

**OP III ATX LedgeStone I TH, LP**  
**LedgeStone Townhomes Well No. 1 (58492OP3)**  
**Production Authorization Application**

*for*

OP III ATX LedgeStone I TH, LP  
500 W. 5th Street, Ste. 700  
Austin, TX 78701

Travis County, Texas

Updated February 2026

WRGS Project No. 256-003-24



Prepared by:  
**Wet Rock Groundwater Services, L.L.C.**  
*Groundwater Specialists*  
317 Ranch Road 620 South, Suite 303  
Austin, Texas 78734  
Phone: 512-773-3226 • [www.wetrockgs.com](http://www.wetrockgs.com)  
TBPB Firm No: 50038

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*1 – Application Form*





# Application for Well Production Authorization

P.O. Box 340595, Austin, TX 78734 • Tel. 512-276-2875 • www.swtcgcd.org

Complete this application to receive a permit to produce and use groundwater from any type of well in the District requiring either an Operating Permit or a General Permit by Rule. Consult with the District to confirm what type of authorization is required for your well, and what processes and schedule will be involved in approving your permit. Select the type and category of permit that you are requesting below, and then complete and submit this application form to the District, along with its supporting documentation and all applicable fees per the District Fee Schedule. You may mail the completed form and other materials to the address above, or scan the form and supplemental materials and email it to [staff@swtcgcd.org](mailto:staff@swtcgcd.org).

## Type of Production Authorization and Its Associated *Application* Fee (check one):

- \$ 400 – General Permit by Rule (Non-exempt Domestic Use (NDU) Permit or Test Well Permit)
- \$ 400 – General Permit by Rule (Limited Production Permit)
- \$ 400 – Operating Permit, Agricultural Use
- \$ 750 – Operating Permit, Non-agricultural Uses
- \$ 300 – Amendment of Existing Operating Permit for Major Modification, Agricultural Use
- \$ 400 – Amendment of Existing Operating Permit for Major Modification, Non-agricultural Use
- \$ 400 – Amendment of Existing General Permit by Rule for Major Modification

For Well Registration/ID Number 58492OP3

## Section I. Owner Contact Information

Please check the box that appropriately describes the applicant:  Landowner/Grantor  Lessee/Grantee

Well Owner /Applicant (Entity name): OP III ATX LedgeStone I TH, L.P.

Contact Person: Luke Phillippi

Physical Well Address: 9021 W US HWY 290 City: Austin Zip: 78736 County: Travis

Property lot/tract size: 31.541 acres

Email: lphillippi@endeavor-re.com Primary Phone: 512-682-5500 Secondary Phone: \_\_\_\_\_

Check this box if the mailing address is the same as the physical address

Mailing Address: 500 W. 5th Street, Ste 700 City: Austin Zip: 78701 County: Travis

### Technical Consultant

This is the person who may be employed by the applicant to complete this application on the applicant's behalf.

Consultant Name: Andrew Worsley, P.G.

Mailing Address: 317 RR 620 S. Ste. 303

City: Lakeway, Texas Zip: 78734

Primary Phone: 254-315-1129

Secondary Phone: \_\_\_\_\_

Email: a.worsley@wetrockgs.com

### Alternate Point of Contact (Well Site Access)

Contact Name: Vito Trupiano

Mailing Address: 500 W. 5th Street, Ste 700

City: Austin, Texas Zip: 78701

Primary Phone: 512-682-5500

Secondary Phone: \_\_\_\_\_

Email: vtrupiano@endeavor-re.com

## Section II. Supporting Ownership Documentation

1. **Property Deed.** Provide a complete copy of the recorded deed, showing current ownership, legal description, and a date recorded. If the applicant is a lessee/grantee then provide a copy of the recorded easement, lease, or memorandum of lease.
2. **Property Survey.** Provide a certified copy of the most recent property survey. If a subdivision plat is applicable, please also provide a recorded copy of the subdivision plat.
3. **Site Plan and Coordinates.** Provide a map of the property or a site plan showing the location of the well relative to adjacent property lines AND the GPS coordinate locations of the following:
  - the well to be permitted,
  - the nearest septic tank and septic absorption field/ septic spray area, and
  - the nearest source(s) of potential contamination (within 150ft of well).

## Section III. Permit Request

Requested Permit Type (e.g. Operating - Non-Ag; Operating - Ag; General Permit - NDU, etc.): Operating - Non-Ag  
Permit Volume Requested: 2,640,000 gallons per year Aquifer To Be Used for Production (specify): Lower Trinity  
Proposed Primary Use Type: Irrigation Other Proposed Use Types: N/A  
Is this request for: a new well, a change to an existing well, or an amendment to an existing permit? (specify one)  
New Well

## Section IV. Declarations

Initial to indicate that the applicant has read and understands the following declarations.

- MP The applicant agrees that water produced/withdrawn from the well in reference will be put to beneficial use at all times.
- MP The applicant understands that failure to submit all required application items within the application review period will result in an administratively incomplete application and non-issuance of a permit.
- MP The applicant will comply with the District Rules, all orders, and permits promulgated pursuant to the District Rules.
- MP The applicant will comply with well plugging and capping guidelines set forth in these Rules and will report well closures as required in Rule 4.4.
- MP Many of the incorporated cities within Travis County have ordinances concerning the drilling of wells within their city limits, and Travis County also has groundwater supply-related regulations. It is your responsibility to comply with County regulations and your city ordinances regarding the use of groundwater and drilling of wells. The permits issued by the District do not confer any right to violate any county regulations or city ordinances regarding groundwater.
- MP The applicant understands that this permit confers no vested rights in the holder and the permit is non-transferable. Written notice must be given to the District by the permittee prior to any sale or lease of the well covered by the permit.

## Section V. Applicant or Authorized Agent Sworn Statement

I hereby make application to the Southwestern Travis County Groundwater Conservation District for the purpose indicated above for the water well described herein, and I certify that I am the property owner/grantor or lessee/grantee or an Authorized Agent, and that each and all the statements herein are true and correct, and that I will comply with District Rules, Well Construction Standards, and groundwater use permit and plan requirements. I hereby authorize the District access to this property following reasonable advance notice or, in an emergency, immediately, with such emergency access reported to the owner if advance notice was not possible. The District may access the well for the purposes of inspecting, collecting water quality samples, and investigating conditions relating to the withdrawal, waste, water quality, pollution, or contamination of groundwater.

[Signature] \_\_\_\_\_ Luke Phillippi \_\_\_\_\_ 2/4/2020  
Signature of Applicant or Authorized Agent\* \_\_\_\_\_ Print Name \_\_\_\_\_ Date  
(\*Notarized Agent Authorization Form Required)

State of Texas, County of Travis, SWORN TO AND SUBSCRIBED before me by the said owner or agent on this  
the 4th day of February 2020

Mary Harrington \_\_\_\_\_ 7/11/2020  
Notary Public, State of Texas \_\_\_\_\_ My commission expires



## SUPPLEMENTAL APPLICATION INFORMATION

The following Items must be completed and submitted with your Production Authorization Application form.

### Item 1. Written Descriptive Statements

The applicant must provide a written detailed statement that addresses all of the following components in one "type-written" statement in a Word document format. The submitted Word document should be signed and dated.

- a) Permit Type
  - State the type of permit that you are applying for (for example, Non-exempt Domestic Use General Permit; Non-Ag Operating Permit; etc.)
  - State whether this is for a previously existing well or for a new well that has not yet been put into production for beneficial use.
- b) Nature, Purpose & Location
  - Indicate on a map and with GPS coordinates, the total number of existing wells on the entire property, in use and not in use.
  - Identify the well(s) from which the proposed groundwater volume will be produced. Provide any available drilling reports or geophysical logs of the well(s) to be produced.
  - Describe the well location (GPS coordinates) and the proposed receiving area(s) of groundwater produced from the well, including the characteristics and uses of any surface impoundments.
  - Describe the nature and purpose of the various proposed uses including proposed uses by persons other than the well owner.
  - Describe Proposed Transfers or Transports – Location and purpose of any water to be resold, leased, transferred or transported.
- c) Pumpage Volume
  - State the requested permit pumpage volume and provide a description of how the requested pumpage volume was determined. The applicant shall provide pumpage volume calculations based on the type of use, anticipated pumping capabilities, pumping times, pumping frequency, and other pertinent data to substantiate approximate groundwater production. The requested pumpage volume should demonstrate reasonable nonspeculative demand.
  - Describe the anticipated pumping rate at which water will be withdrawn from each well. Also provide the anticipated pump size, pump depth.
  - Apportion the annual volume by typical use per calendar month and quarter (approximations/estimates are okay.)
- d) Demand Trends (for Public Water Supply Providers only)
  - Describe any anticipated future demand trends, long-term system growth, and associated pumpage needs related to those trends.
  - List a breakdown of the projected annual volume by types of use (DWS, commercial, irrigation, industrial, etc.).
  - Provide a projected quarterly timeline detailing the anticipated pumpage volumes for the first three to five years of pumping.
  - For retail public water suppliers, provide an estimated or calculated per capita and/or household consumption.
- e) Conservation Practices
  - Describe any water conservation measures or practices that are anticipated or are currently in place.

### Item 2. Related Permits and Authorizations

Provide a copy of any notices of application made to the TCEQ to obtain or modify a CCN in order to provide water or wastewater service with water obtained pursuant to the requested production permit. Also, provide notice of any pending, denied, or remanded authorization from a local, state, or federal agency relating to water or wastewater.

### Item 3. Transfers Documentation

If the groundwater is to be resold, leased, or otherwise transferred to others, provide the location to which the groundwater will be delivered, the purpose for which the groundwater will be used, and a copy of the legal documents establishing the right for the groundwater to be sold, leased, or otherwise transferred, including but not limited to any contract for sale, lease, or transfer of groundwater. Otherwise, state "Groundwater from this well will be used solely on-site by well owner or agent."

### Item 4. User Conservation Plan and User Drought Contingency Plans

District staff can provide you templates for a User Conservation Plan (UCP) and a User Drought Contingency Plan (UDCP), upon request. Each permittee, including both Operating Permittees and General Permit holders, are required to develop and comply with their own, permittee-specific UCP and UDCP. Both will need to be completed, signed, and submitted to the District.

### Item 5. Hydrogeological Report

Owners of all existing wells seeking an Operating Permit and or proposed new wells with annual production less than 1 million gallons and seeking an Operating Permit are required to conduct or have previously conducted a specific capacity test of the well and report that in this part of the application. For wells seeking an Operating Permit and having production volumes equal to or greater than 1 million gallons per year, a prescribed aquifer test must be performed on the well to be permitted and a defined hydrogeological report is required to be included in this part of the application. A satisfactory hydrogeological report can only be performed on a well that is constructed to discretely produce from the target production zone and equipped for the ultimate planned use. If a hydrogeological report is required, District staff will coordinate with the applicant on fulfilling this component of the application. Please refer to guidance document: *Guidelines for Hydrogeologic Reports and Aquifer Testing*.

### Item 6. Public Notice Contact List/Map

For both existing and proposed new wells seeking an Operating Permit, a public hearing and a published public notice are required. For new and modified existing wells seeking an Operating Permit for over 1 million gallons per year, notice of application must also be mailed to all Public Water Suppliers and persons who own property located within a ¼-mile radius of the proposed well site by certified mail, return receipt requested. District staff can provide the type of information that must be contained in the notice.

- Location map showing:
  - o GPS coordinates AND latitude/longitude location of the proposed well/existing well to be modified.
  - o mapped property parcels and mapped wells within ¼-mile radius of the proposed well/existing well in reference.
  - o mapped CCNs or PWS Service areas within ¼-mile radius of the proposed well/existing well in reference.
  
- Mailing List: Property Owners
  - o Owner name, mailing address, physical addresses of all property owners within ¼-mile radius that will receive notice.  
Note - This is only applicable for new and modified existing wells seeking an Operating Permit for over 1 million gallons per year.
  
- Mailing List: Public Water Suppliers
  - o Name/Mailing address/Physical addresses of all the Public Water Suppliers within ¼-mile radius that will receive notice.

### Item 7. Additional clarifying information requested by District General Manager

In response to submitted information, the applicant may be asked to submit other clarifying facts, information and considerations deemed necessary by the General Manager for protection of the public health and welfare, and conservation and management of natural resources in the District. If it is determined that additional information is needed, District staff will provide guidance in fulfilling this component of the application.



## *2 – Property Deed*



**WARRANTY DEED**

THE STATE OF TEXAS  
COUNTY OF TRAVIS

§  
§  
§

KNOW ALL MEN BY THESE PRESENTS:

**OP III ATX LEDGESTONE I, LP**, a Delaware limited partnership ("**Grantor**"), for and in consideration of the sum of Ten Dollars (\$10.00) and other good and valuable consideration to it in hand paid and caused to be paid by **OP III ATX LEDGESTONE I TH, LP**, a Delaware limited partnership ("**Grantee**"), whose address is 500 W 5<sup>th</sup> Street, Suite 700, Austin, TX 78701, the receipt and sufficiency of which is hereby acknowledged and confessed, has GRANTED, BARGAINED, SOLD, ASSIGNED and CONVEYED, and by these presents does GRANT, BARGAIN, SELL, ASSIGN and CONVEY, unto Grantee:

The real property located in Travis County, Texas and more particularly described in **Exhibit A** attached hereto and made a part hereof for all purposes and any and all structures, fixtures, and improvements situated thereon (collectively, the "**Land**"); together with all of Grantor's right, title and interest in and to the following: (i) all strips and gores between the Land and abutting properties, (ii) all rights in and to easements, air rights, development rights, and drainage rights incidental to the such Land including, without limitation, all development approvals or rights in respect thereto, and (iii) any and all reversionary interests in and to, and all of Grantor's rights to use, any of the foregoing (clauses (i) through (iii) above being herein collectively called the "**Rights and Appurtenances**" and the Land and the Rights and Appurtenances being herein collectively called the "**Real Property**").

TO HAVE AND TO HOLD the Real Property, together with all and singular any other rights and appurtenances thereto in anywise belonging, unto Grantee, its successors and assigns, FOREVER; and Grantor does hereby bind itself, its successors and assigns, to WARRANT AND FOREVER DEFEND all and singular the Real Property unto Grantee, its successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof; provided, however, with respect to successors and assigns of Grantee, such warranty of title by Grantor shall be limited to every person whomsoever lawfully claiming, or to claim the same, or any part thereof, by, through, or under Grantor, but not otherwise.

This conveyance is made and accepted subject to all easements, restrictions, rights, reservations, encumbrances and other matters (the "**Permitted Exceptions**") set forth on **Exhibit "B"** attached hereto and made a part hereof for all pertinent purposes.

*[End of Page; See Following Page for Signatures]*

This instrument is executed effective as of the 20th day of May 2024.

**GRANTOR:**

**OP III ATX LEDGESTONE I, LP**, a Delaware limited partnership

By: EOP III Sub GP, LLC, a Delaware limited liability company, its general partner

By: [Signature]  
Name: LUKE PHILLIPPI  
Title: EVP

THE STATE OF TEXAS  
COUNTY OF Travis

§  
§  
§

This instrument was acknowledged before me on the 20th day of May 2024, by LUKE PHILLIPPI of EOP III Sub GP, LLC, a Delaware limited liability company, the general partner of OP III ATX LEDGESTONE I, LP, a Delaware limited partnership, on behalf of said entities.

[Signature]  
Notary Public in and for the  
State of Texas  
Printed Name: Mary Harrington

My Commission Expires: 7/11/2026

Exhibit A - Land  
Exhibit B - Permitted Exceptions



**EXHIBIT A**

RIVIERA SMA DE LA TULLE SURVEY NO. 68,  
ABSTRACT NO. 222  
TRAVIS COUNTY, TEXAS

MAY 15, 2024  
S001-A116-10072401  
PAGE 1 OF 5

**LEGAL DESCRIPTION  
TRACT 3: 31.541 ACRES**

DESCRIPTION OF A 31.541 ACRE TRACT OF LAND SITUATED IN THE RIVIERA SMA DE LA TULLE SURVEY NO. 68, ABSTRACT NO. 222, TRAVIS COUNTY, TEXAS, AND BEING A PORTION OF A CALLED 77.749 ACRE TRACT, CONVEYED TO OP III ATX LEDGESTONE I, LP AND RECORDED IN DOCUMENT NO. 2023111903, OFFICIAL PUBLIC RECORDS OF TRAVIS COUNTY, TEXAS (O.P.R.T.C.TX.); SAID 31.541 ACRE TRACT BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

**BEGINNING** AT A 1/2-INCH IRON ROD FOUND (GRID COORDINATES N:10,054,430.98, E:3,055,859.07) ON THE SOUTHEAST RIGHT-OF-WAY LINE OF LEDGESTONE TERRACE (50' WIDE RIGHT-OF-WAY), THE NORTHWEST CORNER OF SECTION ONE OF THE WYNNROCK ESTATES SUBDIVISION, RECORDED IN VOLUME 17, PAGE 19, PLAT RECORDS TRAVIS COUNTY, TEXAS (P.R.T.C.TX.), SAME BEING THE SOUTHWEST CORNER OF SAID 77.749 ACRE TRACT, AND THE HEREIN DESCRIBED TRACT;

**THENCE** WITH THE COMMON LINE OF SAID 77.749 ACRE TRACT AND THE SOUTHEAST RIGHT-OF-WAY LINE OF SAID LEDGESTONE TERRACE THE FOLLOWING TWO (2) COURSES AND DISTANCES:

- 1) NORTH 28 DEGREES 54 MINUTES 28 SECONDS EAST, A DISTANCE OF 239.20 FEET TO A 1/2-INCH IRON ROD WITH CAP STAMPED "TRIAD RPLS 5952" FOUND FOR AN ANGLE POINT, AND
- 2) NORTH 26 DEGREES 45 MINUTES 28 SECONDS EAST, A DISTANCE OF 602.17 FEET TO A 5/8-INCH IRON ROD WITH CAP "LJA SURVEY" SET FOR THE NORTHWEST CORNER OF THE HEREIN DESCRIBED TRACT;

**THENCE** OVER AND ACROSS SAID 77.749 ACRE THE FOLLOWING ELEVEN (11) COURSES AND DISTANCES:

- 1) SOUTH 56 DEGREES 17 MINUTES 22 SECONDS EAST, A DISTANCE OF 125.00 FEET TO A 5/8-INCH IRON ROD WITH CAP "LJA SURVEY" SET FOR AN ANGLE POINT,
- 2) SOUTH 66 DEGREES 01 MINUTES 58 SECONDS EAST, A DISTANCE OF 225.94 FEET TO A 5/8-INCH IRON ROD WITH CAP "LJA SURVEY" SET FOR AN ANGLE POINT,
- 3) SOUTH 80 DEGREES 37 MINUTES 42 SECONDS EAST, A DISTANCE OF 175.18 FEET TO A 5/8-INCH IRON ROD WITH CAP "LJA SURVEY" SET FOR AN ANGLE POINT,
- 4) SOUTH 18 DEGREES 03 MINUTES 13 SECONDS EAST, A DISTANCE OF 175.47 FEET TO A 5/8-INCH IRON ROD WITH CAP "LJA SURVEY" SET FOR AN ANGLE POINT,
- 5) SOUTH 40 DEGREES 05 MINUTES 10 SECONDS EAST, A DISTANCE OF 543.63 FEET TO A 5/8-INCH IRON ROD WITH CAP "LJA SURVEY" SET FOR AN ANGLE POINT,
- 6) SOUTH 49 DEGREES 54 MINUTES 50 SECONDS WEST, A DISTANCE OF 119.56 FEET TO A 5/8-INCH IRON ROD WITH CAP "LJA SURVEY" SET FOR AN ANGLE POINT,
- 7) SOUTH 24 DEGREES 12 MINUTES 17 SECONDS EAST, A DISTANCE OF 130.00 FEET TO A 5/8-INCH IRON ROD WITH CAP "LJA SURVEY" SET FOR AN ANGLE POINT,
- 8) SOUTH 78 DEGREES 22 MINUTES 15 SECONDS EAST, A DISTANCE OF 72.68 FEET TO A 5/8-INCH IRON ROD WITH CAP "LJA SURVEY" SET FOR AN ANGLE POINT,
- 9) NORTH 65 DEGREES 56 MINUTES 17 SECONDS EAST, A DISTANCE OF 500.00 FEET TO A 5/8-INCH IRON ROD WITH CAP "LJA SURVEY" SET FOR AN ANGLE POINT,

- 10) NORTH 20 DEGREES 56 MINUTES 17 SECONDS EAST, A DISTANCE OF 135.50 FEET TO A 5/8-INCH IRON ROD WITH CAP "LJA SURVEY" SET FOR AN ANGLE POINT, AND
- 11) NORTH 73 DEGREES 48 MINUTES 28 SECONDS EAST, A DISTANCE OF 176.26 FEET TO A 5/8-INCH IRON ROD WITH CAP "LJA SURVEY" SET ON THE COMMON LINE OF SAID 77.749 ACRE TRACT AND A CALLED 8.768 ACRE TRACT, CONVEYED TO ROBERT K. BEGGS, RECORDED IN DOCUMENT NO. 2004212901, O.P.R.T.C.TX., FOR THE NORTHEAST CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE WITH THE COMMON LINE OF SAID 77.749 ACRE TRACT AND SAID 8.768 ACRE TRACT THE FOLLOWING SIX (6) COURSES AND DISTANCES:

