thicknesses based on geological interpretation and extrapolation of available well data. Additional data may modify one or more of these formation surfaces. The Clearwater Underground Water Conservation District expressly disclaims any and all liability in connection herewith.

Figure 4. Estimated depth to the formations at the applicant's well location for Stillman Valley Ranchettes Well #2.

Adding the 1-year predicted drawdown and the drawdown that occurs each time the well starts pumping at the instantaneous rate (that is, instantaneous drawdown), we can estimate the pumping water level in the well after one year of operation. Incorporating the observed regional water level trend, we can then estimate how many years before the water level reaches the minimum pumping water level after which time production capacity may diminish. That is, we are able to estimate the years of available groundwater for the proposed development.

As indicated in Table 2, under the best-case scenario we estimate there are about 28 years of groundwater available for the proposed development assuming a regional water-level decline trend of 7 feet per year and the minimum pumping water level of 720 feet below ground level at Well #1. However, the water-level decline trend at the nearby N1-18-004P well is 7.8 feet per year suggesting the best-case scenario is unlikely based on available information. If the regional water-level decline trend increases or the groundwater use is more than projected, the duration of groundwater availability for the proposed subdivision may decrease. In addition, at the aquifer hydraulic property

coefficients determined from the Theis analysis, the best case scenario groundwater availability decreases to 27 years.

Table 2. Estimated years of Lower Trinity Aquifer groundwater available to the applicant's wells based on available information.

Parameter	Well 1	Well 2
Static Water Level	367 feet BGL	373 feet BGL
Top of Screen	720 feet BGL	700 feet BGL
Minimum Pumping Water Level	720 feet BGL	700 feet BGL
Current Available Drawdown	353 feet	327 feet
1-Year Drawdown*	58 feet	58 feet
Instantaneous Drawdown*	102 feet	102 feet
1-Year Pumping Water Level	527 feet BGL	533 feet BGL
1-Year Available Drawdown	193 feet	167 feet
Approx. Annual Water-Level Decline	7 to 10 feet per year	7 to 10 feet per year
Approx. Groundwater Availability	19 to 28 years	17 to 24 years

*includes drawdown at the well, interference drawdown from the other production well, and negative boundary effects.

At the two nearby Lower Trinity wells, based on the currently available information we expect aquifer water levels to remain above the minimum pumping level for about 22 years (see Table 3). This estimate assumes each well will produce 5 gallons per minute (instantaneous) and 0.5 acre-feet per year (long term), and that water levels should not decline below the top of the screen. Based on the available information, the estimated groundwater availability would increase by about two years with no additional pumping.

Table 3. Estimated years of Lower Trinity Aquifer groundwater available to wells within one mile of the applicant's wells based on available information.

Parameter	Justin Scott Well (N1-18-004P)	Hines Texas, LLC #3 (N2-20-004P)
Distance From Applicant Wells	0.24 miles	0.87 miles
Static Water Level	371 feet BGL	385 feet BGL
Top of Screen	645 feet BGL	650 feet BGL
Minimum Pumping Water Level	645 feet BGL	650 feet BGL
Current Available Drawdown	269 feet	265 feet
1-Year Drawdown*	29 feet	27 feet
Instantaneous Drawdown*	72 feet	72 feet
1-Year Pumping Water Level	472 feet BGL	484 feet BGL
1-Year Available Drawdown	173 feet	166 feet
Approx. Annual Water-Level Decline	8 feet per year	7 feet per year
Approx. Groundwater Availability	22 years	22 years

*includes drawdown at the well, interference drawdown from the other production well, and negative boundary effects.

Worsley (2021a) provided a water quality analysis report for a sample collected from Well #2. Four constituents exceed public drinking water standards; three constituent concentrations exceed the secondary standards and one constituent concentration exceeds the primary standard. Regarding the secondary maximum contaminant level exceedances, the total dissolved solids concentration of 1,150 milligrams per liter (mg/L) exceeds the standard of 1,000 mg/L, chloride concentration of 370 mg/L exceeds the standard of 300 mg/L, and pH of 8.64 exceeds the standard of 8.5. These exceedances are not a hazard to health but can affect the aesthetic quality (such as taste or odor) of the water. However, the fluoride concentration of 6.41 mg/L exceeds the primary maximum contaminant level of 4.0 mg/L. Primary drinking water standards are set to protect public health and water with constituents exceeding these standards is not safe for human consumption. Treatment of the groundwater produced from the two wells is recommended prior to consumption.

Conclusions

The Lower Trinity Aquifer beneath the proposed subdivision is shallower than estimated based on previously existing data. In addition, the transmissivity of the aquifer is more than 100 times less than previously existing data indicated. The results of the drilling and testing program further illustrate the importance of obtaining site-specific hydrogeologic data to assess long-term groundwater availability.

Based on the site-specific data, essentially any production from the proposed wells has a predicted non-negligible (greater than one foot) impact on the nearest existing well completed in the same aquifer. The predicted drawdown at the nearest existing well with the proposed production of 3.9 acre-feet per year is about 24 feet. To reduce the predicted drawdown to less the one foot would require a reduction in the proposed production to a total of about 145 gallons per day for the 14 lots which would be the equivalent of about 4 gallons per person per day.

Based on the projected drawdown and the trend in water level decline for the area, we estimate less than 30 years of groundwater availability at the site with the proposed production. If the regional water-level decline trend increases or the groundwater use is more than projected, the duration of groundwater availability for the proposed subdivision may decrease. Based on the site-specific hydraulic data and area water-level decline trend in the Lower Trinity Aquifer, it does not appear that there is adequate groundwater available from the Lower Trinity to supply the anticipated use of the proposed subdivision.

The quality of the groundwater produced from the well completed at the site does not meet public drinking water standards. As these wells will not be designated as part of a public water supply system, there is no requirement to treat the water prior to use. However, future users of the water should be aware of the health risks associated with the fluoride levels above the primary maximum contaminant level.

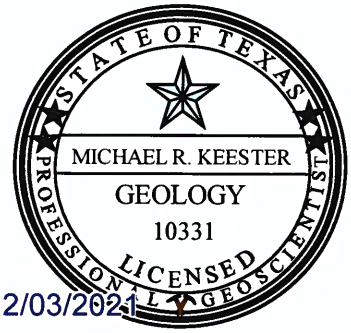
If the Board approves the permits, being "N2" permitted wells, we are aware the applicant will be required to have a meter on the discharge pipe and a water-level monitoring tube installed in each well. We recommend the Board also carefully consider the duration of groundwater availability in the area. In particular, whether the proposed use of water does or does not unreasonably affect existing groundwater resources or existing permit holders.

Regarding the certification of groundwater availability, based on currently available information the local hydrogeologic conditions do not appear sufficient to provide suitable and adequate groundwater to the proposed subdivision.

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

12/03/2021

References

Worsley, A., 2021a, Stillman Valley Ranchettes Subdivision Groundwater Availability Certification for Platting: Bell County, Texas. Report of Findings: WRGS 21-016, 84 p.

Worsley, A., 2021b, CUWCD Letter – Stillman Valley Ranchettes. 7 p.

LRE WATER

Stillman Valley Ranchettes
Well #1: N2-20-008P
Application & Notification

Clearwater Underground Water Conservation District
Phone: 254/933-0120 Fax: 254/933-8396
P.O. Box 1989, Belton, TX 76513
Every drop counts!

APPLICATION FOR NON-EXEMPT WELL CLASSIFICATION 2

N2-20-008P

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.

Check one of the following:

- ○ **DRILLING PERMIT** (Complete Sections 1, 2, 3, 4 & 7)
  - ☐ New Well
  - ☐ Replacement Well
- ◉ **OPERATING PERMIT** (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*
- ○ **PERMIT AMENDMENT**
  - ☐ 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 **Operating Permit** must be filed within 30 days of completing a new well, or reworking/re-equipping an existing well.
A **Hydrogeological Report** is required for 1) Operating Permit applications requesting an annual maximum permitted use of more than 37 acre-feet; or 2) amendments to increase production or production capacity of a public water supply, municipal, commercial, industrial, agricultural or irrigation well with an outside casing diameter greater than 6 5/8 inches as discussed in District Rule 6.9.2.

*Requests to export water outside the District must also complete Section 7.

Per Rule District Rule 9.3 and State Law TDLR all *State of Texas Well Reports* are due to the District within 60 days of well completion.
NEW Per District Rule 9.3.3 at completion of all wells Water Quality Assessment is required by the Pump Installer and/or Well Driller. District Staff will provide screen test, sample bottles, and coordinate with Pump Installer or Driller to retrieve the sample within 45 days of the well completion. Temporary pump to purge the well is required should the well not have pump permanently installed in first 45 days. This requirement is for operating permits 37 ac. ft. or less.

1. Owner Information
Note: If well owner is different from property owner, provide documentation from property owner authorizing well construction and operation.

Well Owner: Whitley 20 Stillman Valley LLC Email: RussellSpillers@gmail.com Telephone No.: 512-814-7357

Address: 8127 Mesa Dr. #206-53 (Street or P.O. Box) Austin (City) TX (State) 78759 (Zip Code)

Contact Person (if other than owner): _____ Telephone No.: _____

If ownership of well has changed, name of previous owner _____ State Well No. _____

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

Property is located 6.5 (Number) miles S (N,S,E,W) of Killeen (Nearest City or Town) on Stillman Valley and Firefly Rd (Name of Road)

Acreage: 43.435 Bell CAD Property ID #: 15092 Latitude: 30.9287 Longitude: -97.7168527

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:
YES *Domestic; _____ Livestock/Poultry; _____ Agricultural/Irrigation;
_____ Industrial; _____ **Public Supply; _____ Other.
*Total number of houses to be serviced by the well 8.
**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)*
110 N / S Property Line; 120 E / W Property Line; N/A Existing Septic Leach Field;
500 River, Stream or Lake; N/A Existing Water Well; N/A Livestock Enclosure;
N/A Other Source of Contamination (cemetery, pesticide mixing/loading, petroleum storage tank, etc.)

c. Estimated rate of withdrawal (GPM): 17 d. Is property subject to flooding: ○ Yes ◉ No

e. Is there another well on the property? ○ Yes ◉ No If yes, how many wells? _____

f. Is the well part of a multi-well aggregate system? ○ Yes ◉ No 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.**

Required: Pump Installer / Well Driller Information (Required by Law)

Name: Associated Drilling
TDLR Pump Installer License Number: 4064

Address: PO Box 673 (Street or P.O. Box)
TDLR Well Drillers License Number: 4064

Comments/notes: Drilled for Glass Well Services

Dripping Springs (City) TX (State) 78620 (Zip Code)

512-894-3535 (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:

decided to pursue the lower trinity for best chance of sustainable water for the future owners

Proposed **Total Depth of Well**: 800 ft; Borehole Diameter (Dia) 12 inches (in) from 0 to 18 ;
Dia (2) 8 in. from 18 to 800 **Casing**: Material PVC sch 40 ; Inside Diameter (ID) 10 in.
Screen: Yes (•) No ( ) Screen Type PVC ; Screen Dia. 4.5 in from 720 to 780 ft.
# of Packers 2 ; **Pump Type**: submersible ; **Power**: electric ; Horsepower Rating 05 ;
Depth: _____ ft; Column Pipe ID: ~~10~~ 12 in. Date Completed 08/17/2021
Proposed Water Bearing Formation: Lower Trinity

corrected DA

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: _____ Requested increase/decrease: _____
Include statement/documentation explaining requested production:
Number of contiguous acres owned or leased on which water is to be produced: 43.435 acres
Total annual production requested with this operating permit: 2.3 acre-feet or 748,487 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.

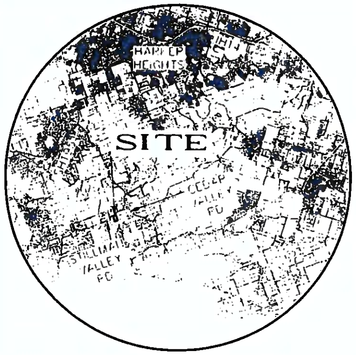
7. **Certification**

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.

Russell Spillers, Trustee — Date 10/5/2021

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



LOCATION MAP
NOT TO SCALE

STILLMAN VALLEY RANCHETTES CULVERT TABLE			
LOT NUMBER	*CULVERT DIA (in)	CULVERT LENGTH (FT)	SLOPE
1	18	22	1.25%
2	18	22	2.00%
3	18	22	3.33%
4	18	22	3.90%
5	18	22	3.20%
6	18	22	2.40%
7	18	22	2.30%
8	18	22	1.90%
9	18	22	0.50%
10	18	22	1.00%
11	18	22	0.50%
12	18	22	0.50%
13	18	22	0.50%
14	18	22	0.50%

The culvert sizes are based on the 5-yr storm frequency, as required by Bell County Subdivision Regulations. Existing impervious cover conditions are calculated for each culvert drainage area along Stillman Valley Rd. and Firefly Rd.

* Note: Culvert material assumed to be RCP.

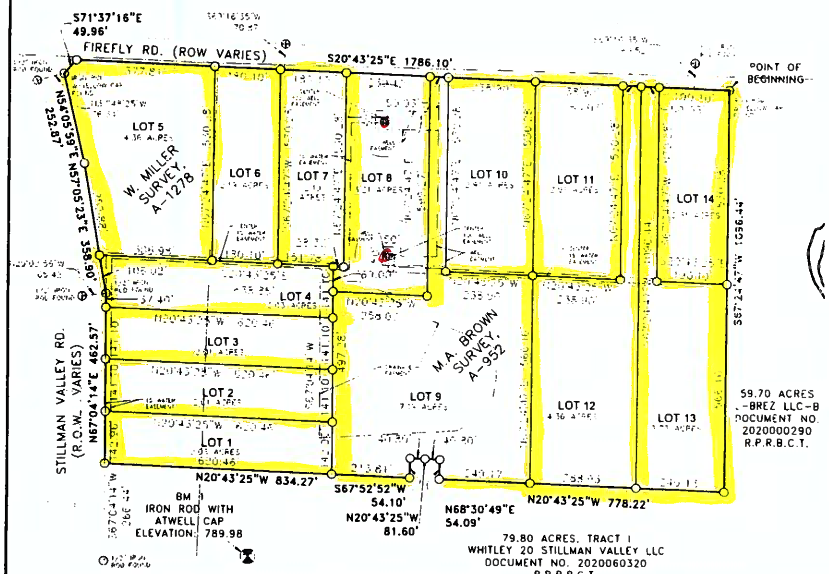
PRELIMINARY PLAT

STILLMAN VALLEY RANCHETTES SUBDIVISION

A SUBDIVISION OF 43.435 ACRES, MORE OR LESS, OF LAND AREA IN THE M.A. BROWN SURVEY, ABSTRACT NO. 952 AND THE W. MILLER SURVEY, ABSTRACT NO. 1278, IN BELL COUNTY, TEXAS

(IN FEET)
1 inch = 200 ft

LEGEND



DESCRIPTION – 88.526 ACRES

PROJECT:	Stillman Platting
JOB NUMBER:	20004085
SURVEY DATE:	JANUARY, 2021
SCALE:	1" = 200'
SURVEYOR:	ROBERT J. GERTSON, RPLS 6367
TECHNICIAN:	AJ
DRAWING:	
DESCRIPTION:	
PARTYCHIEF:	
FIELDBOOKS:	

ATWELL
www.atwell-group.com

PRELIMINARY PLAT OF
STILLMAN VALLEY RANCHETTES
M.A. BROWN SURVEY ABSTRACT NO. 952,
W. MILLER SURVEY, ABSTRACT NO. 1278
BELL COUNTY, TEXAS

SHEET 1 OF 1

Clearwater Underground Water Conservation
PO Box 1989
Belton, TX 76513

Invoice

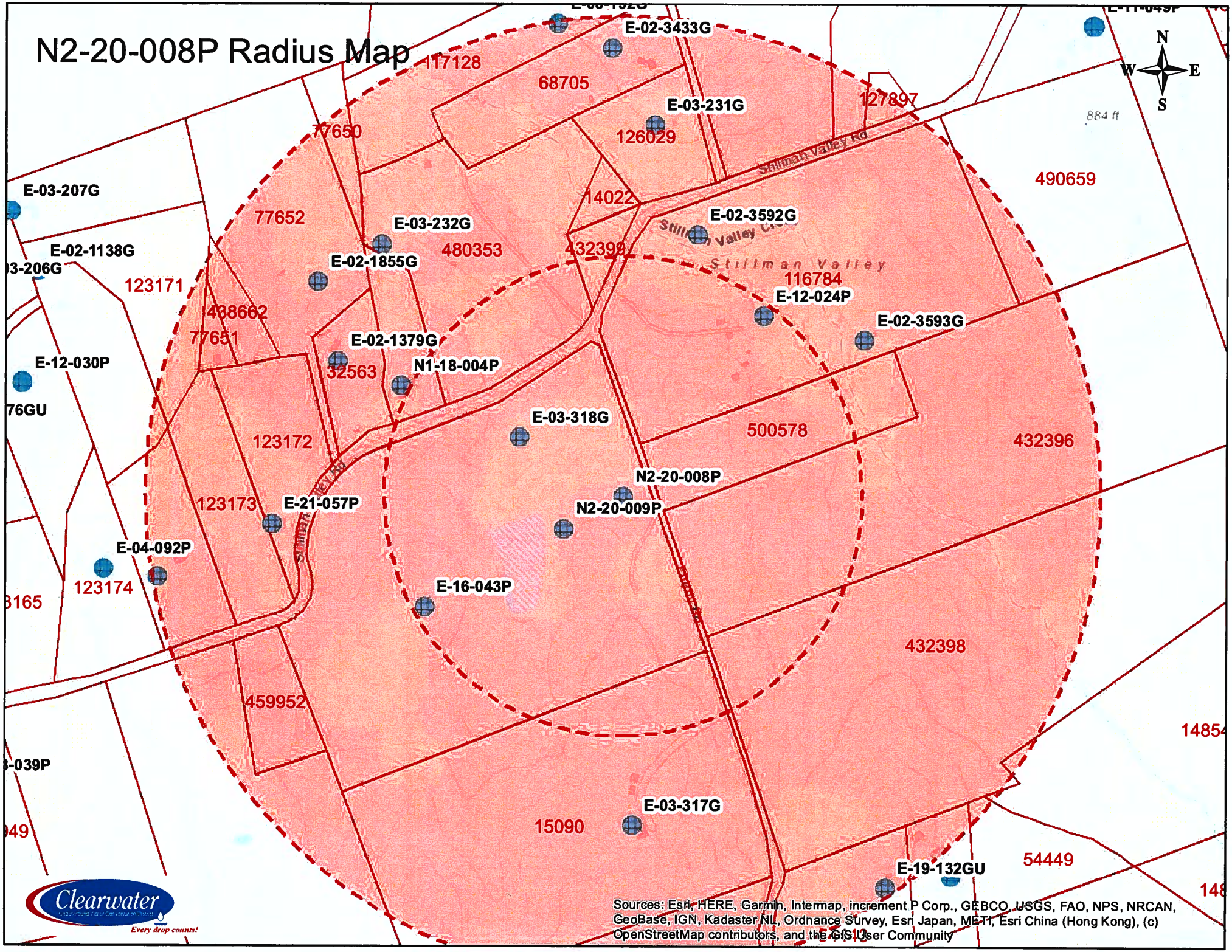
Invoice #: 128
Invoice Date: 12/23/2020
Due Date: 12/14/2020
Project:
P.O. Number:

Bill To:

Whitley 20
8127 Mesa Dr #206-53
Austin TX 78759

Date	Description	Amount
12/14/2020	Permit Application Fee Well #N2-20-008P (Well #1)	1,000.00
12/14/2020	Permit Application Fee Well # N2-20-009P (Well #2)	1,000.00
12/14/2020	Permit Application Fee Well # N2-20-010P (Well # 3) E-16-043P	1,000.00

Total	$3,000.00
Payments/Credits	$0.00
Balance Due	$3,000.00


N2-20-008P Radius Map
E-02-3433G
117128
68705
E-03-231G
127897
77650
126029
884 ft
Stillman Valley Rd
490659
E-03-207G
14022
77652
E-03-232G
E-02-3592G
480353
432398
E-02-1855G
E-02-1138G
Stillman Valley
116784
123171
E-12-024P
488662
E-02-3593G
77651
E-02-1379G
E-12-030P
32563
N1-18-004P
E-03-318G
500578
123172
432396
N2-20-008P
123173
E-21-057P
N2-20-009P
E-04-092P
E-16-043P
123174
432398
459952
E-03-317G
15090
54449
E-19-132GU
Clearwater
Every drop counts!
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

N2-20-008P Contact List

Wells 1/4 Mile

Prop ID	Name	Address	City	State	Zip	Well #	Status	Depth	Aquifer	Use	Distance
15092	Whitley 20 Stillman Valley LLC	21400 Windmill Ranch Ave	Pflugerville	TX	78660	N2-20-009P	Capped	780	Lower Trinity	Domestic	367 ft
15092	Whitley 20 Stillman Valley LLC	21400 Windmill Ranch Ave	Pflugerville	TX	78660	E-16-043P	Active	725	Middle Trinity	Domestic	1,249 ft
15092	Whitley 20 Stillman Valley LLC	21400 Windmill Ranch Ave	Pflugerville	TX	78660	E-03-318G	Plugged	14	Alluvium	Not Used	654 ft
116784	Anna Thornton	17451 Stillman Valley	Florence	TX	76527	E-12-024P	Active	590	Middle Trinity	Domestic	1,272 ft

Wells 1/2 Mile

36643	Justin Scott	17710 Stillman Valley Rd.	Killeen	TX	76542	N1-18-004P	Active	685	Lower Trinity	Domestic	1,386 ft
123172	Robert Aviles-Rodriguez	200 W Gemini Lane	Killeen	TX	76542	E-21-057P	Proposed	560	Undeclared	Domestic	1,950 ft
32563	Angela Edwards	PO Box 425	Florence	TX	76527	E-02-1379G	Active	500	Upper Trinity	Domestic	1,744 ft
77652	Patrick Murphy	22410 Hill Rd.	Salado	TX	76571	E-02-1855G	Active	570	Middle Trinity	Domestic	2,063 ft
480353	Kirk & Tamera Roefer	401 Gladeview Dr	Round Rock	TX	78681	E-03-232G	Active	400	Upper Trinity	Domestic	1,946 ft
116784	Anna Thornton	17451 Stillman Valley Rd.	Florence	TX	76527	E-02-3592G	Active	unknown	unknown	Domestic	1,510 ft
116784	Anna Thornton	17451 Stillman Valley Rd.	Florence	TX	76527	E-02-3593G	Active	12	Upper Trinity	Domestic	1,593 ft
126029	Anne Wehler	17232 Stillman Valley Rd.	Killeen	TX	76542	E-03-231G	Active	560	Middle Trinity	Domestic	2,056 ft
68705	Louis Palousek	17288 Stillman Valley Rd.	Killeen	TX	76542	E-02-3433G	Active	561	Middle Trinity	Domestic	2,478 ft
117128	Walter & Jo Elaine Carter	17284 Stillman Valley Rd.	Killeen	TX	76542	E-03-192G	Active	522	Middle Trinity	Domestic	2,648 ft
15090	Abhiram Garapati	201 Dawn River Cove	Austin	TX	78732	E-03-317G	Active	685	Middle Trinity	Domestic	1,802 ft
54443	Vicki Hale	20281 Firefly Rd.	Florence	TX	76527	E-19-132GU	Active	663	Middle Trinity	Domestic	2,583 ft
123169	Rolando & Sonia Hinojosa	18066 Stillman Valley Rd.	Killeen	TX	76542	E-03-400G	Active	570	Middle Trinity	Domestic	2,603 ft

Adjacent Property

15090	Abhiram Garapati	201 Dawn River Cove	Austin	TX	78732
36947	Clyde Melvin Ford Revocable Trust	PO Box 339	Florence	TX	76527
459952	Jorge Cintron-Lugo & Mariela Ortiz	3985 Chaparral	Killeen	TX	76542
123173	Mary Floyd	8904 Bowfield Dr	Killeen	TX	76542
123172	Robert Aviles-Rodriguez	200 W Gemini Lane	Killeen	TX	76542
77652	Patrick Murphy	22410 Hill Rd.	Salado	TX	76571
32563	Angela Edwards	PO Box 425	Florence	TX	76527
480353	Kirk & Tamera Roefer	401 Gladeview Dr	Round Rock	TX	78681
116784	Anna Thornton	17451 Stillman Valley	Florence	TX	76527
500578	Kevin Parlin	107 Hilea Court	Bastrop	TX	78602
432396	Erik & Ashley Gulbranson	22537 Firefly Rd.	Florence	TX	76527
432398	Alice Merideth	PO Box 26	Florence	TX	76527
36643	Justin Scott	17710 Stillman Valley Rd.	Killeen	TX	76542

Mailing List N2-20-008P & N2-20-009P

Abhiram Garapati	201 Dawn River Cove	Austin	TX	78732
Clyde Melvin Ford Revocable Trust	PO Box 339	Florence	TX	76527
Jorge Cintron-Lugo & Mariela Ortiz	3985 Chaparral	Killeen	TX	76542
Mary Floyd	8904 Bowfield Dr	Killeen	TX	76542
Robert Aviles-Rodriguez	200 W Gemini Lane	Killeen	TX	76542
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Erik & Ashley Gulbranson	22537 Firefly Rd.	Florence	TX	76527
Alice Merideth	PO Box 26	Florence	TX	76527
Justin Scott	17710 Stillman Valley Rd.	Killeen	TX	76542

_____, ___ 2021

NOTICE OF APPLICATION FOR DRILLING AND OPERATING PERMIT

Name
Address
City, TX Zip

VIA CERTIFIED MAIL
RETURN RECEIPT REQUESTED

RE: Application for Operating Permits

To Whom It May Concern:

Mr. Russell Spillers, Texas Veterans Properties LLC, on behalf of Whitley 20 Stillman Valley LLC, has made application to the Clearwater Underground Water Conservation District (CUWCD) on October 10, 2021, with the prescribed TCEQ Groundwater Availability Study for plating the proposed Stillman Valley Ranchettes Subdivision under Title 30, Texas Administrative Code, Chapter 230, Sections 230.2 through and including 230.11.

The proposed operating permit is for authorization to withdrawal from two new wells completed in the Lower Trinity Aquifer with a maximum 2-inch column pipe on a 43.435-acre tract located on the corner of Stillman Valley Rod and Firefly Road, Florence, TX. This application is for a request to produce groundwater for domestic use in a shared well system for a maximum 14 homes on fourteen lots. The proposed annual quantity for Well #1, serving 8 homes, is not to exceed 2.6 acre-feet/yr or 855,414 gallons per year and Well #2, serving 7 homes, is not to exceed 2.3 acre-feet/yr or 748,487 gallons per year.

The proposed permits for two wells are located at:
Well #1 (N2-20-008P): Latitude 30.928700°/Longitude -97.7168527°
Well #2 (N2-20-009P): Latitude 30.928214°/Longitude -97.717865°

The applications will be set for hearing before the CUWCD Board upon notice posted at the Bell County Clerk's Office and at the CUWCD Office. If you would like to support, protest, or provide comments on the applications, 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 700 Kennedy Court, Belton, Texas 76513, 254-933-0120. The applicant may be contacted at 8127 Mesa Dr. #206-53, or by phone at 512-814-7357.