- 1) SOUTH 16 DEGREES 11 MINUTES 32 SECONDS EAST, A DISTANCE OF 54.04 FEET TO A 1/2-INCH IRON ROD FOUND FOR AN ANGLE POINT,
- 2) SOUTH 24 DEGREES 17 MINUTES 32 SECONDS EAST, A DISTANCE OF 41.04 FEET TO A 1/2-INCH IRON ROD FOUND FOR AN ANGLE POINT,
- 3) SOUTH 58 DEGREES 28 MINUTES 28 SECONDS WEST, A DISTANCE OF 15.12 FEET TO A 1/2-INCH IRON ROD FOUND FOR AN ANGLE POINT,
- 4) SOUTH 25 DEGREES 48 MINUTES 28 SECONDS WEST, A DISTANCE OF 257.84 FEET TO A 5/8-INCH IRON ROD WITH CAP "LJA SURVEY" SET FOR AN ANGLE POINT,
- 5) SOUTH 41 DEGREES 48 MINUTES 28 SECONDS WEST, A DISTANCE OF 348.36 FEET TO A 1/2-INCH IRON ROD FOUND FOR AN ANGLE POINT, AND
- 6) SOUTH 44 DEGREES 52 MINUTES 32 SECONDS EAST, A DISTANCE OF 216.84 FEET TO A 1/2-INCH IRON ROD FOUND FOR THE COMMON CORNER OF SAID 8.768 ACRE TRACT AND LOT 1, BLOCK A OF THE BEST TECHNOLOGIES CENTER, CONVEYED TO OP III ATX LEDGESTONE II, LP, RECORDED IN DOCUMENT NO. 2023112221, O.P.R.T.C.TX. ;

THENCE SOUTH 31 DEGREES 52 MINUTES 32 SECONDS EAST, WITH THE COMMON LINE OF SAID 77.749 ACRE TRACT AND SAID LOT 1, A DISTANCE OF 436.80 FEET TO A 1/2-INCH IRON ROD FOUND FOR THE COMMON CORNER OF SAID 77.749 ACRE TRACT AND A CALLED 0.44 ACRE TRACT, CONVEYED TO MATTHEW ALAN HUMMON AND STEFANIE CAROLA HUMMON, RECORDED IN DOCUMENT NO. 2021124549, O.P.R.T.C.TX., FOR THE SOUTHEAST CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE SOUTH 73 DEGREES 11 MINUTES 28 SECONDS WEST, WITH THE COMMON LINE OF SAID 77.749 ACRE TRACT AND SAID 0.44 ACRE TRACT, A DISTANCE OF 123.11 FEET TO A 1/2-INCH IRON ROD FOUND ON THE NORTH LINE OF SAID WYNNROCK ESTATES SECTION ONE, FOR THE SOUTH CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE WITH THE COMMON LINE OF SAID 77.749 ACRE TRACT AND SAID WYNNROCK ESTATES SECTION ONE THE FOLLOWING SIX (6) COURSES AND DISTANCES:

- 1) NORTH 62 DEGREES 21 MINUTES 32 SECONDS WEST, A DISTANCE OF 391.89 FEET TO A 1/2-INCH IRON ROD FOUND FOR AN ANGLE POINT,
- 2) NORTH 61 DEGREES 36 MINUTES 32 SECONDS WEST, A DISTANCE OF 390.43 FEET TO A 1/2-INCH IRON ROD FOUND FOR AN ANGLE POINT,

- 3) NORTH 62 DEGREES 19 MINUTES 32 SECONDS WEST, A DISTANCE OF 506.23 FEET TO A 1/2-INCH IRON ROD FOUND FOR AN ANGLE POINT,
- 4) NORTH 62 DEGREES 37 MINUTES 09 SECONDS WEST, PASSING A 1/2-INCH IRON ROD FOUND AT A DISTANCE OF 200.19 FEET AND CONTINUING FOR A TOTAL DISTANCE OF 420.35 FEET TO A 1/2-INCH IRON ROD FOUND FOR AN ANGLE POINT,
- 5) NORTH 62 DEGREES 45 MINUTES 32 SECONDS WEST, A DISTANCE OF 227.40 FEET TO A 1/2-INCH IRON ROD FOUND FOR AN ANGLE POINT, AND
- 6) NORTH 63 DEGREES 08 MINUTES 29 SECONDS WEST, A DISTANCE OF 232.85 FEET TO THE POINT OF BEGINNING AND CONTAINING 31.541 ACRES OF LAND, MORE OR LESS.

BEARING BASIS:

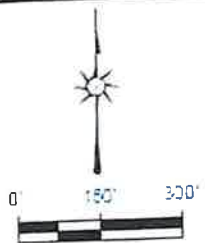
ALL BEARINGS SHOWN ARE BASED ON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE, NAD83/2011. ALL DISTANCES SHOWN ARE SURFACE DISTANCES, GRID DISTANCES CAN BE OBTAINED BY DIVIDING SURFACE DISTANCES BY A COMBINED SCALE FACTOR OF 1.00009999. UNITS: U.S. SURVEY FEET.



*Matt Overall*

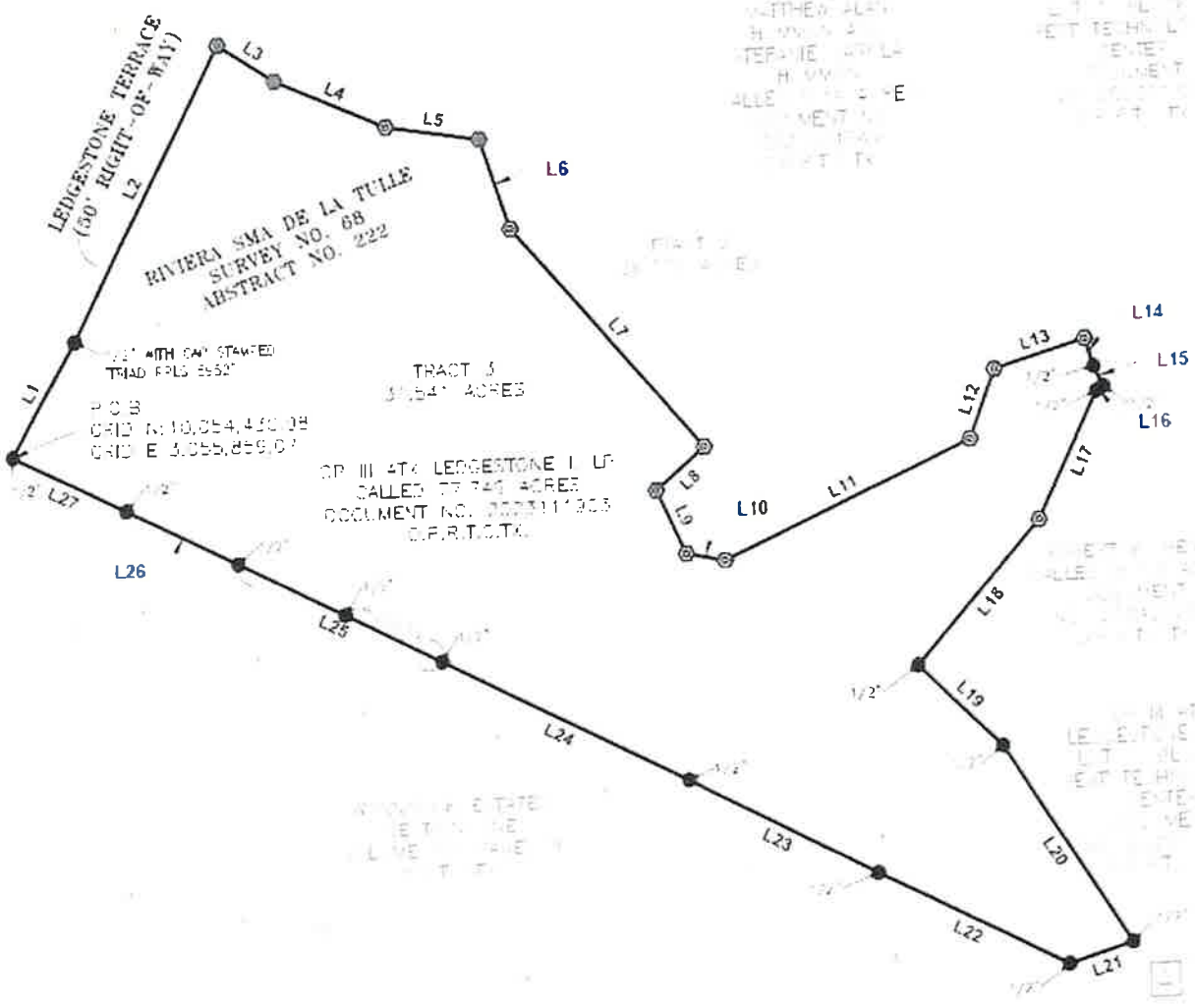
MATT OVERALL, RPLS # 6864  
LJA SURVEYING, INC.  
7500 RIALTO BLVD, BUILDING II, SUITE 100  
AUSTIN, TEXAS 78735  
TEXAS FIRM NO. 10194382

DATE: 05/15/2024



**LEGEND**

- WITH CAP STAMPED
- WITH FOUND (SEE NOTE)
- OFFICIAL PUBLIC RECORDS TRAVIS COUNTY TEXAS
- PLAT RECORDS TRAVIS COUNTY TEXAS
- BOUNDARY LINE
- ALIGNER LINE



**GENERAL NOTES**

- 1 BEARING BASIS BEING GRID NORTH, TEXAS STATE PLANE COORDINATES, CENTRAL ZONE, NAD83 (NAD83 (2011) EPOCH 2013);
- 2 VERTICAL DATUM: NAVD83
- 3 ALL DISTANCES SHOWN ARE SURFACE DISTANCES. GRID DISTANCES CAN BE OBTAINED BY DIVIDING SURFACE DISTANCES BY A COMBINED SCALE FACTOR OF 1.00002222 UNITS, U.S. SURVEY FEET

PAGE 4 OF 5	DATE	05/15/24
	DRWN BY	JBC
	CHKD BY	MO
	PROJ NO	A116-1007

**EXHIBIT "A"**  
 TRACT 3: 31,541 ACRES  
 IN THE RIVERA SMA DE LA TULLE SURVEY NO. 68,  
 ABSTRACT NO. 222,  
 TRAVIS COUNTY, TEXAS

**LJA Surveying, Inc.**  
 7500 Rialto Blvd., Building II  
 Suite 100  
 Austin, Texas 78735  
 Phone: 512-429-4700  
 T&E Field Form No. 1019438C

Exhibit A

Line Table			Line Table		
Line #	Direction	Length	Line #	Direction	Length
L1	N28° 54' 28"E	239.20'	L15	S24° 17' 32"E	41.04'
L2	N26° 45' 28"E	602.17'	L16	S55° 28' 29"W	15.12'
L3	S56° 17' 22"E	125.00'	L17	S25° 48' 25"W	257.64'
L4	S68° 01' 58"E	225.94'	L18	S41° 48' 25"W	348.36'
L5	S80° 37' 42"E	175.18'	L19	S44° 52' 32"E	216.94'
L6	S18° 03' 13"E	175.47'	L20	S31° 52' 32"E	436.60'
L7	S40° 05' 10"E	543.63'	L21	S73° 11' 25"W	123.11'
L8	S42° 54' 50"W	112.56'	L22	N62° 21' 32"W	391.39'
L9	S24° 12' 17"E	130.00'	L23	N61° 38' 32"W	390.43'
L10	S78° 22' 15"E	72.68'	L24	N62° 19' 32"W	506.23'
L11	N65° 56' 17"E	500.00'	L25	N62° 37' 09"W	420.35'
L12	N20° 56' 17"E	135.50'	L26	N62° 45' 32"W	227.40'
L13	N73° 48' 28"E	176.26'	L27	N63° 08' 29"W	232.85'
L14	S16° 11' 32"E	54.04'			



*Matt Overall*

MATT OVERALL  
 REGISTERED PROFESSIONAL LAND SURVEYOR  
 TEXAS REGISTRATION NO. 8884  
 DATE OF SURVEY 05/15/2024

**GENERAL NOTES**

1. BEARING BASIS BEING GRID NORTH, TEXAS STATE PLANE COORDINATES, CENTRAL ZONE, NAD83 (NAD83 (2011) EPOCH 2018).
2. VERTICAL DATUM: NAVD88
3. ALL DISTANCES SHOWN ARE SURFACE DISTANCES. GRID DISTANCES CAN BE OBTAINED BY DIVIDING SURFACE DISTANCES BY A COMBINED SCALE FACTOR OF 1.00000000. UNITS: U.S. SURVEY FEET

PAGE 5 OF 5	DATE:	05/15/24	<b>EXHIBIT "A"</b> TRACT 3: 31.541 ACRES IN THE RIVIERA SMA DE LA TULLE SURVEY NO. 68, ABSTRACT NO. 222 TRAVIS COUNTY, TEXAS	<b>LJA Surveying, Inc.</b> 7500 R. L. Bldg., Building II Suite 100 Austin, Texas 78735 Phone: 512.439.4700 T.B.P.E.L.S. Firm No. 10994382
	DRWN BY:	JBC		
	CHKD BY:	MO		
	PROJ NO.:	A116-1007		

## EXHIBIT B

### Permitted Exceptions

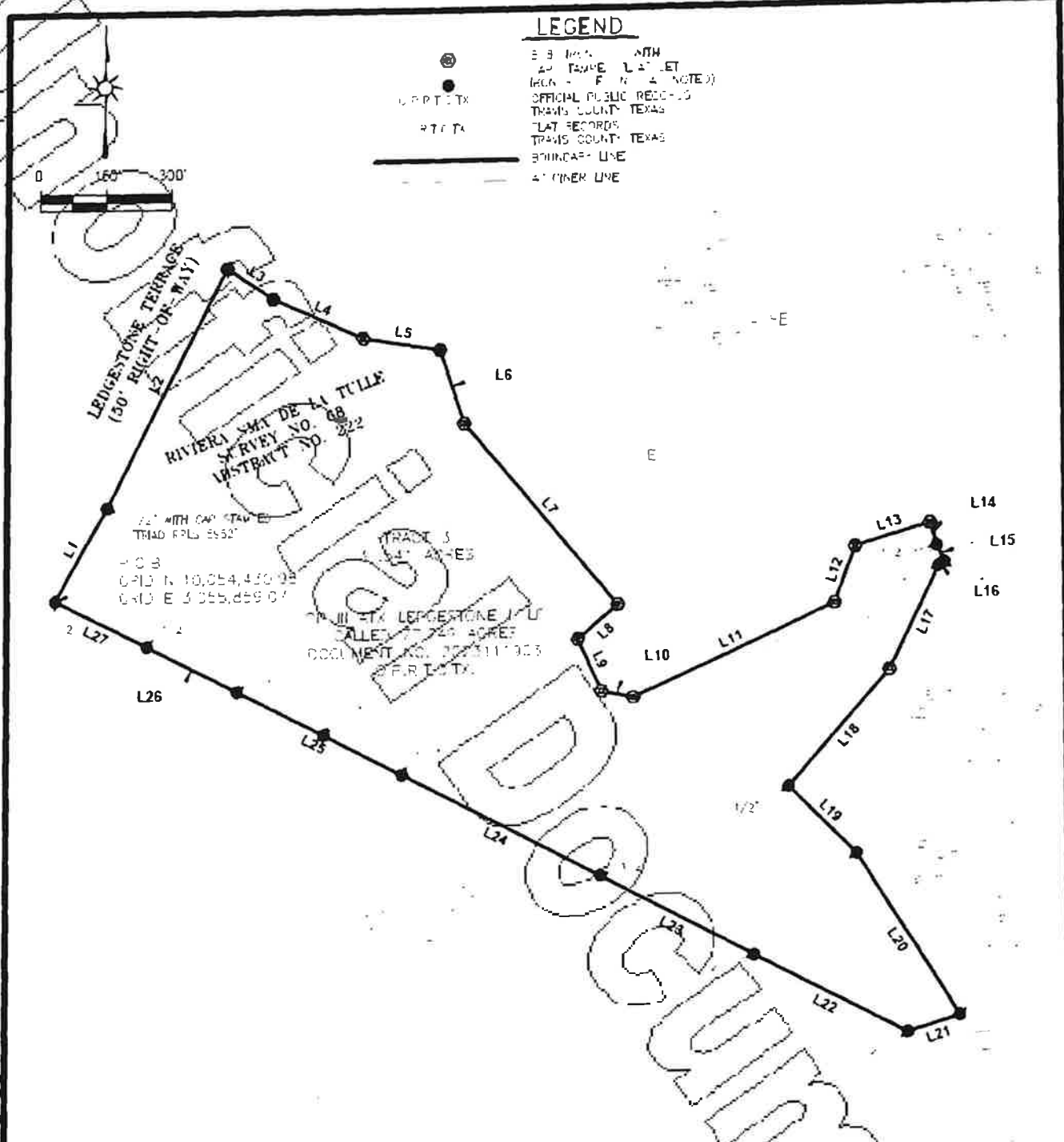
1. 30-foot roadway easements reserved by James W. Maddox and wife Gracie Delmar a. Maddox for themselves, their heirs and assigns, in instruments dated December 31, 1970, recorded in Volume 3978, Page 1320 and Volume 3978, Page 1324, both of the Deed Records of Travis County, Texas.
2. Underground water line easement granted to Lower Colorado River Authority, by instrument dated October 18, 2000, recorded under Document No. 2000174140 of the Official Public Records of Travis County, Texas.
3. Taxes for the year 2024 and subsequent years.
4. All oil, gas, and other minerals, together with all rights relating thereto, express or implied, reserved in instrument recorded under Document No. 2023111903 of the Official Public Records of Travis County, Texas, subject to the waiver of surface rights contained therein.
5. Vendor's Lien retained in Deed dated as of September 28, 2023 and filed for record on September 29, 2023, recorded under Document No. 2023111903 of the Official Public Records of Travis County, Texas, executed by Mitchel Wong, Trustee of the: Michael Y. Wong 1991 Trust; Lawrence Shawn Wong 1991 Trust; Patrick Y. Wong 1991 Trust; and Shannon M. Wong 1991 Trust to OP III ATX Ledgestone I, LP, a Delaware limited partnership, securing the payment of one promissory note of even date in the principal amount of \$10,600,000.00, payable to Mitchel Wong, Trustee of the: Michael Y. Wong 1991 Trust; Lawrence Shawn Wong 1991 Trust; Patrick Y. Wong 1991 Trust; and Shannon M. Wong 1991 Trust, additionally secured by Deed of Trust, of even date, to Katherine D. Davy, Trustee, and all terms, conditions and stipulations contained therein, including any additional indebtedness secured thereby, filed for record on September 29, 2023, recorded under Document No. 2023111904 of the Official Public Records of Travis County, Texas.

### *3 – Property Survey*



**LEGEND**

- BOUNDARY POINT
- CENTER POINT
- BOUNDARY LINE
- - - CENTER LINE



**GENERAL NOTES**

- 1 BEARING BASIS BEING GRID NORTH, TEXAS STATE PLANE COORDINATES CENTRAL ZONE, NAD83 (NAD83 (2011) EPOCH 2018)
- 2 VERTICAL DATUM NAVD83
- 3 ALL DISTANCES SHOWN ARE SURFACE DISTANCES. GRID DISTANCES CAN BE OBTAINED BY DIVIDING SURFACE DISTANCES BY A COMBINED SCALE FACTOR OF 1.00008222 UNITS U.S. SURVEY FEET

PAGE 4  
OF 5

DATE	05/15/24
DRWN BY	JBC
CHKD BY	MD
PROJ NO	A216-1007

**EXHIBIT "A"**

TRACT 3, 31.541 ACRES  
IN THE RIVERA SMT DE LA TULLE SURVEY NO. 68  
ADJUTANT NO. 222  
TRAVIS COUNTY, TEXAS

**LJA Surveying, Inc.**  
 7500 Rife Blvd. Building 11  
 Suite 100  
 Austin, Texas 78735  
 Phone 512-239-2175  
 FAX 512-239-2175

Exhibit A

## *4 – Site Map and Coordinates*





## *5 – Written Descriptive Statement*



## **Permit Type**

OP III ATX Ledgestone I TH, LP (the Applicant) is currently seeking a Non-Agricultural Operating Permit for one (1) new well with an annual pumpage of 2,640,000 gallons per year. A Drilling Authorization was approved by Southwestern Travis County Conservation District for Well No. 1 (58492OP3; “LT Well No. 1”) on September 19, 2024.

## **Nature, Purpose, Location**

Please refer to the Hydrogeological Report for all pertinent mapping, well reports, and geophysical logs. Based on irrigation calculations prepared by the Owner’s landscape architect with inputs from SWTCGCD staff, the requested annual irrigation volume is 2,640,000 gallons for approximately 132,910 square feet of warm-season turfgrass and 44,750 square feet of mixed landscape beds. In order to meet daily demand, LT Well No. 1 has been outfitted with a submersible pump capable of producing up to 35 gallons per minute (gpm), depending on aquifer conditions and the total dynamic head on the pump. A pump installation certification has been provided to SWTCGCD. The proposed system configuration entails pumping water from LT Well No. 1 into an adjacent 10,000 gallon ground storage tank. Water from the tank will then be sent into the irrigation system via booster pumps or from a pressure tank. Anticipated operations of irrigation would occur multiple times per week with cycles lasting up to 12 hours, depending on water demand. The well will not be used to supply water to any pond, lake, reservoir, or other surface impoundment.

## **Pumpage Volume**

The pumping schedule for water to be produced from the well will be dependent upon irrigation demand and precipitation events. Peak pumping demand hours are projected for either the early morning or late evening hours to accommodate typical irrigation schedules and to mitigate evaporative loss; peak pumping demand will also be subject to seasonal change, such as increased usage in the summer and decreased usage in the winter. Below is an estimated monthly apportionment:

<b>Month</b>	<b>Water Demand (gallons)</b>
<b>January</b>	104,284
<b>February</b>	124,954
<b>March</b>	199,175
<b>April</b>	241,452
<b>May</b>	293,124
<b>June</b>	327,886
<b>July</b>	331,644
<b>August</b>	333,523
<b>September</b>	255,545
<b>October</b>	201,054
<b>November</b>	125,893
<b>December</b>	101,465
<b>Total</b>	<b>2,640,000</b>



**Conservation Practices**

The Applicant intends to utilize the groundwater in an efficient, responsible manner. The Applicant will abide by the User Conservation Plan and User Drought Contingency Plans submitted in this application package.

**Related Permits and Authorizations**

There are no notices or applications filed to Texas Commission on Environmental Quality (TCEQ) to obtain or modify a CCN in order to provide water or wastewater service with water obtained pursuant to the requested production permit.

**Transfers Documentation**

Groundwater from the well will be used solely on-site by well owner or agent

  
\_\_\_\_\_  
Signature of Applicant

Luke Phillippi  
Printed Name of Applicant

2/4/2020  
Date of Signature



## ***6 – User Conservation Plan and User Drought Contingency Plans***





# User Conservation Plan

8656 Highway 71 West, Building A, Suite 224, Austin TX 78735 · Tel. 512-276-2875 · www.swtcgcd.org

Permitholder: OP III ATX Ledgestone I TH, LP

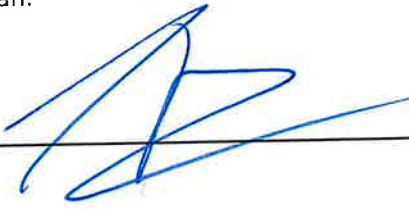
Permitted Type of Water Use(s): Operating Permit, Non-agricultural Uses

Registered Well Identification Number(s): 58492OP3

Authorized Annual Groundwater Use Under Permit (gallons): 2,640,000

Monthly distribution of authorized use during non-drought is to be tabulated in Section IV.

The permittee named above has adopted this User Conservation Plan (UCP) as required by the Southwestern Travis County Groundwater Conservation District and agrees to comply with all the applicable District Rules in implementing and enforcing the measures of the enclosed plan.

Permittee Signature:  Date: 2/4/2021

Accepted: \_\_\_\_\_ (Date)  
\_\_\_\_\_  
(Signature of District General Manager)

## Section I. Background and Purpose of Plan

The Southwestern Travis County Groundwater Conservation District (District) manages all groundwater resources in its jurisdictional area under the authority granted under Chapter 36 of the Texas Water Code and the District's enabling legislation. Conservation and Drought Contingency planning are among the management goals the District must include in its Management Plan that is approved by the Texas Water Development Board no less than every five years. District Rule 5.1(A)(3) requires adoption and implementation of use-specific User Conservation Plans (UCPs) for all well owners/operators that are authorized to use groundwater under an Operating Permit or General Permit issued by the District. The UCP is complementary to the separate User Drought Contingency Plan (UDCP) that is also a requirement of each Permitholder.

The intent of the UCP is to set forth guidelines and ongoing conservation measures that will maximize the availability of the groundwater remaining in the aquifer and the utilization efficiency of the water withdrawn. The guidelines in this section are continuously in effect and may only be replaced by more restrictive requirements as ordered by the Board under an Extreme or Exceptional declared drought stage.

## Section II. Ongoing Conservation Measures for All Permitholders

Each Permitholder will adopt and make best efforts to follow these general water-conservation measures all the time, as applicable:

1. Replace faulty or unusable plumbing fixtures or appliances with water saving devices such as low-flow toilets, shower and faucet aerators, and water-efficient devices.
2. Choose and install water-efficient appliances and fixtures in new construction.
3. Check for leaks in toilets at least every six months.
4. Repair dripping faucets and leaky plumbing promptly.
5. At least once each year, cease all water usage and check installed meters to determine if leaks exist in underground transmission lines.
6. Utilize water efficient landscape practices such as water-wise landscape design and drip irrigation for new turf and landscaping.
7. When planning to replace turf and landscape plants, convert high water use turf and landscapes to native and water-wise designs for existing turf and landscaping.
8. Select drought-tolerant vegetation from the list of appropriate native and naturalized plants compiled by the Lady Bird Johnson Wildflower Center ([https://www.wildflower.org/collections/collection.php?collection=centex\\_drought](https://www.wildflower.org/collections/collection.php?collection=centex_drought)) when installing new or replacing landscape vegetation.
9. Implement a watering schedule endorsed by the District that includes watering restrictions for hose-end and underground irrigation systems.
10. Maximize efficient operation of automatic sprinkler systems to avoid waste by conducting periodic irrigation audits, frequently adjusting controllers based on conditions, installing rainwater shutoff devices, smart clocks and controllers, etc.
11. Wash vehicles using a hose-end sprayer with an automatic shut off or with buckets full of water and not allowing the water to continue to run from the hose when not in use.
12. Use a cover on swimming pools when possible to minimize evaporative loss of water.
13. When possible, consider alternative water supplies including but not limited to rainwater collection and alternative irrigation strategies to improve conservation of water on site.
14. Regularly monitor submitted water meter readings to facilitate detection of possible future system leaks and to quantify success of conservation practices and steps taken for reducing water use during drought conditions.
15. Periodically review and evaluate this User Conservation Plan and implement revisions to the Plan as necessary.

## Section III. Additional Conservation Measures Specific to the Designated Type of Groundwater Use for Applicable Permitholders

In addition to the general UCP measures identified in Section II of this Plan, the Permitholder has use-specific water-conservation measures to follow. Accordingly, by initialing the appropriate subsection heading below for the type of use of groundwater under the permit (as designated in the descriptive info at the top of the first page of this Plan), the Permitholder agrees to adopt and make best efforts to follow these water-use efficiency measures at all times. Each permitholder must initial at least one of these types of water use.

## A. Agricultural Use

(Initial Here)

1. Investigate and implement efficient irrigation practices and utilization of alternate watering sources where possible.
2. Follow a schedule of irrigating in morning and evening times to prevent inefficient evaporation losses.
3. Continue an on-going program of irrigation system leak detection and repair which shall include the consideration and utilization of improved technology when possible.
4. Manage the agricultural areas in such a way that emphasizes precise nutrient management, soil preparation techniques, and adequate watering.
5. Install automatic irrigation systems and controllers for all new irrigation systems. Retrofit manual control systems with automatic systems when feasible.
6. Limit access to irrigation system equipment and controllers only to authorized personnel to prevent inefficient use, unauthorized use, and vandalism of equipment.
7. Implement proper soil management practices such as proper aeration, nutrient management, mowing and soil testing.
8. Implement proper irrigation management practices to prevent overwatering, flooding, pooling, evaporation, and runoff.
9. Implement water use and management practices to protect water quality by preventing organic matter, phosphorus, nitrogen and pathogens from leaching into groundwater or from entering local surface waters with stormwater runoff.
10. Install flow check valves on troughs to reduce waste and overflow.
11. Minimize surface area of stock water tanks/ ponds to reduce evaporative losses.
12. Notify all employees of User Conservation Plan and provide notification of drought stage declarations.
13. Periodically review and evaluate this conservation plan and implement District-approved revisions to the plan as necessary.

## B. Commercial/Institutional/Other Use

(Initial Here)

### 1. General Facility Management

- a. Periodically review and evaluate this conservation plan and implement revisions to the plan as necessary.
- b. When possible, consider alternative water supplies including but not limited to rainwater collection and alternative irrigation strategies to improve conservation of water on site.
- c. Maintain record of submitted meter readings as record for future determination of possible system leaks and to quantify success of conservation practices and steps for usage reduction during drought conditions.
- d. Set system conservation goals for overall water use reductions and develop policies to monitor, mediate and enforce compliance with this User Conservation Plan.
- e. Implement general prohibition on water wasting activities or practices. During staff meetings and when appropriate, suggest ways for employees to reduce water consumption in order to promote and encourage voluntary conservation measures. Require employees to report any water wasting practices and all faulty fixtures or leaks to maintenance for repair.
- f. Require water efficient internal recycling equipment and air cooled equipment for cooling systems in any new construction and in retrofits where feasible.
- g. Implement water reuse from sources such as air conditioner condensate, treated effluent, and collected stormwater where feasible.
- h. Implement submetering for systems with multiple buildings and uses to account for water usage.
- i. Assist District in the distribution of conservation and educational materials or post signs at all faucets, sinks, outdoor spigots, and other water sources reminding employees to use water wisely.
- j. Implement an on-going program of system leak detection and repair which shall include the consideration and utilization of improved technology when possible.
- k. Require low flow/low volume fixtures, HET toilets, and water efficient appliances to be installed in all new construction or retrofits.

### 2. Outdoor Measures – Landscape Irrigation

- a. Utilize water efficient landscape practices such as water-wise landscape design and drip irrigation for new turf and landscaping.
- b. When planning to replace turf and landscape plants, convert high water use turf and landscapes to native and water-wise designs for existing turf and landscaping.
- c. Select vegetation from the list of appropriate native and naturalized plants compiled by the Lady Bird Johnson Wildflower Center when installing new or replacing landscape vegetation.
- d. Implement a watering schedule endorsed by the District that includes watering restrictions for hose-end and underground irrigation systems.
- e. Adopt a 2 day/week or every-5<sup>th</sup> day schedule for lawn watering and always only water between 8pm and 8am.
- f. Maximize efficient operation of automatic sprinkler systems:
  - 1) frequently adjusting controllers based on conditions
  - 2) check sprinkler heads regularly to prevent clogging or replace broken heads
  - 3) adjust to eliminate overspray
  - 4) installing rainwater shutoff devices, smart clocks and controllers
  - 5) adjust run times and frequency monthly to respond to and changing rainfall and temperature conditions.
- g. Use hand held hose, drip irrigation, or soaker hoses for trees, garden, non-turf areas and bedded plants.
- h. Avoid watering on windy days.
- i. Cut lawns on highest setting and leave lawn clippings on lawn instead of bagging.
- j. For hose-end sprinklers - use sprinkler timers to limit water duration.
- k. Use mulch to conserve soil moisture.
- l. Irrigation of lawn areas with hose-end sprinklers or automatic irrigation systems shall be manually set to follow a 2 day/week watering schedule between the hours of 8pm and 8am

- m. Use hand-held hose, drip irrigation, or soaker hoses for trees, garden, non-turf areas and bedded plants during designated water days and times.
- n. Use of soaker hoses for foundation protection shall be limited to designated water days and times

### 3. Outdoor Measures – Vehicle Washing

- a. Vehicle washing should be avoided except when conducted with a bucket or hand-held hose with an automatic shutoff device during designated watering days and times (if possible, use a commercial car wash that recycles water).
- b. Wash vehicles over lawn areas where possible.

### 4. Outdoor Measures – Pools and Fountains

- a. Use a cover on swimming pools when possible to minimize evaporative loss of water.
- b. Limit pool filter backwashing to only when necessary.
- c. Utilize supplemental water sources where possible (e.g. purchased water, collected rainwater, etc.).
- d. Filling or refilling of pools is strongly discouraged. Topping off of existing pools for essential maintenance purposes is acceptable only during designated watering days and times.
- e. Operation of any ornamental fountain or pond for aesthetic or scenic purposes is prohibited except where necessary to support aquatic life or where such fountains or ponds are equipped with a recirculation system.

### 5. Non-essential Uses

The following uses of water are considered as non-essential and should be avoided when possible:

- a. wash down of any sidewalks, walkways, driveways, parking lots, tennis courts, or other hard-surfaced areas;
- b. use of water to wash down buildings or structures for purposes other than immediate fire protection;
- c. use of water for dust control;
- d. flushing gutters or permitting water to run or accumulate in any gutter or street;
- e. failure to repair a controllable leak(s) within a reasonable period after having been given notice directing the repair of such leak(s); and any waste of water.

## C. Industrial Use

(Initial Here)

### 1. General Facility Management

- a. Periodically review and evaluate this conservation plan and implement revisions to the plan as necessary.
- b. When possible, consider alternative water supplies including but not limited to rainwater collection and alternative irrigation strategies to improve conservation of water on site.
- c. Maintain record of submitted meter readings as record for future determination of possible system leaks and to quantify success of conservation practices and steps for usage reduction during drought conditions.
- d. Set system conservation goals for overall water use reductions and develop policies to monitor, mediate and enforce compliance with this User Conservation Plan.
- e. Implement general prohibition on water wasting activities or practices. During staff meetings and when appropriate, suggest ways for employees to reduce water consumption in order to promote and encourage voluntary conservation measures. Require employees to report any water wasting practices and all faulty fixtures or leaks to maintenance for repair.
- f. Require water efficient internal recycling equipment and air-cooled equipment for cooling systems in any new construction and in retrofits where feasible.
- g. Implement water reuse from sources such as air conditioner condensate, treated effluent, and collected stormwater where feasible.
- h. Implement submetering for systems with multiple buildings and uses to better account for water usage.
- i. Assist District in the distribution of conservation and educational materials or post signs at all faucets, sinks, outdoor spigots, and other water sources reminding employees to use water wisely.
- j. Implement an on-going program of system leak detection and repair which shall include the consideration and utilization of improved technology when possible.
- k. Require low flow/low volume fixtures, HET toilets, and water efficient appliances to be installed in all new construction or retrofits.

### 2. Outdoor Measures – Landscape Irrigation

- a. Utilize water efficient landscape practices such as water-wise landscape design and drip irrigation for new turf and landscaping.
- b. When planning to replace turf and landscape plants, convert high water use turf and landscapes to native and water-wise designs for existing turf and landscaping.
- c. Select vegetation from the list of appropriate native and naturalized plants compiled by the Lady Bird Johnson Wildflower Center when installing new or replacing landscape vegetation.
- d. Implement a watering schedule endorsed by the District that includes watering restrictions for hose-end and underground irrigation systems.
- e. Adopt a 2-day/week or once/5-day schedule for lawn watering and always only water between 8pm and 8am.
- f. Maximize efficient operation of automatic sprinkler systems:
  - 1) frequently adjusting controllers based on conditions
  - 2) check sprinkler heads regularly to prevent clogging or replace broken heads
  - 3) adjust to eliminate overspray
  - 4) installing rainwater shutoff devices, smart clocks and controllers
  - 5) adjust run times and frequency monthly to respond to and changing rainfall and temperature conditions.
- g. Use hand-held hose, drip irrigation, or soaker hoses for trees, garden, non-turf areas and bedded plants.
- h. Avoid watering on windy days.
- i. Cut lawns on highest setting and leave lawn clippings on lawn instead of bagging.
- j. For hose-end sprinklers - use sprinkler timers to limit watering duration.
- k. Use mulch to conserve soil moisture.
- l. Irrigation of lawn areas with hose-end sprinklers or automatic irrigation systems shall be manually set to follow a 2 day/week or every-5<sup>th</sup> day watering schedule between the hours of 8pm and 8am

- m. Use hand-held hose, drip irrigation, or soaker hoses for trees, garden, non-turf areas and bedded plants during designated water days and times.
- n. Use of soaker hoses for foundation protection shall be limited to designated water days and times

### 3. Outdoor Measures – Vehicle Washing

- a. Vehicle washing should be avoided except when conducted with a bucket or hand-held hose with an automatic shutoff device during designated watering days and times (if possible, use a commercial car wash that recycles water).
- b. Wash vehicles over lawn areas where possible.

### 4. Outdoor Measures – Pools and Fountains

- a. Use a cover on swimming pools when possible to minimize evaporative loss of water.
- b. Limit pool filter backwashing to only when necessary.
- c. Utilize supplemental water sources where possible (e.g. purchased water, collected rainwater, etc.).
- d. Filling or refilling of pools is strongly discouraged. Topping off of existing pools for essential maintenance purposes is acceptable only during designated watering days and times.
- e. Operation of any ornamental fountain or pond for aesthetic or scenic purposes is prohibited except where necessary to support aquatic life or where such fountains or ponds are equipped with a recirculation system.

### 5. Non-essential Uses

The following uses of water are considered as nonessential and should be avoided when possible:

- a. wash down of any sidewalks, walkways, driveways, parking lots, tennis courts, or other hard-surfaced areas;
- b. use of water to wash down buildings or structures for purposes other than immediate fire protection;
- c. use of water for dust control;
- d. flushing gutters or permitting water to run or accumulate in any gutter or street;
- e. failure to repair a controllable leak(s) within a reasonable period after having been given notice directing the repair of such leak(s); and any waste of water.

## D. Irrigation Use

(Initial Here)

This category of water use pertains to irrigation of large non-agricultural areas such as golf courses, athletic fields, and common areas of community developments; it does not relate to lawn and landscape irrigation of individual residences, although some of the conservation measures are essentially similar.

### User Conservation Plan Checklist - Irrigation Water Use

Provide a descriptive statement that addresses each of the requirements.

Requirement	Details
1. Description of Irrigation Use Process	Describe overall irrigation processes including all water sources, overall distribution, and turf/vegetation type and irrigation area.
2. Description of Irrigation Method or System	Describe the existing irrigation system including system layout and design, specifics on the control system, controllers, valves, and irrigation heads, and average run times.
3. Measuring Device/Water Accounting	Describe the methods or devices which will be used to measure and account for water used for irrigation including all meter locations within the system.
4. Specific 5- and 10-Year Water Conservation Goals	Describe specific 5- and 10-year water conservation goals for the site.
5. Water Conserving Irrigation Equipment and Operations	Describe all water conserving equipment and operations utilized including specifics on turf grass and landscaping management practices.
6. Irrigation System Monitoring and Maintenance	Describe all irrigation system maintenance and monitoring practices used to insure optimum performance including leak detection and repair, and equipment and system maintenance regimes.
7. Irrigation Testing and Scheduling	Describe all irrigation testing and scheduling procedures including scheduling procedures to be utilized in the application of water (night/day), and winterization and spring startup procedures.
8. Equipment Upgrades	Describe any and all equipment upgrades installed in the last two years.
9. Future Conversions	Describe any future plans to incorporate additional water conserving equipment and operations.
10. Alternative Water Supplies	Describe alternative water supplies being utilized on site including any direct reuse and/or recycling practices.

## E. Public Water Supply

(Initial Here)

### 1. Conservation Measures Relating to Retail Customers

- a. Promote and encourage installation and use of water saving plumbing fixtures in existing homes. Promotion will take place through information mail outs and/or distribution of water saving devices.
- b. Promote the replacement of water using appliances with more water efficient varieties. Promotion will take place through mail outs and creation of incentive programs.
- c. Promote customer household leak detection and repair.
- d. Promote and encourage water efficient landscape practices such as water-wise landscape design and drip irrigation for new turf and landscaping. Promotion will take place through mail outs and creation of incentive programs.
- e. Promote and encourage conversion of high water-use turf and landscapes to native and water-wise designs for existing turf and landscaping. Promotion will take place through mail outs and creation of incentive programs.
- f. Implement a watering schedule that limits landscape irrigation to no more frequently than once every 5 days or every-5<sup>th</sup> day, and to only between the hours of 8 pm and 8 am, unless the TCEQ tariff specifies use of different hours.
- g. Encourage and promote minimum soil depth (6" or greater) for new residential turf and landscaping.
- h. Send notices at the start and end of the District Water Conservation Period to remind customers to check, repair, and make adjustment to automatic sprinkler systems as necessary.
- i. Require dedicated irrigation meters for all new industrial and commercial customers.
- j. Assist customers with automatic sprinkler systems by providing information and materials on conducting irrigation audits and efficient operation of the sprinkler system to avoid waste (adjustment of controllers, installation of rainwater shutoff devices, etc.).

### 2. Conservation Measures Relating to System Operations

- a. Conduct periodic system water audits and system water loss assessment to determine illegal connections, abandoned services, etc. Use results to revise meter testing and repair practices, reduce unauthorized water use, improve accounting for unauthorized water use, and implement effective water loss management strategies.
- b. Implement and continue an on-going program of system leak detection and repair, which shall include the consideration and utilization of improved technology when possible. Cut off vacant houses; verify there are no leaks.
- c. Monitor high usage customers and provide additional support and encouragement to promote efficient and effective use and to reduce wasteful practices.
- d. Limit flushing of dead-end mains and fire hydrants.
  - 1) Dead-end mains - drain only as needed to prevent stale water and/or customer complaints.
  - 2) Fire hydrants - open twice yearly to maintain proper operation.
- e. In next rate case for consideration by the Texas Commission on Environmental Quality (TCEQ), consider implanting a conservation-oriented rate structure which may include conservation oriented amendments to the tariff to include authorization to implement temporary water rates, the assessment of surcharges to encourage water conservation, and other available measures to encourage water conservation.
- f. Require applicants for service to comply with the permittee rules, plans, and regulations as approved by the District and the TCEQ.
- g. Continue customer meter testing and meter repair and replacement programs. Set a goal of achieving accuracy of within plus or minus 5.0% in order to measure and account for the amount of water diverted from the source of supply.
- h. Implement system-wide prohibition on water waste. Enforce prohibitions with applicable authority, including citations or notices to violators. Set up a special water waste line that will be listed on the billings. Follow up and investigate calls.

### 3. General Conservation Measures

- a. Develop five-year and ten-year targets for water savings. Include goals for water loss programs and for municipal use (in gallons per capita per day).
- b. Promote and encourage voluntary indoor and outdoor conservation measures through examples at Company office(s).
- c. Include drought stage and conservation information in customer billings. Include historic water use and customer water use comparisons in customer billings.
- d. Assist the District in the distribution of conservation and educational materials.
- e. Periodically review and evaluate this conservation plan and implement revisions to the plan as necessary.

### 4. Plan Adoption & Enforcement Procedure

The User Conservation Plan must include a means of implementation and enforcement which shall be evidenced by 1) a copy of the ordinance, regulations, resolution, contractual agreements, or tariff indicating **official adoption** of the water conservation plan by the water supplier; and 2) a description of the authority by which the water supplier will implement and enforce the conservation plan.

## Section IV. Monthly Groundwater Use with Conservation Measures During Non-Drought

The Permitholder warrants that it agrees the following monthly allocations of authorized annual use are reasonable and it will use best efforts to implement applicable provisions of this UCP to achieve them. The permitholder understands these allocations are before any declared-drought curtailments are applied:

Monthly Non-Drought Volumes (multiply "Percent of Annual" shown by Authorized Annual Use at top of first page)

Month	Percent of Annual	Monthly Amount	Month	Percent of Annual	Monthly Amount
October	7.62	201,054	April	9.15	241,452
November	4.77	125,893	May	11.10	293,124
December	3.84	101,465	June	12.42	327,886
January	3.95	104,284	July	12.56	331,644
February	4.73	124,954	August	12.63	333,523
March	7.54	199,175	September	9.68	255,545
				100.00%	2,640,000

Percent of Annual values are monthly averages based on historical metered-volume records and best estimates by permitholder. Monthly Amount is calculated by correcting the average monthly percentages specific to the permitholder and applying those to the annual permit amounts. (The percentages currently shown in the table are simply default averages based mostly on seasonal water-use factors and generally may not represent the water-use profile of an individual permitholder.) The corrected average-percentages and calculated values must be entered by the permitholder before the UCP is submitted for approval.