Sincerely,

Russell Spillers, Texas Veterans Properties LLC
Whitley 20 Stillman Valley LLC

N2-20-008P & N2-20-009P

7021 0950 0000 4796 0389

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Total Postage and Fees	$7.38	10/19/2021

Sent To: ROBERT AVILES-RODRIGUEZ
Street and Apt. No., or PO Box No.: 200 W GEMINI LANE
City, State, ZIP+4®: KILLEEN, TX 76542

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Postage	$0.58	Postmark Here
Total Postage and Fees	$7.38	10/19/2021

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Street and Apt. No., or PO Box No.: 401 GLADVIEW DR
City, State, ZIP+4®: ROUND ROCK, TX 78681

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7021 0950 0000 4796 0464

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Sent To: ALICE MERIDETH
Street and Apt. No., or PO Box No.: PO BOX 246
City, State, ZIP+4®: FLORENCE, TX 76527

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Sent To: ABHIRAM GARAPATI
Street and Apt. No., or PO Box No.: 201 DAWN RIVER COVE
City, State, ZIP+4®: AUSTIN, TX 78732

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Sent To: JORGE CINTRON-LUGO & MARIELA ORTIZ
Street and Apt. No., or PO Box No.: 3985 CHAPARRAL
City, State, ZIP+4®: KILLEEN, TX 76542

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Sent To: ERIK & ASHLEY GULBRANSON
Street and Apt. No., or PO Box No.: 22537 FIREFLY RD.
City, State, ZIP+4®: FLORENCE, TX 76527

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N2-20-008P & N2-20-009P

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Total Postage and Fees	$7.38

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Sent To: MARY FLOYD
Street and Apt. No., or PO Box No.: 8904 BOWFIELD DR
City, State, ZIP+4®: KILLEEN, TX 76542

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☐ Adult Signature Required	$0.00
☐ Adult Signature Restricted Delivery	$
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Total Postage and Fees	$7.38

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Sent To: CLYDE MELVIN FORD REVOCABLE TRUST
Street and Apt. No., or PO Box No.: PO BOX 339
City, State, ZIP+4®: FLORENCE, TX 76527

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☐ Adult Signature Restricted Delivery	$0.00
Postage	$0.00
Total Postage and Fees	$0.58

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Sent To: JUSTIN SCOTT
Street and Apt. No., or PO Box No.: 17710 STILLMAN VALLEY RD.
City, State, ZIP+4®: KILLEEN, TX 76542

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Salado, TX 76571

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☐ Adult Signature Required	$0.00
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Postage	$0.58
Total Postage and Fees	$7.38

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Sent To: PATRICK MURPHY
Street and Apt. No., or PO Box No.: 22410 HILL RD.
City, State, ZIP+4®: SALADO, TX 76571

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Bastrop, TX 78602

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☐ Adult Signature Required	$0.00
☐ Adult Signature Restricted Delivery	$
Postage	$0.58
Total Postage and Fees	$7.38

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10/19/2021

Sent To: KEVIN PARLIN
Street and Apt. No., or PO Box No.: 107 HILEA COURT
City, State, ZIP+4®: BASTROP, TX 78602

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☐ Return Receipt (electronic)	$0.00
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☐ Adult Signature Required	$0.00
☐ Adult Signature Restricted Delivery	$
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Total Postage and Fees	$7.38

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10/19/2021

Sent To: ANGELA EDWARDS
Street and Apt. No., or PO Box No.: PO BOX 425
City, State, ZIP+4®: FLORENCE, TX 76527

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7021 0950 0000 4796 0440

N2-20-008P & N2-20-009P

7021 0950 0000 4796 0402

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☑ Return Receipt (hardcopy)	$ $0.00	
☐ Return Receipt (electronic)	$ $0.00	Postmark Here
☐ Certified Mail Restricted Delivery	$ $0.00	
☐ Adult Signature Required	$ $0.00	
☐ Adult Signature Restricted Delivery	$	
Postage	$0.58	
$		10/19/2021
Total Postage and Fees	$7.38	
$		

Sent To
ANNA THORNTON
Street and Apt. No., or PO Box No.
17451 STILLMAN VALLEY
City, State, ZIP+4®
FLORENCE, TX 76527

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

NOTICE OF APPLICATION FOR A COMBINATION DRILLING AND OPERATING PERMIT FROM CLEARWATER UNDERGROUND WATER CONSERVATION DISTRICT

Mr. Russell Spillers, Texas Veterans Properties LLC, on behalf of Whitley 20 Stillman Valley LLC, has made application to the Clearwater Underground Water Conservation District (CUWCD) on October 10, 2021, with the prescribed TCEQ Groundwater Availability Study for plating the proposed Stillman Valley Ranchettes Subdivision under Title 30, Texas Administrative Code, Chapter 230, Sections 230.2 through and including 230.11.

The proposed operating permit is for authorization to withdrawal from two new wells completed in the Lower Trinity Aquifer with a maximum 2-inch column pipe on a 43.435-acre tract located on the corner of Stillman Valley Rod and Firefly Road, Florence, TX. This application is for a request to produce groundwater for domestic-use in a shared well system for a maximum 14 homes on fourteen lots. The proposed annual quantity for Well #1, serving 8 homes, is not to exceed 2.6 acre-feet/yr or 855,414 gallons per year and Well #2, serving 7 homes, is not to exceed 2.3 acre-feet/yr or 748,487 gallons per year.

The proposed permits for two wells are located at:
Well #1 (N2-20-008P): Latitude 30.928700°/Longitude -97.7168527°
Well #2 (N2-20-009P): Latitude 30.928214°/Longitude -97.717865°

The applications will be set for hearing before the CUWCD Board upon notice posted at the Bell County Clerk's Office and at the CUWCD Office. If you would like to support, protest, or provide comments on the applications, 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 700 Kennedy Court, Belton, Texas 76513, 254-933-0120. The applicant may be contacted at 8127 Mesa Dr. #206-53, or by phone at 512-814-7357.

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):

October 26, 2021

For: Whitley 20 Stillman Valley LLC
Ad #: 16671626
Ad cost: $152.90
Times Published: 1

Jane Moon
Classified Manager Inside Sales

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

Notary Public in and for
Bell County, Texas

(Seal)

TERI ZAMORA
Notary Public, State of Texas
Comm. Expires 11-05-2023
Notary ID 10837339

NOTICE OF APPLICATION FOR A COMBINATION DRILLING AND OPERATING PERMIT FROM CLEARWATER UNDERGROUND WATER CONSERVATION DISTRICT

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The proposed permits for two wells are located at:
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Well #2 (N2-20-009P): Latitude 30.928214°/Longitude -97.717865°

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Stillman Valley Ranchettes
Well #2: N2-20-009P
Application & Notification

Clearwater
Underground Water Conservation District
Phone: 254/933-0120 Fax: 254/933-8396
P.O. Box 1989, Belton, TX 76513
Every drop counts!

APPLICATION FOR NON-EXEMPT WELL CLASSIFICATION 2

N2-20-009P

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.

Check one of the following:

- ○ **DRILLING PERMIT** (Complete Sections 1, 2, 3, 4 & 7)
  - ☐ New Well
  - ☐ Replacement Well
- ◉ **OPERATING PERMIT** (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*
- ○ **PERMIT AMENDMENT**
  - ☐ 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 **Operating Permit** must be filed within 30 days of completing a new well, or reworking/re-equipping an existing well.
A **Hydrogeological Report** is required for 1) Operating Permit applications requesting an annual maximum permitted use of more than 37 acre-feet; or 2) amendments to increase production or production capacity of a public water supply, municipal, commercial, industrial, agricultural or irrigation well with an outside casing diameter greater than 6 5/8 inches as discussed in District Rule 6.9.2.

*Requests to export water outside the District must also complete Section 7.

Per Rule District Rule 9.3 and State Law TDLR all *State of Texas Well Reports* are due to the District within 60 days of well completion.
NEW Per District Rule 9.3.5 at completion of all wells Water Quality Assessment is required by the Pump Installer and/or Well Driller. District Staff will provide screen test, sample bottles, and coordinate with Pump Installer or Driller to retrieve the sample within 45 days of the well completion. Temporary pump to purge the well is required should the well not have pump permanently installed in first 45 days. This requirement is for operating permits 37 ac. ft. or less.

1. Owner Information
Note: If well owner is different from property owner, provide documentation from property owner authorizing well construction and operation.

Well Owner: Whitley 20 Stillman Valley LLC Email: RussellSpillers@gmail.com Telephone No.: 512-814-7357

Address: 8127 Mesa Dr. #206-53 (Street or P.O. Box) Austin (City) TX (State) 78759 (Zip Code)

Contact Person (if other than owner): _____ Telephone No.: _____

If ownership of well has changed, name of previous owner _____ State Well No _____

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

Property is located 6.5 (Number) miles S (N,S,E,W) of Killeen (Nearest City or Town) on Stillman Valley and Firefly Rd (Name of Road)

Acreage: 43.435 Bell CAD Property ID # 15092 Latitude: 30.928214 Longitude: 97.717865

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:
YES *Domestic; _____ Livestock/Poultry; _____ Agricultural/Irrigation;
_____ Industrial; _____ **Public Supply; _____ Other.
*Total number of houses to be serviced by the well 8
**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*)
100 N / S Property Line; 100 E / W Property Line; N/A Existing Septic Leach Field;
180 River, Stream or Lake; N/A Existing Water Well; N/A Livestock Enclosure;
N/A Other Source of Contamination (cemetery, pesticide mixing/loading, petroleum storage tank, etc.)

c. Estimated rate of withdrawal (GPM): 17 d. Is property subject to flooding: ○ Yes ◉ No

e. Is there another well on the property? ○ Yes ◉ No If yes, how many wells? _____
f. Is the well part of a multi-well aggregate system? ○ Yes ◉ No 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.**

Required: Pump Installer / Well Driller Information (Required by Law)

Name: Associated Drilling

Address: PO Box 673 (Street or P.O. Box)

Dripping Springs (City) TX (State) 78620 (Zip Code)

512-894-3535 (Phone #) (Fax #) (E-mail address)

TDLR Pump Installer License Number: 4064

TDLR Well Drillers License Number: 4064

Comments/notes: Drilled for Glass Well Services

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:

decided to pursue the lower trinity for best chance of sustainable water for the future owners

Proposed **Total Depth of Well**: 780 ft; Borehole Diameter (Dia) 12 inches (in) from 0 to 18 ;
Dia. (2) 8 in. from 18 to 780 **Casing**: Material PVC Sch; Inside Diameter (ID) 10 in;
Screen: Yes (●) No ( ) Screen Type PVC ; Screen Dia. 4.5 in from 700 to 760 ft;
# of Packers 2 ; **Pump Type**: submersible ; **Power**: electric ; Horsepower Rating .05 ;
Depth: ft; Column Pipe ID: 1½ in. Date Completed 08/18/2021

Corrected DA

Proposed Water Bearing Formation: Lower Trinity

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: Requested increase/decrease:

Include statement/documentation explaining requested production:

Number of contiguous acres owned or leased on which water is to be produced: 43.435 acres

Total annual production requested with this operating permit: 2.6 acre-feet or 855,414 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.

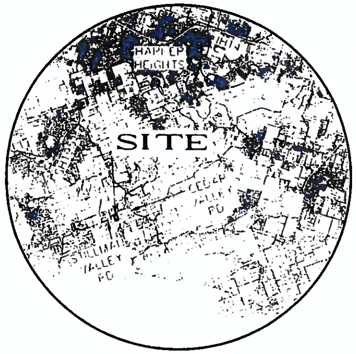
7. Certification

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.

Russell Spillers, Trustee — Date 10/5/2021

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



LOCATION MAP
NOT TO SCALE

STILLMAN VALLEY RANCHETTES CULVERT TABLE

LOT NUMBER	*CULVERT DIA (in)	CULVERT LENGTH (FT)	SLOPE
1	18	22	1.25%
2	18	22	2.00%
3	18	22	3.33%
4	18	22	3.90%
5	18	22	3.20%
6	18	22	2.40%
7	18	22	2.30%
8	18	22	1.90%
9	18	22	0.50%
10	18	22	1.00%
11	18	22	0.50%
12	18	22	0.50%
13	18	22	0.50%
14	18	22	0.50%

The culvert sizes are based on the 5-yr storm frequency, as required by Bell County Subdivision Regulations. Existing impervious cover conditions are calculated for each culvert drainage area along Stillman Valley Rd. and Firefly Rd.

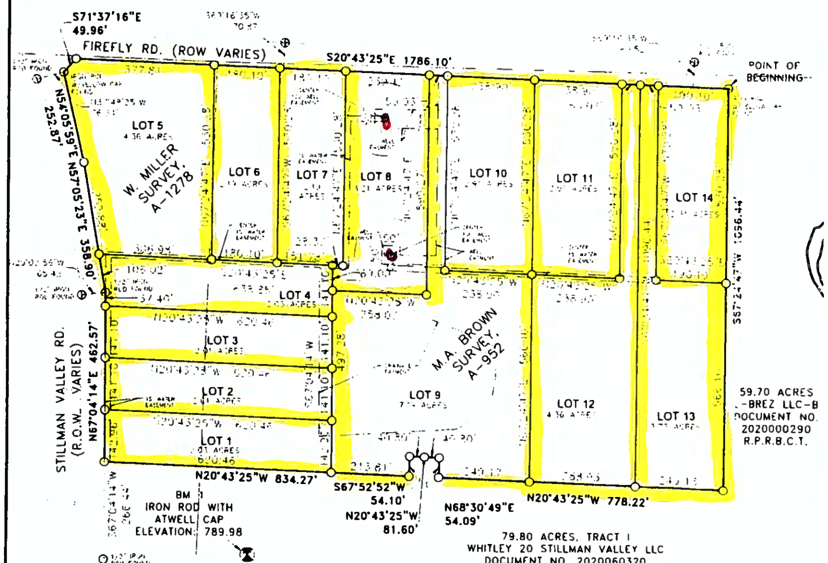
* Note: Culvert material assumed to be RCP.

PRELIMINARY PLAT
STILLMAN VALLEY RANCHETTES SUBDIVISION

A SUBDIVISION OF 43.435 ACRES, MORE OR LESS, OF LAND AREA IN THE M.A. BROWN SURVEY, ABSTRACT NO. 952 AND THE W. MILLER SURVEY, ABSTRACT NO. 1278, IN BELL COUNTY, TEXAS

(IN FEET)
1 inch = 200 ft

LEGEND



DESCRIPTION – 88.526 ACRES

PROJECT:	Stillman Platting
JOB NUMBER:	20004085
SURVEY DATE:	JANUARY, 2021
SCALE:	1" = 200'
SURVEYOR:	ROBERT J. GERTSON, RPLS 6367
TECHNICIAN:	AJ
DRAWING:	
DESCRIPTION:	
PARTYCHIEF:	
FIELDBOOKS:	

ATWELL
www.atwell-group.com

PRELIMINARY PLAT OF STILLMAN VALLEY RANCHETTES M.A. BROWN SURVEY ABSTRACT NO. 952, W. MILLER SURVEY, ABSTRACT NO. 1278 BELL COUNTY, TEXAS

SHEET 1 OF 1

Clearwater Underground Water Conservation
PO Box 1989
Belton, TX 76513

Invoice

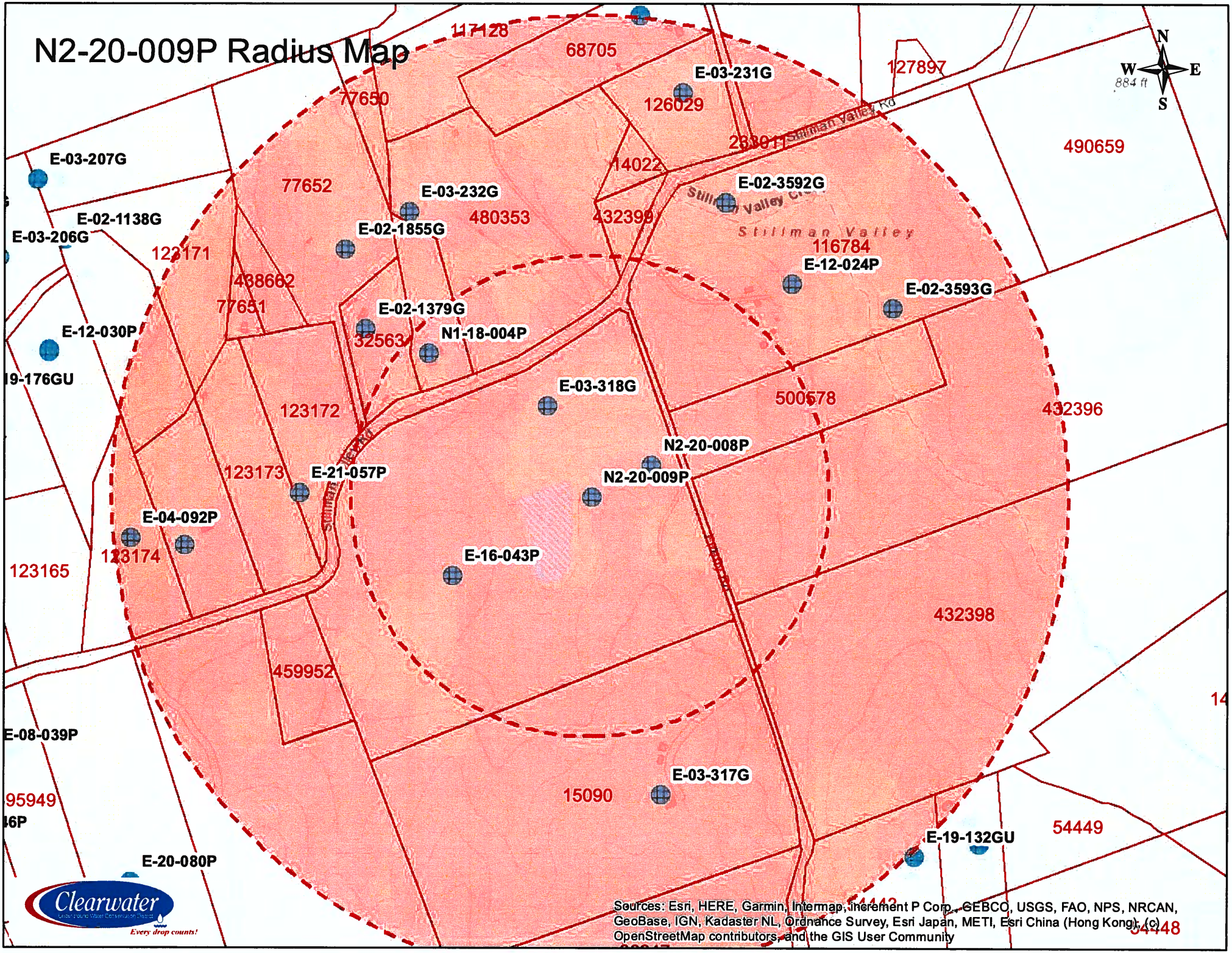
Invoice #: 128
Invoice Date: 12/23/2020
Due Date: 12/14/2020
Project:
P.O. Number:

Bill To:

Whitley 20
8127 Mesa Dr #206-53
Austin TX 78759

Date	Description	Amount
12/14/2020	Permit Application Fee Well #N2-20-008P (Well #1)	1,000.00
12/14/2020	Permit Application Fee Well # N2-20-009P (Well #2)	1,000.00
12/14/2020	Permit Application Fee Well # N2-20-010P (Well # 3) E-16-043P	1,000.00

Total	$3,000.00
Payments/Credits	$0.00
Balance Due	$3,000.00


N2-20-009P Radius Map
117128
68705
127897
E-03-231G
77650
126029
283011
Stillman Valley Rd
490659
E-03-207G
14022
77652
E-03-232G
E-02-3592G
E-02-1138G
480353
432399
E-02-1855G
E-03-206G
Stillman Valley
116784
123171
E-12-024P
488662
E-02-3593G
77651
E-02-1379G
E-12-030P
32563
N1-18-004P
E-03-318G
500678
123172
432396
N2-20-008P
123173
E-21-057P
N2-20-009P
E-04-092P
123174
E-16-043P
123165
432398
459952
E-08-039P
E-03-317G
95949
15090
54449
E-19-132GU
E-20-080P
884 ft
N
S
E
W
Clearwater
Every drop counts!
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

N2-20-009P Contact List

Wells 1/4 Mile

Prop ID	Name	Address	City	State	Zip	Well #	Status	Depth	Aquifer	Use	Distance
15092	Whitley 20 Stillman Valley LLC	21400 Windmill Ranch Ave	Pflugerville	TX	78660	N2-20-008P	Capped	800	Lower Trinity	Domestic	367 ft
15092	Whitley 20 Stillman Valley LLC	21400 Windmill Ranch Ave	Pflugerville	TX	78660	E-16-043P	Active	725	Middle Trinity	Domestic	879 ft
15092	Whitley 20 Stillman Valley LLC	21400 Windmill Ranch Ave	Pflugerville	TX	78660	E-03-318G	Plugged	14	Alluvium	Not Used	552 ft
36643	Justin Scott	17710 Stillman Valley Rd.	Killeen	TX	76542	N1-18-004P	Active	685	Lower Trinity	Domestic	1,185 ft

Wells 1/2 Mile

123172	Robert Aviles-Rodriguez	200 W Gemini Lane	Killeen	TX	76542	E-21-057P	Proposed	560	Undeclared	Domestic	1,608 ft
32563	Angela Edwards	PO Box 425	Florence	TX	76527	E-02-1379G	Active	500	Upper Trinity	Domestic	1,541 ft
77652	Patrick Murphy	22410 Hill Rd.	Salado	TX	76571	E-02-1855G	Active	570	Middle Trinity	Domestic	1,927 ft
480353	Kirk & Tamera Roefer	401 Gladeview Dr	Round Rock	TX	78681	E-03-232G	Active	400	Upper Trinity	Domestic	1,858 ft
116784	Anna Thornton	17451 Stillman Valley Rd.	Florence	TX	76527	E-02-3592G	Active	unknown	unknown	Domestic	1,772 ft
116784	Anna Thornton	17451 Stillman Valley Rd.	Florence	TX	76527	E-02-3593G	Active	12	Upper Trinity	Domestic	1,967 ft
126029	Anne Wehler	17232 Stillman Valley Rd.	Killeen	TX	76542	E-03-231G	Active	560	Middle Trinity	Domestic	2,287 ft
15090	Abhiram Garapati	201 Dawn River Cove	Austin	TX	78732	E-03-317G	Active	685	Middle Trinity	Domestic	1,685 ft
123169	Rolando & Sonia Hinojosa	18066 Stillman Valley Rd.	Killeen	TX	76542	E-03-400G	Active	570	Middle Trinity	Domestic	2,252 ft
116784	Anna Thornton	17451 Stillman Valley	Florence	TX	76527	E-12-024P	Active	590	Middle Trinity	Domestic	1,619 ft
123174	Stephen & Claire Alford	1213 Wood Creek Lane	Southlake	TX	76092	E-04-092P	Active	560	Middle Trinity	Domestic	2,541 ft

Adjacent Property

15090	Abhiram Garapati	201 Dawn River Cove	Austin	TX	78732
36947	Clyde Melvin Ford Revocable Trust	PO Box 339	Florence	TX	76527
459952	Jorge Cintron-Lugo & Mariela Ortiz	3985 Chaparral	Killeen	TX	76542
123173	Mary Floyd	8904 Bowfield Dr	Killeen	TX	76542
123172	Robert Aviles-Rodriguez	200 W Gemini Lane	Killeen	TX	76542
77652	Patrick Murphy	22410 Hill Rd.	Salado	TX	76571
32563	Angela Edwards	PO Box 425	Florence	TX	76527
480353	Kirk & Tamera Roefer	401 Gladeview Dr	Round Rock	TX	78681
116784	Anna Thornton	17451 Stillman Valley	Florence	TX	76527
500578	Kevin Parlin	107 Hilea Court	Bastrop	TX	78602
432396	Erik & Ashley Gulbranson	22537 Firefly Rd.	Florence	TX	76527
432398	Alice Merideth	PO Box 26	Florence	TX	76527
36643	Justin Scott	17710 Stillman Valley Rd.	Killeen	TX	76542

Mailing List N2-20-008P & N2-20-009P

Abhiram Garapati	201 Dawn River Cove	Austin	TX	78732
Clyde Melvin Ford Revocable Trust	PO Box 339	Florence	TX	76527
Jorge Cintron-Lugo & Mariela Ortiz	3985 Chaparral	Killeen	TX	76542
Mary Floyd	8904 Bowfield Dr	Killeen	TX	76542
Robert Aviles-Rodriguez	200 W Gemini Lane	Killeen	TX	76542
Patrick Murphy	22410 Hill Rd.	Salado	TX	76571
Angela Edwards	PO Box 425	Florence	TX	76527
Kirk & Tamera Roefer	401 Gladeview Dr	Round Rock	TX	78681
Anna Thornton	17451 Stillman Valley	Florence	TX	76527
Kevin Parlin	107 Hilea Court	Bastrop	TX	78602
Erik & Ashley Gulbranson	22537 Firefly Rd.	Florence	TX	76527
Alice Merideth	PO Box 26	Florence	TX	76527
Justin Scott	17710 Stillman Valley Rd.	Killeen	TX	76542

_____, ___ 2021

NOTICE OF APPLICATION FOR DRILLING AND OPERATING PERMIT

Name
Address
City, TX Zip

VIA CERTIFIED MAIL
RETURN RECEIPT REQUESTED

RE: Application for Operating Permits

To Whom It May Concern:

Mr. Russell Spillers, Texas Veterans Properties LLC, on behalf of Whitley 20 Stillman Valley LLC, has made application to the Clearwater Underground Water Conservation District (CUWCD) on October 10, 2021, with the prescribed TCEQ Groundwater Availability Study for plating the proposed Stillman Valley Ranchettes Subdivision under Title 30, Texas Administrative Code, Chapter 230, Sections 230.2 through and including 230.11.

The proposed operating permit is for authorization to withdrawal from two new wells completed in the Lower Trinity Aquifer with a maximum 2-inch column pipe on a 43.435-acre tract located on the corner of Stillman Valley Rod and Firefly Road, Florence, TX. This application is for a request to produce groundwater for domestic use in a shared well system for a maximum 14 homes on fourteen lots. The proposed annual quantity for Well #1, serving 8 homes, is not to exceed 2.6 acre-feet/yr or 855,414 gallons per year and Well #2, serving 7 homes, is not to exceed 2.3 acre-feet/yr or 748,487 gallons per year.

The proposed permits for two wells are located at:
Well #1 (N2-20-008P): Latitude 30.928700°/Longitude -97.7168527°
Well #2 (N2-20-009P): Latitude 30.928214°/Longitude -97.717865°

The applications will be set for hearing before the CUWCD Board upon notice posted at the Bell County Clerk's Office and at the CUWCD Office. If you would like to support, protest, or provide comments on the applications, 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 700 Kennedy Court, Belton, Texas 76513, 254-933-0120. The applicant may be contacted at 8127 Mesa Dr. #206-53, or by phone at 512-814-7357.