405 W KOENIG LANE  
 USTIN, TEXAS 78756  
 (512) 345-8477  
 leeandassociates.net

## SW Travis County Groundwater Conservation District User Conservation Plan

**Project Name:** Townhomes at Ledgestone aka Ledgestone Townhomes  
**Address:** 9601 Ledgestone Terrace - Austin , Texas 78737 Endeavor  
**Client:** Real Estate Group  
**Date:** July 1, 2025

**Landscape Architect's Name and Address**

Kendrick Yeh, RLA  
 Artis, Inc.  
 1405 W Koenig Lane  
 Austin, Texas 78756

**SITE PLANNING**

**DEVELOPMENT  
 CONSULTING**

**LAND USE  
 PLANNING**

**LANDSCAPE  
 ARCHITECTURE**

**PRESENTATION  
 GRAPHICS**

The Townhomes at Ledgestone in Austin plan to use well water as the primary source for a permanent, automated irrigation system. This approach not only reduces reliance on municipal water supplies but also supports long-term sustainability goals. The irrigation system has been thoughtfully designed with numerous conservation-focused best practices and in conjunction with the use of native and drought-tolerant plant species—carefully selected for their adaptability to the Central Texas climate—this integrated strategy is expected to significantly reduce water waste and promote responsible stewardship of natural resources.

In accordance with local rules and regulations, the proposed landscape planting and irrigation design prioritizes water conservation incorporating efficient irrigation strategies, the use of drought-tolerant and regionally adapted plant species, and best management practices to reduce water consumption while maintaining a healthy, visually appealing environment.

1. Irrigation for the Townhomes at Ledgestone utilizes a single-source system, with the property's primary water supply coming from an on-site well. The well will pump groundwater into a dedicated supplemental supply tank, which in turn feeds the irrigation system via a variable frequency drive (VFD) irrigation pump. This configuration stabilizes water pressure, minimizes pump cycling, and ensures consistent and efficient water delivery across all irrigation zones. Outside of this water source, the landscape must depend solely on natural precipitation. Once fully established, the native and adapted plantings are expected to thrive even with reduced supplemental watering. Irrigated areas include common use areas, private yards, foundation plantings, and enhanced landscaping around amenity areas. The selected turfgrass for this property, DT-1 Bermuda sod, is a high-performance variety known for its exceptional drought tolerance and durability. Compared to previous bermudagrass cultivars, DT-1 establishes more quickly, retains green color longer into the fall, and performs better under prolonged dry conditions with limited or no irrigation. The overall design aesthetic focuses on restoring the site to its native condition, with particular emphasis on revegetating areas disturbed by grading using native and regionally adapted plant species tailored to the site's specific solar exposure and drainage patterns.

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2. Irrigation is distributed through a closed-loop, pressurized mainline system that supplies water to multiple automated valve zones across the site. These valves are controlled by a central master controller, programmed according to WaterSense guidelines that emphasize deep, infrequent irrigation. Watering schedules are set to run during optimal periods—primarily at night or early morning—to reduce evapotranspiration, with no irrigation occurring during midday.
3. A meter will be installed on both the well and the irrigation pump to monitor and record water usage. Additionally a flow meter will be installed down stream of the irrigation pump to enable real-time monitoring through the integrated irrigation controller to help facilitate automated tracking, leak detection, and system performance analysis.
4. The 5-year and 10-year goals include reducing overall irrigation water use through the implementation of smart irrigation controllers and soil moisture sensors. Once established, drought-tolerant native or adapted plant species are expected to significantly reduce irrigation demand over the lifespan of the project. The irrigation system is designed to achieve 90% efficiency by conducting annual maintenance, leak detection, and timely repairs. Additionally, all maintenance staff are expected to receive training on water-efficient irrigation practices and system operation.
5. The primary water conservation strategy implemented on-site is the utilization of native and adapted plant species, coupled with the minimization of turfgrass wherever feasible. A secondary measure involves the deployment of an Evapotranspiration (ET) controller, which operates based on site-specific data, including inputs from a rain/freeze sensor and an anemometer that effectively suspend irrigation during precipitation events and overrides any above-ground irrigation during periods of high winds and/or freezing temperatures to optimize water usage.
6. The irrigation system is specifically designed to conserve water through high-efficiency system design and advanced equipment. From an infrastructure standpoint, all planting beds are irrigated using pressure-compensating dripline, while trees are irrigated with multi-stream bubblers. Turfgrass areas utilize spray heads and rotors with matched precipitation rates to ensure uniform water distribution. The ET controller, supported by on-site sensors and global weather data, suspends irrigation during high-wind and precipitation events. Additionally, the controller features seasonal programming to adjust irrigation schedules according to varying water needs throughout the year. A flow sensor monitors water usage and will alert the controller if flow rates exceed or fall below preset thresholds, automatically suspending irrigation and notifying maintenance personnel of the issue to avoid water waste.
7. A qualified professional landscape maintenance operator will be engaged to oversee and facilitate all aspects of landscape maintenance and irrigation system monitoring. This individual will be responsible for ensuring that all plant materials are maintained according to horticultural best practices and that the irrigation system operates at peak efficiency. Duties will include routine inspection and adjustment of irrigation components, monitoring system performance through real-time data, identifying and addressing inefficiencies or malfunctions, and coordinating seasonal tasks such as winterization and spring startup. The operator will also provide documentation of maintenance activities and assist in implementing water conservation strategies in alignment with the site's long-term sustainability goals.


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8. All irrigation system components are current, high-performance models sourced from leading industry manufacturers known for their innovation, reliability, and water-efficient technologies. This includes state-of-the-art controllers, precision sprinkler heads, pressure-compensating dripline, and advanced sensors for weather, soil moisture, and flow monitoring. The use of top-tier equipment ensures optimal system efficiency, long-term durability, and compatibility with future technology upgrades, thereby supporting the project's water conservation and sustainability goals.
9. Upgrades to the Evapotranspiration (ET) controller's user interface will be implemented on a regular basis to ensure compatibility with the latest advancements in irrigation technology. As equipment manufacturers release updates to their software and operational protocols, the system will be updated accordingly to maintain optimal performance, enhance usability for on-site personnel, and ensure integration with emerging tools such as mobile monitoring apps, advanced weather forecasting models, and real-time data analytics. These upgrades will support continuous improvement in water management efficiency, system responsiveness, and user accessibility.
10. No alternative water sources are currently employed for this property aside from natural precipitation. Irrigation and landscape water requirements shall rely solely on rainfall during any amount of time when the well is not operational.

In summary, the landscape and irrigation design at the Townhomes at Ledgestone is thoughtfully attuned to the fragility of the native Hill Country aquifer and reflects a strong commitment to native habitat restoration and water conservation. The integrated strategies employed on-site not only help prevent unnecessary depletion of the aquifer but also promote long-term ecological resilience and support biodiversity throughout the landscape.

  
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# User Drought Contingency Plan

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Permitholder: OP III ATX Ledgestone I TH, LP

Permitted Type of Water Use(s): Operating Permit, Non-agricultural Uses

Registered Well Identification Number(s): 58492OP3

Authorized Annual Groundwater Use Under Permit (gallons): 2,640,000

Monthly distribution of authorized use during non-drought and drought is to be tabulated in Section 6.

The permittee named above has adopted this User Drought Contingency Plan (UCP) as required by the Southwestern Travis County Groundwater Conservation District of each Permitholder and agrees to comply with all the applicable District Rules in implementing and enforcing the measures of the enclosed plan. The Permitholder will provide a signed copy of the final UDCP to the District.

Permittee Signature:  Date: 2/4/2026

Accepted: \_\_\_\_\_ (Date)

\_\_\_\_\_  
(Signature of District General Manager)

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## Section 1. Background and Purpose of Plan

The Southwestern Travis County Groundwater Conservation District (District) manages all groundwater resources in its jurisdictional area under the authority granted under Chapter 36 of the Texas Water Code and the District's enabling legislation. Conservation and Drought Contingency planning are among the management goals the District must include in its Management Plan that is approved by the Texas Water Development Board no less than every five years. District Rule 3.4(A)(5)(d) requires adoption and implementation of User Drought Contingency Plans (UDCPs) for all well owners/operators that are authorized to use groundwater under Operating Permits issued by the District, and District Rules 3.5(B)(3) and 3.5(D)(3) require adoption and implementation of UDCPs for all well owners/operators that are authorized to use groundwater under certain General Permits issued by the District. The UDCP is complementary to the separate User Conservation Plan (UCP) that is also a requirement of each District Permitholder.

This UDCP (Plan) sets forth use-specific guidelines for achieving mandatory curtailments of groundwater during each of the stages of drought that may be declared by the District as described in Rule 5.2(B). While it is the effort through conservation to prevent drought conditions, it is integral to the wise management of the resource to plan for this contingency in this manner. Notification of drought will occur through direct notice from the District, in addition to community notification through public notice, the District website, and other means. The Plan is not designed to punish, stigmatize, or criticize anyone about their usage of water. Its sole intent is to maintain an adequate supply of groundwater for all users, especially during the various stages of drought that may occur from time to time.

The Plan is being implemented by the Permittee to help achieve significant reductions in water usage through drought-triggered water use restrictions and voluntary efforts. Implementation of voluntary water conservation measures and conscientious water use practices are encouraged at all times; however, additional water use restrictions are required in cases of extreme drought, periods of abnormally high usage, well system contamination, or extended reduction in ability to supply water due to equipment failure. During drought, these efforts, if sufficiently effective as designed to be, may delay the depletion of aquifer water levels until sufficient recharge is available to replenish the aquifer(s). Should drought conditions reach more severe levels, the permittee has planned and is prepared to restrict further or curtail certain types of usage.

## Section 2. Drought Notice

The District will notify permittees of the implementation or termination of each stage of the water restriction program. Permittees must then inform all facility personnel, customers, and/or tenants prior to implementation or termination of each stage of the water restriction program. Notice of the District declaration must be provided at least 72 hours prior to the start of water use restrictions. Notice posted onsite at the facility should contain the following information:

- the date restrictions will begin
- the circumstances that triggered the restrictions
- the stages of response and explanation of the restrictions to be implemented

Upon notification of a Drought stage declaration by the District, the permittee will activate the respective response measures of its UDCP. The Permittee will perform the recommended and mandatory actions specified in this UDCP. The Permittee will curtail pumpage according to the following curtailment schedule:

D-0 Abnormally Dry	0% curtailment	No mandatory curtailment; use groundwater wisely
D-1 Moderate Drought	10% voluntary curtailment	No mandatory curtailment; prepare for required reductions
D-2 Severe Drought	20% mandatory curtailment	Additional curtailments possible per-well by Board order
D-3 Extreme Drought	30% mandatory curtailment	Additional curtailments possible per-well by Board order
D-4 Exceptional Drought	40% mandatory curtailment	Additional curtailments possible per-well by Board order

### Section 3. Alternate Water Sources

The permittee has identified one or more alternate water sources or other contingency to be utilized or implemented directly by the permittee to manage restricted water supplies in the event of water supply contamination, prolonged system outage, or problematic permit curtailments. For Public Water Supply providers (only): if no alternate water sources are identified, provide a descriptive explanation on a separate appended sheet as to why and generally how the water demand will be accommodated.

The current available water sources and alternate contingency sources for the Permittee include:

Source A: None Available  
 Source B: \_\_\_\_\_

### Section 4. Facility Information

The permittee will at least annually, or more frequently as warranted, provide facility staff, employees, personnel and/or ranch hands/managers with information about this Plan, including information about the conditions under which each stage of the plan is to be initiated or terminated, and the drought response measures to be implemented in each stage. This information will be provided by means such as employee training/meetings, via email, websites, or print notice. Permittee must notify facility personnel and/or grounds maintenance crews of the initiation or termination of drought responses stages. Documentation of these efforts shall be kept by the Permittee for record and provided to the District upon request.

### Section 5. Enforcement Procedures

The UDCP must include a means of implementation and enforcement in accordance with District Rule 5.2(D). Specifically, each permittee must: 1) develop and implement procedures for enforcing this UDCP, and 2) inform Permittee customers or facility personnel of the intent to enforce the measures of the UDCP.

## Section 6. Drought Stage Triggers and General Responses

The monthly amounts shown in the table below, once established per instructions immediately below the table, are estimates of authorized monthly use during non-drought conditions, i.e., non-curtailed use). **These amounts form the basis for further reductions in authorized use during drought stages by its designated curtailment percentage.**

**Monthly Non-Curtailed Volumes** (Permitholder will adjust and complete this table before submitting UDCP)

Month	Percent of Annual	Monthly Amount	Month	Percent of Annual	Monthly Amount
October	7.62	201,054	April	9.15	241,452
November	4.77	125,893	May	11.10	293,124
December	3.84	101,465	June	12.42	327,886
January	3.95	104,284	July	12.56	331,644
February	4.73	124,954	August	12.63	333,523
March	7.54	199,175	September	9.68	255,545
				<b>100.00%</b>	<b>2,640,000</b>

The "Percent of Annual" values shown in this table are monthly averages based on historical metered-volume records and/or best estimates by permitholder. (The percentages currently shown in the table are simply default averages based mostly on seasonal water-use factors and generally may not represent the actual water-use profile of the individual permitholder.) The "Monthly Amount" is to be calculated by the Permitholder by correcting the adjusted average monthly percentages per month and applying them to the Authorized Annual Use at the top of the first page of the UDCP. **The corrected monthly-average percentages and their calculated monthly values must be entered by the permitholder before the UDCP is submitted for approval.**

## A. Stage D-1 Moderate Drought

### INITIATION:

The Permittee will recognize that Stage D-1 Moderate Drought exists upon receiving notification from the District that the District has declared the aquifer to be in a Stage D-1 Moderate Drought; the permittee will activate the Stage D-1 Moderate Drought measures of its UDCP, including those in this subsection and those use-specific measures in appropriate section of the Appendix.

### TERMINATION:

The Permittee will recognize that Stage II Alarm Drought may be rescinded upon receiving notification from the District that the District has declared Stage D-0 Abnormally Dry Conditions or has declared a different drought stage.

### MANDATORY ACTIONS:

No mandatory monthly-use curtailment; voluntary 10% quarterly reduction targeted. Prepare for required mandatory actions specified in UDCP for a possibly upcoming more-severe drought stage.

### RESPONSE MEASURES DURING THIS STAGE:

- Continue measures listed in permit holder's User Conservation Plan.
- Implement use reduction measures for this stage identified in Rule 5.2(C)(1) and additional drought measures in the water-use specific part of the Appendix applicable to the Permit holder.
- Ensure all meters throughout the facility are working and calibrated to accurately gauge compliance with monthly curtailments in the future.
- Conduct a monthly Leak Detection Survey and immediately repair all identified leaks in the system.
- Monitor any construction activity and require contractors to report line breaks immediately or shutoff flow if possible.
- Employee personnel and system operators should regularly monitor the facility and service areas for occurrences of waste or excessive usage.
- Implement employee and personnel awareness efforts by providing training and placing signage in visible places throughout the onsite facility to inform employees of the prospective drought stage.
- Deploy and utilize the District's drought-stage terminology correctly on all outreach signage, "Stage D-1 Moderate Drought".

## B. Stage D-2 Severe Drought

### INITIATION:

The Permittee will recognize that Stage D-2 Severe Drought exists upon receiving notification from the District that the District has declared the aquifer to be in a Stage D-2 Severe Drought; the permittee will activate the **Stage D-2 Severe Drought** measures of its UDCP, including those in this subsection and those use-specific measures in the appropriate section of the Appendix.

### TERMINATION:

The Permittee will recognize that Stage D-2 Severe Drought may be rescinded upon receiving notification from the District that the District has declared Stage D-1 Moderate Drought or has declared a different drought stage.

### MANDATORY ACTIONS:

Mandatory minimum 20% overall reduction in quarterly groundwater use.

### RESPONSE MEASURES DURING THIS STAGE:

- Continue measures listed in User Conservation Plan.
- Implement use reduction measures for this stage identified in Rule 5.2(C)(2) and additional drought measures in the water-use specific part of the Appendix applicable to the Permit holder.
- Vehicle and equipment washing shall be limited to occur only when necessary to facilitate repair.
- The following uses of water are defined as nonessential and are prohibited:
  1. washing down of any sidewalks, walkways, driveways, parking lots, or other hard-surfaced areas
  2. using water to wash down buildings or structures for purposes other than immediate fire protection
  3. failing to repair a controllable leak(s) within a reasonable period after having been given notice directing the repair of such leak(s) and
  4. any obvious waste of water.
- The use of groundwater for dust control shall be limited to the amount required for mandatory regulatory compliance set forth in the TCEQ air authorization(s) for the site.
- Monitor for occurrences of wasteful use on continuous basis.
- All meters throughout the facility shall be read as often as necessary to ensure compliance with monthly curtailments.
- Conduct a monthly Leak Detection Survey and immediately repair all identified leaks in the system.
- Monitor any construction activity and require contractors to report line breaks immediately or shutoff flow if possible.
- Employee personnel and system operators should regularly monitor the facility and service areas for occurrences of waste or excessive usage.
- Implement employee and personnel awareness efforts by providing training and placing signage in visible places throughout the onsite facility to inform employees of the prospective drought stage.
- Deploy and utilize the District's drought-stage terminology correctly on all outreach signage, "Stage D-2 Severe Drought".

## C. Stage D-3 Extreme Drought

### INITIATION:

The Permittee will recognize that Stage D-3 Extreme Drought exists upon receiving notification from the District that the District has declared the aquifer to be in a Stage D-3 Extreme Drought; the permittee will activate the **Stage D-3 Extreme Drought** measures of its UDCP, including those in this subsection and those use-specific measures in the appropriate section of the Appendix of this Plan.

### TERMINATION:

The Permittee will recognize that Stage D-3 Extreme Drought may be rescinded upon receiving notification from the District that the District has declared Stage D-2 Severe Drought or has declared a different drought stage.

### MANDATORY ACTIONS:

Mandatory minimum 30% overall reduction in quarterly groundwater use.

### RESPONSE MEASURES DURING THIS STAGE:

- Continue measures listed in User Conservation Plan.
- Implement use reduction measures for this stage identified in Rule 5.2(C)(3) and additional drought measures in the water-use specific part of this Plan's Appendix applicable to the Permitholder.
- Vehicle and equipment washing shall be limited to occur only when necessary to facilitate repair.
- The following uses of water are defined as nonessential and are prohibited in this stage:
  1. wash down of any sidewalks, walkways, driveways, parking lots, or other hard-surfaced areas
  2. use of water to wash down buildings or structures for purposes other than immediate fire protection
  3. failure to repair a controllable leak(s) within a reasonable period after having been given notice directing the repair of such leak(s),
  4. use of automatic in-ground irrigation systems or unattended hose-end sprinklers for lawn and landscape irrigation. and
  5. any obvious waste of water.
- The use of groundwater for dust control shall be limited to the amount required for mandatory regulatory compliance set forth in the TCEQ air authorization(s) for the site.
- Monitor for occurrences of wasteful use on a continuing basis.
- All meters throughout the facility shall be read as often as necessary to ensure compliance with monthly curtailments.
- Conduct a monthly Leak Detection Survey and immediately repair all identified leaks in the system.
- Monitor any construction activity and require contractors to report line breaks immediately or shutoff flow if possible.
- Employee personnel and system operators should regularly monitor the facility and service areas for occurrences of waste or excessive usage.
- Implement employee and personnel awareness efforts by providing training and placing signage in visible places throughout the onsite facility in order to inform employees of the prospective drought stage.
- Deploy and utilize the District's drought-stage terminology correctly on all outreach signage, "Stage D-3 Extreme Drought".

## D. Stage D-4 Exceptional Drought

### INITIATION:

The Permittee will recognize that Stage D-3 Extreme Drought exists upon receiving notification from the District that the District has declared the aquifer to be in a Stage D-3 Extreme Drought; the permittee will activate the Stage D-3 Extreme Drought measures of its UDCP, including those in this subsection and those use-specific measures in the appropriate section of the Appendix.

### TERMINATION:

The Permittee will recognize that Stage D-3 Extreme Drought may be rescinded upon receiving notification from the District that the District has declared Stage D-2 Severe Drought or has declared a different drought stage.

### MANDATORY ACTIONS:

Mandatory minimum 40% overall reduction in quarterly groundwater use.

### RESPONSE MEASURES DURING THIS STAGE:

- Continue measures listed in User Conservation Plan.
- Implement use reduction measures for this stage identified in Rule 5.2(C)(4) and additional drought measures in the water-use specific part of the Appendix applicable to the Permitholder.
- Vehicle and equipment washing shall be limited to occur only when necessary to facilitate repair.
- The following uses of water are defined as nonessential and are prohibited:
  1. wash down of any sidewalks, walkways, driveways, parking lots, or other hard-surfaced areas
  2. use of water to wash down buildings or structures for purposes other than immediate fire protection
  3. failure to repair a controllable leak(s) within a reasonable period after having been given notice directing the repair of such leak(s)
  4. use of automatic in-ground irrigation systems or unattended hose-end sprinklers for lawn and landscape irrigation
  5. washing cars or vehicles by hand except with bucket and hose-end nozzle with auto-shut off
  6. filling or topping up pools and ponds, and
  7. any obvious waste of water.
- The use of groundwater for dust control shall be limited to the amount required for mandatory regulatory compliance set forth in the TCEQ air authorization(s) for the site.
- Monitor for occurrences of wasteful water use on a continuing basis.
- All meters throughout the facility shall be read as often as necessary to ensure compliance with monthly curtailments.
- Conduct a monthly Leak Detection Survey and immediately repair all identified leaks in the system.
- Monitor any construction activity and require contractors to report line breaks immediately or shutoff flow if possible.
- Employee personnel and system operators should regularly monitor the service area for occurrences of waste or excessive usage.
- Implement employee and personnel awareness efforts by providing training and placing signage in visible places throughout the onsite facility in order to inform employees of the prospective drought stage.
- Deploy and utilize the District's drought-stage terminology correctly on all outreach signage, "Stage D-4 Exceptional Drought".

## Appendix

### Water Use-Specific Drought Measures

In addition to the UDCP's general responses identified in Section 6 of this Plan, the Permitholder has water use-specific drought measures to follow. Accordingly, by initialing the appropriate subsection heading below for the type of use of groundwater under the permit (as designated in the descriptive info at the top of the first page of this Plan), the Permitholder selects, agrees to adopt, incorporates into its UDCP, and will make best efforts to follow these drought measures during declared drought. Each permitholder should initial at least one of these types of water use. The Permitholder is also encouraged to consider and adopt additional drought stage-specific measures that are aligned with the individual permittee's circumstances, provided those are in addition to and not in lieu of those specifically identified in its UDCP.

#### A. Agricultural Use

(Initial Here)

#### **Recommended Agricultural Drought Stage Measures**

##### Agricultural Irrigation

- Avoid watering on windy days
- Irrigate only between the hours of 8:00 p.m. and 5:00 a.m.
- Use efficient Low-Pressure Center Pivot (LPCP) Irrigation Systems (80% efficiency or higher) such as Low Energy Precision Application (LEPA), Low Elevation Spray Application (LESA), Low Pressure in Canopy (LPIC), or Mid Elevation Spray Application (MESA).
- Low pressure center pivot and linear sprinkler irrigation systems are more water efficient and energy efficient than high pressure systems.
- Where applicable, consider using sub-irrigation systems or using ebb and flood or capillary mat irrigation technologies that incorporate water capture and reuse systems for additional water conservation.
- Line irrigation canals with materials such as concrete, plastic liners, or geomembranes or replace with pipeline.
- Install furrow dikes where possible to reduce runoff and increase infiltration of water.
- Use soil cultivation techniques such as spiking, slicing and core aeration to improve water infiltration and minimize runoff during irrigation or rainfall events.
- Implement an irrigation schedule to ensure efficient and optimal application.
- An irrigation control system shall operate to achieve optimal irrigation efficiency of a crop field using on-site weather station inputs to determine minimum irrigation volumes. The irrigation system shall also be maintained in accordance with the manufacturer's specifications.
- An irrigation control system operated for agricultural irrigation shall have their controllers manually set to achieve optimal irrigation efficiency and to program runtimes to be consistent with recommended watering practices.
- Conduct regular irrigation audits to identify opportunities to improve water use efficiency.
- Implement crop residue management and conservation tillage to improve the ability of the soil to hold moisture, reduce runoff and evaporation of water from soil surface.
- Utilize supplemental water sources where possible (e.g., collected rainwater, etc.).
- Implement brush control/management where applicable.
- Utilize dry-land farming where possible (e.g. permanent pasture, grass seed and/or forage crop mix).
- Utilize water reuse where possible.

- Reference BMPs for Agricultural Water Users:  
<https://www.twdb.texas.gov/conservation/BMPs/Ag/index.asp>

### Livestock Management

- Balance stocking rates with available forage
- Utilize supplemental water sources where possible (e.g., collected rainwater, etc.).
- Evaporative losses of rainfall can be reduced by maintaining sufficient plant cover to shade the soil surface.
- If applicable, use water efficient irrigation systems and/or reuse water for dust control.
- Avoid setting water troughs to overflow during winter months to prevent freezing.
- Utilize water reuse where possible.
- Properly distribute small ponds or troughs throughout grazing area.

### Aquaculture/ponds

- Understand stock water requirements to minimize pond size.
- Minimize evaporative losses by designing and constructing reservoirs with smaller surface areas and greater depths.
- Locate ponds in areas that maximum the capture of runoff.
- Select sites for ponds where soils have high clay content to reduce seepage or place a pond liner over the pond bottom when clay soil is unavailable.
- Utilize nighttime aeration of ponds instead of daytime aeration to reduce evaporative loss.
- Fill ponds at night to reduce evaporative loss.
- Compact soils on the pond bottom and sides to reduce seepage.
- Maintain the pond water level several inches below drain pipes so spring and summer rain can be stored.
- Balance stocking rates with available water.
- Utilize supplemental water sources where possible (e.g. collected rainwater, etc.).
- Utilize water reuse where possible.

### Permittee Actions:

- Post signs using District terminology at all faucets, sinks, outdoor spigots, and other water sources to remind visitors, customers, facility personnel, grounds maintenance crews and employees of the current drought stage curtailments (not an applicable requirement for residential irrigation).
- Inform employees or grounds maintenance crews of need to reduce water use.
- Monitor for occurrences of waste.
- Visually inspect lines and repair leaks on a regular basis.
- Monitor any construction activity and require contractors to report line breaks immediately or shutoff flow if possible.
- Evaluate system pressure needs and reduce pressure where excessively high.

### The following uses of water are defined as **nonessential** and should be limited:

- wash down of any sidewalks, walkways, driveways, parking lots, tennis courts, or other hard-surfaced areas
- use of water to wash down buildings or structures for purposes other than immediate fire protection
- use of water for dust control unless required for mandatory regulatory compliance
- flushing gutters or permitting water to run or accumulate in any gutter or street
- failure to repair a controllable leak(s) within a reasonable period after having been given notice directing the repair of such leak(s) and any waste of water.

## B. Commercial/Institutional/Other Use

(Initial Here)

### Facility System Management

- Conduct a monthly Leak Detection Survey and immediately repair all identified leaks in the system.
- All meters throughout the facility shall be read as often as necessary to ensure compliance with monthly curtailments.
- Monitor any construction activity and require contractors to report line breaks immediately or shutoff flow if possible.
- Evaluate system pressure needs and reduce pressure where excessively high.
- Follow recommended irrigation BMPs for landscaping.
- Maximize process recycled water where possible.

### Employee & Tenant Awareness

- Promote the water conservation BMPs listed in Appendix A through training website and print materials.
- Train employees and personnel on implementing recommended indoor water conservation BMPS.
- Implement employee personnel and tenant awareness efforts such as placing signage and/or posters in visible places (faucets, sinks, spigots, kitchens, restrooms, water storage areas etc) throughout the onsite facility in order to remind users of the prospective drought stage.
- Utilize the District's drought stages then utilize the correct terminology on all outreach signage, "Stage V Emergency Response Period Drought".

### Permittee Initiated Penalties or Consequences

- Employee personnel and system operators should regularly monitor the service area for occurrences of waste or excessive usage.
- Permittee should install flow restrictors on connections with continued waste and excessive monthly consumption, or proscribed use.

### Additional Recommended Drought Measures

#### Indoor Measures

- Visually inspect lines and repair leaks on a regular basis.
- Check for toilet and faucet leaks and repair any found leaks immediately.
- Use water displacement device in toilet tank or replace older model toilets with HET models when possible.
- Install aerators on faucets and water efficient appliances.
- While waiting for hot water to reach faucet, catch cold water in a container to be reused.
- Only run dishwashers with full load.
- Keep drinking water in a container in the refrigerator.
- Reduce use of garbage disposal.
- Wash only full loads of laundry.

#### Outdoor Measures – Landscape Irrigation

- Adopt a 2-day/week or every-5th day schedule for lawn watering and always only water between 8pm and 8am.
- For Automatic Sprinkler systems:
  - check sprinkler heads regularly to prevent clogging
  - adjust to eliminate overspray and
  - adjust run times and frequency monthly to respond to water schedules and changing rainfall and temperature conditions.
- Use hand held hose, drip irrigation, or soaker hoses for trees, garden, non-turf areas and bedded plants.

- Avoid watering on windy days.
- Cut lawns on highest setting and leave lawn clippings on lawn instead of bagging.
- For hose-end sprinklers - use sprinkler timers to limit water duration.
- Use mulch to conserve soil moisture.
- Irrigation of lawn areas with hose-end sprinklers or automatic irrigation systems shall be manually set to follow a 2 day/week or every-5<sup>th</sup> day watering schedule between the hours of 8pm and 8am
- Use hand-held hose, drip irrigation, or soaker hoses for trees, garden, non-turf areas and bedded plants during designated water days and times.
- Use of soaker hoses for foundation protection shall be limited to designated water days and times

#### Outdoor Measures – Power Washing or Vehicle Washing

- Vehicle washing should be avoided except when conducted with a bucket or hand-held hose with an automatic shutoff device during designated watering days and times (if possible, use a commercial car wash that recycles water).
- Wash vehicles over lawn areas where possible.
- No washing of driveways, sidewalks or streets.

#### Outdoor Measures – Pools and Fountains

- Keep pools covered when not in use.
- Limit pool filter backwashing to only when necessary.
- Utilize supplemental water sources where possible (e.g. purchased water, collected rainwater, etc.).
- Filling or refilling of pools is strongly discouraged. Topping off of existing pools for essential maintenance purposes is acceptable only during designated watering days and times.
- Operation of any ornamental fountain or pond for aesthetic or scenic purposes is prohibited except where necessary to support aquatic life or where such fountains or ponds are equipped with a recirculation system.

#### The following uses of water are defined as nonessential and should be avoided during drought:

- wash down of any sidewalks, walkways, driveways, parking lots, tennis courts, or other hard-surfaced areas;
- use of water to wash down buildings or structures for purposes other than immediate fire protection;
- use of water for dust control;
- flushing gutters or permitting water to run or accumulate in any gutter or street;
- failure to repair a controllable leak(s) within a reasonable period after having been given notice directing the repair of such leak(s); and any waste of water.

## C. Industrial Use

(Initial Here)

### Additional Recommended Drought Measures

#### Indoor Measures

- Visually inspect lines and repair leaks on a regular basis.
- Check for toilet and faucet leaks and repair any found leaks immediately.
- Use water displacement device in toilet tank or replace older model toilets with HET models when possible.
- Install aerators on faucets and water efficient appliances.
- While waiting for hot water to reach faucet, catch cold water in a container to be reused.
- Only run dishwashers with full load.
- Keep drinking water in a container in the refrigerator.
- Reduce use of garbage disposal.
- Wash only full loads of laundry.

#### Outdoor Measures – Landscape Irrigation

- Adopt a 2-day/week or every-5<sup>th</sup> day schedule for lawn watering and always only water between 8pm and 8am.
- For Automatic Sprinkler systems:
  - check sprinkler heads regularly to prevent clogging
  - adjust to eliminate overspray and
  - adjust run times and frequency monthly to respond to water schedules and changing rainfall and temperature conditions.
- Use hand held hose, drip irrigation, or soaker hoses for trees, garden, non-turf areas and bedded plants.
- Avoid watering on windy days.
- Cut lawns on highest setting and leave lawn clippings on lawn instead of bagging.
- For hose-end sprinklers - use sprinkler timers to limit water duration.
- Use mulch to conserve soil moisture.
- Irrigation of lawn areas with hose-end sprinklers or automatic irrigation systems shall be manually set to follow a 2 day/week or every-5<sup>th</sup> day watering schedule between the hours of 8pm and 8am
- Use hand-held hose, drip irrigation, or soaker hoses for trees, garden, non-turf areas and bedded plants during designated water days and times.
- Use of soaker hoses for foundation protection shall be limited to designated water days and times

#### Outdoor Measures – Power Washing or Vehicle Washing

- Vehicle washing should be avoided except when conducted with a bucket or hand-held hose with an automatic shutoff device during designated watering days and times (if possible, use a commercial car wash that recycles water).
- Wash vehicles over lawn areas where possible.
- No washing of driveways, sidewalks or streets.

#### Outdoor Measures – Pools and Fountains

- Keep pools covered when not in use.
- Limit pool filter backwashing to only when necessary.
- Utilize supplemental water sources where possible (e.g. purchased water, collected rainwater, etc.).
- Filling or refilling of pools is strongly discouraged. Topping off of existing pools for essential maintenance purposes is acceptable only during designated watering days and times.
- Operation of any ornamental fountain or pond for aesthetic or scenic purposes is prohibited except where necessary to support aquatic life or where such fountains or ponds are equipped with a recirculation system.

The following uses of water are defined as nonessential and should be avoided during drought:

- wash down of any sidewalks, walkways, driveways, parking lots, tennis courts, or other hard-surfaced areas;
- use of water to wash down buildings or structures for purposes other than immediate fire protection;
- use of water for dust control;
- flushing gutters or permitting water to run or accumulate in any gutter or street;
- failure to repair a controllable leak(s) within a reasonable period after having been given notice directing the repair of such leak(s); and any waste of water.

## D. Irrigation Use

(Initial Here)

This category of water use pertains to irrigation of large non-agricultural areas such as golf courses, athletic fields, and common areas of community developments; it does not relate to lawn and landscape irrigation of individual residences, although some of the drought response measures are essentially similar.

### Additional Recommended Drought Measures

#### Outdoor Irrigation

- Irrigation of a golf course or athletic fields - tees, greens, fairways, turf, landscape beds, playing fields, practice areas, driving ranges, and roughs - should be managed by an automatic irrigation control system.
- An irrigation control system shall **operate** to achieve optimal irrigation efficiency of a golf course or athletic fields using on-site weather station inputs to **determine** minimum irrigation volumes. The irrigation system shall also be maintained in accordance with the manufacturer's specifications.
- An irrigation control system operated for residential turf and landscape irrigation shall have their controllers manually set to achieve optimal irrigation efficiency and to program runtimes to be consistent with recommended watering practices.
- The irrigation system shall also be maintained in accordance with the manufacturer's specifications.
- Irrigate only between the hours of 8:00 p.m. and 5:00 a.m.

#### Turfgrass Management and Irrigation

- Avoid watering on windy days.
- Cut turf on highest setting and leave lawn clippings instead of collecting.
- Provide adequate and balanced levels of nutrients to the turf. Avoid excessive amounts of nitrogen, and apply nutrients based upon turf species and cultivar nutrient requirements, level of use and soil type.
- Use soil cultivation techniques such as spiking, slicing and core aeration to improve water infiltration and minimize runoff during irrigation or rainfall events.
- Use environmentally safe wetting agents to improve water infiltration.
- Explore the potential use of polymers as a means of increasing water retention and reducing water loss to evaporation.
- Limit cart traffic to paths to minimize turf wear and soil compaction.
- Prune roots of trees near critical turf areas to prevent tree root competition with the turf for moisture and nutrients.
- Utilize supplemental water sources where possible (e.g. purchased water, collected rainwater, etc.).
- Utilize water reuse where possible.

#### Landscape Management and Irrigation

- Avoid watering on windy days.
- Use drip irrigation in landscape areas to apply water only to the plants that need it.
- Use mulches in shrub and flowerbeds to reduce water evaporation losses.
- Consider use of polymers as a means of increasing water retention and reducing water loss to evaporation.
- Use xeriscape landscaping or native drought tolerant plants where feasible around buildings, parking areas or other appropriate places.
- Plant native vegetation when replacing vegetation.
- Utilize supplemental water sources where possible (e.g. purchased water, collected rainwater, etc.).
- Utilize water reuse where possible.

#### Power Washing or Vehicle Washing

- Vehicle and field equipment washing shall be prohibited, unless the water used is recycled and re-circulated

- No washing of driveways, sidewalks, or streets.

#### Bathrooms/Other Indoor Facilities (if applicable)

- Check for toilet and faucet leaks and repair any found leaks immediately.
- Use water displacement device in toilet tank or replace older model toilets with HET models when possible.
- Install aerators on faucets.
- Turn off master water shutoff when facilities are not in use.
- Do not over water potted plants.

#### Permittee Actions:

- Post signs using District terminology at all faucets, sinks, outdoor spigots, and other water sources to remind visitors, customers, facility personnel, grounds maintenance crews and employees of the current drought stage curtailments (not an applicable requirement for residential irrigation).
- Inform employees or grounds maintenance crews of need to reduce water use.
- Monitor for occurrences of waste.
- Visually inspect lines and repair leaks on a regular basis.
- Monitor any construction activity and require contractors to report line breaks immediately or shutoff flow if possible.
- Evaluate system pressure needs and reduce pressure where excessively high.

#### The following uses of water are defined as nonessential and should be limited:

- wash down of any sidewalks, walkways, driveways, parking lots, tennis courts, or other hard-surfaced areas
- use of water to wash down buildings or structures for purposes other than immediate fire protection
- use of water for dust control unless required for mandatory regulatory compliance
- flushing gutters or permitting water to run or accumulate in any gutter or street
- failure to repair a controllable leak(s) within a reasonable period after having been given notice directing the repair of such leak(s) and
- any waste of water.

## E. Public Water Supply

(Initial Here)

The first section of this appendix addresses additional drought measures for all water utilities, and it concludes with two sections of drought provisions specific to Retail PWS providers and to Wholesale PWS providers, respectively.

### 1. Additional Recommended Drought Measures for All PWS Providers

#### Utility System Management

- Conduct a monthly Leak Detection Survey and immediately repair all identified leaks in the system.
- All meters shall be read as often as necessary to ensure compliance with this program for the benefit of all its customers.
- Limit line flushing to the hours of 9pm to 3am and only flush dead end main.
- Implement the provisions of the utility's Water Conservation Plan or Drought Contingency Plan that are on file with the TCEQ or TWDB.
- Emergency interconnects, pumpage authorized by a Temporary Transfer Permit, or alternative supply arrangements shall be initiated to meet the respective reduction requirement.

#### Public Awareness

- Promote the water conservation BMPs listed in the Permittee's UCP and the next section of this appendix through website and print materials.
- Implement public awareness efforts such as placing yard signs and/or posters in visible places within the service area to remind users of the prospective drought stage.
- Include historic water use and customer water use comparisons in customer billings.
- Include on each water bill a conspicuous reminder of the prospective drought stage.
- Utility should identify highest 5% water users in the residential, commercial, and industrial customer sectors so that focused efforts can be initiated by the utility to provide awareness information and irrigation auditing services (if the utility has the ability to provide irrigation audits).
- If your utility follows the District's drought stages then utilize the correct terminology on all outreach signage, e.g., "Stage D-3 Extreme Drought".

#### Utility Initiated Penalties or Consequences

- Utility employees and system operators shall regularly monitor the service area for occurrences of waste.
- Utility should issue Warnings for 1<sup>st</sup> occurrence of waste to residential customers who demonstrate waste, UDCP violations, excessive monthly consumption or proscribed use (greater than 20,000 gallons/month).
- Utility should install flow restrictors on connections with continued waste, UDCP violations, and excessive monthly consumption, or proscribed use.
- Utility should assess surcharges and fines for continued waste, UDCP violations, excessive monthly consumption or proscribed use.

#### Municipal Practices

- Follow recommended irrigation BMPs for municipal parks and recreation areas.
- Train employees and personnel on implementing recommended indoor water conservation BMPS.

### 2. Drought Stage Measures for Retail Public Water Supply Utility's End Users

The Retail PWS Permittee will encourage or will establish regulatory or ordinance requirements (as/if possible) of end users to adopt the following water efficiency measures during District declared drought stages:

### Indoor Measures

- Visually inspect lines and repair leaks on a regular basis.
- Check for toilet and faucet leaks and repair any found leaks immediately.
- Use water displacement device in toilet tank or replace older model toilets with HET models when possible.
- Install aerators on faucets and water efficient appliances.
- While waiting for hot water to reach faucet, catch cold water in a container to be reused.
- Only run dishwasher with full load.
- Keep drinking water in a container in the refrigerator.
- Reduce use of garbage disposal.
- Wash only full loads of laundry.
- Turn off master water shutoff when out of town or on vacation.
- Draw less water for bath or reduce shower time.
- Do not over water houseplants.

### Outdoor Measures – Landscape Irrigation

- Adopt a 2-day/week or every 5<sup>th</sup> day schedule for lawn watering and always only water between 8pm and 8am.
- For Automatic Sprinkler systems:
  - check sprinkler heads regularly to prevent clogging
  - adjust to eliminate overspray and
  - adjust run times and frequency monthly to respond to water schedules and changing rainfall and temperature conditions.
- Use hand-held hose, drip irrigation, or soaker hoses for trees, garden, non-turf areas and bedded plants.
- Avoid watering on windy days.
- Cut lawns on highest setting and leave lawn clippings on lawn instead of bagging.
- For hose-end sprinklers - use sprinkler timers to limit water duration.
- Use mulch to conserve soil moisture.
- Irrigation of lawn areas with hose-end sprinklers or automatic irrigation systems shall be manually set to follow a 2 day/week or every-5<sup>th</sup> day watering schedule between the hours of 8pm and 8am.
- Use hand-held hose, drip irrigation, or soaker hoses for trees, garden, non-turf areas and bedded plants during designated water days and times.
- Use of soaker hoses for foundation protection shall be limited to designated water days and times

### Outdoor Measures – Vehicle Washing

- Vehicle washing should be avoided except when conducted with a bucket or hand-held hose with an automatic shutoff device during designated watering days and times (if possible, use a commercial car wash that recycles water).
- Wash vehicles over lawn areas where possible.

### Outdoor Measures – Pools and Fountains

- Keep pools covered when not in use.
- Limit pool filter backwashing to only when necessary.
- Utilize supplemental water sources where possible (e.g. purchased water, collected rainwater, etc.).
- Filling or refilling of pools is strongly discouraged. Topping off of existing pools for essential maintenance purposes is acceptable only during designated watering days and times.

- Operation of any ornamental fountain or pond for aesthetic or scenic purposes is prohibited except where necessary to support aquatic life or where such fountains or ponds are equipped with a recirculation system.

The following uses of water are defined as nonessential and should be avoided by end users during drought:

- wash down of any sidewalks, walkways, driveways, parking lots, tennis courts, or other hard-surfaced areas;
- use of water to wash down buildings or structures for purposes other than immediate fire protection;
- use of water for dust control;
- flushing gutters or permitting water to run or accumulate in any gutter or street;
- failure to repair a controllable leak(s) within a reasonable period after having been given notice directing the repair of such leak(s); and any waste of water.