Sincerely,

Russell Spillers, Texas Veterans Properties LLC
Whitley 20 Stillman Valley LLC

N2-20-008P & N2-20-009P

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✓ Return Receipt (hardcopy)	$3.05
Return Receipt (electronic)	$0.00
Certified Mail Restricted Delivery	$0.00
Adult Signature Required	$0.00
Adult Signature Restricted Delivery	$
Postage	$0.58
Total Postage and Fees	$7.38
Postmark Here	10/19/2021
0042 4	

Sent To: ROBERT AVILES-RODRIGUEZ
Street and Apt. No., or PO Box No.: 200 W GEMINI LANE
City, State, ZIP+4®: KILLEEN, TX 76542

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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Round Rock, TX 78681

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✓ Return Receipt (hardcopy)	$3.05
Return Receipt (electronic)	$0.00
Certified Mail Restricted Delivery	$0.00
Adult Signature Required	$0.00
Adult Signature Restricted Delivery	$
Postage	$0.58
Total Postage and Fees	$7.38
Postmark Here	10/19/2021
0042 4	

Sent To: KIRK & TAMERA ROEFER
Street and Apt. No., or PO Box No.: 401 GLADVIEW DR
City, State, ZIP+4®: ROUND ROCK, TX 78681

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Florence, TX 76527

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Return Receipt (electronic)	$0.00
Certified Mail Restricted Delivery	$0.00
Adult Signature Required	$0.00
Adult Signature Restricted Delivery	$
Postage	$0.58
Total Postage and Fees	$7.38
Postmark Here	10/19/2021
0042 4	

Sent To: ALICE MERIDETH
Street and Apt. No., or PO Box No.: PO BOX 26
City, State, ZIP+4®: FLORENCE, TX 76527

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Austin, TX 78732

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✓ Return Receipt (hardcopy)	$3.05
Return Receipt (electronic)	$0.00
Certified Mail Restricted Delivery	$0.00
Adult Signature Required	$0.00
Adult Signature Restricted Delivery	$
Postage	$0.58
Total Postage and Fees	$7.38
Postmark Here	10/19/2021
0042 4	

Sent To: ABHIRAM GARAPATI
Street and Apt. No., or PO Box No.: 201 DAWN RIVER COVE
City, State, ZIP+4®: AUSTIN, TX 78732

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Killeen, TX 76542

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Return Receipt (electronic)	$0.00
Certified Mail Restricted Delivery	$0.00
Adult Signature Required	$0.00
Adult Signature Restricted Delivery	$
Postage	$0.58
Total Postage and Fees	$7.38
Postmark Here	10/19/2021
0042 4	

Sent To: JORGE CINTRON-LUGO & MARIELA ORTIZ
Street and Apt. No., or PO Box No.: 3985 CHAPARRAL
City, State, ZIP+4®: KILLEEN, TX 76542

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Return Receipt (electronic)	$0.00
Certified Mail Restricted Delivery	$0.00
Adult Signature Required	$0.00
Adult Signature Restricted Delivery	$
Postage	$0.58
Total Postage and Fees	$7.38
Postmark Here	10/19/2021
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Sent To: ERIK & ASHLEY GULBRANSON
Street and Apt. No., or PO Box No.: 22537 FIRFLY RD.
City, State, ZIP+4®: FLORENCE, TX 76527

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

N2-20-008P & N2-20-009P

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✓ Return Receipt (hardcopy)	$3.05
Return Receipt (electronic)	$0.00
Certified Mail Restricted Delivery	$0.00
Adult Signature Required	$0.00
Adult Signature Restricted Delivery	$
Postage	$0.58
Total Postage and Fees	$7.38

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4

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10/19/2021

Sent To: MARY FLOYD
Street and Apt. No., or PO Box No.: 2904 BOWFIELD DR
City, State, ZIP+4®: KILLEEN TX 76542

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Florence, TX 76527

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Extra Services & Fees (check box, add fee as appropriate)	
Return Receipt (hardcopy)	$3.05
Return Receipt (electronic)	$0.00
Certified Mail Restricted Delivery	$0.00
Adult Signature Required	$0.00
Adult Signature Restricted Delivery	$
Postage	$0.58
Total Postage and Fees	$7.38

0042
4

Postmark Here

10/19/2021

Sent To: CLYDE MELVIN FORD REVOCABLE TRUST
Street and Apt. No., or PO Box No.: PO BOX 339
City, State, ZIP+4®: FLORENCE, TX 76527

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Killeen, TX 76542

Certified Mail Fee	$3.75
Extra Services & Fees (check box, add fee as appropriate)	
✓ Return Receipt (hardcopy)	$3.05
Return Receipt (electronic)	$0.00
Certified Mail Restricted Delivery	$0.00
Adult Signature Required	$0.00
Adult Signature Restricted Delivery	$
Postage	$0.58
Total Postage and Fees	$7.38

0042
4

Postmark Here

10/19/2021

Sent To: JUSTIN SCOTT
Street and Apt. No., or PO Box No.: 17710 STILLMAN VALLEY RD.
City, State, ZIP+4®: KILLEEN, TX 76542

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7021 0950 0000 4796 0433

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Salado, TX 76571

Certified Mail Fee	$3.75
Extra Services & Fees (check box, add fee as appropriate)	
✓ Return Receipt (hardcopy)	$3.05
Return Receipt (electronic)	$0.00
Certified Mail Restricted Delivery	$0.00
Adult Signature Required	$0.00
Adult Signature Restricted Delivery	$
Postage	$0.58
Total Postage and Fees	$7.38

0042
4

Postmark Here

10/19/2021

Sent To: PATRICK MURPHY
Street and Apt. No., or PO Box No.: 22410 HILL RD.
City, State, ZIP+4®: SALADO, TX 76571

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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Bastrop, TX 78602

Certified Mail Fee	$3.75
Extra Services & Fees (check box, add fee as appropriate)	
✓ Return Receipt (hardcopy)	$3.05
Return Receipt (electronic)	$0.00
Certified Mail Restricted Delivery	$0.00
Adult Signature Required	$0.00
Adult Signature Restricted Delivery	$
Postage	$0.58
Total Postage and Fees	$7.38

0042
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10/19/2021

Sent To: KEVIN PARLIN
Street and Apt. No., or PO Box No.: 107 HILEA COURT
City, State, ZIP+4®: BASTROP, TX 78602

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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NOTICE OF APPLICATION FOR A COMBINATION DRILLING AND OPERATING PERMIT FROM CLEARWATER UNDERGROUND WATER CONSERVATION DISTRICT

Mr. Russell Spillers, Texas Veterans Properties LLC, on behalf of Whitley 20 Stillman Valley LLC, has made application to the Clearwater Underground Water Conservation District (CUWCD) on October 10, 2021, with the prescribed TCEQ Groundwater Availability Study for plating the proposed Stillman Valley Ranchettes Subdivision under Title 30, Texas Administrative Code, Chapter 230, Sections 230.2 through and including 230.11.

The proposed operating permit is for authorization to withdrawal from two new wells completed in the Lower Trinity Aquifer with a maximum 2-inch column pipe on a 43.435-acre tract located on the corner of Stillman Valley Rod and Firefly Road, Florence, TX. This application is for a request to produce groundwater for domestic-use in a shared well system for a maximum 14 homes on fourteen lots. The proposed annual quantity for Well #1, serving 8 homes, is not to exceed 2.6 acre-feet/yr or 855,414 gallons per year and Well #2, serving 7 homes, is not to exceed 2.3 acre-feet/yr or 748,487 gallons per year.

The proposed permits for two wells are located at:
Well #1 (N2-20-008P): Latitude 30.928700°/Longitude -97.7168527°
Well #2 (N2-20-009P): Latitude 30.928214°/Longitude -97.717865°

The applications will be set for hearing before the CUWCD Board upon notice posted at the Bell County Clerk's Office and at the CUWCD Office. If you would like to support, protest, or provide comments on the applications, 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 700 Kennedy Court, Belton, Texas 76513, 254-933-0120. The applicant may be contacted at 8127 Mesa Dr. #206-53, or by phone at 512-814-7357.

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):

October 26, 2021

For: Whitley 20 Stillman Valley LLC
Ad #: 16671626
Ad cost: $152.90
Times Published: 1

Jane Moon
Classified Manager Inside Sales

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

Notary Public in and for
Bell County, Texas

(Seal)

TERI ZAMORA
Notary Public, State of Texas
Comm. Expires 11-05-2023
Notary ID 10837339

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Wet Rock GW Services LLC
Worsley Letter (2021b)
Evaluation

Wet Rock Groundwater Services, L.L.C.
Groundwater Specialists
TBPG Firm No: 50038
317 Ranch Road 620 South, Suite 203
Austin, Texas 78734 • Ph: 512-773-3226
www.wetrockgs.com

November 19, 2021

Mr. Russell Spillers
Whitley 20 Stillman Valley, LLC
8127 Mesa Dr., #206-53
Austin, Texas 78759

RE: CUWCD Letter - Stillman Valley Ranchettes

Dear Mr. Spillers:

The Clearwater Underground Water Conservation District (CUWCD) requested that Wet Rock Groundwater Services, LLC (WRGS) further evaluate the future groundwater availability at the proposed Stillman Valley Ranchettes (SVR) subdivision at full buildout. The evaluation will focus on modeling the future effects of groundwater withdrawal from 2 Lower Trinity Aquifer wells used to serve the subdivision (Figure 1).

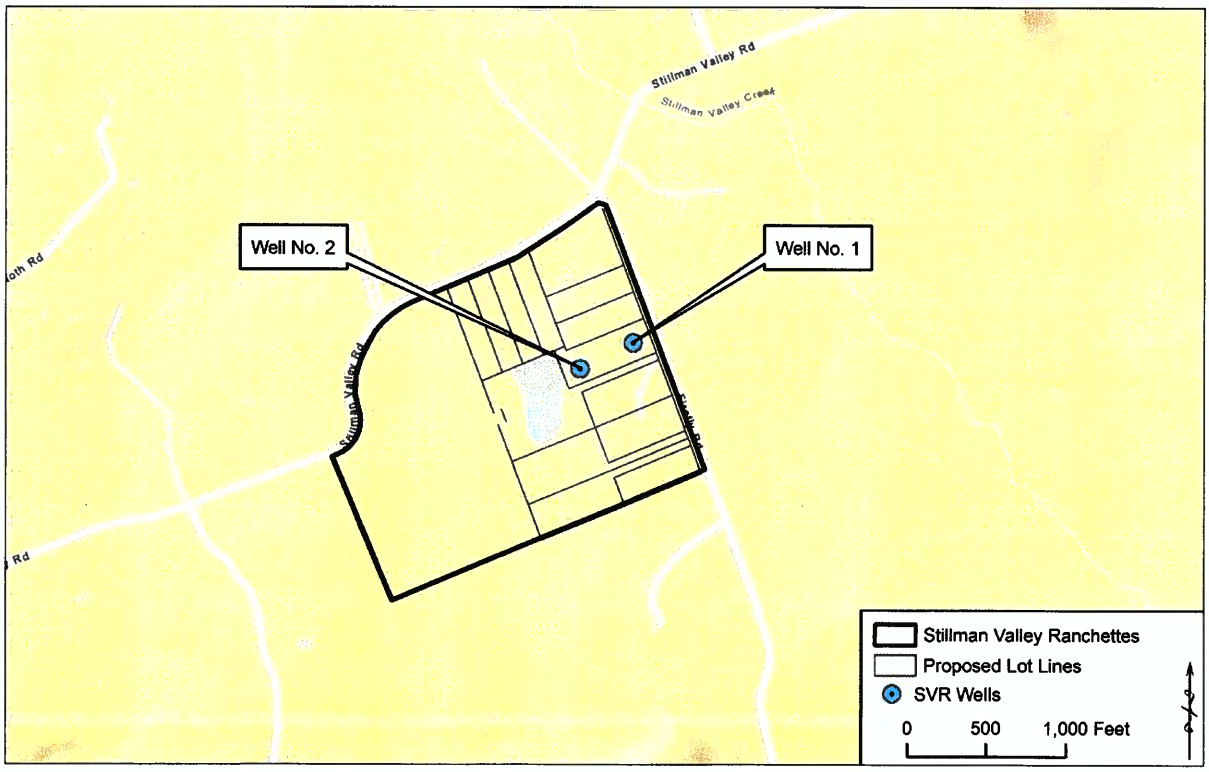


Figure 1: Location Map

CUWCD also requested that the study includes the following:

- A reduction in the groundwater production from the original study (Wet Rock Groundwater Services, LLC, 2021):
  - 14 lots instead of 15;
  - 90 gallons per capita per day instead of 106 gallons (results in approximately 3.9 acre-feet per year); and,
- Modeling a newly-discovered fault zone that potentially impacts long-term groundwater availability in the Lower Trinity Aquifer.

Drawdown Analysis - Stillman Valley Ranchettes

Similarly to the original study (Wet Rock Groundwater Services, LLC, 2021), a groundwater model was utilized to determine the projected drawdown from production within SVR at full build out to ultimately determine whether or not there is sufficient groundwater availability. In order to estimate future groundwater conditions, a one-layer groundwater model, consisting of 370 rows and 370 columns for a total of 136,900 cells, was created to estimate drawdown under a normal production scenario for SVR. Each cell has dimensions of 100 feet by 100 feet; the entire grid represents an approximately 49.0 square mile portion of the Trinity Aquifer. The boundaries of the grid extend approximately 3.5 miles beyond the center of SVR in order to evaluate the potential regional impacts from pumping.

The model calculates drawdown at each cell using the Theis Equation (1935),

$$s = \frac{Q}{4\pi T} W(u) \qquad \textit{(Equation 1)}$$

where:

s = drawdown (feet);

Q = discharge (gallons per minute; gpm);

T = transmissivity (ft.^{2}/day); and

W(u) = well function

The well function W(u) is estimated by:

$$W(u) = -0.5772 - \ln u + u - \frac{u^2}{2\times 2!} + \frac{u^3}{3\times 3!} - \frac{u^4}{4\times 4} + \ldots \qquad \textit{(Equation 2)}$$

where:

$$u = \frac{r^2 S}{4Tt} \qquad \textit{(Equation 3)}$$

r = the radius at which drawdown is estimated (feet); and

S = storativity (dimensionless).

The Theis Equation has several assumptions used to derive the formula which include (Driscoll, 1986):

1. The water-bearing formation is uniform in character and the hydraulic conductivity is the same in all directions;
2. The aquifer is uniform in thickness and infinite in areal extent;
3. The aquifer receives no recharge from any source;
4. The well penetrates, and receives water from the full thickness of the aquifer;
5. The water from storage is discharged instantaneously when the head is lowered;
6. The pumping well is 100% efficient;
7. All water removed from the well comes from aquifer storage;
8. Laminar flow exists through the well and aquifer; and,
9. The water table or potentiometric surface has no slope.

Unfortunately, assumptions 1 and 2 are not met within the Lower Trinity Aquifer in the vicinity of SVR. Recent aquifer testing and subsurface studies conducted by CUWCD and other entities have shown that there is wide regional variability in the aquifer characteristics, as well as specific structural phenomena that may inhibit groundwater flow. With regards to SVR, there is a known structural feature approximately 4,500 feet to the west that acts as an aquifer boundary. This structural feature may have long-term impacts on groundwater availability to the region as development continues. Several other faults in the immediate vicinity of SVR have been identified by CUWCD; however, they did not have any noticeable effects on the aquifer during testing, therefore they were not considered in this study.

In an effort to model the aquifer impacts from the proposed pumping, the following values taken from the aquifer testing (Wet Rock Groundwater Services, LLC, 2021) were utilized:

- Transmissivity: 11.59 $ft.^2/day$;
- Storativity: 2.07×10^{-5}.

The updated groundwater model was designed to estimate drawdown at full buildout (14 lots) after 30 years of continuous production. Figure 2 provides a conceptual map of the groundwater model. The SVR wells are shown as blue circles on the map; the image wells are pink circles; the aquifer boundary (fault) is along the dashed red line. The daily estimated water demand per lot (household) is 248.4 gallons, equivalent to 3,477.6 gallons per day from the 2 wells (combined; 1.0275 gallons per minute (gpm) per well). In addition to the SVR pumping wells, image wells were added to the model to assess the impacts from the aquifer boundary. In short, imaginary discharging wells (image wells) have been placed at the same distance as the real well from the known boundary (fault - approximately 4,500 feet away from the SVR wells), but on the opposite side on a common line perpendicular to the boundary. At the boundary, the drawdown produced by the image wells is equivalent to the drawdown caused by the real wells. Applying the Law of Superposition, the resultant drawdown is the algebraic sum of the drawdowns produced from both the real and image wells (Ferris et al., 1962).

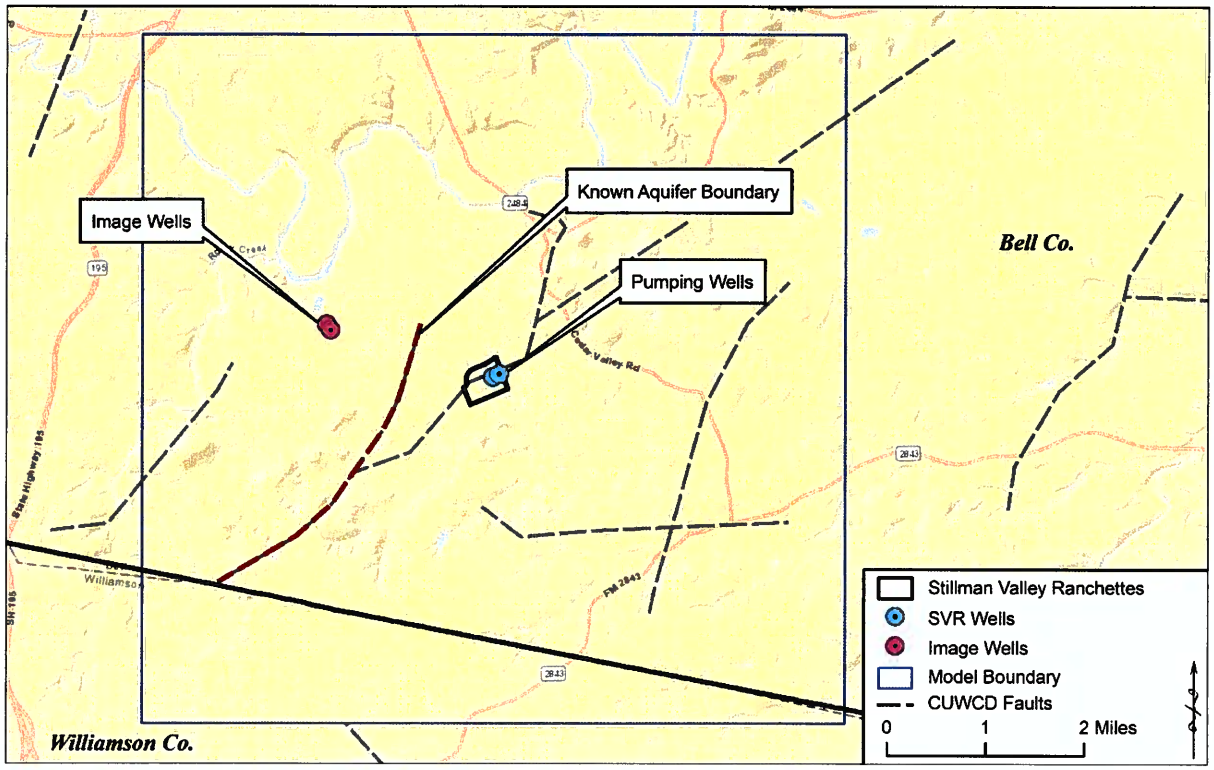


Figure 2: Groundwater Model Map

The results of the updated model are illustrated in Table 1, Figure 3, and Figure 4. Based upon the additional modeling and the inclusion of the image wells to simulate drawdown along the aquifer boundary (fault), the cone of depression extends westward from the pumping wells at SVR in an elliptical pattern towards the fault zone (Figures 3 and 4). After 30 years of pumping at SVR, the decline in the static water level is estimated at 76.29 feet for Well No. 1, and 76.44 feet at Well No. 2; at a distance of 3.5 miles from the center of pumping, the drawdown is estimated to be approximately 21 feet (Figures 3 and 4).

Table 1: Summary of drawdown calculations (30 years)

	Current Static Water Level[1]	Static Water Level After 30-Years of Pumping	Saturated Thickness	Estimated Pumping Level at 15 gpm[2] - 30 years
Well	**(ft. bgl)**	**(ft. bgl)**	**(ft.)**	**(feet)**
Well No. 1	367.3	443.59	336.41	593.59
Well No. 2	372.7	449.14	330.86	599.14

Notes: ft. = feet; bgl = below ground level; gpm = gallons per minute;
1 = Wet Rock Groundwater Services, LLC, 2021; 2 = specific capacity of 0.10 gpm/ft. used for estimations

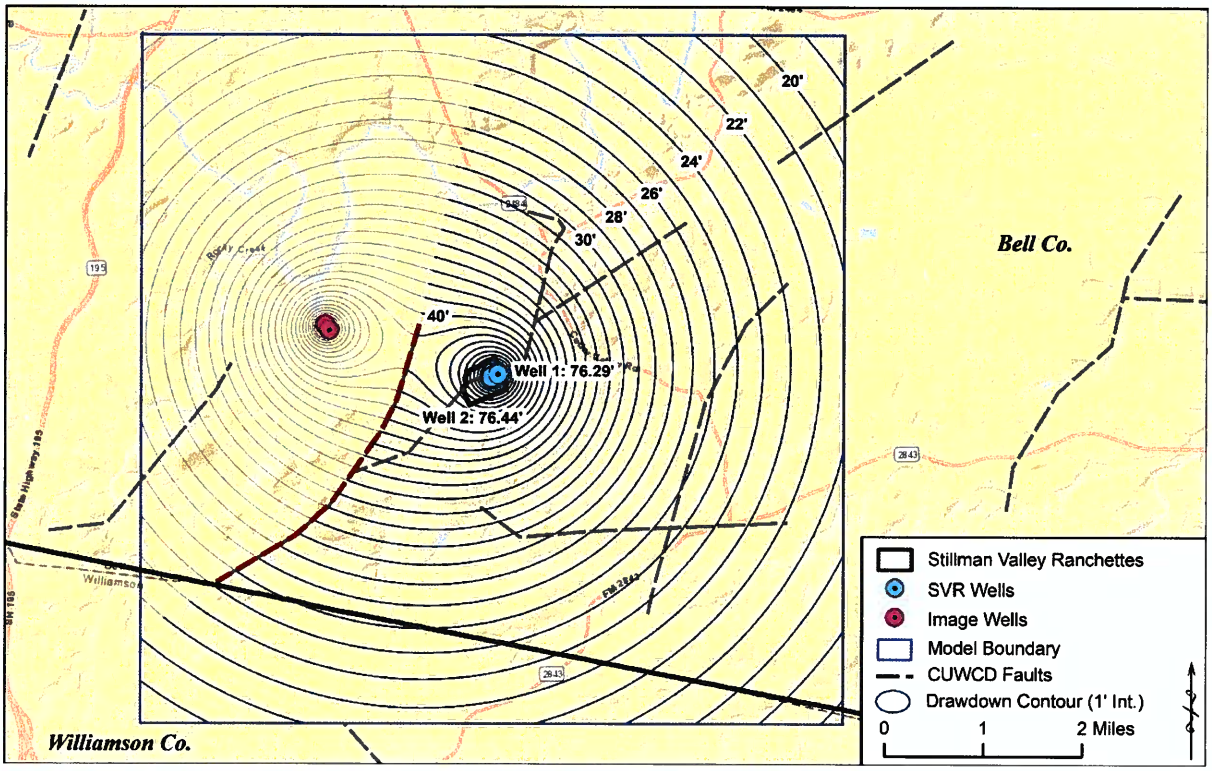


Figure 3: 30-Year Modeled drawdown from production at Stillman Valley Ranchettes (small-scale)

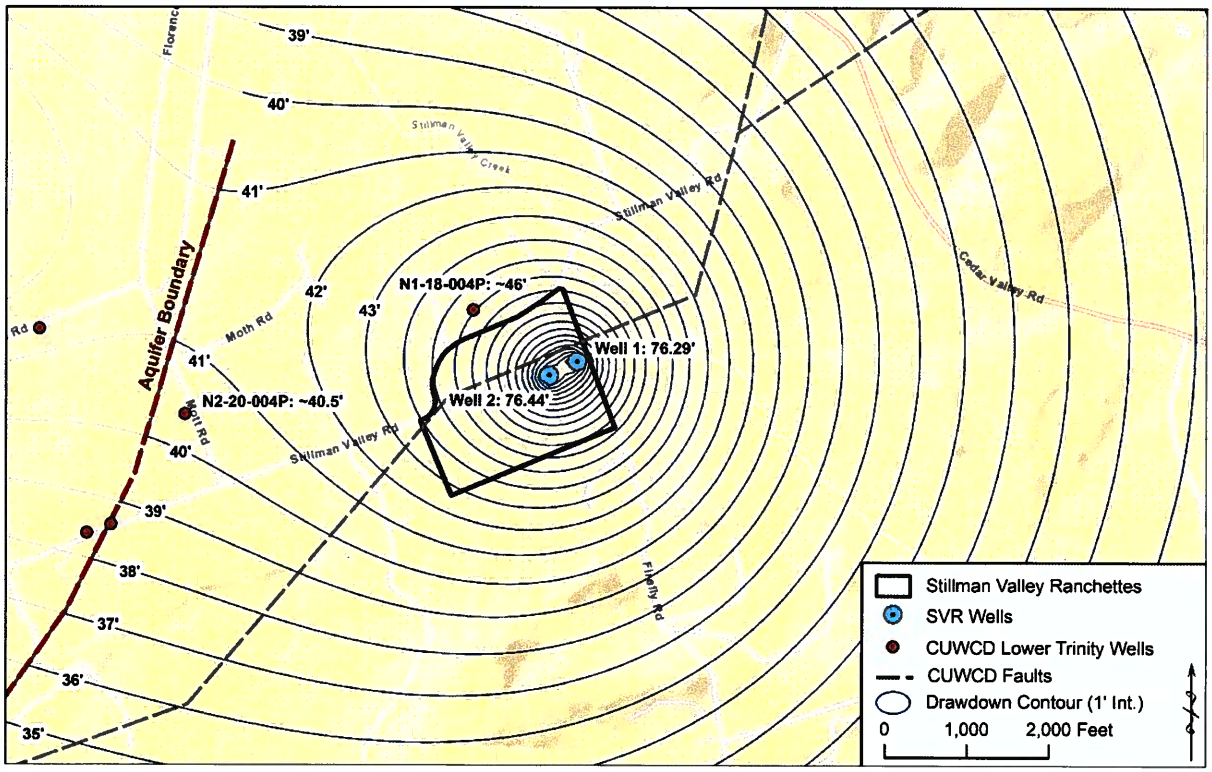


Figure 4: 30-Year Modeled drawdown from production at Stillman Valley Ranchettes (large-scale)

The additional modeling efforts show that the aquifer boundary (fault) negatively impacts the water level drawdown over time when compared to the original study (Wet Rock Groundwater Services, LLC, 2021). Using the specific capacity calculated from the 24-hour aquifer test at Well No. 2 (0.10 gpm/ft.), the estimated pumping level at a pumping rate of 15 gpm after 30 years will reach approximately 593.59 feet below ground level (ft. bgl) in Well No. 1, and 599.14 ft. bgl in Well No. 2 (Table 1). There will be at least 330 feet of saturated thickness remaining in the Lower Trinity Aquifer at each of the SVR pumping wells even after 30 years of constant pumping.

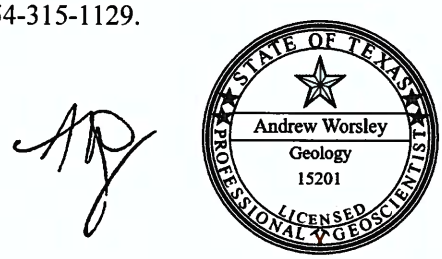
From the well database provided by CUWCD, there are 2 nearby permitted wells completed within the Lower Trinity Aquifer on the eastern side of the aquifer boundary: Well No. N1-18-004P and Well No. N2-20-004P (Figure 4). These wells will most likely experience water level declines from pumping at SVR. Since the fault has been characterized as a no-flow boundary, it is assumed that wells situated west of the boundary will not experience water level impacts from pumping at SVR.

According to the most recent information collected by CUWCD, the static water level at Well No. N1-18-004P was documented to be 369.22 ft. bgl on November 8, 2021 (CUWCD Website). The well is 685 feet deep; the pump is set to a depth of 640 ft. bgl. From the modeling results, the decline in the static water level at Well No. N1-18-004P is estimated to be approximately 46 feet after 30 years of continuous production at SVR (Figure 4). From this information coupled with the well construction, there will be approximately 225 feet of water above the current pump setting.

According to the most recent information collected by CUWCD, the static water level in Well No. N2-20-004P was documented to be 396.85 ft. bgl on November 8, 2021 (CUWCD Website). The well is 790 feet deep; the pump is set to a depth of 700 ft. bgl. From the modeling results, the decline in the static water level at Well No. N2-20-004P is estimated to be approximately 40.5 feet after 30 years of continuous production at SVR (Figure 4). From this information coupled with the well construction, there will be approximately 262.65 feet of water above the current pump setting.

The modeled drawdown within the Lower Trinity Aquifer from production at SVR is substantial over a 30-year period; however, the projected effects do not result in unreasonable impacts to the aquifer, nor do they result in unreasonable impacts to nearby well owners. I, Andrew Worsley, Texas Licensed Professional Geoscientist, certificate number 15201, based on my best judgment, current groundwater conditions, and the information developed, assumed, and presented in this letter, certify that adequate groundwater is available from the underlying aquifer to supply the anticipated use of the proposed subdivision.

If you have any questions, please feel free to call me at 254-315-1129.



Respectfully,

Andrew Worsley, P.G.

Senior Staff Hydrogeologist

Wet Rock Groundwater Services, L.L.C.

The seal appearing on this document was authorized by Andrew Worsley, P.G. 15201 on 11-19-21.

References

Clearwater Underground Water Conservation District. (n.d.). Retrieved November 18, 2021, from https://cuwcd.org/.

Driscoll, F.G., 1986. Groundwater and Wells (2nd. Ed.): Johnson Division, St. Paul, Minnesota.

J. G. Ferris, D. B. Knowles, R. H. Brown, and R. W. Stallman, 1962, Theory of Aquifer Tests, U.S. Geological Survey Water-Supply Paper 1536-E, 113 p.

Theis, C.V., 1935. The relation between the lowering of the piezometric surface and the rate and duration of discharge of a well using groundwater storage, Am. Geophys. Union Trans., vol. 16, pp. 519-524.

Wet Rock Groundwater Services L.L.C (2021). Report of Findings Stillman Valley Ranchettes Groundwater Availability Certification for Platting: Bell County, Texas.

Wet Rock GW Services LLC
Stillman Valley Ranchettes
Groundwater Availability Certification

Report of Findings: WRGS 21-016

Report of Findings
Stillman Valley Ranchettes Subdivision
Groundwater Availability Certification for Platting:
Bell County, Texas

For:
Mr. Russell Spillers
Whitley 20 Stillman Valley, LLC
8127 Mesa Dr., #206-53
Austin, Texas 78759

Wet Rock Groundwater Services, L.L.C.
Groundwater Specialists
TBPG Firm No: 50038
317 Ranch Road 620 South, Suite 203
Austin, TX 78734 Ph: 512.773.3226
www.wetrockgs.com

REPORT OF FINDINGS

WRGS 21-016

Stillman Valley Ranchettes Subdivision
Groundwater Availability Certification for Platting:
Bell County, Texas

for

Mr. Russell Spillers

Whitley 20 Stillman Valley, LLC

8127 Mesa Dr., #206-53

Austin, Texas 78759

Bell County, Texas

September 2021

WRGS Project No. 160-001-21

Wet Rock Groundwater Services, L.L.C.