### **3. Required Additional Drought Stage Measures for Wholesale Public Water Supply Utilities**

- Permittee will periodically provide wholesale water customers and the public with information about this Plan, including information about the conditions under which each stage of the Plan is to be initiated or terminated and the drought response measures to be implemented in each stage. This information will be provided by means such as public meetings, via billing invoices, websites, public notice, news media announcement, or electronic mail etc.
- Permittee will notify customers of the initiation or termination of drought responses stages by certified mail.
- Permittee will offer an opportunity for the public to provide input in the initial preparation and future revisions of the Plan, to be provided by the Permittee via means such as a public meetings, via billing invoices, websites, public notice, news media announcement, or electronic mail etc.; documentation of these efforts will be provided to the District for record.
- The Permittee will initiate weekly contact with wholesale water customers to discuss water supply and/or demand conditions and will request that wholesale water customers initiate mandatory measures to reduce water use.
- Permittee will provide updates on website with information regarding current water supply and/or demand conditions, projected water supply and demand conditions if drought continues to persist.
- Permittee must develop and implement procedures for enforcing this UDCP, specifically including a provision in every wholesale water contract entered into or renewed after adoption of the plan, including contract extensions, that in the event of a pumpage curtailment resulting from drought, the groundwater to be supplied by the Permittee under contract will be curtailed in accordance with the applicable drought stage triggers and response chart in this UDCP and that informs Permittee customers of its authority and intent to enforce the measures of the UDCP.
- If Permittee fails to meet District required drought curtailments, then the Permittee shall host a monthly meeting with all wholesale customers to discuss supply/demand conditions and possible solutions for meeting curtailments. Meetings shall be held for the duration of the Stage III, Stage IV, Stage V Drought.
- If Permittee fails to meet District required drought curtailments, then Permittee shall report a monthly accounting of water delivered to each wholesale customer. This information shall be used by the Permittee to identify an enforcement process for requiring wholesale customers to reduce demand. Monthly delivery reports shall be submitted for the duration of the Stage D-2, Stage D-3, and Stage D-4 Droughts.

## *7 – Hydrogeological Report*



REPORT OF FINDINGS  
WRGS 25-015

**Hydrogeologic Report for OP III ATX LedgeStone I TH, LP.**  
**LedgeStone Townhomes Well No. 1**

*for*

OP III ATX LedgeStone I TH, LP  
500 West 5<sup>th</sup> Street  
Austin, Texas 78701

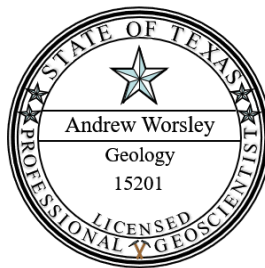
Travis County, Texas  
Updated February 2026

WRGS Project No. 256-003-24



**Wet Rock Groundwater Services, L.L.C.**  
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TBPB Firm No: 50038

The seal appearing on this document were authorized on February 2, 2026 by:



A handwritten signature in black ink, appearing to read "AW", positioned above a horizontal line.

Andrew Worsley, P.G.

License No. 15201

Wet Rock Groundwater Services, LLC

TBPG Firm Registration No. 50038



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- Appendix C: Geophysical Logs
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## **Section I: Executive Summary**

This report details the results of a hydrogeologic study to meet the guidelines mandated by the Southwestern Travis County Groundwater Conservation District (SWTCGCD) for a regular production permit application. OP III ATX Ledgestone I TH, LP is submitting a non-agricultural operating permit application to produce up to 2,640,000 gallons per year from a newly constructed Lower Trinity Aquifer well located in southwestern Travis County.

Ledgestone Townhomes (LT) Well No. 1 is located within property acquired by OP III ATX Ledgestone I TH, LP and will be discharged into an onsite irrigation system. The anticipated pumping rate for the well is 35 gallons per minute. The pumping schedule for water to be produced from the well will be dependent upon irrigation demand and local precipitation; the majority of use will likely occur in the summer months.

An aquifer test work plan was designed and approved by SWTCGCD staff prior to starting the field work. To meet the guidelines for the SWTCGCD Tier 2 report and to adequately assess the properties of the Lower Trinity Aquifer, an aquifer test was conducted by utilizing the newly completed LT Well No. 1 and two (2) nearby newly completed Lower Trinity Aquifer wells. The aquifer test consisted of pumping the well for at least 24 hours followed by a recovery phase while continuously measuring water levels in the pumping and observation wells. A total of 36,461.4 gallons were pumped during the aquifer testing. SWTCGCD recommended a total volume for the test of 36,164 gallons due to the current drought conditions. The pumped volume represents approximately 5 times the daily equivalent volume of the requested permit. During the pumping phase of the test, LT Well No. 1 was pumped at an average rate of 25.04 gpm; the initial rate was 32 gpm and the final measured pumping rate was 25 gpm with 61.11 feet of drawdown, resulting in a specific capacity of 0.41 gpm/ft. The average calculated transmissivity for LT Well No. 1 was 70.99 ft.<sup>2</sup>/day from the Cooper and Jacob and Theis methods. Drawdown was observed in the two observation wells; therefore, the average calculated storativity value using both the Theis and Cooper and Jacob methods was  $5.33 \times 10^{-4}$ . The aquifer test data indicate that there were no major effects from nearby pumping of surrounding wells and no significant recharge or discharge boundaries experienced.

Water quality was analyzed during the testing. In general, the water quality results indicate the water produced during the aquifer testing meets TCEQ MCLs and SCLs, with the exception of elevated total dissolved solids and sulfate concentration in LT Well No. 1. Field parameter data were collected during the aquifer test, including pH and specific conductance taken at various times during the pumping phase of the aquifer test. The results indicate that the pH and specific conductance slightly changed throughout the pumping phase. The reason for the slight increase in pH is unknown; however, the increase could be attributed to chemical residues leftover from the drilling process (i.e. drilling mud and/or sodium based solutions). No negative impacts to water quality are anticipated with prolonged production from LT Well No. 1.

As required by the SWTCGCD, the effects of current and projected pumpage on water levels on surrounding wells for a one week, one year, and seven year period were estimated using the Theis equation. Based on the results of the modeling, LT Well No. 1 continuously pumping at a rate of 5.023 gpm for 1 week, 1 year, and 7 years results in an estimated 18.78 feet, 23.07 feet, and 25.18 feet, respectively. Based upon the results of the aquifer testing and subsequent modeling, drawdown will likely be experienced in neighboring wells completed within the Lower Trinity Aquifer within a 4-mile radius; however, that



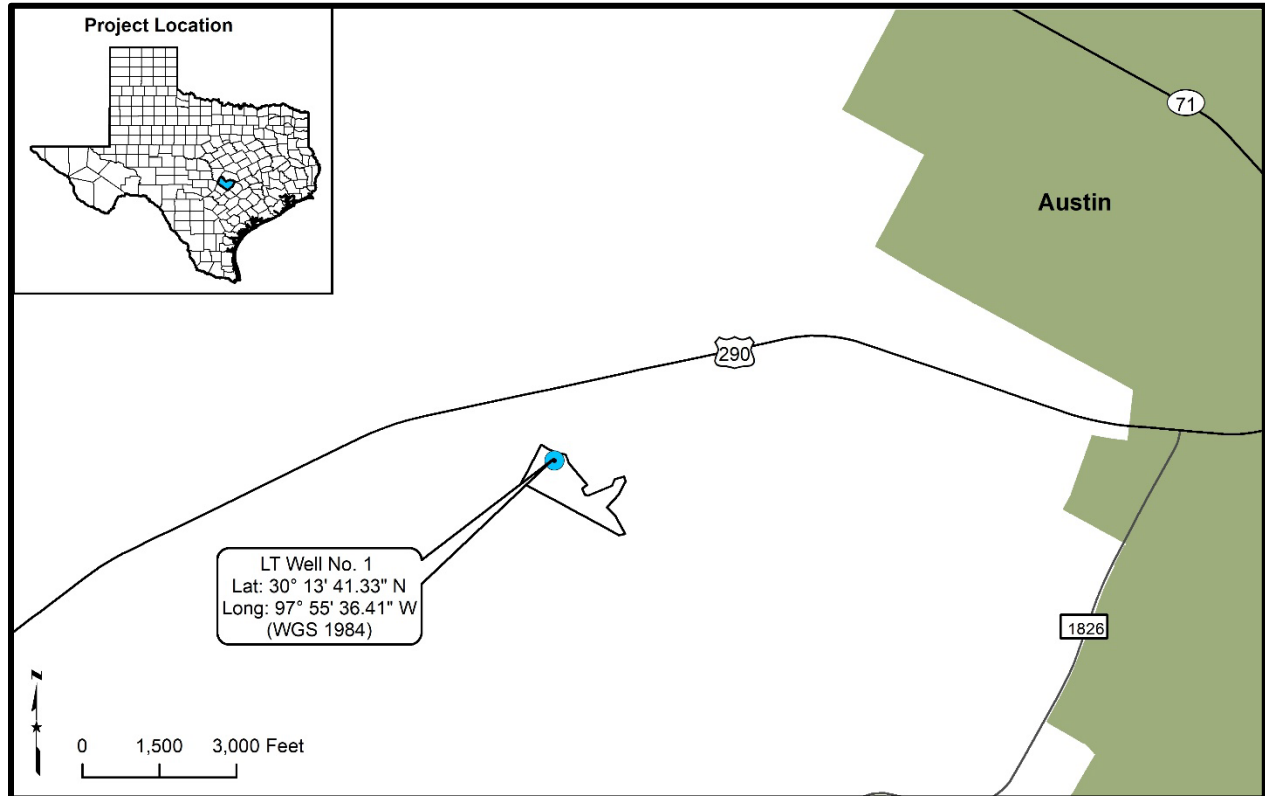
drawdown is not expected to have any unreasonable impacts on the aquifer or surrounding wells, springs, or surface water due to the static water level and relatively low pumping volumes.

At the request of SWTCGCD staff, a groundwater model was designed to further estimate the combined drawdown for the three proposed OP III ATX LedgeStone wells (CH290 Well No. 1, CHL Well No. 1, and LT Well No. 1) after pumping for 1 week (16.043 gpm; 161,713.44 gallons total), 1 year (16.043 gpm; 8,432,200.8 gallons total), and 7 years (16.043 gpm; 59,025,405.6 gallons total). Based upon the modeling efforts, the drawdown in the proposed wells ranges from 42.88 to 45.99 feet after 7 years of combined pumping. The 5-foot drawdown contour interval extends approximately 5 miles from the OP III ATX LedgeStone property boundaries; however, the magnitude of this drawdown is still not expected to result in unreasonable impacts to the aquifer or to surrounding wells, springs, or surface water features.



## **Section II: Introduction**

This report details the results of a hydrogeologic study to meet the guidelines mandated by the Southwestern Travis County Groundwater Conservation District (SWTCGCD) for a non-agricultural operating permit application. OP III ATX LedgeStone I TH, LP (the Owner) is submitting a production permit application to produce up to 2,640,000 gallons per year from the newly constructed LedgeStone Townhomes Well No. 1 (LT Well No. 1) located south of U.S. Highway 290 in southwestern Travis County (Figure 1). The proposed Lower Trinity Aquifer well will add needed well capacity to meet irrigation demands. There are currently no existing wells on the property.



**Figure 1: Location map of LT Well No. 1**

Acquisition of a non-agricultural operating permit from the SWTCGCD requires acceptable aquifer testing and a hydrogeologic report (Tier 2 - anticipated production volume greater than or equal to 1,000,000 gallons up to 10,000,000 gallons per year) for the operating permit. Aquifer testing and report parameter guidelines laid out in the SWTCGCD “Guidelines for Hydrogeologic Reports and Aquifer Testing – Southwestern Travis County Groundwater Conservation District Travis County” (November 2020) were used to structure this hydrogeologic report pursuant to the SWTCGCD mandate.

According to the SWTCGCD, the purpose of the Tier 2 test and report is to make an assessment of the short and long-term potential for unreasonable impacts to the regional aquifer system and existing surrounding water wells from the proposed pumping.



The objectives of this Tier 2 report are to support the Owner's application for a regular production permit authorizing production from the Lower Trinity Aquifer, by demonstrating the following:

1. Provide a detailed description of the project to include location, pumping demands, pumping schedules (frequency, peak demand hours, and pumping rates), and the location and volume of the water;
2. Design, perform, and analyze the results of the aquifer test at LT Well No. 1 in order to estimate the site-specific aquifer properties;
3. Discuss the estimated extent and magnitude of well interference; and,
4. Report water quality sample results, evaluate future water level impacts, and assess potential water quality impacts from LT Well No. 1.



## Section III: Description of the Well Site and Water System

### III.1. Introduction

LT Well No. 1 is located within a 31.541-acre property owned by OP III ATX LedgeStone I TH, LP and will be used for irrigation (Figure 2). The well is situated at least 150 feet from nearby property boundaries and proposed wastewater lines. Figure 2 provides a site map of the well location in relation to the property boundaries; a more detailed site plan map is included in Appendix A. Water from the proposed well will not be leased, resold, transferred or transported to other users than the owner for irrigation purposes within their property.

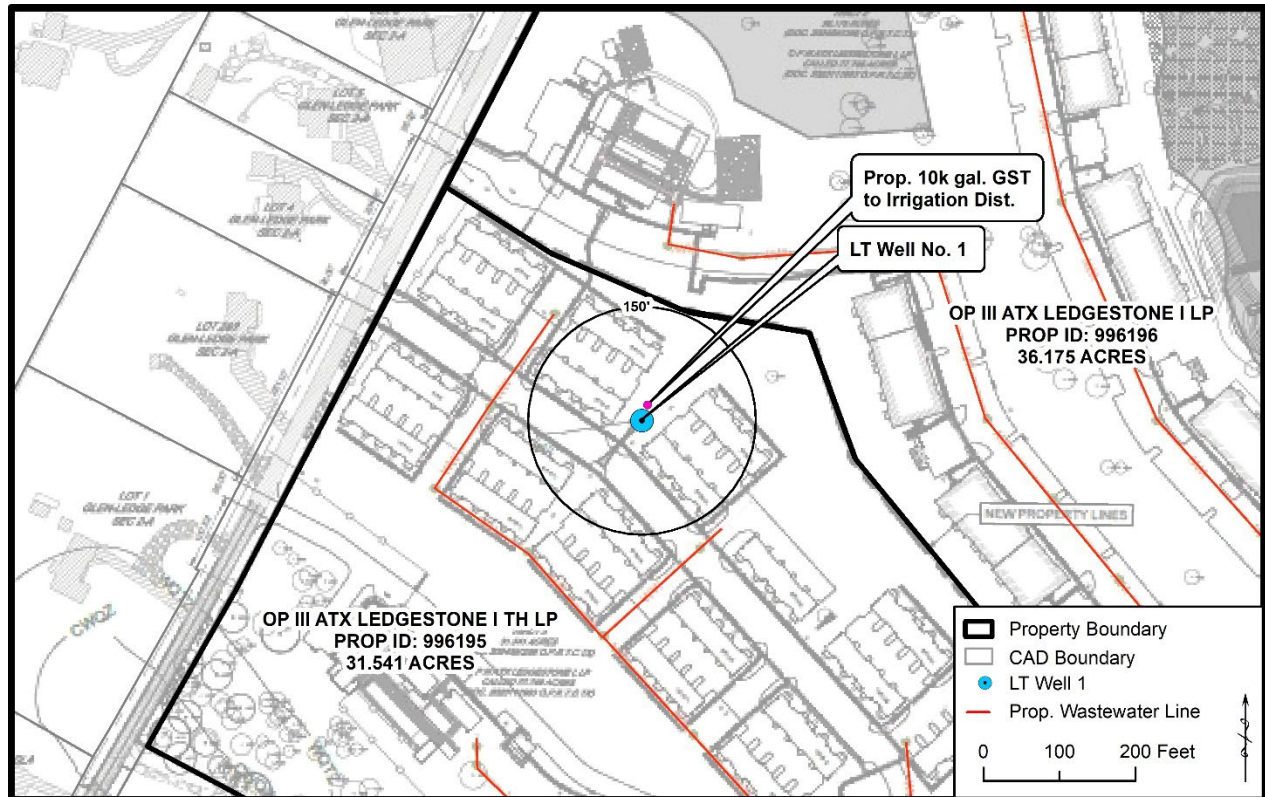


Figure 2: OP III ATX LedgeStone I TH, LP site map

### III.2. Well Site and System Details

Based on irrigation calculations prepared by the Owner's landscape architect with inputs from SWTCGCD staff, the requested annual irrigation volume is 2,640,000 gallons for approximately 132,910 square feet of warm-season turfgrass and 44,750 square feet of mixed landscape beds. Table 1 provides an estimated monthly breakdown of the anticipated pumping volume based upon the information provided by the Owner's landscape architect.



**Table 1: Monthly water demand estimates**

<b>Month</b>	<b>Water Demand (gallons)</b>
<b>January</b>	104,284
<b>February</b>	124,954
<b>March</b>	199,175
<b>April</b>	241,452
<b>May</b>	293,124
<b>June</b>	327,886
<b>July</b>	331,644
<b>August</b>	333,523
<b>September</b>	255,545
<b>October</b>	201,054
<b>November</b>	125,893
<b>December</b>	101,465
<b>Total</b>	<b>2,640,000</b>

The pumping schedule for water to be produced from the well will be dependent upon irrigation demand and precipitation events. Peak pumping demand hours are projected for either the early morning or late evening hours to accommodate typical irrigation schedules and to mitigate evaporative loss; peak pumping demand will also be subject to seasonal change, such as increased usage in the summer and decreased usage in the winter (Table 1).

In order to meet daily demand, LT Well No. 1 has been outfitted with a submersible pump capable of producing up to 35 gallons per minute (gpm), depending on aquifer conditions and the total dynamic head on the pump. A pump installation certification has been provided to SWTCGCD. The proposed system configuration entails pumping water from LT Well No. 1 into an adjacent 10,000 gallon ground storage tank. Water from the tank will then be sent into the irrigation system via booster pumps or from a pressure tank. Anticipated operations of irrigation would occur multiple times per week with cycles lasting up to 12 hours, depending on water demand. The well will not be used to supply water to any pond, lake, reservoir, or other surface impoundment.



## **Section IV: Hydrogeology and Conceptual Model**

### **IV.1. Introduction**

The two major aquifers located within Travis County are the Edwards Aquifer and the Trinity Aquifer. These two aquifers make up a thick and regionally extensive aquifer system composed of Lower Cretaceous carbonates that were deposited throughout central Texas. The aquifers are affected by geologic structures which include the Llano Uplift, the San Marcos Arch, and the Balcones fault system (Ashworth, 1983). The lower of the two aquifers, the Trinity Aquifer is composed of three distinct hydrogeologic units: the Upper, Middle, and Lower Trinity Aquifers.

On the Edwards Plateau in western Travis County, the regional dip of the Cretaceous rocks is generally about 70 feet per mile to the southeast, which is the approximate gulfward slope of the land surface. Southeast of the Balcones Fault Zone (BFZ) the dip is progressively greater toward the Gulf, approaching 100 feet per mile in southeastern Travis County (DeCook, 1963).

### **IV.2. Stratigraphy and Geologic History**

The project site overlies the Cretaceous aged sedimentary rocks comprising the Trinity Aquifer. The Upper Glen Rose Limestone crops out at the surface. The sediments 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 (Toll et. al, 2018). For approximately 79 million years this shallow sea deposited the sediments that now make up the property and its surrounding area. Figure 3 provides a geologic map and stratigraphic column illustrating the geology surrounding the project location.

The Trinity Aquifer is divided into three distinct 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 Sand Member and Sligo Limestone Member of the Travis Peak Formation (Figure 3). The Hosston consists of a conglomerate of gravel, sand and clay cemented by both calcite and quartz. The Hosston also contains sections of sandstone, siltstone, claystone, dolomite, limestone and shale. The Sligo Limestone consists of clastic sediment, 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. The Lower Trinity Aquifer units unconformably overlay the Paleozoic basement (Hunt et al., 2010).

Located stratigraphically above the Hosston Sand is the Hammett Shale (Hammett Clay) Member. The Hammett Clay is a transgressive shale deposit that onlaps Lower Trinity Sligo and Hosston formations. The interval averages 60 feet in thickness in the Travis County area (Brune and Duffin, 1983). The unit is primarily a clay rich, gray-green sticky, dolomitic shale/claystone with siltstone and dolomite lenses. Color can be dark gray to black, blue, greenish gray and gray. The Hammett Clay is a confining bed separating the Lower Trinity Aquifer from the Middle Trinity Aquifer (Figure 3).





Above the Hammett Clay lies the Middle Trinity Aquifer composed of the Cow Creek Limestone and the Hensell Sand members of the Travis Peak Formation and the Lower Glen Rose Limestone Member of the Glen Rose Formation (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; Brune and Duffin, 1983; Preston et. al, 1996). 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 Member is the Hensell Sand Member (Figure 3), 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. Down dip, the Hensell grades into marine deposits of silty dolomite, marl, calcareous shale, and shaley limestone known as the Bexar Shale Member (Ashworth, 1983). Down dip, the Bexar Shale acts as a confining unit for the Cow Creek Member (Wierman et al., 2010).

Stratigraphically above the Hensell Sand/Bexar Shale, the Glen Rose Limestone Formation is divided into an Upper and Lower Member (Figure 3). The Glen Rose Limestone, along with the Hensell Sand represents a wedge of sediments deposited in a transgressing sea. George (1952) separated the Glen Rose into upper and lower members. 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 Member 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. The Upper Trinity Aquifer can yield small to moderate amounts of water to shallow wells which are often utilized for livestock and domestic use.