Groundwater Specialists

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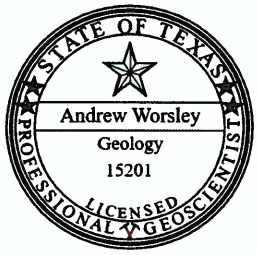

Andrew Worsley, P.G.

License No. 15201

Wet Rock Groundwater Services, LLC

TBPG Firm Registration No. 50038

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Section I: Introduction

This report details the results of a groundwater availability study of the proposed Stillman Valley Ranchettes Subdivision (Stillman Valley) to meet the requirements of the Certification of Groundwater Availability for Platting Form *(Title 30, Texas Administrative Code, Chapter 230, Sections 230.2 through and including 230.11)*. Appendix A provides the completed Certification of Groundwater Availability for Platting Form.

Stillman Valley is located along Stillman Valley Road approximately 5.3 miles south of the City of Killeen in western Bell County (Figure 1). The proposed subdivision is documented within the Bell County Tax Assessor as Property ID: 15092. Whitley 20 Stillman Valley, LLC (8127 Mesa Dr., #206-53, Austin, TX 78759) is the plat applicant.

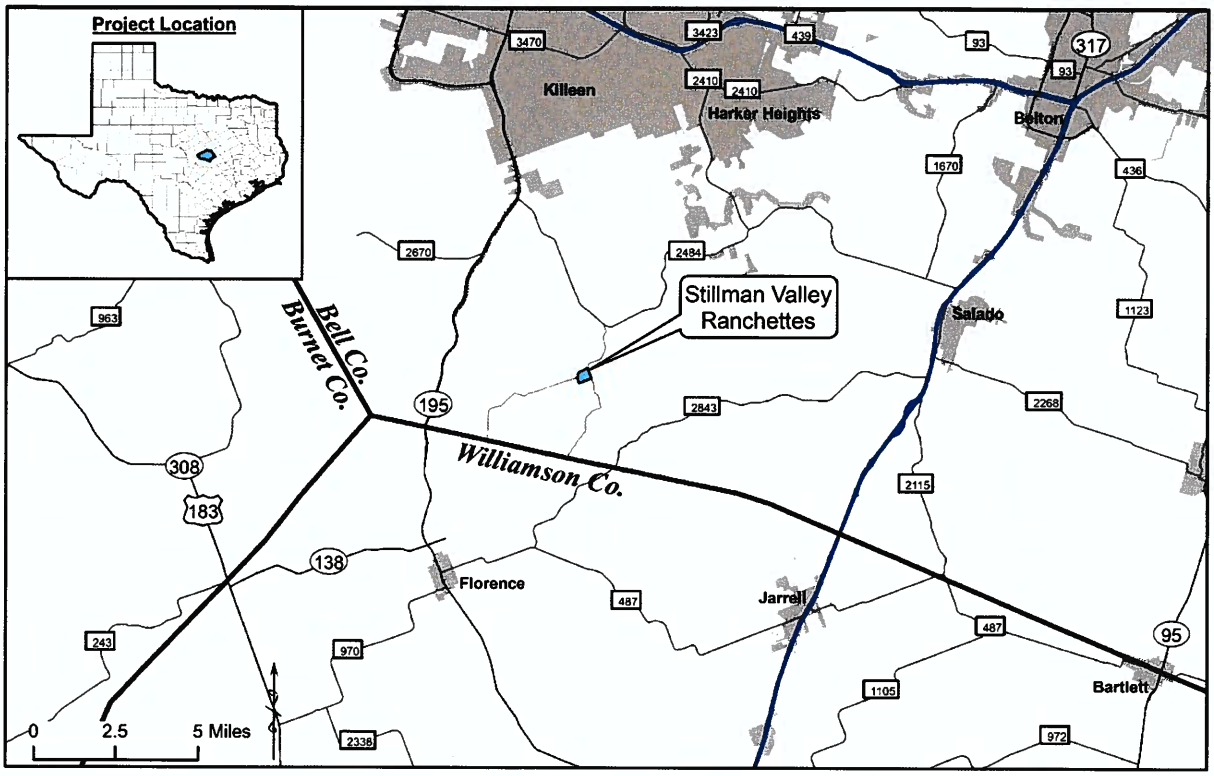


Figure 1: Location map

Whitley 20 Stillman Valley, LLC proposes to develop the approximately 79.8 acre property as a subdivision including 18 single family residential lots. The lot sizes range from 2.1 to 13 acres which will be served by three (3) water wells: three (3) large lots (over 10 acres each) spanning 35.1 acres will be served by an existing well; the remaining fifteen (15) lots spanning 44.7 acres will be served by two (2) new wells. The subdivision is located within the jurisdiction of the Clearwater Underground Water Conservation District (CUWCD). Figure 2 provides a map showing the general location of the subdivision with the county and groundwater district boundaries.

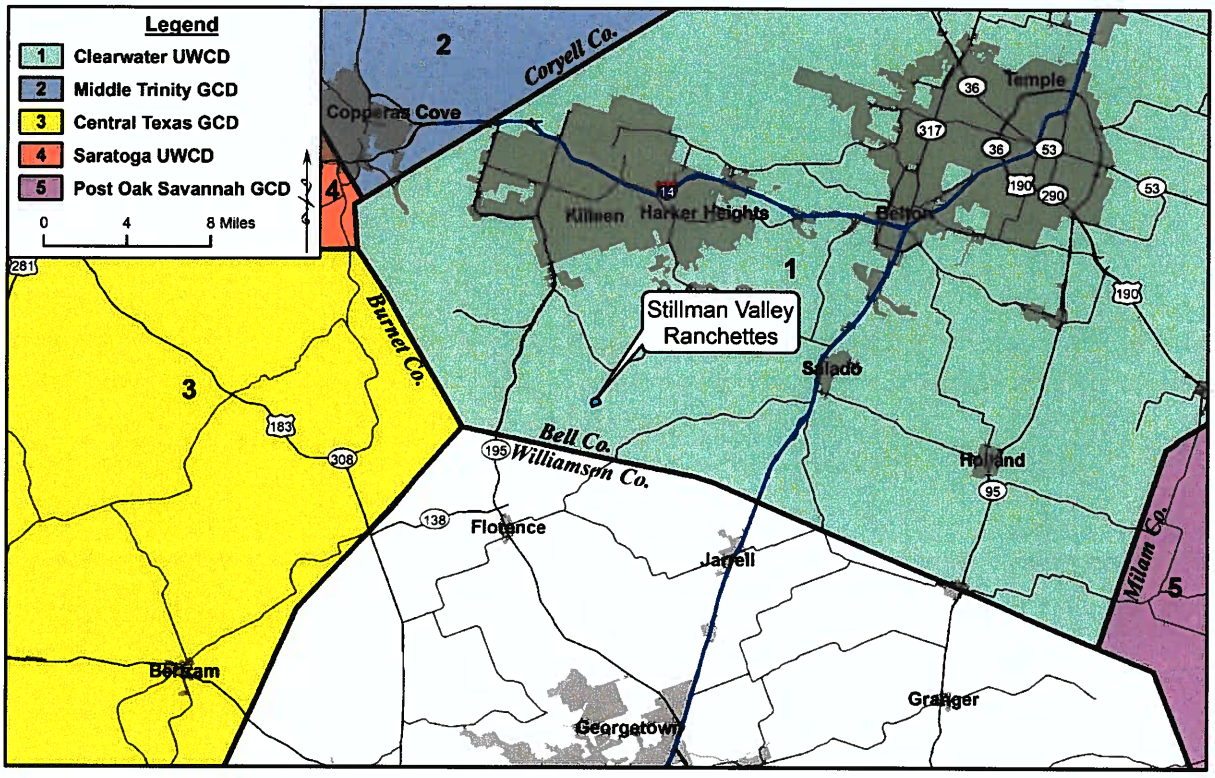


Figure 2: Groundwater Conservation District map

This report will focus on the fifteen (15) lots (smaller than 10 acres) spanning 44.7 acres that will be served by the new wells, since the County subdivision regulations do not require a plat for the larger tracts. This report will be submitted to CUWCD and Bell County to meet their requirements for a groundwater availability for platting study.

Section II: Projected Water Demand Estimate

For the purposes of this report, CUWCD provided the appropriate water usage via permit applications that will serve this subdivision. The total annual permit volume for the subdivision (2 wells) will be 1,603,901 gallons (4.92 acre-feet per year).

CUWCD Production permit details are summarized below:

- Well No. 1 will serve up to 8 homes. The well will not exceed 2,234 gallons/day (855,414 gallons per year; 2.6 acre-feet/year);
- Well No. 2 will serve up to 7 homes. The well will not exceed 2,051 gallons/day (748,487 gallons per year; 2.3 acre-feet/year); in accordance to the maximum permit amount;
- Total annual permitted volume for the subdivision: 1,603,901 gallons (4.92 acre-feet/year).

An estimated water use of 106 gallons per person along with the assumption of 2.76 persons per household (U.S. Census - Bell County Average, 2019) were utilized. The subdivision includes 15 single family residential lots. The following formula was used to calculate the projected water demand for the subdivision:

Equation 1: Total Water Demand

$$Qs = n \times 2.76 \times 106 \times 365 \text{ days} = 1{,}601{,}766 \text{ gallons/year or } 4.92 \text{ acre-feet/year}$$

Where:

Qs = Total Water Demand at full build out for the subdivision;

n = Number of connections (15 lots);

2.76 = Average number of persons per household; and

106 = The average per capita usage of water per day in gallons.

Equation 1 assumes 2.76 persons per household using 106 gallons per person per day which results in a total water demand of 4.92 acre-feet/year at full build out of the subdivision. There are no planned nonresidential water demands.

Section III: General Groundwater Resource Information

According to the Texas Water Development Board (TWDB), there is (1) major aquifer (Trinity) that supplies groundwater within the study area. The TWDB classifies major aquifers as aquifers that produce large amounts of water over large areas. The Trinity Aquifer is a regionally extensive aquifer system made up of Cretaceous carbonates and sandstones that were deposited throughout central Texas. Regionally, this aquifer is affected by geologic structures which include the Llano Uplift, the San Marcos Arch, and the Balcones fault system (Ashworth, 1983).

III.1. Stratigraphy and Geologic History

Figure 3 provides a geologic map and stratigraphic column illustrating the geology surrounding the subdivision. The subdivision overlies the Cretaceous aged sedimentary rocks comprising the Trinity Aquifer. The Walnut Formation covers the vast majority of the subdivision's surface. The sediments that comprise these groups were deposited approximately 140 million years ago by a Cretaceous aged sea that once dominated the interior of North America and the Gulf Coast region. For approximately 79 million years this shallow sea deposited the sediments that now make up the property and its surrounding area (Toll et. al, 2018).

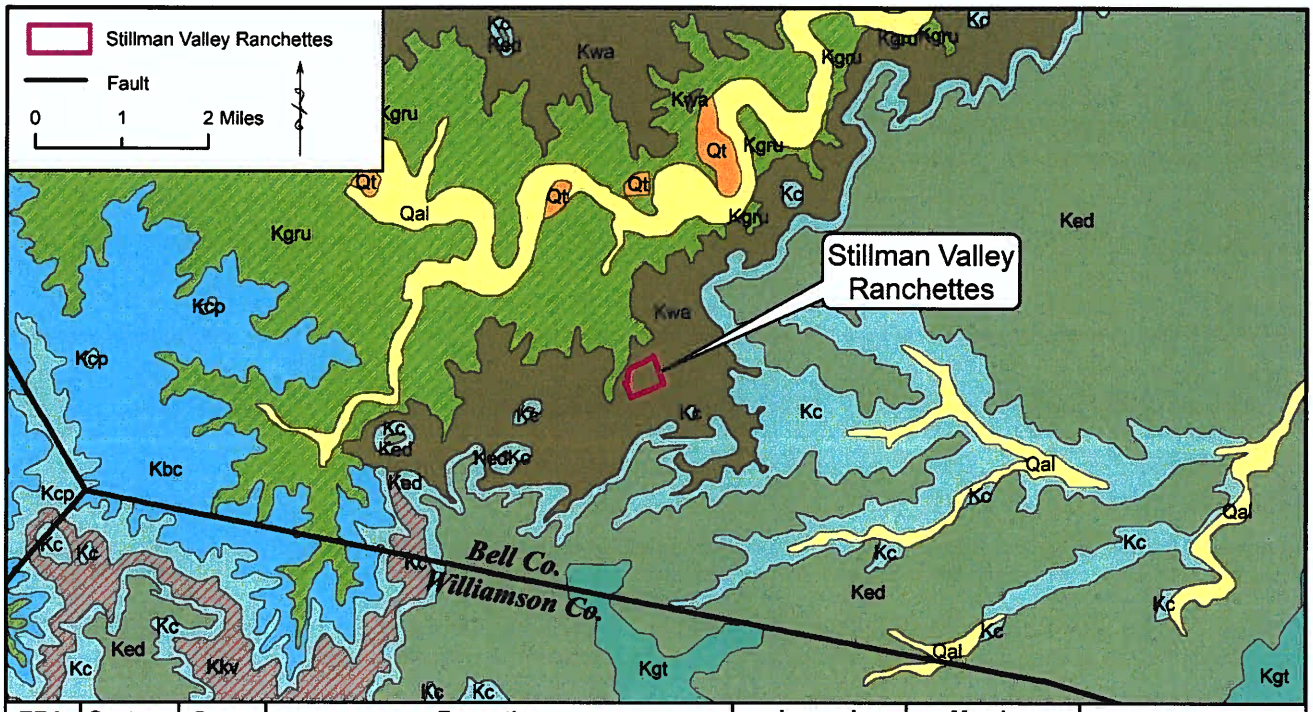
Pennsylvanian-aged rocks which make up the structural base in the study area are composed of the Bend, Canyon, and Strawn Groups. The oldest member of the Bend Group is the Marble Falls Limestone, which is locally divided and makes up the Marble Falls Aquifer to the west of the study area. The lower unit consists of massive limestone and reef deposits and the upper unit consists of fine grained bedded limestone with chert nodules and beds. The overlying Smithwick Formation consists of interbedded claystone, siltstone, and sandstone. Above the Bend Group are the Strawn and Canyon Groups comprised of limestones, shales, and fine grained sandstones. Together with the Smithwick Formation, these groups act as confining units between the Marble Falls and Lower Trinity aquifers (Figure 3; Preston et. al, 1996).

Cretaceous aged rocks overlie the Pennsylvanian system. The Cretaceous sediments comprising the Trinity and Edwards Groups were deposited by a shallow Cretaceous sea and once covered the entire region, but have since been eroded away completely in some areas. In the study area, the Trinity Group is divided into three geologic sections from oldest to youngest: the Travis Peak Formation, the Glen Rose Formation, and Paluxy Formation (Brune and Duffin, 1983). The Travis Peak Formation is mainly comprised of shale, sand, and limestone and is grouped as one formation to the west of the study area. To the south and west, the formation is separated from oldest to youngest into the Hosston and Sligo (Lower Trinity Aquifer), Hammett Shale (aquitard), and the Cow Creek Limestone and Hensell Sand (part of the Middle Trinity Aquifer).

Above the Travis Peak is the Glen Rose Limestone, which is separated into Upper and Lower units, and also comprise parts of the Upper and Middle Trinity aquifers, respectively (Figure 3). The Glen Rose Limestone generally consists of alternating layers of limestone and dolomite found at the top of the formation; massive limestone layers are found near the base. Above the Glen Rose Limestone is the Paluxy Sand, which is also part of the Upper Trinity Aquifer (Jones, 2003).

Above the Trinity Group lies the Fredericksburg and Washita Groups that make up the Edwards Aquifer. The Fredericksburg Group is separated from the Trinity Group by the Walnut, Bee Cave Marl,

and Keys Valley Marl (confining units). The Comanche Peak Limestone and Edwards Limestone are the two members of the Fredericksburg Group within the Edwards Aquifer. The oldest member in the overlying Washita Group contained in the Edwards Aquifer is the Georgetown Formation (Figure 3; Barnes et. al, 1974).



ERA	System	Group	Formation	Legend	Member	Hydrogeologic Unit
Cenozoic	Quaternary		Pleistocene to Recent floodplain (alluvium and fluviatile terrace deposits)	Qa; Qt, Qc, Qcf		localized alluvial aquifers
Mesozoic	Cretaceous	Washita	Georgetown Formation	Kgt		Edwards Aquifer
		Fredericksburg	Edwards Limestone	Ked		
			Comanche Peak Limestone	Kc		
			Keys Valley Marl	Kkv		confining units
			Cedar Park	Kcp		
			Bee Cave Marl	Kbc		
			Walnut	Kwa		
		Trinity	Paluxy Sand	Kpa		Upper Trinity Aquifer
			Glen Rose Lmst.	Kgr; Kgru	Upper Mbr.	
				Kgrl	Lower Mbr.	Middle Trinity Aquifer
			Travis Peak Equivalent: Hensell Sand / Bexar Shale	Kh		
			Cow Creek Lmst.	Kcc; Kch		
			Hammett Shale	Ktp; Kha		confining unit
			Travis Peak Equivalent: Sycamore Sand / Sligo / Hosston	Ktp; Ksy		Lower Trinity Aquifer
Paleozoic	Pennsylvanian	Canyon	Undivided	IPcn	Undivided	confining units
		Strawn	Undivided	IPst		
		Bend	Smithwick	IPsw		
			Marble Falls Lmst.	IPmf		Marble Falls Aquifer

Figure 3: Geologic map and stratigraphic column (modified from Barnes et. al, 1974)

III.2. Hydrogeology

The confined portion of the Trinity Aquifer is only accessible groundwater source located beneath the proposed subdivision. The Trinity Aquifer spans as far north as the Texas/Oklahoma border and as far south as Medina County where fresh water can be produced. Figure 4 shows the location of the Trinity Aquifer with respect to other aquifers in the area, including the Edwards (BFZ) Aquifer (in blue). The solid green portion reflects the unconfined zone of the Trinity Aquifer where recharge occurs; the hatched green portion reflects the confined zone of the Trinity Aquifer. The formations comprising the Trinity Aquifer become thicker downdip (east/southeast) approaching the Balcones Fault Zone to the southeast (Ashworth, 1983).

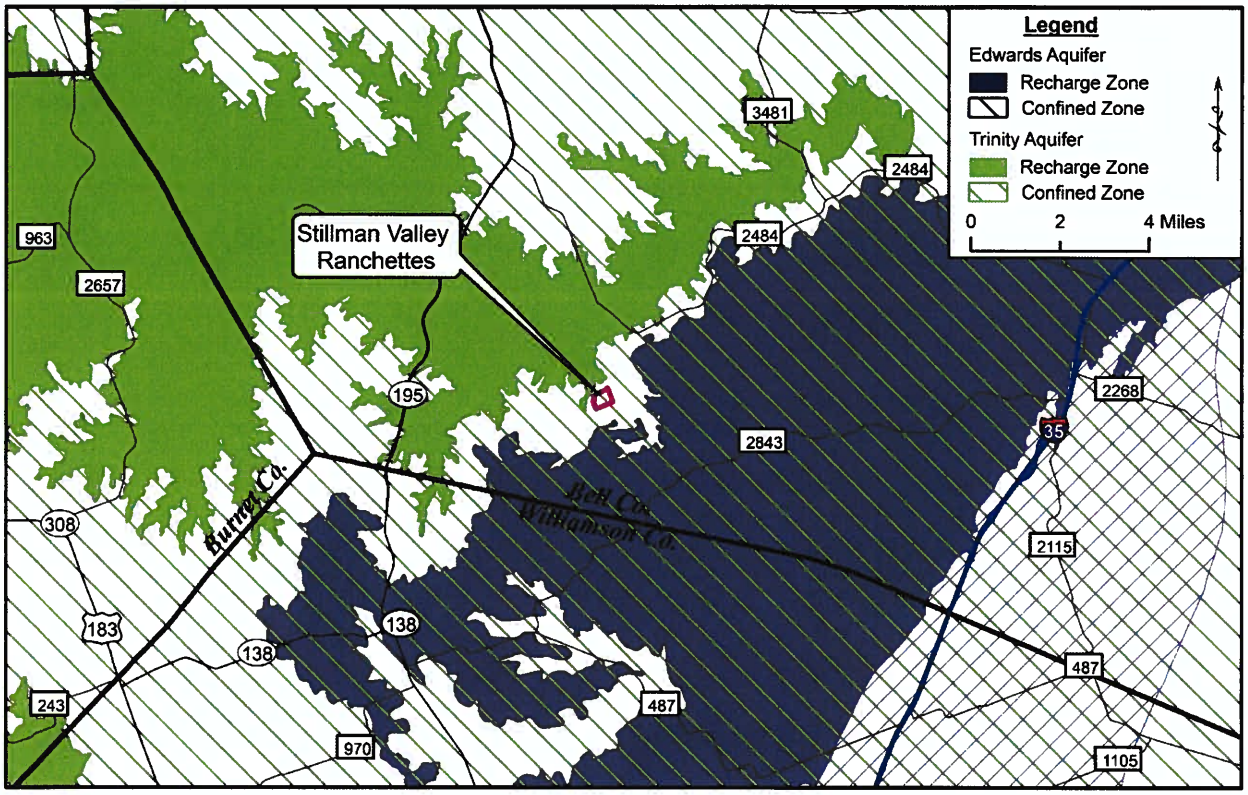


Figure 4: Aquifer map

The Trinity Aquifer as its name implies is divided into three aquifers from oldest to youngest: the Lower, Middle and Upper Trinity Aquifers. Formations comprising the Lower Trinity Aquifer include, from oldest to youngest, the Hosston and Sligo members (Figure 3). The Hosston Member consists of a conglomerate of gravel, sand and clay cemented by both calcite and quartz. It also contains sections of sandstone, siltstone, claystone, dolomite, limestone, and shale. The Sligo Limestone consists of clastic sediment near the property, and becomes dominantly limestone and dolomite to the east. Surface outcrops are referred to in the literature as Sycamore; Hosston and Sligo are the subsurface equivalents (Figure 3).

Located stratigraphically above the Hosston Member is the Hammett Shale, which is a transgressive deposit that onlaps Lower Trinity Sligo and Hosston members. The interval averages 40 to 60 feet in thickness in the central Texas area (Wierman et al., 2010). The unit is primarily a clay rich, gray-green sticky, dolomitic

shale/claystone with siltstone and dolomite lenses that acts as a confining bed separating the Lower Trinity Aquifer from the Middle Trinity Aquifer (Figure 3).

Above the Hammett Shale lies the Middle Trinity Aquifer composed of the Cow Creek Limestone, Hensell, and Lower Glen Rose Limestone (Figure 3). The Cow Creek Limestone is a massive, fossiliferous limestone and dolomite ranging up to 100 feet in thickness and may contain some interbedded sand, clay, and evaporite minerals such as gypsum and anhydrite (Ashworth, 1983; Preston et. al, 1996; Wierman et al., 2010). The formation was subaerially exposed and subjected to meteoric water infiltration during early Hensell time, which resulted in widespread vuggy porosity (Loucks, 1977). In some areas, the Cow Creek is heavily fractured and capable of producing large well yields. Overlying the Cow Creek is the Hensell Member, which in the outcrop, is composed of loose sand and grades into thick continental deposits of red clay, silt, sand, and conglomerate with limestone beds in the subsurface. The Hensell is sand rich in the northern portions of the aquifer. Downdip, the Hensell grades into marine deposits of silty dolomite, marl, calcareous shale, and shaley limestone known as the Bexar Shale Member (Ashworth, 1983). Downdip, the Bexar Shale may act as a confining unit for the Cow Creek (Wierman et al., 2010).

Stratigraphically above the Hensell Member, the Glen Rose Limestone is divided into a Lower and Upper Member (Figure 3). The boundary between the two members is identified by a thin, heavily fossiliferous limestone bed containing Corbula martinae that persists throughout the study area except where erosion has lowered the land surface below the bed (Whitney, 1952; Ashworth, 1983). The separation between the two units is also distinguishable on geophysical logs where two distinct evaporite zones are found within the Upper Glen Rose; one midway through the Upper Glen Rose and another near the base shown by resistivity spikes on a geophysical log. The lower member of the Glen Rose Limestone consists of a massive, fossiliferous limestone at the base grading upward into thin beds of limestone, dolomite, marl, and shale. The top 15 to 20 feet of the lower member, designated the Salenia texana zone, is a highly fossiliferous, nodular marl and limestone which is capped by the Corbula bed (Ashworth, 1983). Near the top of the Lower Glen Rose, in some locations, is a reef deposit that is cavernous, heavily fractured, and can range in thickness. Where the reef deposit is encountered, the Lower Glen Rose can provide high yielding wells.

The Upper Member of the Glen Rose Formation, comprising the Upper Trinity Aquifer, consists of alternating beds of limestone and dolomite with marly sections that act as aquitards and restrict downward migration of groundwater to the Middle and Lower Trinity Aquifers (Wierman et al., 2010). The Upper Glen Rose also contains two distinct evaporite beds of gypsum or anhydrite that are easily distinguishable on geophysical logs due to high resistivity values. The lower evaporite zone occurs at the base of the Upper Glen Rose, which Ashworth (1983) describes as a "convenient correlation marker" between the Upper and Lower Glen Rose. The evaporite beds in some cases are the source of elevated sulfate concentrations in groundwater. Where present, the Upper Trinity Aquifer can yield small amounts of water to shallow wells which are often utilized for livestock and domestic use.

The water quality of a well completed within the Trinity Aquifer depends upon several factors, including the degree of fracturing, the amount of time the groundwater is in contact with the rock it is flowing through, and the minerals that compose the rock. For example, groundwater that flows through gypsum and anhydrite beds, which are composed of calcium sulfate ($CaSO_4$), will typically contain elevated levels of sulfate. Additionally, groundwater that has traveled a longer distance and has had longer contact time with aquifer sediments will also typically contain higher Total Dissolved Solids (TDS) than groundwater that has been in contact with the same rock for a shorter amount of time.

Section IV: Aquifer Testing

IV.1. Well Details

Prior to this study, there was one existing well documented within the Stillman Valley property. The existing well is completed within the Middle Trinity Aquifer, and will serve the three (3) larger tracts (greater than 10 acres). There are also two (2) newly constructed Lower Trinity Aquifer wells located within the proposed subdivision that were used in this study. The wells were constructed by Associated Drilling, Inc. Figure 5 provides a map showing the location of the Stillman Valley wells along with all documented wells within one mile of the property boundary. Figure 6 provides well profiles displaying well construction and formation depths that were determined from the drill cuttings by Glass Well Service, state well reports and geophysical logs; Appendix B provides the geophysical logs for both wells; Appendix C provides available state well reports. Table 1 provides a summary of the existing wells according to CUWCD well database within 1-mile of the subdivision not used in testing; Table 2 provides a well construction summary for wells within the subdivision.

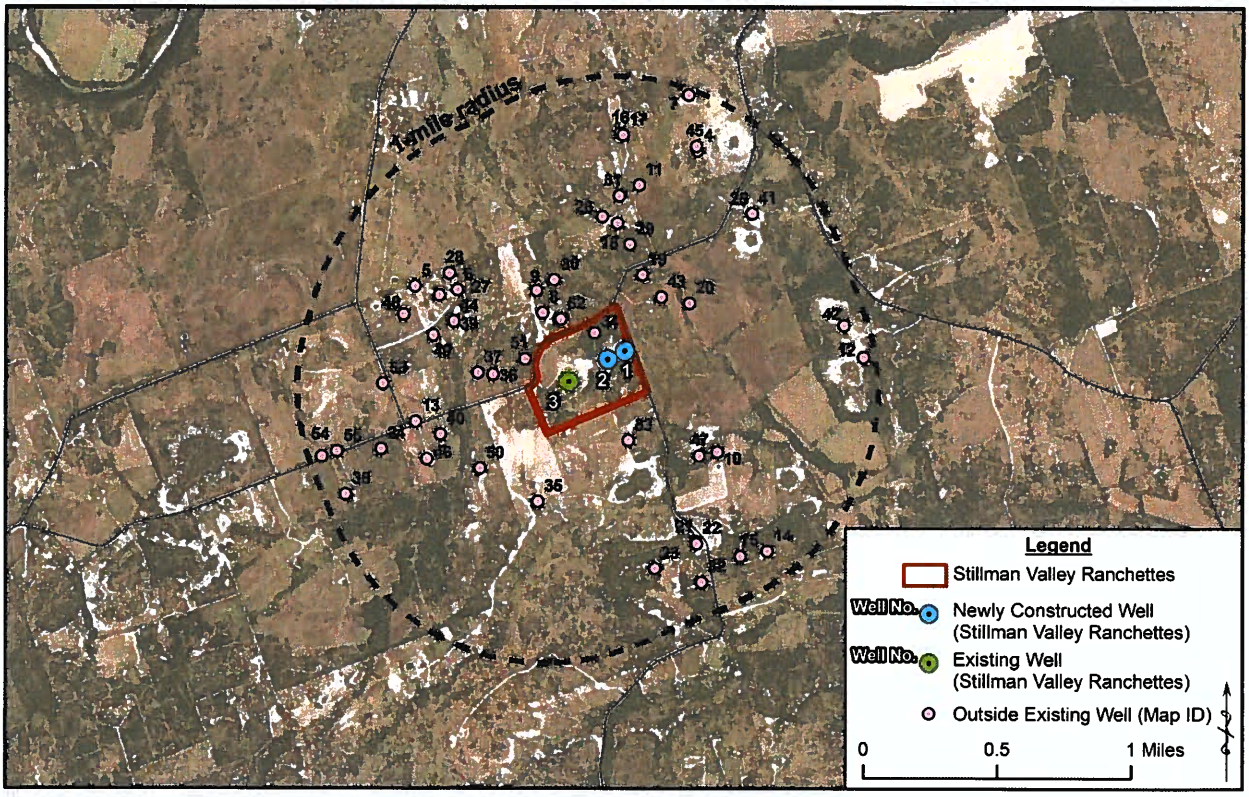


Figure 5: Well location map

Table 1: Summary of wells within 1-mile of subdivision

Map ID	CUWCD Well ID	Exempt	Well Name	Use	Status	Depth	Aquifer
4	E-02-1000G	Yes		Domestic	Active	700	Middle Trinity
5	E-02-1137G	Yes		Domestic	Active	542	Upper Trinity
6	E-02-1138G	Yes		Domestic	Active	600	Middle Trinity
7	E-02-1334G	Yes		Domestic	Active	600	Middle Trinity
8	E-02-1379G	Yes		Domestic	Active	500	Upper Trinity
9	E-02-1855G	Yes		Domestic	Active	570	Middle Trinity
10	E-02-1910G	Yes		Domestic	Active	663	Middle Trinity
11	E-02-2191G	Yes		Domestic	Active	650	Middle Trinity
12	E-02-2318G	Yes		Domestic	Active	750	Middle Trinity
13	E-02-2625P	Yes		Livestock/Poultry	Active	580	Middle Trinity
14	E-02-2755G	Yes		Domestic	Active	720	Middle Trinity
15	E-02-2756G	Yes		Domestic	Active	850	Middle Trinity
16	E-02-3143G	Yes		Domestic	Active	615	Middle Trinity
17	E-02-3144G	Yes		Domestic	Active	700	Middle Trinity
18	E-02-3433G	Yes		Domestic	Active	561	Middle Trinity
19	E-02-3592G	Yes		Domestic	Active	0	Upper Trinity
20	E-02-3593G	Yes		Domestic	Active	12	Upper Trinity
21	E-02-379P	Yes		Domestic	Active	810	Middle Trinity
22	E-02-380G	Yes		Domestic	Plugged	0	Upper Trinity
23	E-02-964G	Yes		Domestic	Active	743	Middle Trinity
24	E-02-980G	Yes		Livestock/Poultry	Active	0	Upper Trinity
25	E-03-179P	Yes		Domestic	Plugged	680	Middle Trinity

26	E-03-192G	Yes		Domestic	Active	522	Middle Trinity
27	E-03-206G	Yes		Domestic	Active	572	Middle Trinity
28	E-03-207G	Yes		Domestic	Active	552	Middle Trinity
29	E-03-231G	Yes		Domestic	Active	560	Middle Trinity
30	E-03-232G	Yes		Domestic	Active	400	Upper Trinity
31	E-03-256G	Yes		Domestic	Active	560	Middle Trinity
32	E-03-299G	Yes		Domestic	Active	850	Middle Trinity
33	E-03-317G	Yes		Domestic	Active	685	Middle Trinity
34	E-03-318G	Yes		Not Used	Inactive	14	Alluvium
35	E-03-322G	Yes		Livestock/Poultry	Active	660	Middle Trinity
36	E-03-400G	Yes		Domestic	Active	570	Middle Trinity
37	E-04-092P	Yes		Domestic	Active	560	Middle Trinity
38	E-05-080P	Yes		Domestic	Active	600	Middle Trinity
39	E-07-052G	Yes		Livestock/Poultry	Plugged	580	Middle Trinity
40	E-08-039P	Yes		Domestic	Active	590	Middle Trinity
41	E-11-049P	Yes		Domestic	Active	700	Middle Trinity
42	E-11-069P	Yes		Domestic	Active	720	Middle Trinity
43	E-12-024P	Yes		Domestic	Active	590	Middle Trinity
44	E-12-030P	Yes		Domestic	Active	580	Middle Trinity
45	E-12-053P	Yes		Domestic	Active	625	Middle Trinity
46	E-16-046P	Yes	Knight	Domestic	Active	580	Middle Trinity
47	E-19-132GU	Yes	Hale	Domestic	Active	663	Middle Trinity
48	E-19-175GU	Yes	Corbin	Domestic	Active	561	Middle Trinity
49	E-19-176GU	Yes	Cavin	Domestic	Active	562	Middle Trinity
50	E-20-080P	Yes	Blake	Domestic	Active	750	Undeclared

51	E-21-057P	Yes		Domestic	Proposed	620	Undeclared
52	N1-18-004P	No	Justin Scott	Domestic	Active	685	Lower Trinity
53	N2-20-004P	No	Hines Texas, LLC #3	Domestic	Capped	730	Lower Trinity
54	N2-20-005P	No	Hines Texas, LLC #4	Domestic	Capped	762	Lower Trinity
55	N2-21-004P	No	Hines Texas, LLC #4	Domestic	Proposed	760	Lower Trinity

To meet the guidelines for the Bell County development rules and regulations and to adequately assess the availability of groundwater within the vicinity of the proposed subdivision, one (1) aquifer test was conducted. The aquifer test consisted of pumping one well for at least 24 hours followed by a recovery phase while measuring water levels in both the pumping and observation wells. This is in accordance with the testing procedures of the Texas Administrative Code (TAC) Title 30 Part 1 Chapter 230.8. Based on the state well reports, drillers' lithology logs, and geophysical logs conducted by Well Scope, Inc., all wells used in the aquifer testing were completed in the Lower Trinity Aquifer. The following provides a well construction summary for each well used in the aquifer test:

Well No. 1

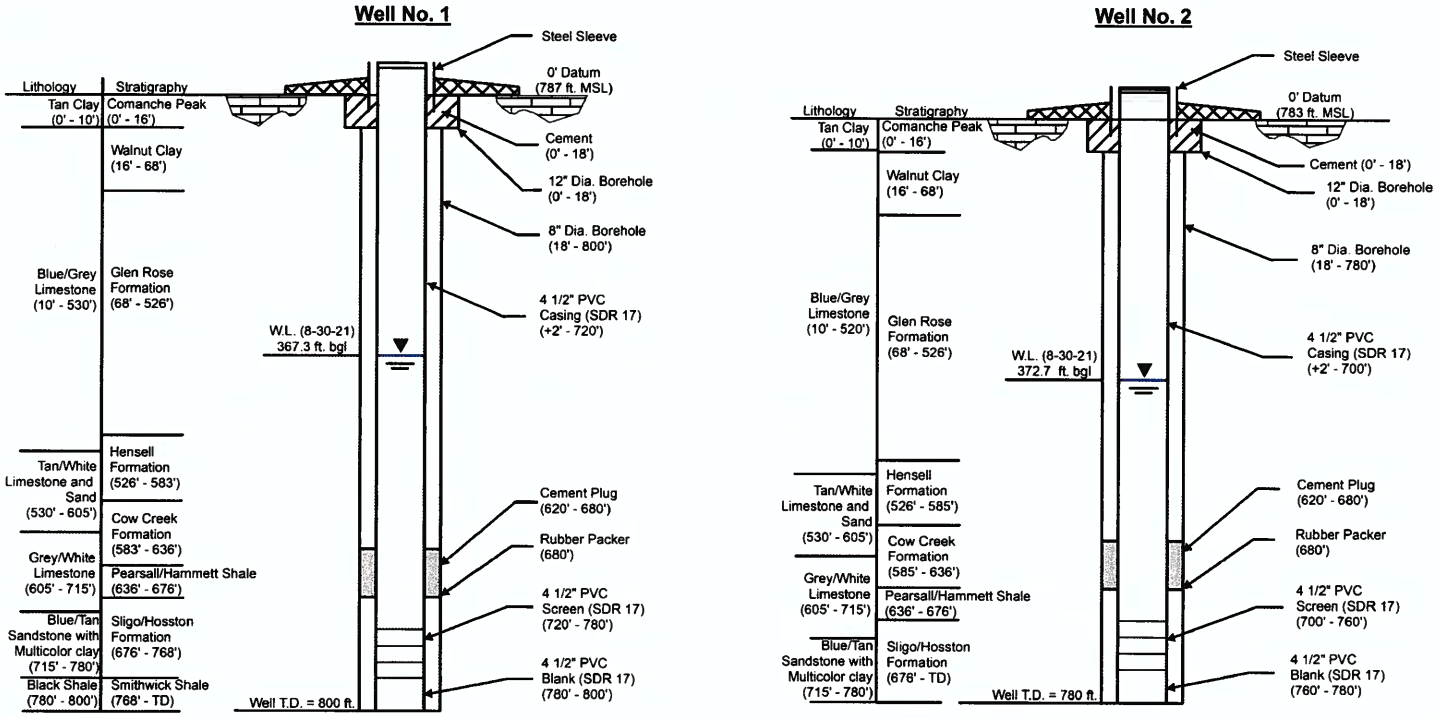
According to the State Well Report (Tracking No. 583803), Well No. 1 was completed by Associated Drilling, Inc. on August 17, 2021. The well was drilled to a total depth of 800 feet below ground level (ft. bgl) with a 12-inch borehole from 0 to 18 ft. bgl and an 8-inch borehole from 18 to 800 ft. bgl. The well was completed with 4 1/2-inch PVC casing set from +2 to 720 ft. bgl and 780 to 800 ft. bgl, with 4 1/2-inch PVC screen from 720 to 780 ft. bgl. According to the driller's lithology log and geophysical logs, the well was completed in the Sligo and Hosston members of the Lower Trinity Aquifer. According to the well report, the well was jetted at an estimated rate of up to 20 gallons per minute (gpm) upon completion (Figure 6; Appendix C).

Well No. 2

According to the State Well Report (Tracking No. 583802), Well No. 2 was completed by Associated Drilling, Inc. on August 19, 2021. The well was drilled to a total depth of 780 ft. bgl with a 12-inch borehole from 0 to 18 ft. bgl and an 8-inch borehole from 18 to 780 ft. bgl. The well was completed with 4 1/2-inch PVC casing set from +2 to 700 ft. bgl and 760 to 780 ft. bgl, with 4 1/2-inch PVC screen from 700 to 760 ft. bgl. According to the driller's lithology log and geophysical logs, the well was completed in the Sligo and Hosston members of the Lower Trinity Aquifer. According to the well report, the well was jetted at an estimated rate of up to 20 gpm upon completion (Figure 6; Appendix C).

Table 2: Summary of well construction

Well	Tracking No.	Latitude	Longitude	Elevation (ft. MSL)	Date Completed	Aquifer	Well Depth (ft. bgl)	Static Water Level (ft. bgl; date; ft. MSL)	Borehole (diameter; ft. bgl)	Casing (diameter; material; ft. bgl)	Screen (diameter; material; ft. bgl)
Well No. 1	583803	30° 55' 43.32" N	97° 43' 0.67" W	787	8-17-21	Lower Trinity	800	367.3' (8-30-21) 419.7' MSL	12" (0'-18') 8" (18'-800')	4 1/2" PVC (+2'-720') (780'-800')	4 1/2" PVC Screen (720'-780')
Well No. 2	583802	30° 55' 41.57" N	97° 43' 4.48" W	783	8-19-21	Lower Trinity	780	372.7' (8-30-21) 410.3' MSL	12" (0'-18') 8" (18'-780')	4 1/2" PVC (+2'-700') (760'-780')	4 1/2" PVC Screen (700'-760')



Notes:
- Well profiles created with information from State Well Reports, drill cuttings and geophysical surveys (8-23-21).
- Stratigraphy is estimated.
- Figure for schematic purposes; not drawn to scale.

Figure 6: Well construction profiles of Well No. 1 and Well No. 2

IV.2. Aquifer Testing

One (1) aquifer test was performed utilizing 2 wells to assess the hydrogeologic properties of the Lower Trinity Aquifer within the proposed subdivision. The objective was to perform an aquifer test with a 24-hour pumping phase followed by a recovery phase in which the pumping well achieved at least 90% recovery. For the aquifer test, Glass Well Service set a submersible pump within the pumping well that was capable of varying its discharge rate via ball valve. Prior to the start of the aquifer test, pressure transducers capable of measuring the water level and temperature at one-minute intervals were placed in the pumping and observation wells to gather data for the duration of the test. Flow meter readings and water levels were taken prior to, during, and at the conclusion of the test. The aquifer test had at least a 24-hour pumping phase followed by a recovery phase. The data from the aquifer test was analyzed using the Cooper and Jacob (1946) solution in the Aqtesolv software suite (Duffield, 2007). Table 3 provides a summary of the aquifer testing results; Appendix D provides the results of the aquifer test analyses; and Appendix E provides the well efficiency calculation for Well No. 2.

IV.2.1. Aquifer Test of Well No. 2 (August 31, 2021)

The aquifer test of Well No. 2 (pumping well) was conducted on August 30, 2021 with Well No. 1 serving as the observation well approximately 376 feet away. A 5 horsepower (HP) submersible pump was set in the pumping well on 700 feet of 1 1/2-inch PVC column pipe. The pump was started at 9:43 A.M. on August 30, 2021; the water level was monitored for 24.05 hours of pumping and 30.02 hours of recovery. Prior to the pumping phase of the aquifer test, the static water level of the pumping well was measured at 372.7 ft. bgl (410.3 ft. MSL) and the static water level of the observation well was measured at 376.3 ft. bgl (419.7 ft. MSL). Figure 7 provides a hydrograph of the pumping well and temperature over the duration of the aquifer test; Figure 8 provides a hydrograph of both the pumping and observation wells over the duration of the test.

Well No. 2 was pumped at an average rate of 17 gpm throughout the pumping phase; the initial rate was 18 gpm and the final measured pumping rate was 17 gpm with 175.61 feet of drawdown, resulting in a specific capacity of 0.10 gpm/ft. When compared to the theoretical specific capacity (0.04 gpm/ft.), Well No. 2 exhibited an efficiency of 275%. The Cooper-Jacob analysis resulted in a transmissivity of 11.59 ft^2/day, and a hydraulic conductivity of 0.11 ft./day. A maximum drawdown of 51.1 feet was observed in Well No. 1, indicating a hydraulic connection between the two wells. Due to the observed hydraulic connection, we calculated a storativity value of 2.07×10^{-5} (Cooper-Jacob; Table 3).

The majority of drawdown for Well No. 2 was observed within the first four hours of the pumping phase (137 feet; Figure 7). Throughout the rest of the pumping phase, the water level within Well No. 2 continued to gradually decline by approximately 38 feet before pump shutoff (Figure 7). The water level in the observation well displayed a direct response to starting and stopping the pump in Well No. 2 (Figure 8). After the pump was shut off, recovery was measured in both wells; the water level in the pumping well recovered 90% in approximately 16 hours. There were no aquifer boundary conditions observed during the testing.

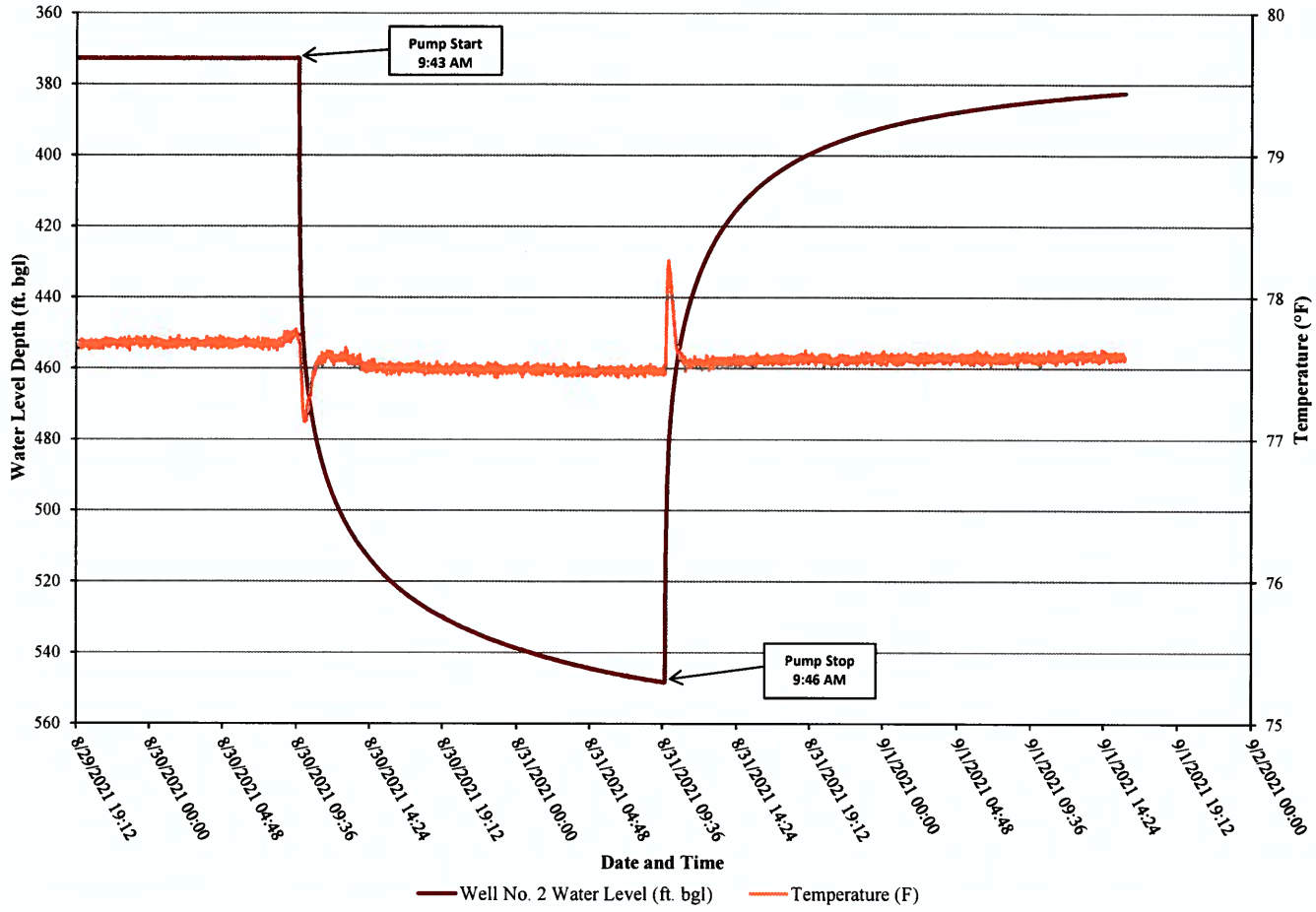


Figure 7: Aquifer test hydrograph of Well No. 2 (August 30, 2021)

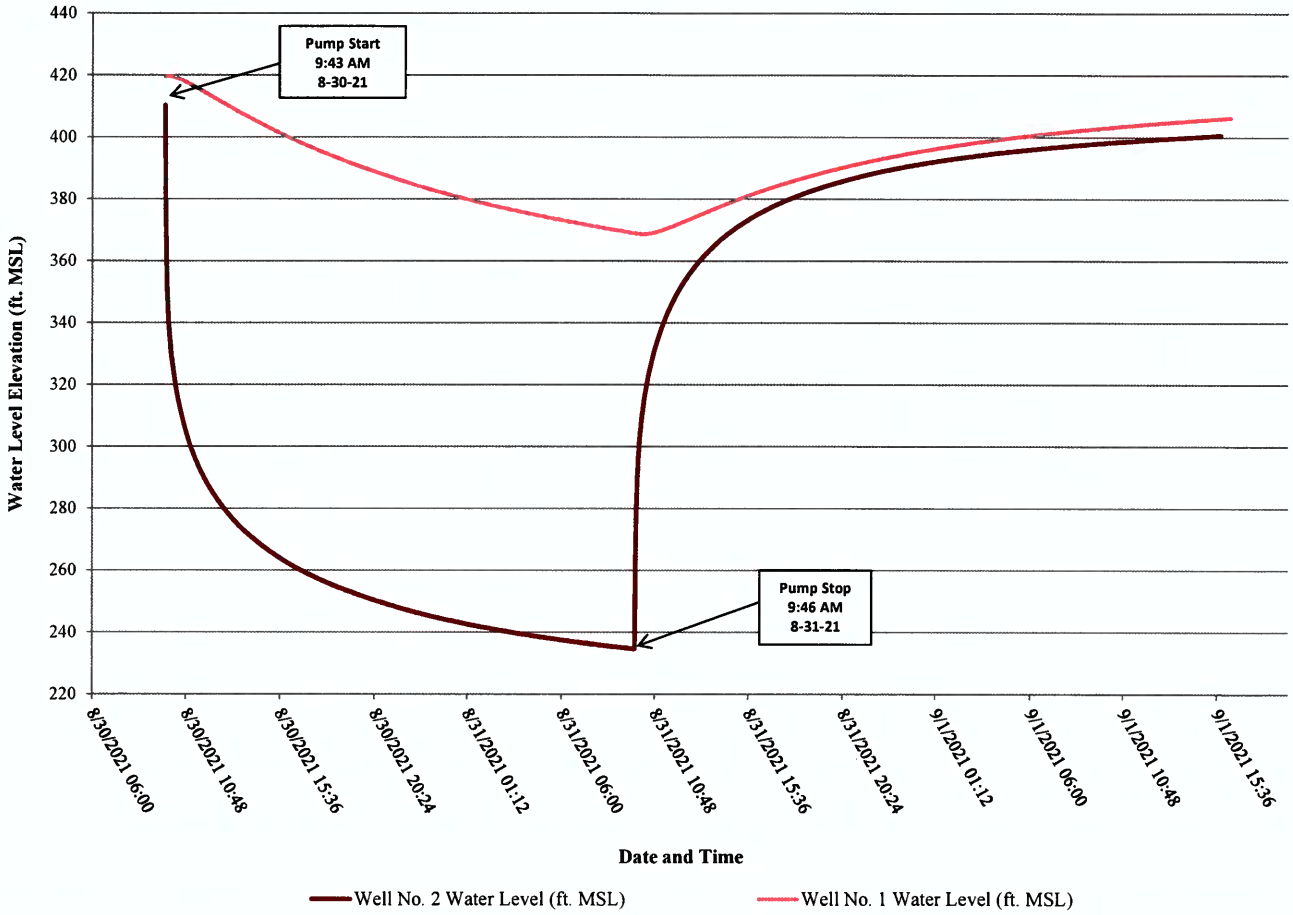


Figure 8: Aquifer test hydrograph of Well No. 2 and Observation Well No. 1 (August 30, 2021)

Table 3: Summary of aquifer test results

Date	Well	Average Pump Rate (gpm)	Final Pump Rate (gpm)	Drawdown (ft.)	Specific Capacity (gpm/ft.)	Transmissivity (ft^2/d)	Storativity	Hydraulic Conductivity (ft./d)	Well Efficiency	Aquifer Thickness (ft.)	Aquifer Boundary Detected
8/30/2021	PW No. 2	17	17	175.61	0.10	11.59	-	0.11	275%	104	No
	OW No. 1	-	-	51.1	-	-	2.07×10^{-5}	-	-	104	No

Note: PW = Pumping Well; OW = Observation Well; ft. = feet; gpm = gallons per minute; d = day

IV.3. Water Quality

A water quality sample was collected from the pumping well after approximately 3 hours of pumping. The sample was collected by an owner of the proposed development in sealed containers and stored on ice in a cooler. The sample was transported to LCRA Environmental Laboratory Services and was tested in accordance with Texas Administrative Code 230.9 (Determination of Groundwater Quality). Appendix F provides a copy of the water quality reports.

Table 4 provides the water quality summary of Well No. 2. The results were compared to Texas Commission on Environmental Quality (TCEQ) Maximum Contaminant Levels (MCL) and Secondary Contaminant Levels (SCL). The results showed that the sample exceeded the MCL standard for fluoride and SCL standard for chloride, pH, and total dissolved solids (TDS).

The water sample was also tested for the presence or absence of total coliform and *E. coli*. Total coliform bacteria was found to be present while *E. coli* was absent. Presence of total coliform bacteria within a well that has recently been drilled is not uncommon. With additional proper chlorination of the well, we anticipate that future samples will indicate the absence of total coliform bacteria.

Table 4: Summary of water quality results of Well No. 2

		Cl	Conductivity (mhos/cm)	F	Fe	NO3	Mn	pH	SO4	Hardness (as CaCO3)	TDS	TC/E. coli
Well	Sample Data	TCEQ MCLs & SCLs										
		300[2]		4[1] & 2[2]	0.3[2]	10[1]	0.05[2]	6.5-8.5[2]	300[2]		1000[2]	Presence
No. 2	8/30/2021	370	2,030	6.41	<0.05	<0.01	0.003	8.64	30.9	39.2	1,150	Present/Absent

Note: 1 = TCEQ Maximum Contaminant Level; 2 = TCEQ Secondary Contaminant Level; Concentrations in red are above TCEQ MCL or SCLs;
All units expressed in mg/L (except pH & E.C.);

Section V: Groundwater Availability

A groundwater model was utilized to determine the projected drawdown from production at the proposed subdivision at full build out to ultimately determine whether or not there is sufficient groundwater availability. In order to estimate future groundwater conditions, a one-layer groundwater model, consisting of 370 rows and 370 columns for a total of 136,900 cells, was created to estimate drawdown under a normal production scenario for Stillman Valley. Each cell has dimensions of 100 feet by 100 feet; the entire grid represents an approximately 49.0 square mile portion of the Trinity Aquifer. The boundaries of the grid extend approximately 3.5 miles beyond the center of the proposed subdivision in order to evaluate the potential regional impacts from pumping (Figure 9).

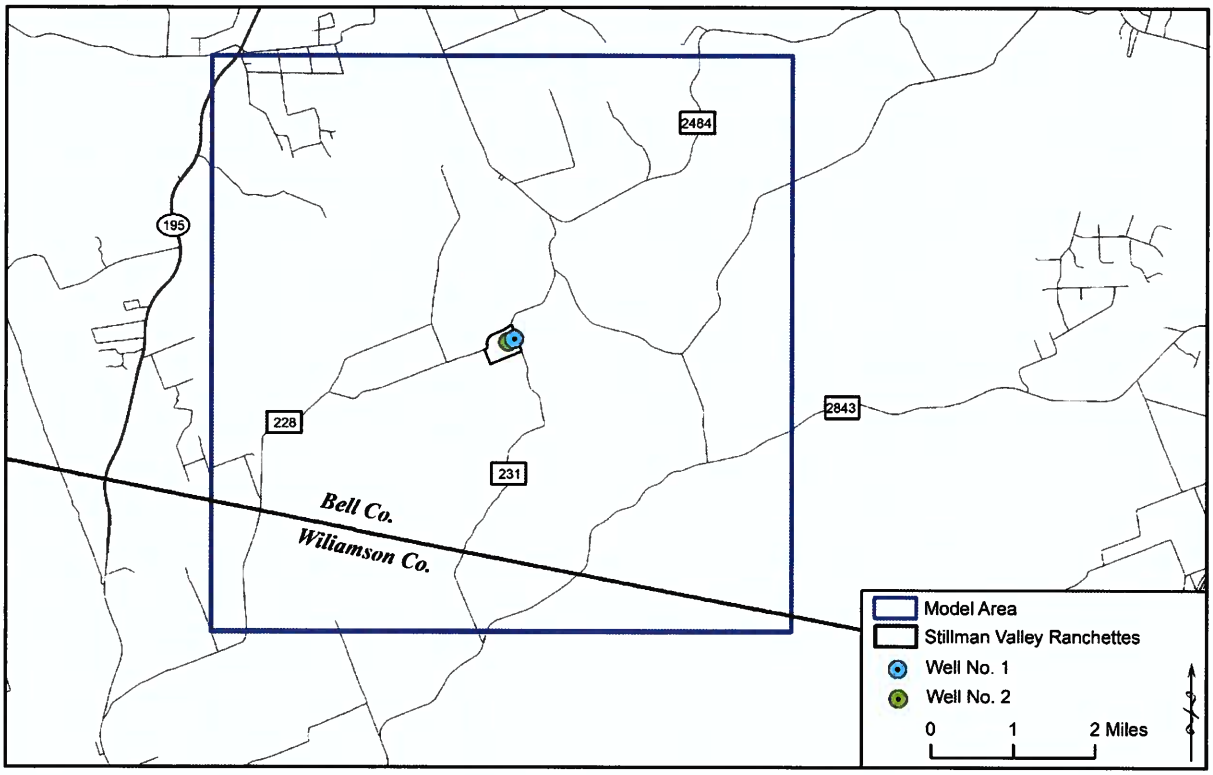


Figure 9: Groundwater model map

Assumptions used in the drawdown calculations and the overall groundwater availability for the proposed subdivision include inherent uncertainties such as:

- Future pumpage from the aquifer or from interconnected aquifers from area wells outside of the subdivision or any other factor that cannot be predicted that will affect the storage of water in the aquifer;
- Long-term impacts to the aquifer based on climatic variations; and/or,
- Future impacts to usable groundwater due to unforeseen or unpredictable contamination.