The Edwards Aquifer is comprised of three geologic formations, from oldest to youngest: the Kainer and Person formations (Edwards Group), and the Georgetown Formation (Washita Group; Figure 3). These formations were formed during the Cretaceous period during which the San Marcos Platform



depositional environment varied from open marine to supratidal flats, where significant exposure and inundation of the sediments took place (Rose, 1972). At the base of the Edwards Group lies the Kainer Formation, which is comprised of the basal nodular bed, dolomitic, and grainstone members. The basal nodular member (Walnut Clay equivalent) is a marine deposit consisting of massive, nodular wackestones and has a low permeability. The dolomitic member consists mostly of intertidal and tidal, burrowed and dolomitized wackestones with significant permeability. The upper part of the dolomitic member contains leached evaporitic deposits of the Kirschberg evaporite. The uppermost member of the Kainer Formation is the grainstone member, which is a shallow marine deposit that marks the beginning of another cycle of sedimentation started by a transgressing sea. This member consists of well-cemented, miliolid grainstones with lesser quantities of mudstone (Maclay and Small, 1986). The upper stratigraphic unit of the Edwards Group is the Person Formation, which consists of the regional dense, collapsed, leached, and marine members (Rose, 1972). The basal member is a laterally extensive marine deposit consisting of dense, shaley mudstone known as the regional dense member. The overlying members, the collapsed member and leached member, consist of intertidal to supratidal deposits containing permeable units formed by collapse breccias and by dolomitized and burrowed wackestones. The uppermost member is the marine member, which consists of rudist-bearing wackestones and packstones and shell-fragment grainstones (Maclay and Small, 1986).

### IV.3. Hydrogeology

The Trinity Aquifer in the Hill Country area spans as far north as Gillespie County and as far south as Bexar, Comal, and Hays County where fresh water can be produced. As the name suggests, the Trinity is composed of three aquifers: Upper, Middle and Lower Trinity Aquifers. Figure 4 shows the location of the Trinity Aquifer with respect to other major aquifers in the area, including the Edwards Aquifer. The solid green portion reflects the unconfined zone of the Trinity Aquifer where recharge occurs; the solid blue portion reflects the unconfined zone of the Edwards Aquifer where recharge occurs. The green diagonal hatched region reflects the confined zone of the Trinity Aquifer where the formations that make up the aquifer dip beneath the land surface, and the blue diagonal hatched region reflects the confined zone of the Edwards Aquifer (Figure 4).

The Lower Trinity Aquifer is under confined conditions in the area of the project location. Confined groundwater is isolated from the atmosphere at the point of discharge by impermeable geologic formations, and the confined aquifer is generally subject to pressures higher than atmospheric pressure (Driscoll, 1986).



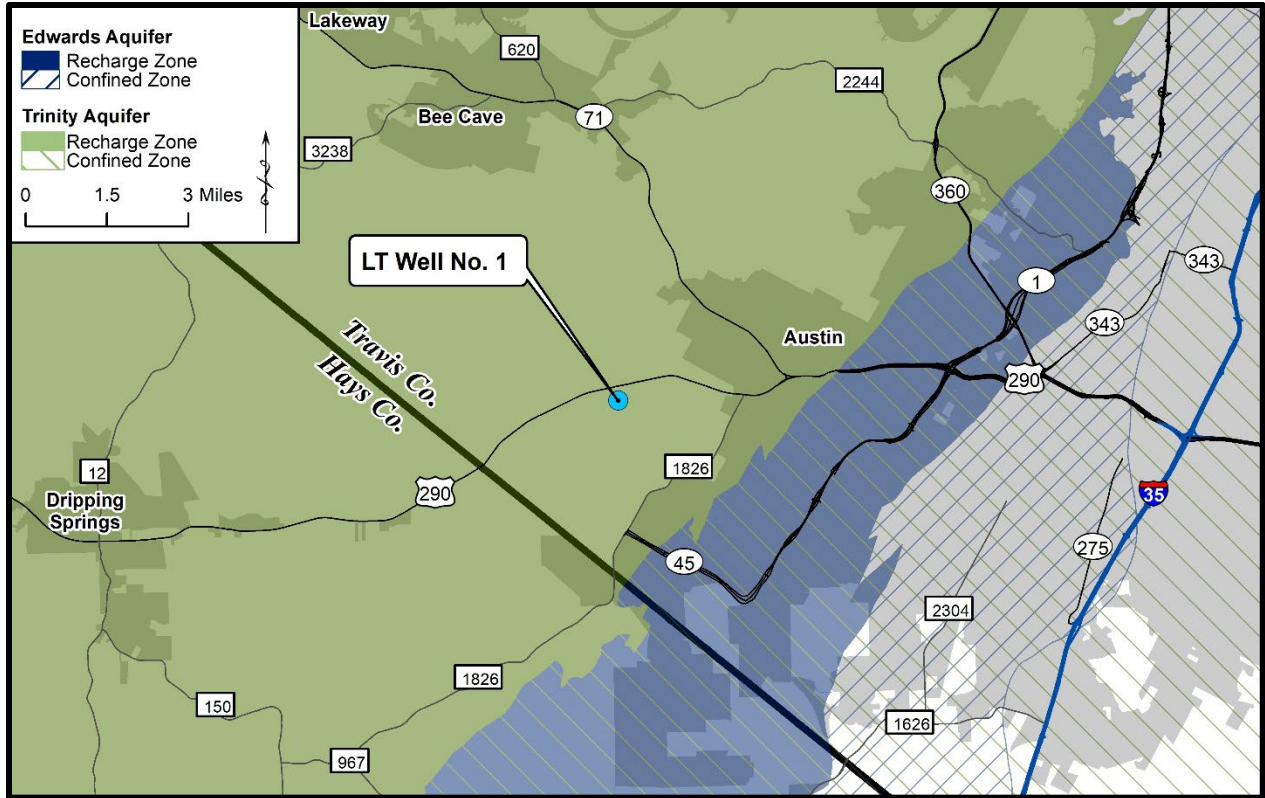


Figure 4: Aquifer map

#### IV.4. Conceptual Cross-Sections

LT Well No. 1 sits atop a portion of the Upper Glen Rose Formation west of the Mount Bonnell Fault Zone. A suite of geophysical logs (gamma ray, spontaneous potential, 4-point resistivity, and caliper) were performed on LT Well No. 1 and a few nearby wells to determine the formation thickness and fracture locations within the boreholes. Figure 5 shows a map of the wells used to create a cross-section of the study area; Figure 6 provides conceptual geologic cross-section from the interpreted geophysical logs. Appendix C provides copies of the geophysical logs utilized for the cross-section.

According to the available geophysical logs near the study area, portions of the Edwards Group crop out in areas of higher elevation; however, the outcrops are variable, and the unit thickens with dip to the southeast of the study area. The Upper Trinity Aquifer (Upper Glen Rose Member) thickness ranges from approximately 300 feet to 350 feet; the Middle Trinity Aquifer (Lower Glen Rose, Hensell, and Cow Creek members) averages approximately 300 to 320 feet across the study area; the Hammett Shale averages approximately 40 feet in thickness; the Sligo averages approximately 60 to 70 feet in thickness; and the Hosston averages approximately 220 or more (Figure 5 and 6). The base of the Lower Trinity Aquifer was not encountered in any of the geophysical logs utilized in the cross-section.

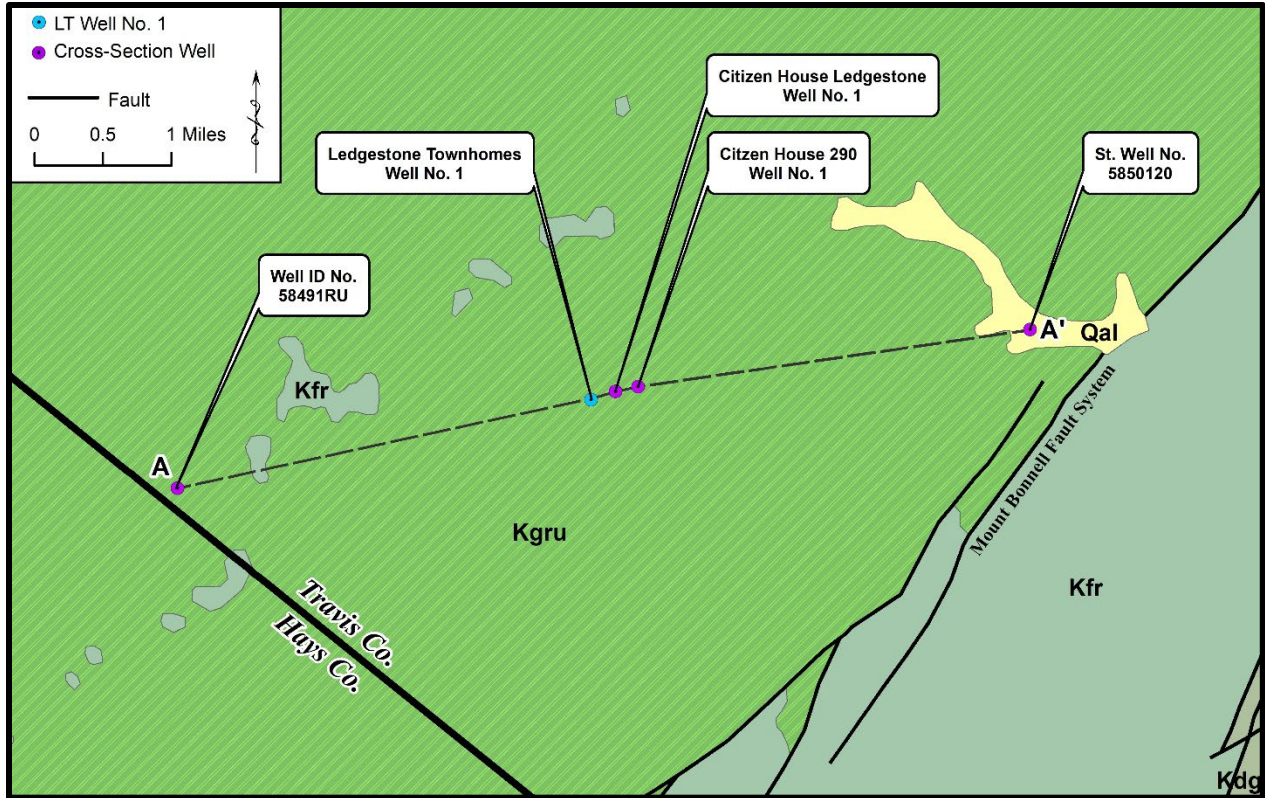


Figure 5: Geologic map with LT Well No. 1 and SWTCGCD wells with cross-sections A-A'

In the area near LT Well No. 1, the Mount Bonnell Fault Zone bisects the study area to the east of State Well No. 5850120. From other studies, the fault strikes from northeast to southwest, but does not bisect the cross section (Figures 5 and 6).

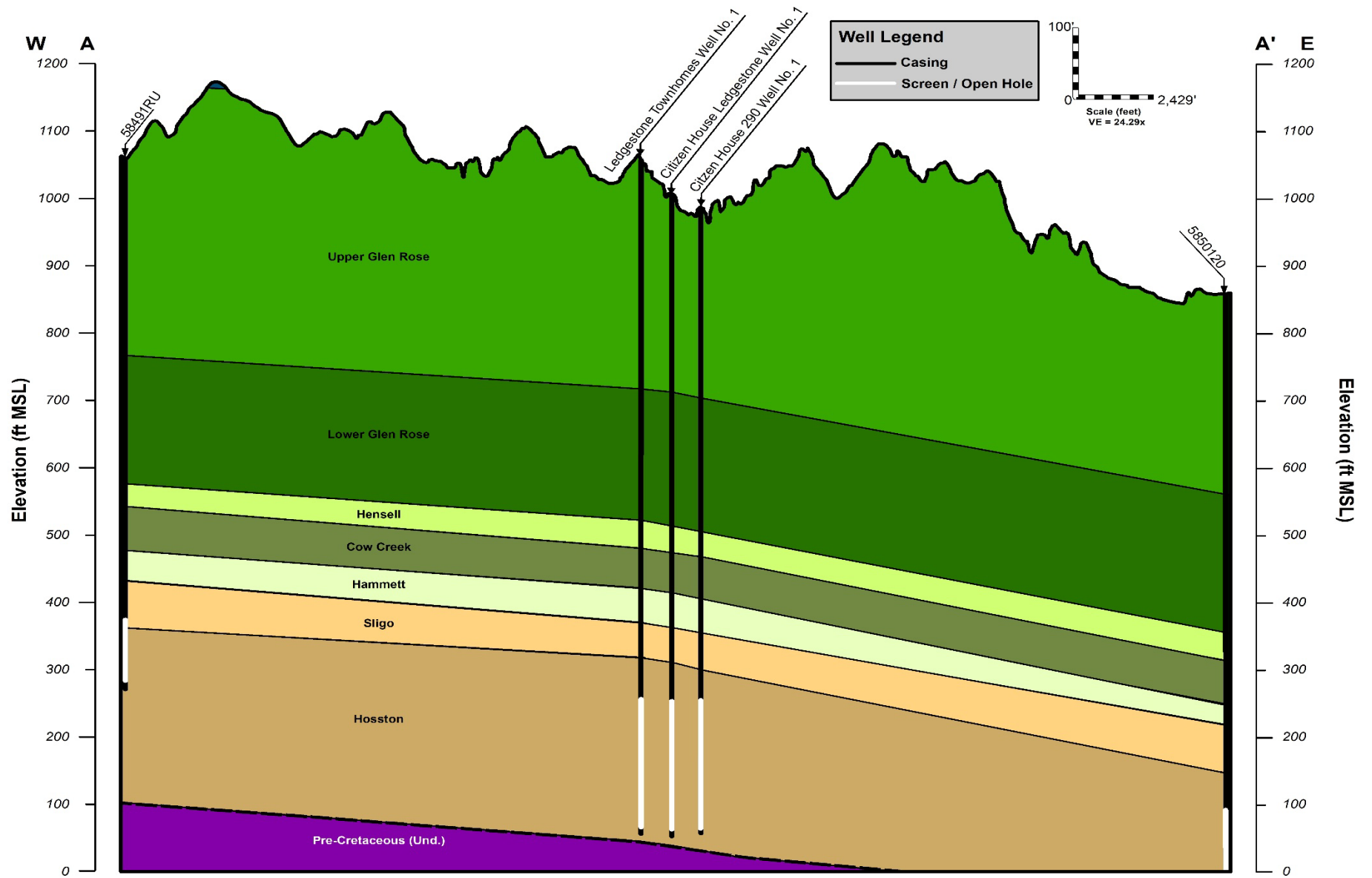


Figure 6: Conceptual hydrogeologic cross section of the study area



## IV.5. Discharge Features

In the vicinity of the project location, the majority of wells are completed within the Upper, Middle, and Lower Trinity aquifers. Figure 7 provides a map of documented wells, surface water bodies, springs, karst features, and potential recharge features in the area surrounding LT Well No. 1. According to available data, there are no nearby springs or potential recharge features impacting the well; the Sligo and Hosston Formations comprising the Lower Trinity Aquifer crop out at the surface approximately 15 miles northwest of the study area. Surface water bodies include unnamed creeks and tributaries flowing to Slaughter Creek surrounding the project site. The surface water bodies have no direct influence on the proposed well. Major karst features such as fractures, faults, and sinkholes are not prevalent within the project site and surrounding area and none were noted during multiple site visits; fault trends and surface geology are provided in Figure 3.

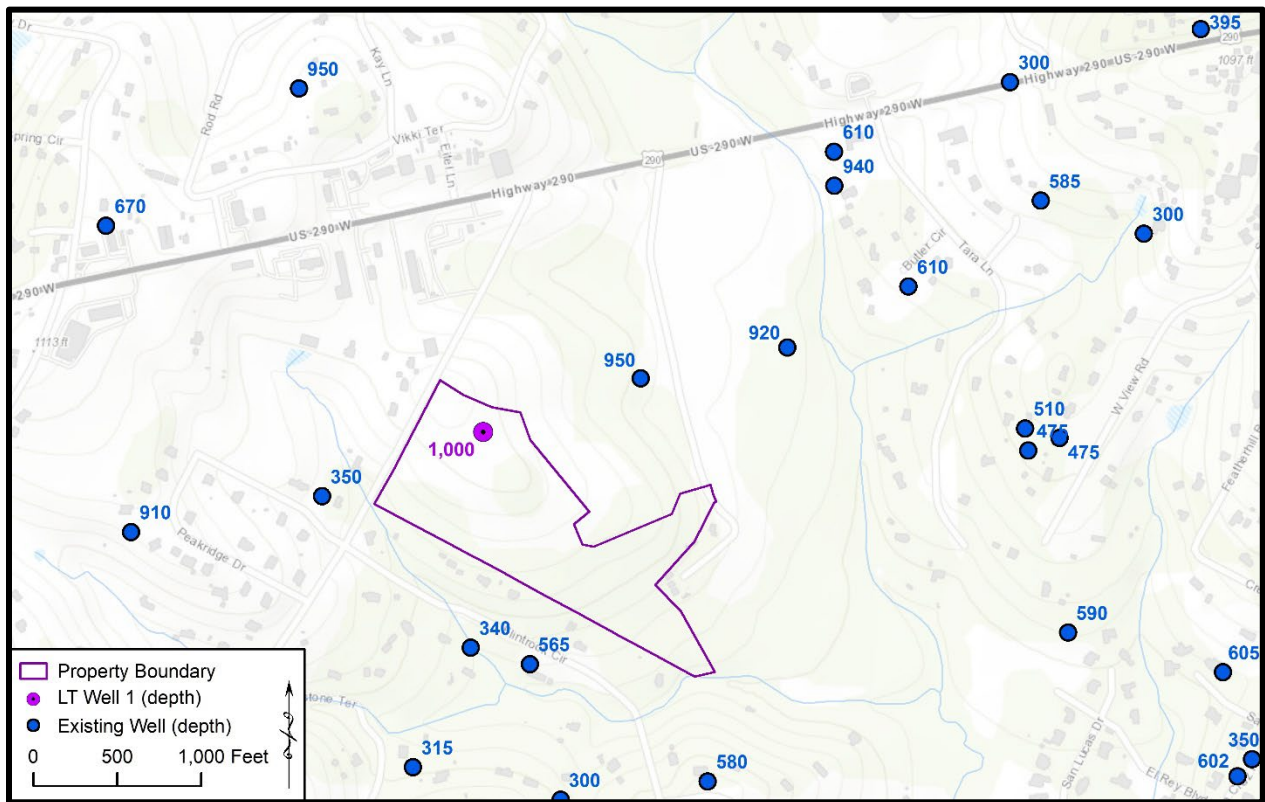
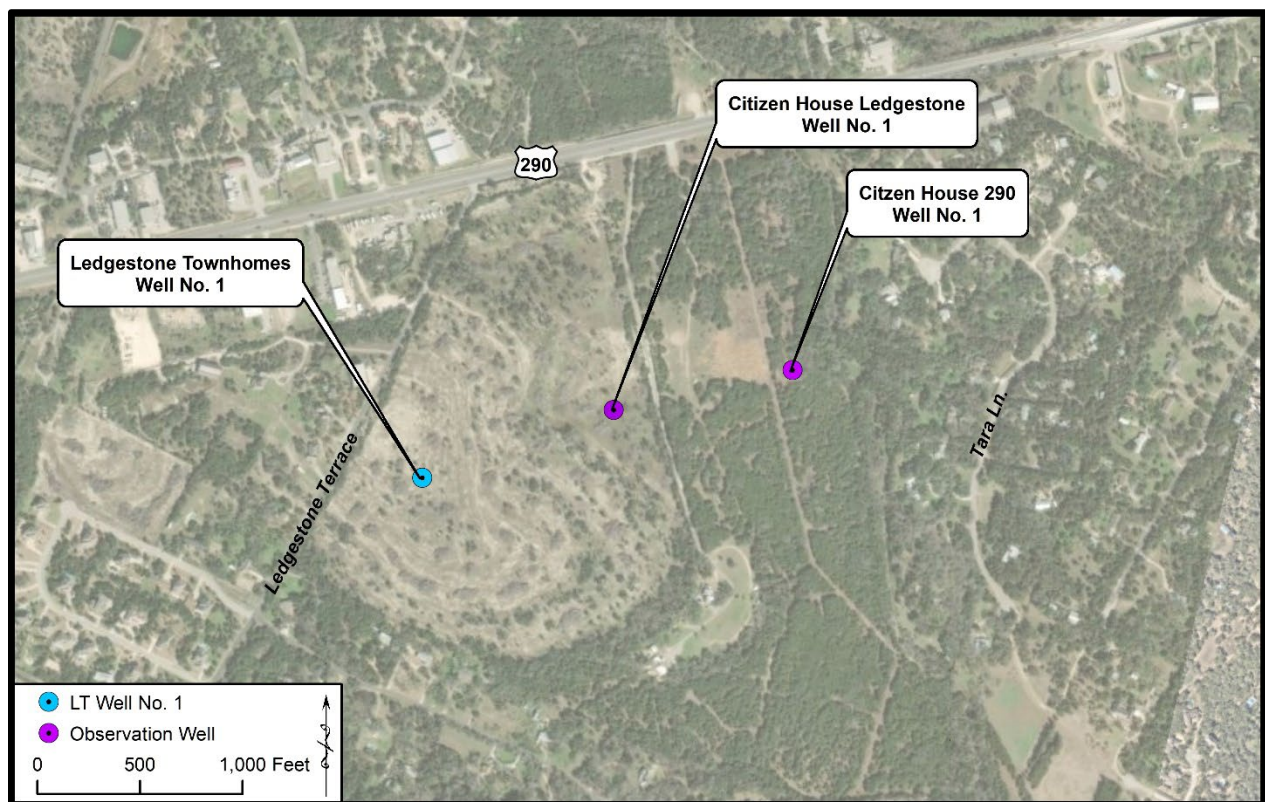


Figure 7: Map of area wells and surface water bodies near the project location

## **Section V: Well Construction and Aquifer Testing**

To meet the guidelines for the SWTCGCD Tier 2 report and to adequately assess the properties of the Lower Trinity Aquifer, an aquifer test was conducted by utilizing the newly completed LT Well No. 1 and two (2) nearby newly completed Lower Trinity Aquifer wells. The aquifer test consisted of pumping the well for at least 24 hours followed by a recovery phase while continuously measuring water levels in the pumping and observation wells. This was in accordance with SWTCGCD Tier 2 guidelines for a permit greater than or equal to 1,000,000 gallons and less than 10,000,000 gallons. An aquifer testing plan was submitted to and approved by the SWTCGCD. Based on the state well reports, drill cuttings, and geophysical logs, all wells used in the aquifer testing are completed in the Lower Trinity Aquifer. Figure 8 provides the locations of the observation wells relative to LT Well No. 1. Table 2 provides a well construction summary for wells used in the testing; Well IDs in Table 2 correspond to Figure 8. Figures 9 through 11 provide the well profile schematics of the wells used in the aquifer testing. Appendix B provides the available state well reports; Appendix C provides the available geophysical logs.