The model calculates drawdown at each cell using the Theis Equation,

$$s = \frac{Q}{4\pi T} W(u) \qquad \textit{(Equation 1)}$$

where:

s = drawdown (feet);

Q = discharge (gallons per minute; gpm);

T = transmissivity (ft.^{2}/day); and

W(u) = well function.

The well function W(u) is estimated by:

$$W(u) = -0.5772 - \ln u + u - \frac{u^2}{2\times 2!} + \frac{u^3}{3\times 3!} - \frac{u^4}{4\times 4} + \ldots \qquad \textit{(Equation 2)}$$

where:

$$u = \frac{r^2 S}{4Tt} \qquad \textit{(Equation 3)}$$

r = the radius at which drawdown is estimated (feet); and

S = storativity (dimensionless).

The Theis Equation has several assumptions used to derive the formula which include (Driscoll, 1986):

1. The water-bearing formation is uniform in character and the hydraulic conductivity is the same in all directions;
2. The aquifer is uniform in thickness and infinite in areal extent;
3. The aquifer receives no recharge from any source;
4. The well penetrates, and receives water from the full thickness of the aquifer;
5. The water from storage is discharged instantaneously when the head is lowered;
6. The pumping well is 100% efficient;
7. All water removed from the well comes from aquifer storage;
8. Laminar flow exists through the well and aquifer; and,
9. The water table or potentiometric surface has no slope.

The groundwater model was designed to estimate drawdown at full buildout (15 lots) after 10 and 30 years of continuous production at a rate of 2,234 gallons per day in Well No. 1 (1.55 gpm), and 2,051 gallons per day in Well No. 2 (1.42 gpm); the production from the Lower Trinity Aquifer equates to a constant rate of approximately 2.97 gpm (Figure 10). In an effort to model the aquifer impacts from the proposed pumping in accordance with site-specific data, the following values calculated from the Stillman Valley aquifer testing were utilized: transmissivity: 11.59 ft.^{2}/day; and, storativity: 2.07 x 10^{-5}.

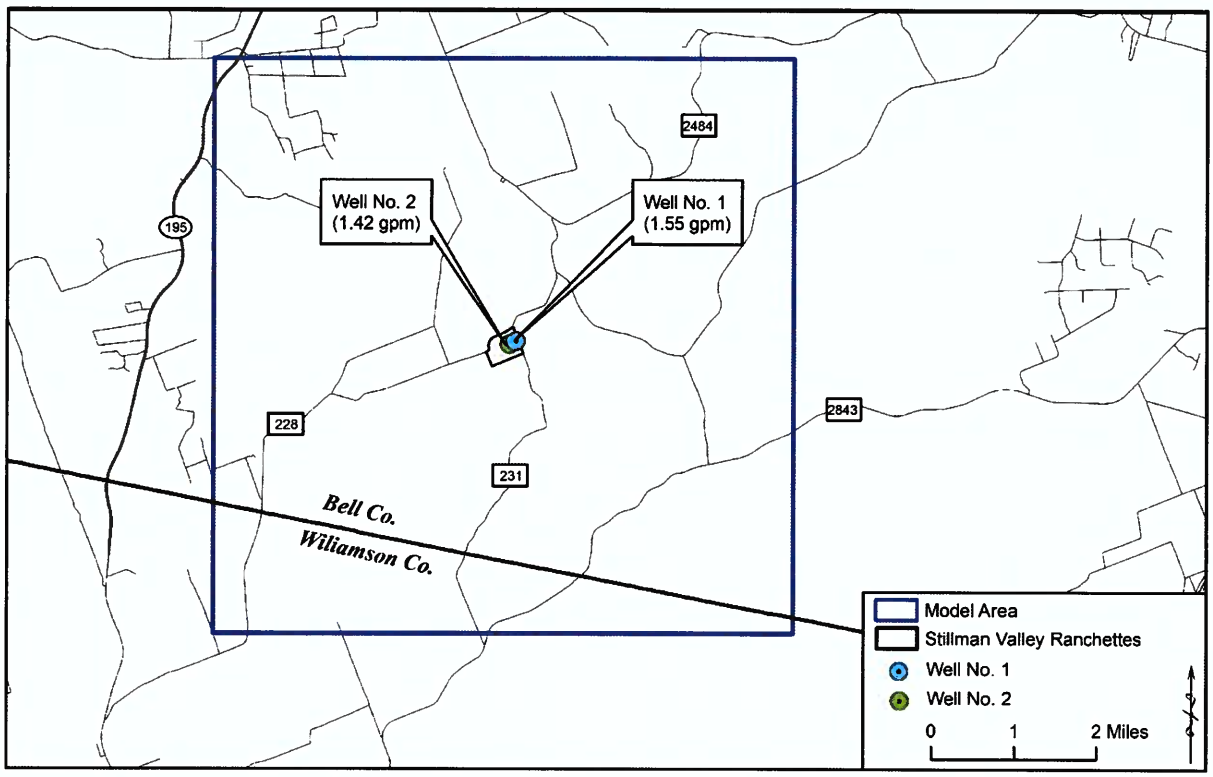


Figure 10: Groundwater model - Stillman Valley Ranchettes Wells No. 1 and 2

V.1. Model Results - 10 Years

The groundwater model was designed to estimate drawdown at full permitted capacity for Wells No. 1 and No. 2 after 10 years. The results of the model are summarized in Table 5 and Figure 11.

Table 5: Summary of drawdown calculations (10 years)

	Current Static Water Level	Static Water Level After 10-Years of Pumping	Estimated Pumping Level at 17 gpm* - 10 years	Drawdown at Nearest Property Boundary After 10 Years of Pumping		Dist. to Outer Edges of Cone of Depression - 10 years
Well	**(ft. bgl)**	**(ft. bgl)**	**(feet)**	**Property Boundary Distance (ft)**	**Drawdown (feet)**	**(miles)**
Well No. 1	367.3	438.21	592.76	50	56.62	~13
Well No. 2	372.7	441.11	595.66	50	55.30	~13

Notes: ft. = feet; bgl = below ground level; gpm = gallons per minute; *specific capacity of 0.11 gpm/ft. used for estimations

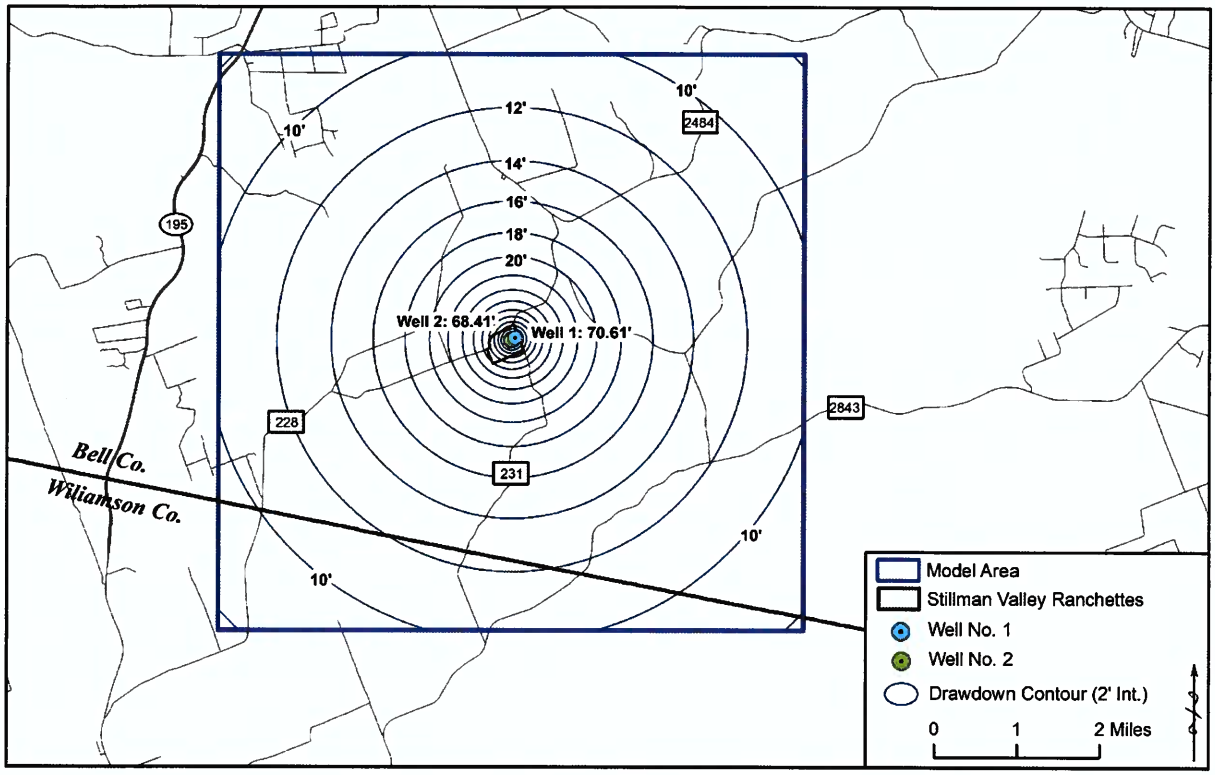


Figure 11: Modeled drawdown after 10 years from production at the proposed Stillman Valley Ranchettes

Based upon the drawdown calculated from distance-drawdown projections, the drawdown after 10 years of production at the full permit volume results in of 70.91 feet of drawdown at Well No. 1; 68.41 feet for Well No. 2. Due to the nature of the Theis calculation, the outer edges of the cone of depression caused by the pumping is approximately 13 miles from the pumping wells (Table 5); we estimate that the actual area of influence will be much more localized. Estimated drawdown at the eastern edge of the subdivision was calculated to be approximately 45 feet (Figure 11).

From the model results, there will be approximately 330 feet of saturated thickness remaining in the Lower Trinity Aquifer at each of the pumping wells after 10 years of constant pumping at the permitted volume. Using the specific capacity calculated from the 24-hour aquifer test at Well No. 2 (0.11 gpm/ft.), the estimated pumping level at 17 gpm will reach approximately 592.76 ft. bgl in Well No. 1, and 595.66 feet in Well No. 2 (Table 5). From this estimation, the pumping water level will not reach the confined production zone, and therefore will not result in dewatering the aquifer.

V.2. Model Results - 30 Years

The groundwater model was designed to estimate drawdown at full permitted capacity for Wells No. 1 and No. 2 after 30 years. The results of the model are summarized in Table 6 and Figure 12.

Table 6: Summary of drawdown calculations (30 years)

	Current Static Water Level	Static Water Level After 10-Years of Pumping	Estimated Pumping Level at 17 gpm* - 30 years	Drawdown at Nearest Property Boundary After 30 Years of Pumping		Dist. to Outer Edges of Cone of Depression - 30 years
Well	**(ft. bgl)**	**(ft. bgl)**	**(feet)**	**Property Boundary Distance (ft)**	**Drawdown (feet)**	**(miles)**
Well No. 1	367.3	442.52	597.06	50	60.85	~20
Well No. 2	372.7	445.43	599.97	50	59.65	~20

Notes: ft. = feet; bgl = below ground level; gpm = gallons per minute; *specific capacity of 0.11 gpm/ft. used for estimations

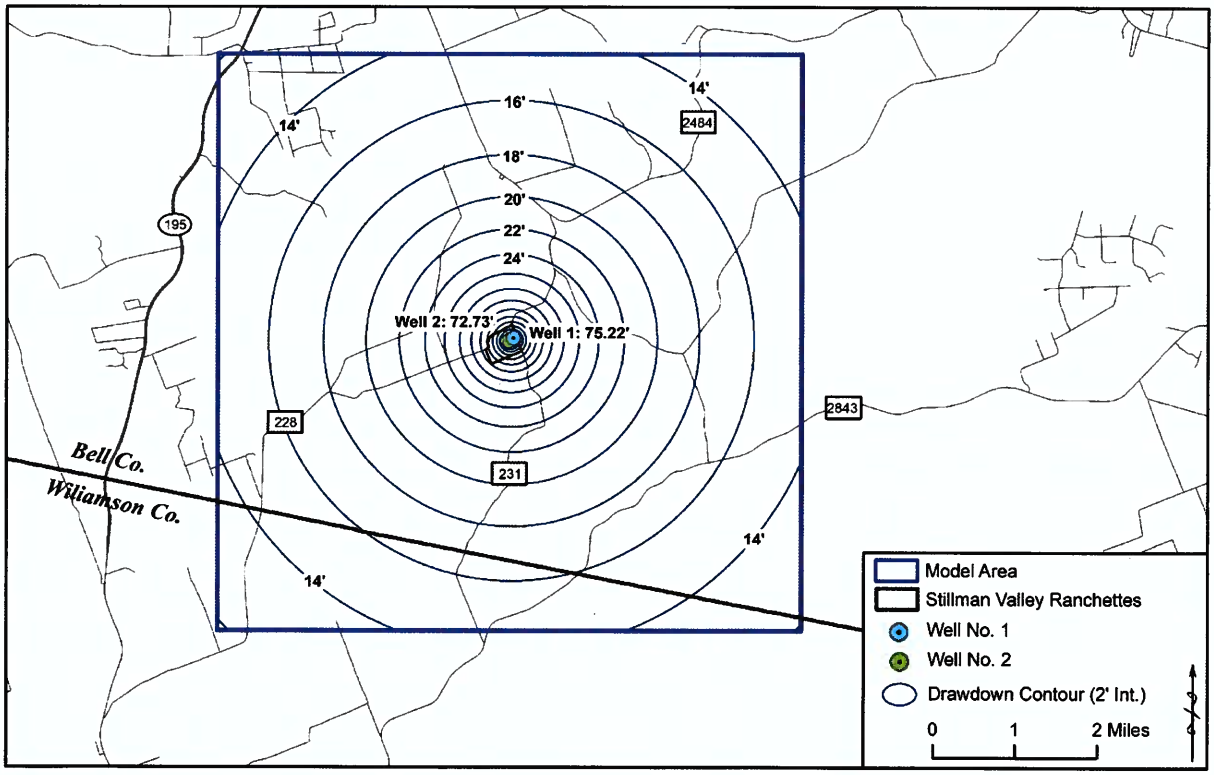


Figure 12: Modeled drawdown after 30 years from production at the proposed Stillman Valley Ranchettes

Based upon the drawdown calculated from distance-drawdown projections, the drawdown after 30 years of production at the full permit volume results in of 75.22 feet of drawdown at Well No. 1; 72.73 feet for Well No. 2. Due to the nature of the Theis calculation, the outer edges of the cone of depression caused by the pumping is approximately 20 miles from the pumping wells (Table 6); we estimate that the actual area of influence will be much more localized. Estimated drawdown at the eastern edge of the subdivision was calculated to be approximately 49.5 feet (Figure 12).

From the model results, there will be approximately 325 feet of saturated thickness remaining in the Lower Trinity Aquifer at each of the pumping wells after 30 years of constant pumping at the permitted volume. Using the specific capacity calculated from the 24-hour aquifer test at Well No. 2 (0.11 gpm/ft.), the estimated pumping level at 17 gpm will reach approximately 597.06 ft. bgl in Well No. 1, and 599.97 feet in Well No. 2 (Table 6). From this estimation, the pumping water level will not reach the confined production zone, and therefore will not result in dewatering the aquifer.

Section VI: Certification

I, Andrew Worsley, Texas Licensed Professional Geoscientist, certificate number 15201, based on best judgment, current groundwater conditions, and the information developed and presented in this form, certify that adequate groundwater is available from the underlying aquifer to supply the anticipated use of the proposed subdivision.

The Trinity Aquifer in the area near the proposed subdivision exhibits variable yield and water quality and is susceptible to long-term water level declines. For these reasons we recommend that the submersible pumps within each well are set as deep as practical in an effort to sustain adequate water supply. On-site treatment systems such as reverse osmosis and/or water softeners may be installed by the home owner to reduce the potential effects from poor-quality groundwater.

Section VII: References

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Appendix A

Certification of Groundwater Availability for Platting Form

CERTIFICATION OF GROUNDWATER AVAILABILITY FOR PLATTING FORM

Use of this form: If required by a municipal authority pursuant to Texas Local Government Code, §212.0101, or a county authority pursuant to §232.0032, Texas Local Government Code, the plat applicant and the Texas licensed professional engineer or Texas licensed professional geoscientist shall use this form based upon the requirements of Title 30, TAC, Chapter 230 to certify that adequate groundwater is available under the land to be subdivided (if the source of water for the subdivision is groundwater under the subdivision) for any subdivision subject to platting under Texas Local Government Code, §212.004 and §232.001.The form and Chapter 230 do not replace state requirements applicable to public drinking water supply systems or the authority of counties or groundwater conservation districts under either Texas Water Code, §35.019 or Chapter 36.

Administrative Information (30 TAC §230.4)
1. Name of Proposed Subdivision: Stillman Valley Ranchettes

Texas Commission on Environmental Quality
Chapter 230 - Groundwater Availability Certification for Platting

2. Any Previous Name Which Identifies the Tract of Land:
3. Property Owner's Name(s): Whitley 20 Stillman Valley, LLC
Address: 8127 Mesa Dr., #206-53, Austin, Texas 78759
Phone: 512-814-7357
Fax:
4. Plat Applicant's Name: Whitley 20 Stillman Valley, LLC
Address: 8127 Mesa Dr., #206-53, Austin, Texas 78759
Phone: 512-814-7357
Fax:
5. Licensed Professional Engineer or Geoscientist:
Name: Andrew Worsley, P.G.
Address: 317 Ranch Road 620 S., Suite 203, Lakeway, Texas 78734
Phone: 254-315-1129
Fax:
Certificate Number: TBPG License No.: 15201
6. Location and Property Description of Proposed Subdivision: approximately 5.3 miles south of the City of Killeen in western Bell County; intersection of Stillman Valley Rd. and Firefly Rd.
7. Tax Assessor Parcel Number(s).
Book:
Map:
Parcel: Bell County: 15092

Proposed Subdivision Information (30 TAC §230.5)
8. Purpose of Proposed Subdivision (single family/multi-family residential, non-residential, commercial): single family
9. Size of Proposed Subdivision (acres): 44.7
10. Number of Proposed Lots: 15
11. Average Size of Proposed Lots (acres): 2.98
12. Anticipated Method of Water Distribution.

Texas Commission on Environmental Quality
Chapter 230 - Groundwater Availability Certification for Platting

Expansion of Existing Public Water Supply System?	Yes	(No)
New (Proposed) Public Water Supply System?	Yes	(No)
Individual Water Wells to Serve Individual Lots?	(Yes)	No
Combination of Methods?	Yes	(No)
Description (if needed): 2 permitted wells will serve 15 lots: Well No. 1 will serve up to 8 homes; Well No. 2 will serve up to 7 homes.		
13. Additional Information (if required by the municipal or county authority): Note: If public water supply system is anticipated, written application for service to existing water providers within a 1/2-mile radius should be attached to this form (30 TAC §230.5(f) of this title).		

Projected Water Demand Estimate (30 TAC §230.6)
14. Residential Water Demand Estimate at Full Build Out (includes both single family and multi-family residential).
Number of Proposed Housing Units (single and multi-family): 15 single family housing units
Average Number of Persons per Housing Unit: 2.76 persons
Gallons of Water Required per Person per Day: 106 gallons per capita per day (gpcd)
Water Demand per Housing Unit per Year (acre feet/year): 0.3277 acre-feet
Total Expected Residential Water Demand per Year (acre feet/year): 4.92 acre-feet
15. Non-residential Water Demand Estimate at Full Build Out.
Type(s) of Non-residential Water Uses: N/A
Water Demand per Type per Year (acre feet/year): 4.92 acre-feet
16. Total Water Demand Estimate at Full Build Out (acre feet/year): 4.92 acre-feet/year
17. Sources of Information Used for Demand Estimates: US Census data and Clearwater Underground Water Conservation District

General Groundwater Resource Information (30 TAC §230.7)

Texas Commission on Environmental Quality
Chapter 230 - Groundwater Availability Certification for Platting

18. Identify and describe, using Texas Water Development Board names, the aquifer(s) which underlies the proposed subdivision: Trinity Aquifer Note: Users may refer to the most recent State Water Plan to obtain general information pertaining to the state's aquifers. The State Water Plan is available on the Texas Water Development Board's Internet website at: www.twdb.state.tx.us

Obtaining Site-Specific Groundwater Data (30 TAC §230.8)		
19. Have all known existing, abandoned, and inoperative wells within the proposed subdivision been located, identified, and shown on the plat as required under §230.8(b) of this title?	(Yes)	No
20. Were the geologic and groundwater resource factors identified under §230.7(b) of this title considered in planning and designing the aquifer test required under §230.8(c) of this title?	(Yes)	No
21. Have test and observation wells been located, drilled, logged, completed, developed, and shown on the plat as required by §230.8(c)(1) - (4) of this title?	(Yes)	No
22. Have all reasonable precautions been taken to ensure that contaminants do not reach the subsurface environment and that undesirable groundwater has been confined to the zone(s) of origin (§230.8(c)(5) of this title)?	(Yes)	No
23. Has an aquifer test been conducted which meets the requirements of §230.8(c)(1) and (6) of this title?	(Yes)	No
24. Were existing wells or previous aquifer test data used?	Yes	(No)
25. If yes, did they meet the requirements of §230.8(c)(7) of this title?	Yes	No
26. Were additional observation wells or aquifer testing utilized?	Yes	(No)
Note: If expansion of an existing public water supply system or a new public water supply system is the anticipated method of water distribution for the proposed subdivision, site-specific groundwater data shall be developed under the requirements of 30 TAC, Chapter 290, Subchapter D of this title (relating to Rules and Regulations for Public Water Systems) and the applicable information and correspondence developed in meeting those requirements shall be attached to this form pursuant to §230.8(a) of this title.		

Texas Commission on Environmental Quality
Chapter 230 - Groundwater Availability Certification for Platting

Determination of Groundwater Quality (30 TAC §230.9)		
27. Have water quality samples been collected as required by §230.9 of this title?	(Yes)	No
28. Has a water quality analysis been performed which meets the requirements of §230.9 of this title?	(Yes)	No

Determination of Groundwater Availability (30 TAC §230.10)		
29. Have the aquifer parameters required by §230.10(c) of this title been determined?	(Yes)	No
30. If so, provide the aquifer parameters as determined.		
Rate of yield and drawdown: (See attached Table 3)		
Specific capacity: (See attached Table 3 & Appendix C)		
Efficiency of the pumped well: (See attached Table 3 & Appendix D)		
Transmissivity: (See attached Table 3 & Appendix C)		
Coefficient of storage: (See attached Table 3)		
Hydraulic conductivity: (See attached Table 3 & Appendix C)		
Were any recharge or barrier boundaries detected?	Yes	(No)
If yes, please describe:		
Thickness of aquifer(s): 104 feet		
31. Have time-drawdown determinations been calculated as required under §230.10(d)(1) of this title?	(Yes)	No
32. Have distance-drawdown determinations been calculated as required under §230.10(d)(2) of this title?	(Yes)	No
33. Have well interference determinations been made as required under §230.10(d)(3) of this title?	(Yes)	No
34. Has the anticipated method of water delivery, the annual groundwater demand estimates at full build out, and geologic and groundwater information been taken into account in making these determinations?	(Yes)	No
35. Has the water quality analysis required under §230.9 of this title been compared to primary and secondary public drinking water standards as required under §230.10(e) of	(Yes)	No

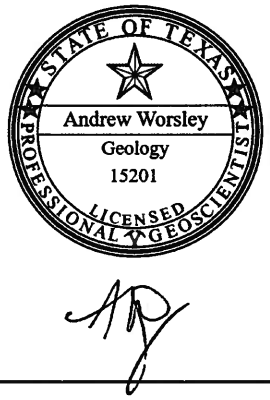
this title?		
Does the concentration of any analyzed constituent exceed the standards?	(Yes)	No
If yes, please list the constituent(s) and concentration measure(s) which exceed standards: Fluoride (6.41 mg/L); Chloride (370 mg/L); pH (8.64); TDS (1,150 mg/L); and presence of total coliform bacteria		

Groundwater Availability and Usability Statements (30 TAC §230.11(a) and (b))
36. Drawdown of the aquifer at the pumped well(s) is estimated to be_____feet over a 10-year period and_____feet over a 30-year period. **(See attached Tables 5 & 6)**
37. Drawdown of the aquifer at the property boundary is estimated to be_____feet over a 10-year period and_____feet over a 30-year period. **(See attached Tables 5 & 6)**
38. The distance from the pumped well(s) to the outer edges of the cone(s)-of-depression is estimated to be_____feet over a 10-year period and_____feet over a 30-year period. **(See attached Tables 5 & 6)**
39. The recommended minimum spacing limit between wells is__375__feet with a recommended well yield of__17__gallons per minute per well.
40. Available groundwater (is) / is not (circle one) of sufficient quality to meet the intended use of the platted subdivision.
41. The groundwater availability determination does not consider the following conditions (identify any assumptions or uncertainties that are inherent in the groundwater availability determination): **(See Section V)**

Certification of Groundwater Availability (30 TAC §230.11(c)) Must be signed by a Texas Licensed Professional Engineer or a Texas Licensed Professional Geoscientist.
42. I,_____Andrew Worsley_____, Texas Licensed Professional Engineer or (Texas) ~~Licensed Professional Geoscientist~~ (circle which applies), certificate number_____15201_____, ~~based on best professional judgment~~, current groundwater conditions, and the information developed and presented in this form, certify that adequate groundwater is available from the underlying aquifer(s) to supply the anticipated use of the proposed subdivision.

Texas Commission on Environmental Quality
Chapter 230 - Groundwater Availability Certification for Platting

Date: 9/24/2021



Adopted July 9, 2008

Effective July 31, 2008

Appendix B

Geophysical Logs

Geophysical Logs

Well No. 1

www.well-scope.com
512-798-1888

WELL SCOPE
GEOPHYSICAL SPECIALISTS, LLC
GEOPHYSICAL LOGGING & CAMERA SERVICES
PO Box 572, Dripping Springs, TX 78620

Borehole: N2-20-008P
Logs: Gamma

Project: Stillman Valley/ Firefly
Date: 09/23/2021
Client: CUWCD
County: Bell
Location: 30.928853, -97.716708
State: TX

Borehole Data

Contractor: Associated Drilling
Drilled TD (ft): 820
Elevation: 785'
Logged TD (ft): 806'
Depth Ref: Ground Level
Date Drilled: 09/23/2021

BIT RECORD				CASING RECORD		
RUN	BIT SIZE (in)	FROM (ft)	TO (ft)	SIZE/WGT/THK	FROM (ft)	TO (ft)
1	12"	0	18	10"/sch40	+2	18'
2	8"	18	820	5"/SDR17	+2	820'

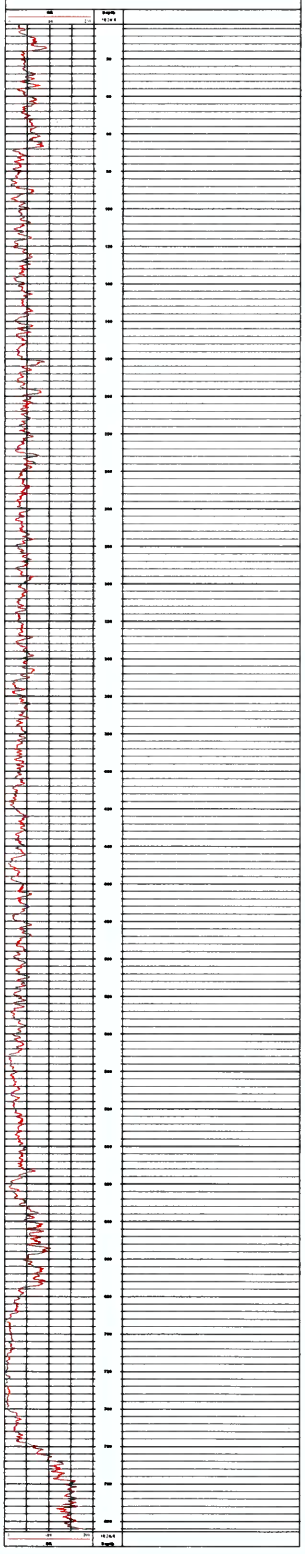
Drill Method: Air Rotary
Weight: NA
Fluid Lvl (ft): 368'
Hole Medium: Rock
Mud Type: Foam
Circ Time: 2hr
Viscosity: NA
Rm: NA
@ (Deg F): NA

General Data

Logged By: Chase Crane
Unit/Truck: 1
Witness: Corey Dawson

LOG TYPE	RUN	SPEED (ft/min)	FROM (ft)	TO (ft)	FT/IN
CALIPER					
GAMMA	1	40	806	5	ft
RESISTIVITY/SP/SPR					
VIDEO					

COMMENTS: Gamma logged thru casing



Well No. 2

www.well-scope.com
512-798-1888

WELL SCOPE
GEOPHYSICAL LOGGING & CAMERA SERVICES
PO Box 572, Dripping Springs, TX 78620

Borehole: N2-20-009P
Logs: Gamma

Project: Stillman Valley/ Firefly
Date: 09/23/2021
Client: CUWCD
County: Bell
Location: 30.928214, -97.717885
State: TX

Borehole Data

Contractor: Associated Drilling
Drilled TD (ft): 780'
Elevation: 787'
Logged TD (ft): 760'
Depth Ref: Ground Level
Date Drilled: 09/23/2021

BIT RECORD				CASING RECORD		
RUN	BIT SIZE (in)	FROM (ft)	TO (ft)	SIZE/WGT/THK	FROM (ft)	TO (ft)
1	12"	0	18	10"/Sch40	+2	18'
2	8"	18	780'	5"/SDR17	18	780'

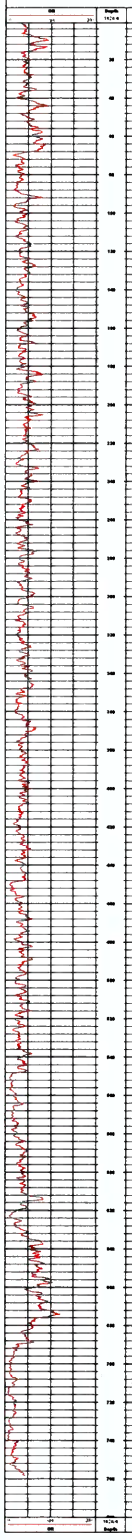
Drill Method: Air Rotary
Weight: NA
Fluid Lvl (ft): 373'
Hole Medium: Rock
Mud Type: Foam
Circ Time: 2hr
Viscosity: NA
Rm: NA
at (Deg F): NA

General Data

Logged By: Chase Crane
Unit/Truck: 1
Witness: Corey Dawson

LOG TYPE	RUN	SPEED (ft/min)	FROM (ft)	TO (ft)	FT/IN
CALIPER					
GAMMA	1	40	760	5	ft
RESISTIVITY/SP/SPR					
VIDEO					

COMMENTS: Gamma logged thru casing



Appendix C

State Well Reports

Well Report

Well No. 1

STATE OF TEXAS WELL REPORT for Tracking #583803

Owner:	**Stillman Valley Ranchettes c/o Russel Spillers**	Owner Well #:	**No Data**
Address:	**8127 Mesa Dr #206-53 Austin, TX 78759**	Grid #:	**58-03-4**
Well Location:	**17965 Stillman Valley Road Florence, TX**	Latitude:	**30° 55' 43.32" N**
Well County:	**Bell**	Longitude:	**097° 43' 00.67" W**
		Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Domestic**

Drilling Start Date: **8/16/2021** Drilling End Date: **8/17/2021**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**12**	**0**	**18**
	8	**18**	**800**

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**18**	**4 cement 2 holeplug Bags/Sacks**
	620	**680**	**12 cement Bags/Sacks**

Seal Method: **pressure tremmie method**

Sealed By: **Driller**

Distance to Property Line (ft.): **+100**

Distance to Septic Field or other concentrated contamination (ft.): **unknown**

Distance to Septic Tank (ft.): **unknown**

Method of Verification: **owner**

Surface Completion: **Surface Sleeve Installed** **Surface Completion by Driller**

Water Level: **420 ft.** below land surface on **2021-08-17** Measurement Method: **Sonic/Radar**

Packers: **burlap 18'**
burlap and rubber 680'

Type of Pump: **Submersible**

Well Tests: **Estimated** **Yield: 15-20 GPM**

	Strata Depth (ft.)	Water Type
Water Quality:	380	hosston trinity

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Associated Drilling Inc**

PO BOX 673
Dripping Springs, TX 78620

Driller Name: **James Benoit** License Number: **4064**

Comments: **Drilled for Glass Well Services**
Clearwater Underground Water Conservation District

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	10	tan lime and clay
10	515	blue lime
515	530	grey lime
530	605	tan white limestone, some sand, hensel
605	635	grey limestone
635	660	grey limestone and shale
660	715	tan white limestone
715	740	blue tan sandstone, trinity
740	760	multi color limestone
760	770	yellow white limestone
770	780	red yellow clay
780	800	grey black shale, smithwick

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
8	Blank	New Plastic (PVC)	sch 40	-2	18
4.5	Blank	New Plastic (PVC)	sdr17	-1	720
4.5	Screen	New Plastic (PVC)	sdr17 0.020	720	780
4.5	Blank	New Plastic (PVC)	sdr17	780	800

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

TEX. OCC. CODE Title 12, Chapter 1901.251, authorizes the owner (owner or the person for whom the well was drilled) to keep information in Well Reports confidential. The Department shall hold the contents of the well log confidential and not a matter of public record if it receives, by certified mail, a written request to do so from the owner.

Please include the report's Tracking Number on your written request.

Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

Well Report

Well No. 2

STATE OF TEXAS WELL REPORT for Tracking #583802

Owner:	**Stillman Valley Ranchettes c/o Russel Spillers**	Owner Well #:	**No Data**
Address:	**8127 Mesa DR #206-53 Austin, TX 78759**	Grid #:	**58-03-4**
Well Location:	**17965 Stillman Valley Road Florence, TX**	Latitude:	**30° 55' 41.57" N**
Well County:	**Bell**	Longitude:	**097° 43' 04.48" W**
		Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Domestic**

Drilling Start Date: **8/18/2021** Drilling End Date: **8/19/2021**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**12**	**0**	**18**
	8	**18**	**780**

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**18**	**4 cement 2 holeplug Bags/Sacks**
	620	**680**	**12 cement Bags/Sacks**

Seal Method: **pressure tremmie**

Sealed By: **Driller**

Distance to Property Line (ft.): **+100**

Distance to Septic Field or other concentrated contamination (ft.): **unknown**

Distance to Septic Tank (ft.): **unknown**

Method of Verification: **owner**

Surface Completion: **Surface Sleeve Installed** **Surface Completion by Driller**

Water Level: **407 ft.** below land surface on **2021-08-19** Measurement Method: **Sonic/Radar**

Packers: **burlap 18**
burlap and rubber 680

Type of Pump: **Submersible**

Well Tests: **Estimated** **Yield: 15-20 GPM**

	Strata Depth (ft.)	Water Type
Water Quality:	373	hosston trinity

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Associated Drilling Inc**

PO BOX 673
Dripping Springs, TX 78620

Driller Name: **James Benoit** License Number: **4064**

Comments: **drilled for Glass Well Services**
Clearwater Underground Water Conservation District 11DC2020

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	10	tan clay and lime
10	505	blue lime
505	520	blue clay
520	610	tan white limestone, hensell
610	630	grey limestone
630	655	grey lime and shale
655	690	tan white limestone
690	740	blue tan limestone, trinity
740	760	multi color limestone
760	770	yellow white limestone
770	780	red yellow clay

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
8	Blank	New Plastic (PVC)	sch 40	-2	18
4.5	Blank	New Plastic (PVC)	sdr17	-1	700
4.5	Screen	New Plastic (PVC)	sdr17 0.020	700	760
4.5	Blank	New Plastic (PVC)	sdr17	760	780

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

TEX. OCC. CODE Title 12, Chapter 1901.251, authorizes the owner (owner or the person for whom the well was drilled) to keep information in Well Reports confidential. The Department shall hold the contents of the well log confidential and not a matter of public record if it receives, by certified mail, a written request to do so from the owner.

Please include the report's Tracking Number on your written request.

Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

Appendix D

Aquifer Test Data and Analysis

Aquifer Test

Well No. 2

Stillman Valley Ranchettes Well No. 2 - Aquifer Test (August 30, 2021)

Date and Time	Time Since Pump Start (min)	Time Since Pump Stop (min)	PW Well No. 2 Temperature (F)	PW Well No. 2 Water Level (ft bgs)	PW Well No. 2 Water Level (ft MSL)	PW Well No. 2 Drawdown (ft)	PW Well No. 2 Pump Rate (gpm)	PW Well No. 2 Specific Capacity (gpm/ft)	Comments	OW Well No. 1 Water Level (ft MSL)	OW Well No. 1 Drawdown (ft)
8/30/21 9:43 AM	0		77.72	372.70	410.30	0.00			Pump Start	419.68	0.00
8/30/21 9:44 AM	1		77.70	388.29	394.71	15.59	18	1.15	Meter: 16.7 gallons	419.59	0.09
8/30/21 9:45 AM	2		77.68	404.73	378.27	32.03	18	0.56		419.63	0.05
8/30/21 9:46 AM	3		77.72	413.53	369.47	40.83	18	0.44		419.67	0.01
8/30/21 9:47 AM	4		77.67	420.28	362.73	47.57	18	0.38		419.73	-0.05
8/30/21 9:48 AM	5		77.68	425.25	357.75	52.54	18	0.34		419.59	0.09
8/30/21 9:49 AM	6		77.67	429.23	353.78	56.52	18	0.32		419.59	0.09
8/30/21 9:50 AM	7		77.61	432.64	350.36	59.93	18	0.30		419.68	0.00
8/30/21 9:51 AM	8		77.60	435.56	347.45	62.85	18	0.29		419.65	0.03
8/30/21 9:52 AM	9		77.54	438.05	344.95	65.35	18	0.28		419.65	0.03
8/30/21 9:53 AM	10		77.47	440.21	342.79	67.51	18	0.27		419.71	-0.04
8/30/21 9:54 AM	11		77.47	442.21	340.79	69.50	18	0.26		419.67	0.01
8/30/21 9:55 AM	12		77.42	443.87	339.13	71.16	18	0.25		419.65	0.03
8/30/21 9:56 AM	13		77.39	445.48	337.52	72.78	18	0.25		419.69	-0.01
8/30/21 9:57 AM	14		77.37	447.01	335.99	74.30	18	0.24		419.60	0.08
8/30/21 9:58 AM	15		77.28	448.32	334.69	75.61	18	0.24	pH: 10.79/ EC: 2.70	419.60	0.08
8/30/21 10:03 AM	20		77.16	453.97	329.03	81.27	18	0.22	pH: 9.92/ EC: 2.19	419.44	0.24
8/30/21 10:08 AM	25		77.15	458.35	324.65	85.64	18	0.21	pH: 9.30/ EC: 2.09	419.44	0.24
8/30/21 10:13 AM	30		77.13	461.89	321.11	89.18	18	0.20	pH: 9.08/ EC: 2.06	419.20	0.47
8/30/21 10:18 AM	35		77.17	464.86	318.15	92.15	18	0.20	pH: 8.91/ EC: 2.05	418.99	0.69
8/30/21 10:23 AM	40		77.25	467.62	315.38	94.91	18	0.19	pH: 8.83/ EC: 2.04	418.98	0.69
8/30/21 10:28 AM	45		77.30	470.13	312.87	97.43	18	0.18	pH: 8.72/ EC: 2.03	418.62	1.06
8/30/21 10:43 AM	60		77.49	476.28	306.72	103.58	18	0.17	pH: 8.56/ EC: 2.01	418.00	1.68
8/30/21 10:58 AM	75		77.53	481.46	301.54	108.76	18	0.17	pH: 8.41/ EC: 2.01	417.25	2.43
8/30/21 11:13 AM	90		77.54	485.78	297.22	113.07	18	0.16	pH: 8.37/ EC: 2.00	416.38	3.30
8/30/21 11:28 AM	105		77.59	489.56	293.44	116.86	17	0.15	pH: 8.27/ EC: 2.00	415.47	4.21
8/30/21 11:43 AM	120		77.57	492.60	290.40	119.90	17	0.14	pH: 8.24/ EC: 2.01	414.63	5.04
8/30/21 12:13 PM	150		77.57	498.10	284.90	125.40	17	0.14	pH: 8.13/ EC: 2.00	412.83	6.85
8/30/21 12:43 PM	180		77.61	502.60	280.40	129.89	17	0.13	pH: 8.08/ EC: 2.06	411.05	8.63
8/30/21 1:13 PM	210		77.55	506.33	276.67	133.63	17	0.13	pH: 7.98/ EC: 2.12	409.31	10.37
8/30/21 1:43 PM	240		77.58	509.64	273.36	136.93	17	0.12	pH: 7.99/ EC: 2.16	407.42	12.25
8/30/21 2:43 PM	300		77.53	515.14	267.86	142.44				404.10	15.58
8/30/21 3:43 PM	360		77.54	519.58	263.42	146.88				400.87	18.81
8/30/21 4:43 PM	420		77.49	523.10	259.90	150.40				397.99	21.68
8/30/21 5:43 PM	480		77.48	526.24	256.76	153.53				395.26	24.42

Note: bgs = below ground surface Column Pipe Diameter = 1 1/2 inches Horsepower = 5 HP
MSL = Mean Sea Level Pump Setting = 700 ft EC=Electrical conductivity (mS/cm)

Stillman Valley Ranchettes Well No. 2 - Aquifer Test (August 30, 2021)

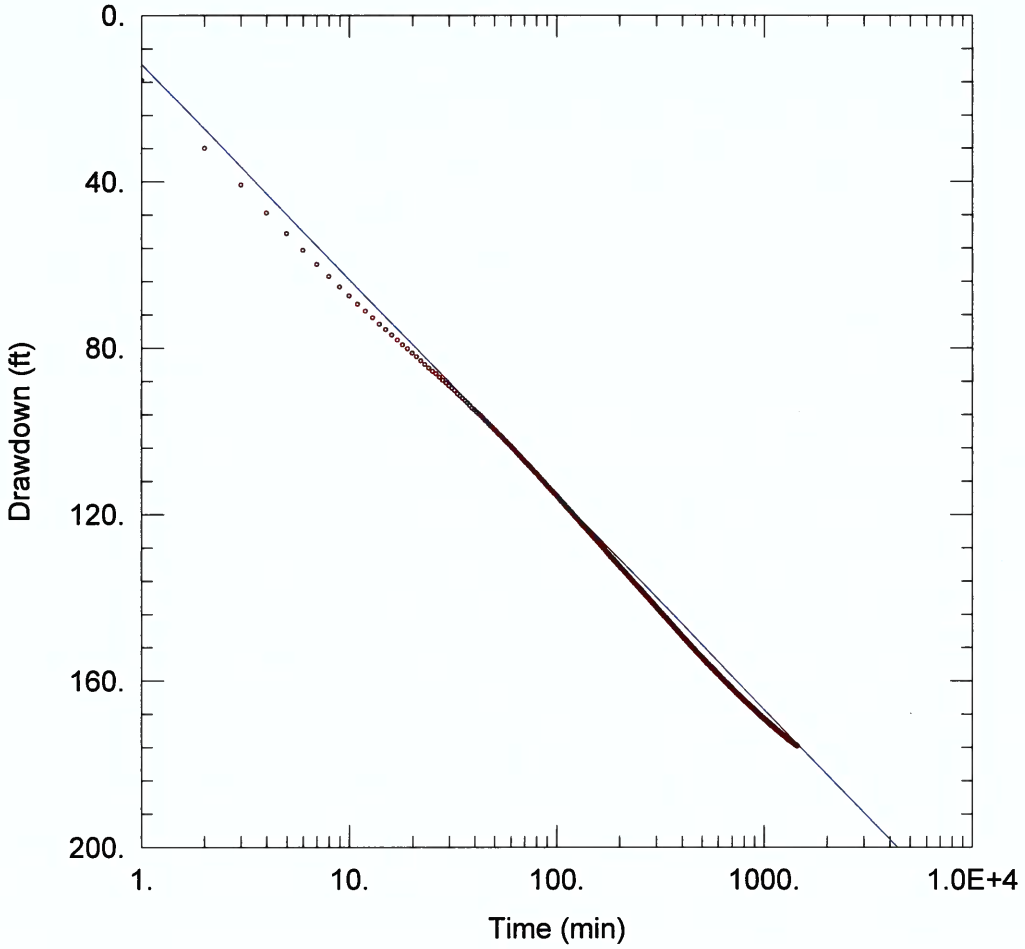
Date and Time	Time Since Pump Start (min)	Time Since Pump Stop (min)	PW Well No. 2 Temperature (F)	PW Well No. 2 Water Level (ft bgs)	PW Well No. 2 Water Level (ft MSL)	PW Well No. 2 Drawdown (ft)	PW Well No. 2 Pump Rate (gpm)	PW Well No. 2 Specific Capacity (gpm/ft)	Comments	OW Well No. 1 Water Level (ft MSL)	OW Well No. 1 Drawdown (ft)
8/30/21 6:43 PM	540		77.48	528.90	254.10	156.19				392.69	26.99
8/30/21 7:43 PM	600		77.46	531.26	251.74	158.56				390.30	29.38
8/30/21 8:43 PM	660		77.50	533.34	249.67	160.63				388.08	31.59
8/30/21 9:43 PM	720		77.50	535.18	247.82	162.47				386.09	33.58
8/30/21 10:43 PM	780		77.51	536.93	246.07	164.23				384.19	35.48
8/30/21 11:43 PM	840		77.49	538.29	244.71	165.58				382.36	37.31
8/31/21 12:43 AM	900		77.50	539.77	243.23	167.06				380.71	38.96
8/31/21 1:43 AM	960		77.49	541.00	242.00	168.30				379.10	40.58
8/31/21 2:43 AM	1,020		77.49	542.24	240.76	169.54				377.56	42.11
8/31/21 3:43 AM	1,080		77.47	543.29	239.71	170.58				376.11	43.57
8/31/21 4:43 AM	1,140		77.46	544.20	238.80	171.50				374.79	44.89
8/31/21 5:43 AM	1,200		77.49	545.25	237.75	172.55				373.55	46.13
8/31/21 6:43 AM	1,260		77.49	546.08	236.92	173.37				372.25	47.42
8/31/21 7:43 AM	1,320		77.51	546.86	236.14	174.16				371.07	48.61
8/31/21 8:43 AM	1,380		77.47	547.66	235.34	174.96				369.98	49.69
8/31/21 9:43 AM	1,440		77.53	548.48	234.52	175.77				368.89	50.78
8/31/21 9:46 AM	1,443	0	77.47	548.32	234.68	175.61	17	0.10	Pump Stop	368.93	50.74
8/31/21 9:47 AM	1,444	1	77.51	537.55	245.45	164.85			Meter: 24,536.7 gallons	368.89	50.79
8/31/21 9:48 AM	1,445	2	77.65	522.93	260.07	150.23			Avg. Pump Rate: 17	368.82	50.86
8/31/21 9:49 AM	1,446	3	77.75	514.02	268.98	141.32				368.85	50.82
8/31/21 9:50 AM	1,447	4	77.84	507.67	275.33	134.97				368.78	50.89
8/31/21 9:51 AM	1,448	5	77.95	502.80	280.21	130.09				368.77	50.90
8/31/21 9:52 AM	1,449	6	77.99	498.94	284.06	126.24				368.81	50.87
8/31/21 9:53 AM	1,450	7	78.08	495.73	287.28	123.02				368.69	50.98
8/31/21 9:54 AM	1,451	8	78.10	492.96	290.04	120.26				368.77	50.90
8/31/21 9:55 AM	1,452	9	78.19	490.70	292.30	117.99				368.79	50.89
8/31/21 9:56 AM	1,453	10	78.21	488.53	294.47	115.83				368.72	50.95
8/31/21 9:57 AM	1,454	11	78.26	486.56	296.44	113.85				368.68	51.00
8/31/21 9:58 AM	1,455	12	78.26	484.94	298.07	112.23				368.68	51.00
8/31/21 9:59 AM	1,456	13	78.20	483.39	299.61	110.69				368.66	51.02
8/31/21 10:00 AM	1,457	14	78.21	481.93	301.07	109.23				368.66	51.02
8/31/21 10:01 AM	1,458	15	78.20	480.66	302.34	107.95				368.76	50.91
8/31/21 10:06 AM	1,463	20	78.11	474.99	308.01	102.28				368.63	51.05
8/31/21 10:11 AM	1,468	25	78.02	470.59	312.42	97.88				368.60	51.08
8/31/21 10:16 AM	1,473	30	77.90	466.99	316.02	94.28				368.63	51.04

Note: bgs = below ground surface Column Pipe Diameter = 1 1/2 inches Horsepower = 5 HP
MSL = Mean Sea Level Pump Setting = 700 ft EC=Electrical conductivity (mS/cm)

Stillman Valley Ranchettes Well No. 2 - Aquifer Test (August 30, 2021)

Date and Time	Time Since Pump Start (min)	Time Since Pump Stop (min)	PW Well No. 2 Temperature (F)	PW Well No. 2 Water Level (ft bgs)	PW Well No. 2 Water Level (ft MSL)	PW Well No. 2 Drawdown (ft)	PW Well No. 2 Pump Rate (gpm)	PW Well No. 2 Specific Capacity (gpm/ft)	Comments	OW Well No. 1 Water Level (ft MSL)	OW Well No. 1 Drawdown (ft)
8/31/21 10:21 AM	1,478	35	77.83	463.92	319.08	91.21				368.63	51.04
8/31/21 10:26 AM	1,483	40	77.69	461.12	321.88	88.41				368.66	51.02
8/31/21 10:31 AM	1,488	45	77.64	458.61	324.39	85.91				368.75	50.93
8/31/21 10:46 AM	1,503	60	77.59	452.26	330.74	79.56				369.10	50.57
8/31/21 11:01 AM	1,518	75	77.58	447.21	335.79	74.51				369.61	50.07
8/31/21 11:16 AM	1,533	90	77.54	442.95	340.05	70.25				370.06	49.61
8/31/21 11:31 AM	1,548	105	77.53	439.10	343.90	66.39				370.64	49.04
8/31/21 11:46 AM	1,563	120	77.52	435.89	347.11	63.18				371.20	48.48
8/31/21 12:16 PM	1,593	150	77.54	430.30	352.70	57.60				372.55	47.13
8/31/21 12:46 PM	1,623	180	77.56	425.73	357.27	53.02				373.89	45.79
8/31/21 1:16 PM	1,653	210	77.54	421.94	361.06	49.23				375.14	44.53
8/31/21 1:46 PM	1,683	240	77.56	418.63	364.37	45.92				376.47	43.20
8/31/21 2:46 PM	1,743	300	77.56	413.33	369.67	40.63				379.06	40.62
8/31/21 3:46 PM	1,803	360	77.59	409.07	373.93	36.37				381.46	38.21
8/31/21 4:46 PM	1,863	420	77.55	405.61	377.39	32.91				383.60	36.08
8/31/21 5:46 PM	1,923	480	77.57	402.78	380.22	30.08				385.61	34.07
8/31/21 6:46 PM	1,983	540	77.59	400.49	382.51	27.79				387.46	32.22
8/31/21 7:46 PM	2,043	600	77.55	398.36	384.64	25.65				389.20	30.48
8/31/21 8:46 PM	2,103	660	77.56	396.59	386.41	23.88				390.71	28.96
8/31/21 9:46 PM	2,163	720	77.54	395.05	387.95	22.35				392.10	27.58
8/31/21 10:46 PM	2,223	780	77.57	393.61	389.39	20.91				393.49	26.19
8/31/21 11:46 PM	2,283	840	77.57	392.35	390.65	19.65				394.67	25.01
9/1/21 12:46 AM	2,343	900	77.59	391.35	391.65	18.64				395.81	23.87
9/1/21 1:46 AM	2,403	960	77.55	390.30	392.70	17.60				396.85	22.83
9/1/21 2:46 AM	2,463	1,020	77.61	389.36	393.64	16.66				397.87	21.81
9/1/21 3:46 AM	2,523	1,080	77.57	388.62	394.39	15.91				398.81	20.86
9/1/21 4:46 AM	2,583	1,140	77.56	387.77	395.23	15.07				399.61	20.07
9/1/21 5:46 AM	2,643	1,200	77.56	387.15	395.85	14.45				400.35	19.33
9/1/21 6:46 AM	2,703	1,260	77.60	386.49	396.51	13.78				401.08	18.60
9/1/21 7:46 AM	2,763	1,320	77.59	385.84	397.16	13.14				401.73	17.94
9/1/21 8:46 AM	2,823	1,380	77.61	385.41	397.59	12.71				402.35	17.32

Note: bgs = below ground surface Column Pipe Diameter = 1 1/2 inches Horsepower = 5 HP
MSL = Mean Sea Level Pump Setting = 700 ft EC=Electrical conductivity (mS/cm)



WELL TEST ANALYSIS

Data Set: \...\PW Well 2.aqt
Date: 09/24/21 Time: 09:21:48

PROJECT INFORMATION

Company: WRGS
Client: Russell Spillers
Project: 160-001-20
Location: Bell County
Test Well: Well No. 2
Test Date: 8-30-21

AQUIFER DATA

Aquifer Thickness: 104. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
Well No. 2	0	0

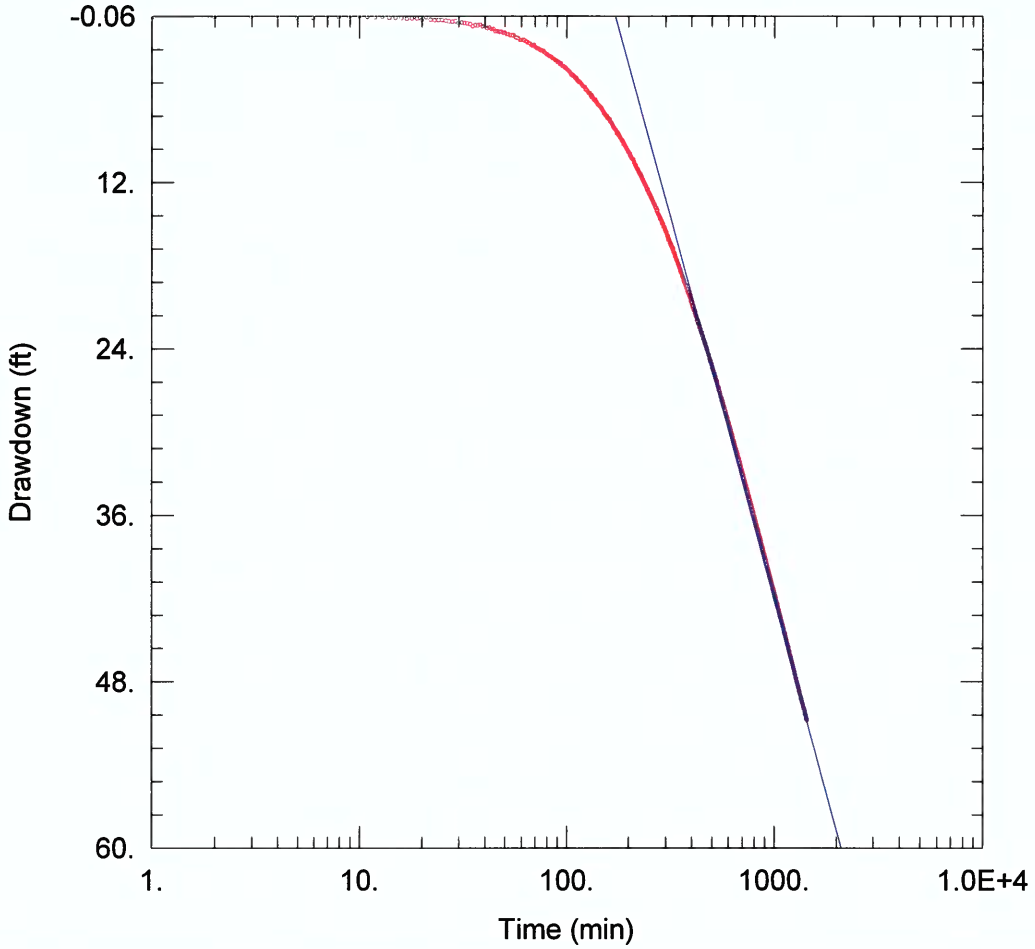
Observation Wells

Well Name	X (ft)	Y (ft)

SOLUTION

Aquifer Model: Confined Solution Method: Cooper-Jacob

T = 11.59 ft^2/day



WELL TEST ANALYSIS

Data Set: \...\OW Well 1.aqt
Date: 09/24/21 Time: 09:21:09

PROJECT INFORMATION

Company: WRGS
Client: Russell Spillers
Project: 160-001-20
Location: Bell County
Test Well: Well No. 2
Test Date: 8-30-21

AQUIFER DATA

Saturated Thickness: 104. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
Well No. 2	0	0

Observation Wells

Well Name	X (ft)	Y (ft)
Well No. 1	376	0

SOLUTION

Aquifer Model: Confined Solution Method: Cooper-Jacob

T = 10.88 ft^2/day S = 2.065E-5

Appendix E

Well Efficiency Calculation

Well Efficiency

Well No. 2

Wet Rock Groundwater Services, L.L.C.
Groundwater Specialists
TBPG Firm No: 50038
317 Ranch Road 620 South, Suite 203
Austin, Texas 78734 • Ph: 512-773-3226
www.wetrockgs.com

Well Efficiency Calculations
Well No. 2

From: *Driscoll, F.G., 1986: Groundwater and Wells: second Ed. Pp.556-558*

Well Efficiency = (Actual specific capacity / Theoretical specific capacity)

Actual Specific Capacity = $\frac{Q}{s}$

Where: Q = Discharge of well, in gpm; and
s = Observed drawdown, in feet

Actual Specific Capacity = 17 gpm / 175.61 ft = 0.11 gpm/ft

Theoretical Specific Capacity = $\frac{Q}{s'}$; $s' = \frac{T}{264\, log\frac{0.3Tt}{r^2S}}$

Where:
Q = Discharge of well, in gpm;
s' = Theoretical drawdown, in feet;
T = Transmissivity, in gpd/ft;
t = Time of pumping, in days;
S = Storage Coefficient, = 2.07 x 10^{-5}; and,
r = radius of well, in ft.

Theoretical Specific Capacity = $\frac{86.70}{264\log\frac{(0.3)(86.70)(1)}{(0.1875)^2\,(0.0000207)}}$ = **0.04**

Efficiency = Actual Specific Capacity / Theoretical Specific Capacity = 0.11 / 0.04 = **275%**

Appendix F

Water Quality Reports

Water Quality

Well No. 2

Environmental Laboratory Services
The Solution Lab

LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone (512)730-6022
Fax (512)730-6021

September 14, 2021

BRAD DENKHAUS
WHITLEY 20 STILLMAN VALLEY LLC
21400 WINDMILL RANCH AVE
Pflugerville, TX 78660
brad_denkhaus@yahoo.com

RE: Final Analytical Report Q2123436

Attn: BRAD DENKHAUS

Enclosed are the analytical results for sample(s) received by LCRA Environmental Laboratory Services. Results reported herein conform to the most current NELAP standards, where applicable, unless otherwise narrated in the body of the report. This final report provides results related only to the sample(s) as received for the above referenced work order.

Thank you for selecting ELS for your analytical needs. If you have any questions regarding this report, please contact us at (512) 730-6022 or environmental.lab@lcra.org. We look forward to assisting you again.

Authorized for release by:

Ariana Dean
Account Manager
ariana.dean@lcra.org

Enclosures:

Environmental Laboratory Services
The Solution Lab

LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone (512)730-6022
Fax (512)730-6021

Workorder: Q2123436
Workorder Description: RWSTBDENKHAUS_08302021
Client: ELS CLIENT
Profile: ELS CLIENT 2020
Sampled By: BRAD DENKHAUS

Report To: BRAD DENKHAUS
WHITLEY 20 STILLMAN VALLEY LLC
21400 WINDMILL RANCH AVE
Pflugerville, TX 78660

Sample Summary

Lab ID	Sample ID	Matrix	Method	Date Collected	Date Received	Analytes Reported
Q2123436001	WHITLEY 20 STILLMAN VALLEY LLC	DW	E200.7 Metals, Trace Elements	08/30/2021 11:06	08/30/2021 13:22	3
Q2123436001	WHITLEY 20 STILLMAN VALLEY LLC	DW	E200.8, ICP-MS	08/30/2021 11:06	08/30/2021 13:22	6
Q2123436001	WHITLEY 20 STILLMAN VALLEY LLC	DW	E300.0, Anions	08/30/2021 11:06	08/30/2021 13:22	5
Q2123436001	WHITLEY 20 STILLMAN VALLEY LLC	DW	SM2340B, Hardness Calc.	08/30/2021 11:06	08/30/2021 13:22	1
Q2123436001	WHITLEY 20 STILLMAN VALLEY LLC	DW	SM2510B, Conductivity @ 25°C	08/30/2021 11:06	08/30/2021 13:22	1
Q2123436001	WHITLEY 20 STILLMAN VALLEY LLC	DW	SM2540C, TDS	08/30/2021 11:06	08/30/2021 13:22	1
Q2123436001	WHITLEY 20 STILLMAN VALLEY LLC	DW	SM4500-H+B, pH @ 25°C	08/30/2021 11:06	08/30/2021 13:22	2
Q2123436001	WHITLEY 20 STILLMAN VALLEY LLC	DW	SM9223B, IDEXX	08/30/2021 11:06	08/30/2021 13:22	3

Report Definitions

MRL - Minimum Reporting Limit
LOD - Limit of Detection
ML - Maximum Limit - Client Specified
MCL - Maximum Contaminant Level
LOQ - Limit of Quantitation - Client Specified
DF - Dilution Factor
(S) - Surrogate Spike
MDL - Method Detection Limit
RPD - Relative Percent Difference

Qualifier Definitions

Environmental Laboratory Services
The Solution Lab

LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone (512)730-6022
Fax (512)730-6021

J - Analyte detected below quantitation limit
R - RPD outside duplicate precision limit
S - Spike recovery outside limit
B- Analyte detected in method blank
N - Not Accredited
M - Analyte Detected Above Maximum Contaminant Level
SL - Spike Recovery Low
SH - Spike Recovery High
H - Analyzed Past Hold Time
CR - Confirmed Result
CH - Result confirmed by historical data

Environmental Laboratory Services
The Solution Lab

LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone (512)730-6022
Fax (512)730-6021

Workorder Summary

Analysis Results Comments

Lab ID: Q2123436001 Sample ID: WHITLEY 20 STILLMAN VALLEY LLC

Fluoride - M|Analyte Detected Above Maximum Contaminant Level

Environmental Laboratory Services
The Solution Lab

LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone (512)730-6022
Fax (512)730-6021

Analytical Results

Client ID:	ELS CLIENT	**Date Collected:**	08/30/2021 11:06	**Matrix:**	Drinking Water
Lab ID:	Q2123436001	**Date Received:**	08/30/2021 13:22	**Sample Type:**	SAMPLE
Sample ID:	WHITLEY 20 STILLMAN VALLEY LLC	**Location:**			
Project ID:	ELS CLIENT 2020	**Facility:**			
		Sample Point:			

Conductance @ 25°C (SM2510B, Conductivity @ 25°C)

Parameter	Results	Units	MRL	LOD	ML	DF	Prepared	By	Analyzed	By	Qualifier
Specific Conductance	2030	umho/cm	10.0	10.0		1	08/31/2021 14:41	ME	08/31/2021 14:41	ME	

INORGANICS (E200.7 Prep/E200.7 Metals, Trace Elements)

Parameter	Results	Units	MRL	LOD	ML	DF	Prepared	By	Analyzed	By	Qualifier
Calcium Total	9.77	mg/L	0.200	0.0700		1	09/03/2021 10:26	ME	09/09/2021 12:47	FM	N
Iron Total	<0.0500	mg/L	0.0500	0.0200		1	09/03/2021 10:26	ME	09/09/2021 12:47	FM	
Magnesium Total	3.61	mg/L	0.200	0.0700		1	09/03/2021 10:26	ME	09/09/2021 12:47	FM	

INORGANICS (E200.8, ICP-MS Prep/E200.8, ICP-MS)

Parameter	Results	Units	MRL	LOD	ML	DF	Prepared	By	Analyzed	By	Qualifier
Aluminum Total	0.138	mg/L	0.00500	0.00200		1	09/03/2021 10:21	ME	09/07/2021 08:23	FO	
Arsenic Total	0.00479	mg/L	0.00100	0.000400	0.01	1	09/03/2021 10:21	ME	09/07/2021 08:23	FO	
Copper Total	0.00226	mg/L	0.00100	0.000400	1	1	09/03/2021 10:21	ME	09/07/2021 08:23	FO	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.0150	1	09/03/2021 10:21	ME	09/07/2021 08:23	FO	
Manganese Total	0.00301	mg/L	0.00100	0.000400		1	09/03/2021 10:21	ME	09/07/2021 08:23	FO	
Zinc Total	<0.00500	mg/L	0.00500	0.00200		1	09/03/2021 10:21	ME	09/07/2021 08:23	FO	

INORGANICS (E300.0, Anions)

Parameter	Results	Units	MRL	LOD	ML	DF	Prepared	By	Analyzed	By	Qualifier
Nitrite (as N)	<0.0100	mg/L	0.0100	0.00500	1	1	08/30/2021 15:10	ML	08/30/2021 15:10	ML	
Nitrate (as N)	<0.0100	mg/L	0.0100	0.00500	10	1	08/30/2021 15:10	ML	08/30/2021 15:10	ML	
Sulfate	30.9	mg/L	1.00	0.500		1	08/30/2021 15:10	ML	08/30/2021 15:10	ML	

INORGANICS (E300.0, Anions)

Parameter	Results	Units	MRL	LOD	ML	DF	Prepared	By	Analyzed	By	Qualifier
Chloride	370	mg/L	10.0	5.00		10	08/31/2021 10:16	ML	08/31/2021 10:16	ML	
Fluoride	6.41	mg/L	0.100	0.0500	4	10	08/31/2021 10:16	ML	08/31/2021 10:16	ML	M

INORGANICS (SM2340B, Hardness Calc.)

Parameter	Results	Units	MRL	LOD	ML	DF	Prepared	By	Analyzed	By	Qualifier
Total Hardness (as CaCO3)	39.2	mg/L				1	09/13/2021 12:14	CW	09/13/2021 12:14	CW	N

TOTAL DISSOLVED SOLIDS (SM2540C, TDS)

Parameter	Results	Units	MRL	LOD	ML	DF	Prepared	By	Analyzed	By	Qualifier
Total Dissolved Solids(TDS)	1150	mg/L	25.0	10.0		10	09/01/2021 13:38	ML	09/01/2021 13:38	ML	

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Analytical Results

Client ID:	ELS CLIENT	**Date Collected:**	08/30/2021 11:06	**Matrix:**	Drinking Water
Lab ID:	Q2123436001	**Date Received:**	08/30/2021 13:22	**Sample Type:**	SAMPLE
Sample ID:	WHITLEY 20 STILLMAN VALLEY LLC	**Location:**			
Project ID:	ELS CLIENT 2020	**Facility:**			
		Sample Point:			

Total Coliform by Colilert (SM9223B, IDEXX)

Parameter	Results	Units	MRL	LOD	ML	DF	Prepared	By	Analyzed	By	Qualifier
Residual Chlorine	0.00	mg/L				1	08/30/2021 15:15	MAB	08/30/2021 15:15	MAB	N
Total Coliform	Present	P/A	1.00	1.00		1	08/30/2021 15:15	MAB	08/30/2021 15:15	MAB	
Ecoli	Absent	P/A	1.00	1.00		1	08/30/2021 15:15	MAB	08/30/2021 15:15	MAB	

pH (SM4500-H+B, pH @ 25°C)

Parameter	Results	Units	MRL	LOD	ML	DF	Prepared	By	Analyzed	By	Qualifier
pH	8.64	pH	0.00	0.00		1	09/03/2021 00:00	ME	09/03/2021 00:00	ME	N
Temperature	19.2	C				1	09/03/2021 00:00	ME	09/03/2021 00:00	ME	N

Sample Comments

General Comments for METHOD SM4500-H+B, pH - Defined as a field parameter, measurement must be taken within 15 minutes of collection. Results are provided for information purposes only.

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Quality Control Results

QC Batch: MET/8716
Preparation Method: E200.8, ICP-MS
Associated Lab IDs: Q2123436001
Analysis Method: E200.8, ICP-MS

Method Reporting Limit Check (1653870)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery%	Control Limits %	Qualifier
Arsenic Total	mg/L	0.001	0.0011	107.0	50 - 150	
Copper Total	mg/L	0.001	0.001	98.6	50 - 150	
Lead Total	mg/L	0.001	0.001	102.0	50 - 150	
Manganese Total	mg/L	0.001	0.001	101.0	50 - 150	
Zinc Total	mg/L	0.001	0.0008	79.3	50 - 150	

Method Reporting Limit Check (1653871)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery%	Control Limits %	Qualifier
Aluminum Total	mg/L	0.005	0.0047	93.5	50 - 150	
Zinc Total	mg/L	0.005	0.0049	98.2	50 - 150	

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Quality Control Results

QC Batch: MET/8716
Preparation Method: E200.8, ICP-MS Prep
Associated Lab IDs: Q2123436001
Analysis Method: E200.8, ICP-MS

Laboratory Fortified Blank (1653385); Lab Fortified Blank Duplicate (1653386)

Parameter	Units	Spiked Amount	Spike Result	%Spike Recovery	Control Limits %	Duplicate Result	%Duplicate Recovery	RPD	RPD Limit	Qualifier
Aluminum Total	mg/L	0.05	0.0559	112.0	85 - 115	0.0571	114.0	2.12	20	
Arsenic Total	mg/L	0.05	0.0491	98.1	85 - 115	0.0489	97.9	0.408	20	
Copper Total	mg/L	0.05	0.05	99.9	85 - 115	0.0509	102.0	1.78	20	
Lead Total	mg/L	0.05	0.0509	102.0	85 - 115	0.0514	103.0	0.978	20	
Manganese Total	mg/L	0.05	0.0504	101.0	85 - 115	0.051	102.0	1.18	20	

Laboratory Fortified Blank (1653385)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery%	Control Limits %	Qualifier
Zinc Total	mg/L	0.05	0.0506	101.0	85 - 115	

Laboratory Reagent Blank(1653384)

Parameter	Units	Results	MRL	LOD	Qualifier
Aluminum Total	mg/L	<0.00500	0.005	0.002	
Arsenic Total	mg/L	<0.00100	0.001	0.0004	
Copper Total	mg/L	<0.00100	0.001	0.0004	
Lead Total	mg/L	<0.00100	0.001	0.0004	
Manganese Total	mg/L	<0.00100	0.001	0.0004	
Zinc Total	mg/L	<0.00500	0.005	0.002	

Laboratory Fortified Matrix (1653387); Lab Fortified Matrix Duplicate (1653388); Original: Q2123608001

Parameter	Units	Spiked Amount	Spike Result	%Spike Recovery	Control Limits %	Duplicate Result	%Duplicate Recovery	RPD	RPD Limit	Qualifier
Aluminum Total	mg/L	0.05	1.49	284.0	70 - 130	1.47	241.0	1.35	20	SH
Arsenic Total	mg/L	0.05	0.0486	93.8	70 - 130	0.0476	91.7	2.08	20	
Copper Total	mg/L	0.05	0.0642	92.4	70 - 130	0.0625	88.9	2.68	20	
Lead Total	mg/L	0.05	0.0573	104.0	70 - 130	0.0563	102.0	1.76	20	
Manganese Total	mg/L	0.05	0.197	89.2	70 - 130	0.192	79.4	2.57	20	
Zinc Total	mg/L	0.05	0.176	96.6	70 - 130	0.172	87.8	2.3	20	

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Quality Control Results

QC Batch: MET/8724
Preparation Method: E200.7 Metals, Trace Elements
Associated Lab IDs: Q2123436001
Analysis Method: E200.7 Metals, Trace Elements

Method Reporting Limit Check (1654303)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery%	Control Limits %	Qualifier
Iron Total	mg/L	0.05	0.0509	102.0	50 - 150	

Method Reporting Limit Check (1654302)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery%	Control Limits %	Qualifier
Calcium Total	mg/L	0.2	0.187	93.5	50 - 150	
Magnesium Total	mg/L	0.2	0.219	110.0	50 - 150	

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Quality Control Results

QC Batch: MET/8724
Preparation Method: E200.7 Prep
Associated Lab IDs: Q2123436001
Analysis Method: E200.7 Metals, Trace Elements

Laboratory Fortified Blank (1653409); Lab Fortified Blank Duplicate (1653410)

Parameter	Units	Spiked Amount	Spike Result	%Spike Recovery	Control Limits %	Duplicate Result	%Duplicate Recovery	RPD	RPD Limit	Qualifier
Calcium Total	mg/L	10.0	10.8	108.0	85 - 115	11.1	111.0	2.74	20	
Iron Total	mg/L	1.0	1.08	108.0	85 - 115	1.11	111.0	2.74	20	
Magnesium Total	mg/L	10.0	10.8	108.0	85 - 115	11.1	111.0	2.74	20	

Laboratory Reagent Blank(1653411)

Parameter	Units	Results	MRL	LOD	Qualifier
Calcium Total	mg/L	<0.200	0.2	0.07	
Iron Total	mg/L	<0.0500	0.05	0.02	
Magnesium Total	mg/L	<0.200	0.2	0.07	

Laboratory Fortified Matrix (1653412); Lab Fortified Matrix Duplicate (1653413); Original: Q2123628002

Parameter	Units	Spiked Amount	Spike Result	%Spike Recovery	Control Limits %	Duplicate Result	%Duplicate Recovery	RPD	RPD Limit	Qualifier
Calcium Total	mg/L	10.0	12.8	112.0	70 - 130	12.8	112.0	0.0	20	
Iron Total	mg/L	1.0	1.13	113.0	70 - 130	1.15	115.0	1.75	20	
Magnesium Total	mg/L	10.0	11.4	111.0	70 - 130	11.5	111.0	0.873	20	

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Quality Control Results

QC Batch: WET/24882
Preparation Method: E300.0, Anions
Associated Lab IDs: Q2123436001
Analysis Method: E300.0, Anions

Method Reporting Limit Check (1650983)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery%	Control Limits %	Qualifier
Nitrite (as N)	mg/L	0.01	0.0115	115.0	50 - 150	
Nitrate (as N)	mg/L	0.01	0.0085	85.0	50 - 150	
Sulfate	mg/L	1.0	0.891	89.1	50 - 150	

Laboratory Fortified Blank (1650984)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery%	Control Limits %	Qualifier
Nitrite (as N)	mg/L	1.0	1.03	103.0	90 - 110	
Nitrate (as N)	mg/L	1.0	1.0	100.0	90 - 110	
Sulfate	mg/L	30.0	29.6	98.6	90 - 110	

Limit of Quantitation Check (1650985)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery%	Control Limits %	Qualifier
Nitrite (as N)	mg/L	0.02	0.0179	89.5	70 - 130	
Nitrate (as N)	mg/L	0.02	0.0166	83.0	70 - 130	
Sulfate	mg/L	5.0	4.21	84.1	70 - 130	

Laboratory Fortified Matrix (1650986); Lab Fortified Matrix Duplicate (1650987); Original: Q2123436001

Parameter	Units	Spiked Amount	Spike Result	%Spike Recovery	Control Limits %	Duplicate Result	%Duplicate Recovery	RPD	RPD Limit	Qualifier
Nitrite (as N)	mg/L	1.0	0.0	0.0	80 - 120	0.0	0.0	0.0	20	SL
Nitrate (as N)	mg/L	1.0	0.975	97.5	80 - 120	0.976	97.6	0.103	20	
Sulfate	mg/L	20.0	48.9	90.0	80 - 120	49.9	94.9	2.02	20	

Laboratory Reagent Blank(1650981)

Parameter	Units	Results	MRL	LOD	Qualifier
Nitrite (as N)	mg/L	<0.0100	0.01	0.005	
Nitrate (as N)	mg/L	<0.0100	0.01	0.005	
Sulfate	mg/L	<1.00	1.0	0.5	

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Quality Control Results

QC Batch: WET/24887
Preparation Method: E300.0, Anions
Associated Lab IDs: Q2123436001
Analysis Method: E300.0, Anions

Limit of Quantitation Check (1651457)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery%	Control Limits %	Qualifier
Chloride	mg/L	5.0	3.99	79.9	70 - 130	
Fluoride	mg/L	0.02	0.02	100.0	70 - 130	

Laboratory Fortified Blank (1651456)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery%	Control Limits %	Qualifier
Chloride	mg/L	30.0	29.3	97.8	90 - 110	
Fluoride	mg/L	1.0	1.04	104.0	90 - 110	

Laboratory Fortified Matrix (1651458); Lab Fortified Matrix Duplicate (1651459); Original: Q2123473001

Parameter	Units	Spiked Amount	Spike Result	%Spike Recovery	Control Limits %	Duplicate Result	%Duplicate Recovery	RPD	RPD Limit	Qualifier
Chloride	mg/L	20.0	55.0	91.3	80 - 120	54.9	90.9	0.182	20	
Fluoride	mg/L	1.0	1.18	93.5	80 - 120	1.17	91.9	0.851	20	

Method Reporting Limit Check (1651455)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery%	Control Limits %	Qualifier
Chloride	mg/L	1.0	0.691	69.1	50 - 150	
Fluoride	mg/L	0.01	0.0127	127.0	50 - 150	

Laboratory Reagent Blank(1651453)

Parameter	Units	Results	MRL	LOD	Qualifier
Chloride	mg/L	<1.00	1.0	0.5	
Fluoride	mg/L	<0.0100	0.01	0.005	

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Quality Control Results

QC Batch: WET/24890
Preparation Method: SM2510B, Conductivity @ 25°C
Associated Lab IDs: Q2123436001
Analysis Method: SM2510B, Conductivity @ 25°C

Lab Control Sample (1651614)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery%	Control Limits %	Qualifier
Specific Conductance	umho/cm	1000.0	979.0	97.9	70 - 130	

Duplicate (1651615); Original Q2123436001

Parameter	Units	Original	Duplicate	RPD	RPD Limit	Qualifier
Specific Conductance	umho/cm	2030.0	1990.0	1.99	20	

Method Blank(1651616)

Parameter	Units	Results	MRL	LOD	Qualifier
Specific Conductance	umho/cm	<10.0	10.0	10.0	

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Quality Control Results

QC Batch: WET/24899
Preparation Method: SM2540C, TDS
Associated Lab IDs: Q2123436001
Analysis Method: SM2540C, TDS

Matrix Spike (1652220); Original: Q2123328016

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery%	Control Limits %	Qualifier
Total Dissolved Solids(TDS)	mg/L	400.0	1030.0	258.0	70 - 130	SH

Duplicate (1652219); Original Q2123328016

Parameter	Units	Original	Duplicate	RPD	RPD Limit	Qualifier
Total Dissolved Solids(TDS)	mg/L	0.0	673.0	200.0	20	

Method Blank(1652204)

Parameter	Units	Results	MRL	LOD	Qualifier
Total Dissolved Solids(TDS)	mg/L	<25.0	25.0	10.0	

Lab Control Sample (1652205)

Parameter	Units	Spiked Amount	Spike Result	Spike Recovery%	Control Limits %	Qualifier
Total Dissolved Solids(TDS)	mg/L	400.0	403.0	101.0	80 - 120	

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Quality Control Results

QC Batch: WET/24919
Preparation Method: SM4500-H+B, pH @ 25°C
Associated Lab IDs: Q2123436001
Analysis Method: SM4500-H+B, pH @ 25°C

Duplicate (1653511); Original Q2123436001

Parameter	Units	Original	Duplicate	RPD	RPD Limit	Qualifier
pH	pH	8.64	8.64	0.0	20	
Temperature	C	19.2	19.4	1.04		

QC Sample Comments

Duplicate - 1653511

General Comments for METHOD SM4500-H+B, pH - Defined as a field parameter, measurement must be taken within 15 minutes of collection. Results are provided for information purposes only.

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QC Cross Reference

Lab ID	Sample ID	Prep Batch	Prep Method
MET/8716 - E200.8, ICP-MS			
Q2123436001	WHITLEY 20 STILLMAN VALLEY LLC	MEP/11408	E200.8, ICP-MS Prep
MET/8724 - E200.7 Metals, Trace Elements			
Q2123436001	WHITLEY 20 STILLMAN VALLEY LLC	MEP/11409	E200.7 Prep
MIC/6364 - SM9223B, IDEXX			
Q2123436001	WHITLEY 20 STILLMAN VALLEY LLC		
WET/24882 - E300.0, Anions			
Q2123436001	WHITLEY 20 STILLMAN VALLEY LLC		
WET/24887 - E300.0, Anions			
Q2123436001	WHITLEY 20 STILLMAN VALLEY LLC		
WET/24890 - SM2510B, Conductivity @ 25°C			
Q2123436001	WHITLEY 20 STILLMAN VALLEY LLC		
WET/24899 - SM2540C, TDS			
Q2123436001	WHITLEY 20 STILLMAN VALLEY LLC		
WET/24919 - SM4500-H+B, pH @ 25°C			
Q2123436001	WHITLEY 20 STILLMAN VALLEY LLC		

End of Report

Q2123436

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Request for Testing

Brad Denkhaus *[See instructions on Page 2 for sample collection.]*

Please complete and return one form for each sample location (i.e., kitchen sink, outdoor faucet, well head, etc).

Name: Whitley 20 Stillman Valley LLC	**E-Mail:** brad_denkhaus@yahoo.com	
Address: 21400 Windmill Ranch Ave		
City: Pflugerville	**State:** TX	**Zip:** 78660
Home Phone: (512) 744-7971	Work Phone: ( )	MATRIX Circle One: AQ = Aqueous, DW = Drinking Water
Sample Collection Date: 8/30/21	**Sample Collection Time:** 11:06 Am	
Sample Location:		

TEST REQUESTED	PRICE	QUANTITY	TOTAL
Total Coliform – E.coli (Presence/Absence)	$45	1	1
Method 300.0 (Chloride, Fluoride, Nitrite, Nitrate, Sulfate)	$60	1	1
Method 200.7 (Iron, Calcium, Magnesium, Hardness, calculation)	$60	1	1
Method 200.8 - LIST METALS	$60	1	1
Total Dissolved Solids	$46	1	1
Total Organic Carbon (TOC)	$40		
pH	$42	1	1
Other (Write in): Conductivity	$ 40	1	1
Other (Write in):	$		
Other (Write in):	$		
Other (Write in):	$		
	Subtotal Analytical Cost		$ 353.00

MISCELLANEOUS CHARGES	PRICE	TOTAL
Bottle Kit/cooler shipment	$20	
Sampling Services	$125/hr.	
Weekend/After-hours surcharge (applies to all analytical services)	$250	

Turnaround Time Requested	PRICE MULTIPLIER	TOTAL
Normal Turnaround (7-10 Working Days)	1 x List Price	$
Rush Turnaround (4-6 Working Days)	2 x cost of service	$
Urgent Turnaround (2-3 Working Days)	3 x cost of service	$
	Total Analytical Cost	353.00

NOTE: Relinquishing sample(s) to ELS obligates the submitter to all ELS Standard Terms and Conditions stated on the back of this form.

For Laboratory Use Only:

Sample Relinquished By: X [signature]	Date/Time: X 8/30/21 1:22 PM	Received Temp.: 11.6 °C	ICE: (Y) N
Sample Received By: [signature]	Date/Time: 8/30/21 1:22pm	Derived Temp.: 11.6 °C	Thermometer: IR8

Payment Information:

Amount received: $353.00 Check No. 07532J	Payment Received By: CA	Date Payment Received: 8/30/21	Work Order No. 02123436 517210
Visa/MC Approval No. 07532J			
Comments:			

November 2020