**Figure 8: Location of LT Well No. 1 and observation wells**

### **V.1. Wells**

The following provides a summary of the well construction for the wells used in testing:

#### **Ledgestone Townhomes (LT) Well No. 1**

According to the State Well Report (Tracking No. 696109), Ledgestone Townhomes Well No. 1 was completed by Bee Cave Drilling on April 11, 2025 (Appendix B). The well was drilled to a depth of

1,000 feet below ground level (ft. bgl) with a 10 5/8-inch borehole from 0 to 10 ft. bgl, and a 8 7/8-inch borehole from 10 to 1,000 ft. bgl. It was completed with 5 1/2-inch steel casing from +3 to 800 ft. bgl, 5 1/2-inch steel screen from 800 to 990 ft. bgl, and 5 1/2-inch steel casing from 990 to 1,000 ft. bgl. Table 1 provides a well construction summary; Figure 9 provides a well profile schematic.

According to an interpretation of the geophysical logs at Ledgestone Townhomes Well No. 1, the Upper Glen Rose is present from the ground surface to 348 ft. bgl, the Lower Glen Rose from 348 to 540 ft. bgl, the Hensell from 540 to 578 ft. bgl, the Cow Creek from 578 to 643 ft. bgl, the Hammett from 643 to 682 ft. bgl, the Sligo from 682 to 743 ft. bgl, the Hosston from 743 to total depth. The Lower Trinity Aquifer is under confined conditions at Ledgestone Townhomes Well No. 1 (Appendix C).

#### Citizen House Ledgestone (CHL) Well No. 1

According to the State Well Report (Tracking No. 696105), Citizen House Ledgestone Well No. 1 was completed by Bee Cave Drilling on April 15, 2025 (Appendix B). The well was drilled to a depth of 950 ft. bgl with a 10 5/8-inch borehole from 0 to 10 ft. bgl, and a 8 7/8-inch borehole from 10 to 950 ft. bgl. It was completed with 5 1/2-inch steel casing from +3 to 750 ft. bgl, 5 1/2-inch steel screen from 750 to 940 ft. bgl, and 5 1/2-inch steel casing from 940 to 950 ft. bgl. Table 1 provides a well construction summary; Figure 10 provides a well profile schematic.

According to an interpretation of the geophysical logs at Citizen House Ledgestone Well No. 1, the Upper Glen Rose is present from the ground surface to 293 ft. bgl, the Lower Glen Rose from 293 to 488 ft. bgl, the Hensell from 488 to 526 ft. bgl, the Cow Creek from 526 to 593 ft. bgl, the Hammett from 593 to 633 ft. bgl, the Sligo from 633 to 695 ft. bgl, the Hosston from 695 to total depth. The Lower Trinity Aquifer is under confined conditions at Citizen House Ledgestone Well No. 1 (Appendix C).

#### Citizen House 290 (CH 290) Well No. 1

According to the State of Texas well report (Tracking No. 696101), Well No. 1 was completed by Bee Cave Drilling on April 7, 2025 (Appendix B). The well was drilled to a depth of 920 ft. bgl with a 10 5/8-inch borehole from 0 to 10 ft. bgl, and a 8 7/8-inch borehole from 10 to 920 ft. bgl. It was completed with 5 1/2-inch steel casing from +3 to 720 ft. bgl, 5 1/2-inch steel screen from 720 to 910 ft. bgl, and 5 1/2-inch steel casing from 910 to 920 ft. bgl. Table 2 provides a well construction; Figure 11 provides a well profile schematic.

According to an interpretation of the geophysical logs at Well No. 1, the Upper Glen Rose is present from the ground surface to 285 ft. bgl, the Lower Glen Rose from 285 to 483 ft. bgl, the Hensell from 483 to 527 ft. bgl, the Cow Creek from 527 to 585 ft. bgl, the Hammett from 585 to 623 ft. bgl, the Sligo from 623 to 685 ft. bgl, the Hosston from 685 to total depth. The Lower Trinity Aquifer is under confined conditions at CH 290 Well No. 1 (Appendix C).



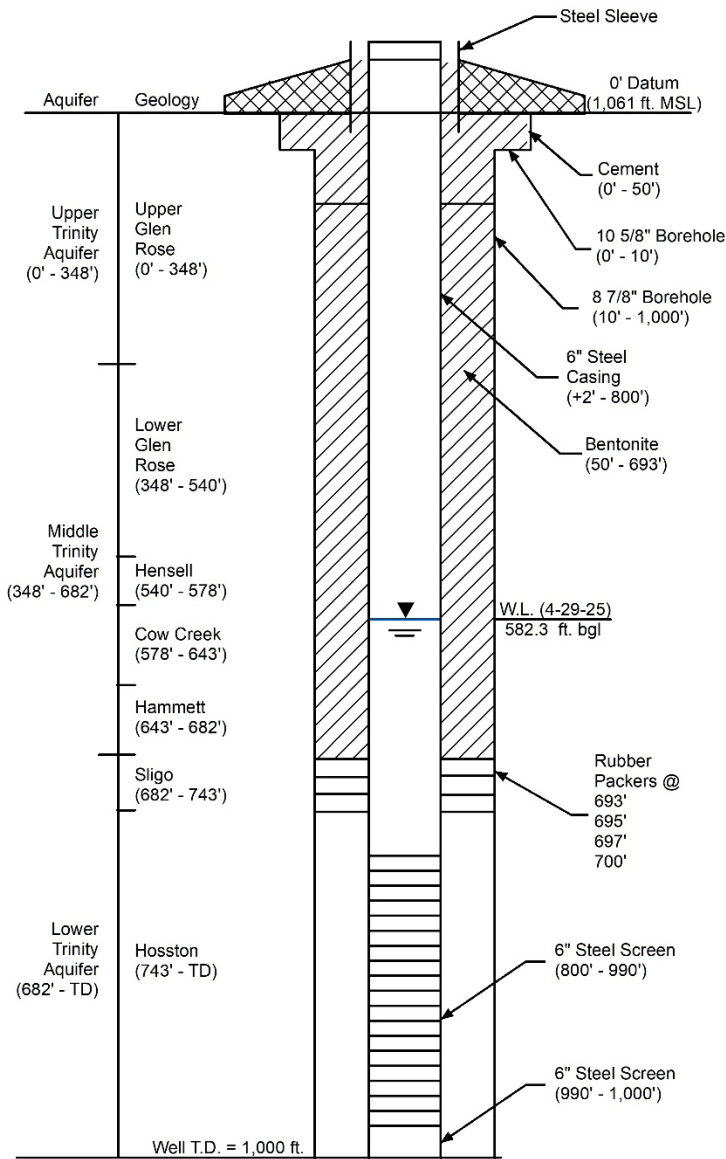
**Table 2: Well Construction Summary**

Well	State Well Report Tracking No.	Elevation (ft. MSL)	Drill Date	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)
LT Well No. 1	696109	1,061'	4/11/2025	Lower Trinity	1,000'	582.3' (4/29/2025) 478.7'	10 5/8" (0' - 10') 8 7/8" (10' - 1,000')	5 1/2" Steel (+3' - 800', 990' - 1,000')	5 1/2" Steel Screen (800' - 990')
CHL Well No. 1	696105	1,003'	4/15/2025	Lower Trinity	950'	521.6' (4/22/2025) 481.4'	10 5/8" (0' - 10') 8 7/8" (10' - 950')	5 1/2" Steel (+3' - 750', 940' - 950')	5 1/2" Steel Screen (750' - 940')
CH 290 Well No. 1	696101	972'	4/7/2025	Lower Trinity	920'	497.5' (4/22/2025) 474.5'	10 5/8" (0' - 10') 8 7/8" (10' - 920')	5 1/2" Steel (+3' - 720', 910' - 920')	5 1/2" Steel Screen (720' - 910')



**Ledgestone Townhomes**

**Well No. 1**

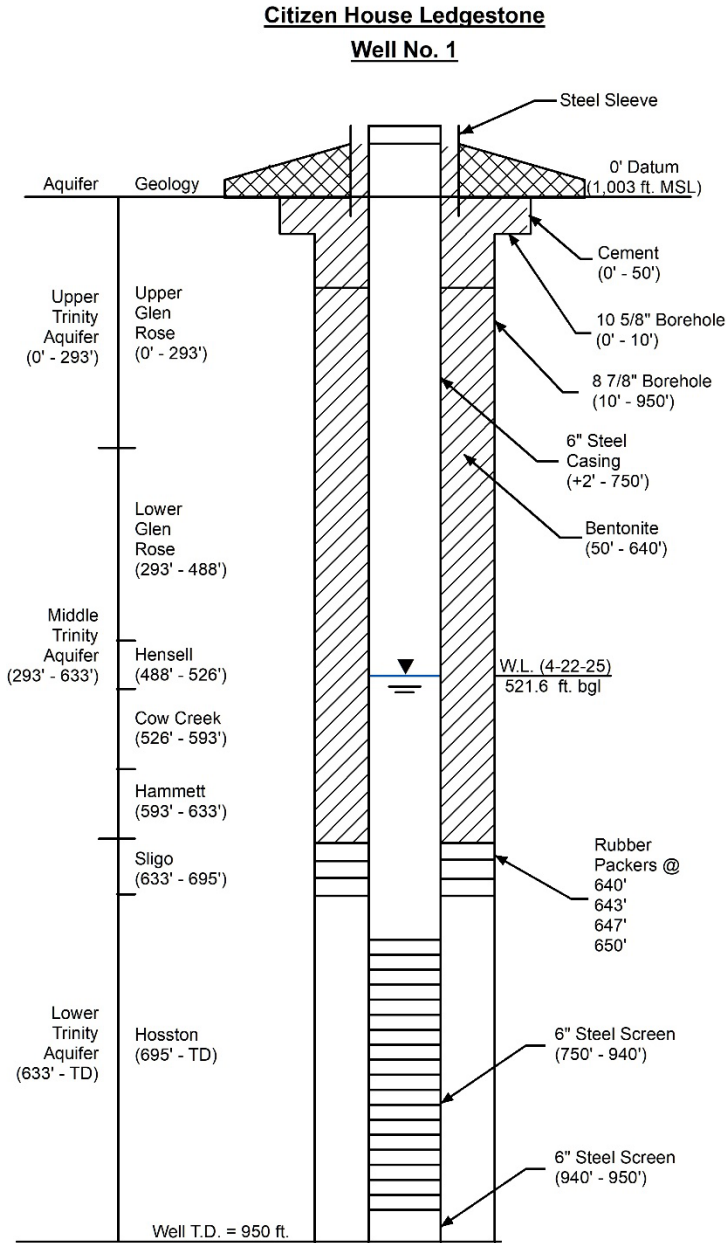


Notes:

- Well profile created with the information from State Well Report and geophysical log.
- Figure for schematic purposes; not drawn to scale.

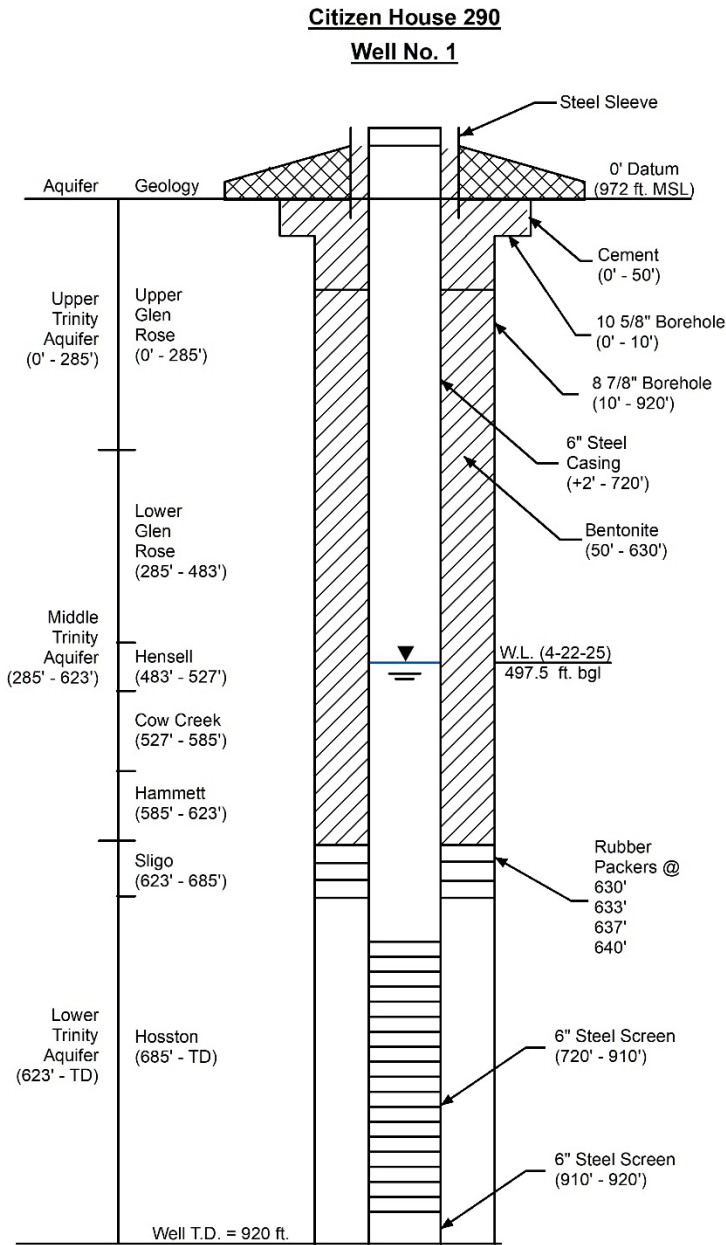
**Figure 9: Well profile schematic of the Ledgestone Townhomes Well No. 1**





- Notes:
- Well profile created with the information from State Well Report and geophysical log.
  - Figure for schematic purposes; not drawn to scale.

**Figure 10: Well profile schematic of the Citizen House Ledgestone Well No. 1**



- Notes:
- Well profile created with the information from State Well Report and geophysical log.
  - Figure for schematic purposes; not drawn to scale.

**Figure 11: Well profile schematic of the Citizen House 290 Well No. 1**

## V.2. Aquifer Testing

Aquifer tests allow for the estimation of transmissivity, hydraulic conductivity, specific capacity, and storativity of wells when at least one observation well is available and drawdown is observed. The objective was to perform the aquifer test with a 24-hour pumping phase followed by a recovery phase in which the pumping well achieved 90% recovery or more. 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 throughout the duration of the test. Flow meter readings and water levels were taken prior to, during, and at the conclusion of the test. The data from the aquifer tests were analyzed using the Cooper and Jacob (1946) and Theis (1935) solutions in the Aqtesolv software suite (Duffield, 2007). Table 3 provides a summary of the aquifer testing results; Appendix D provides the analyses; Figures 12 through 14 provide hydrographs showing water levels in the pumping and observation wells during the aquifer testing.

In cooperation with the SWTCGCD, the following actions were taken to ensure an acceptable aquifer test for the LT Well No. 1:

- Static water levels in the pumping and observation wells were measured one week prior to the pumping phase of the test utilizing an electric line and a pressure transducer (In-Situ Level Troll 400; accurate to the nearest 0.01 ft.). Pressure transducers were utilized in the active pumping well and observation wells during the pumping and recovery phase of the test. This aquifer test was the third of three (3) aquifer tests to be performed; prior to starting the test, the static water level in the wells were allowed more than 4 days to recover;
- A total of 36,461.4 gallons were pumped during the aquifer test (Appendix D). SWTCGCD recommended a total volume for the test of 36,164 gallons due to the current drought conditions. The pumped volume represents approximately 5 times the daily equivalent volume of the requested permit;
- Discharge from the pumping well was routed away from the well site to ensure no return flow occurred within the pumping well. The discharge was carefully monitored during the pumping phase to minimize impact (i.e. erosion, roadway hazards, upset neighbors); and,
- 90% recovery of water level was achieved in LT Well No. 1 after 21.13 hours of recovery.

### Aquifer Test – LT Well No. 1 (May 13, 2025)

The aquifer test of LT Well No. 1 was conducted with CHL Well No. 1 and CH 290 Well No. 1 serving as the observation wells. The observation wells are located approximately 990 and 1,815 feet from the pumping well, respectively. A 7.5 horsepower (HP) submersible pump was set in the pumping well on 860 feet of 1 1/2-inch steel column pipe. The pumping phase started at 11:48 AM on May 13, 2025; the water levels were monitored for 24.27 hours of pumping and for 115.92 hours of recovery. Prior to the pumping phase of the aquifer test, the static water level in LT Well No. 1 was measured at 583.47 ft. bgl (477.53 ft. MSL), 525.75 ft. bgl (477.25 ft. MSL) in CHL Well No. 1 and 501.2 ft. bgl (470.8 ft. MSL) in CH 290 Well No. 1.

LT Well No. 1 was pumped at an average rate of 25.04 gallons per minute (gpm) throughout the pumping phase; the initial rate was 32 gpm and the final measured pumping rate was 25 gpm with 61.11



feet of drawdown, resulting in a specific capacity of 0.41 gpm/ft. After approximately 3 minutes of pumping, the pumping rate was reduced to 25 gpm in order to meet the SWTCGCD's prescribed pumping volume within the 24-hour pumping phase. Throughout the remainder of the pumping phase, the water level declined steadily until the pump was shutoff, reaching a pumping water level of approximately 644.7 ft. bgl (Figure 12). After the pump was shut off, recovery was measured; the water level in the pumping well recovered 90% in approximately 21.13 hours (Figure 12). There were no aquifer boundary conditions observed during the testing.



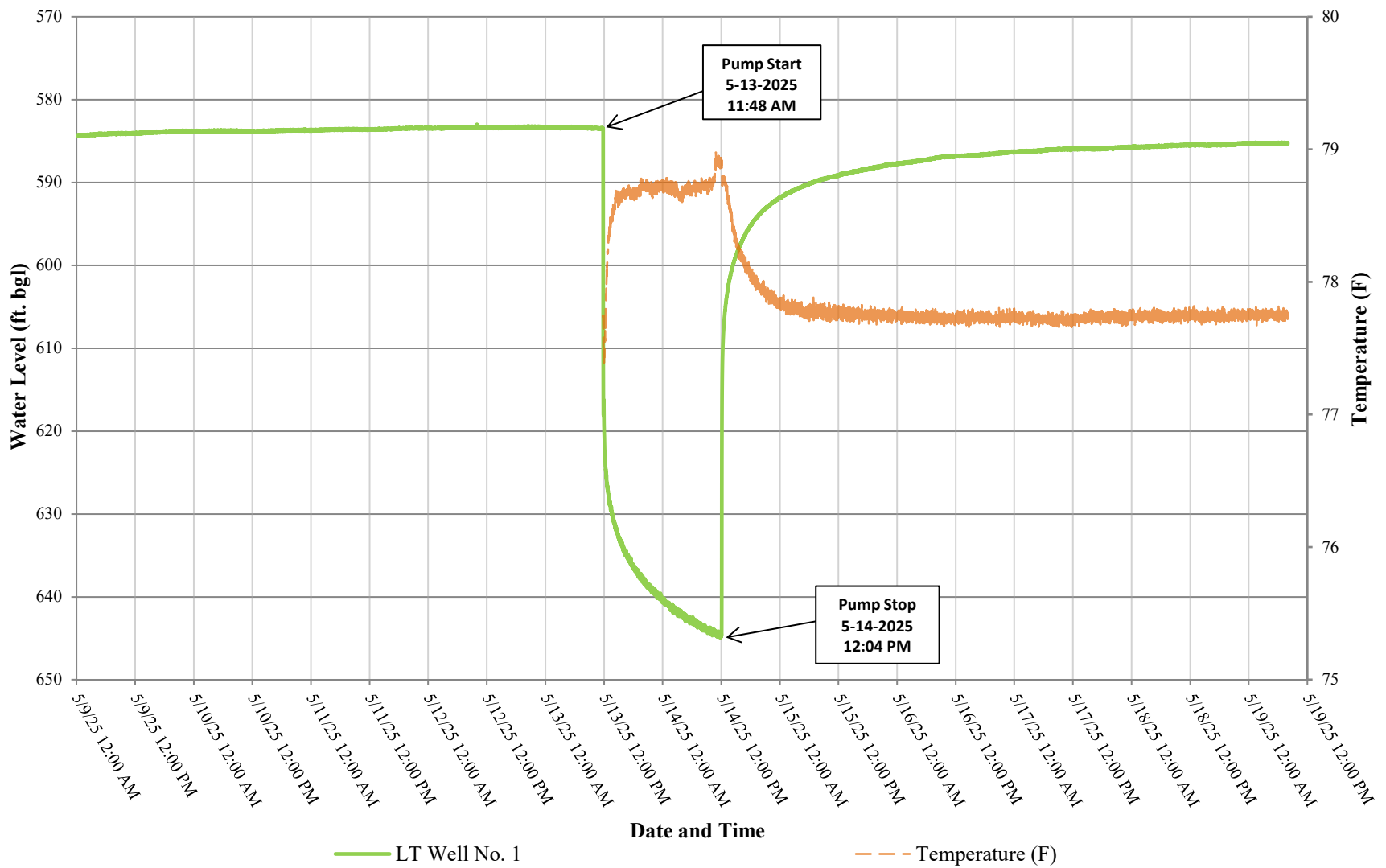


Figure 12: Aquifer test hydrograph of the LT Well No. 1 (May 13, 2025)



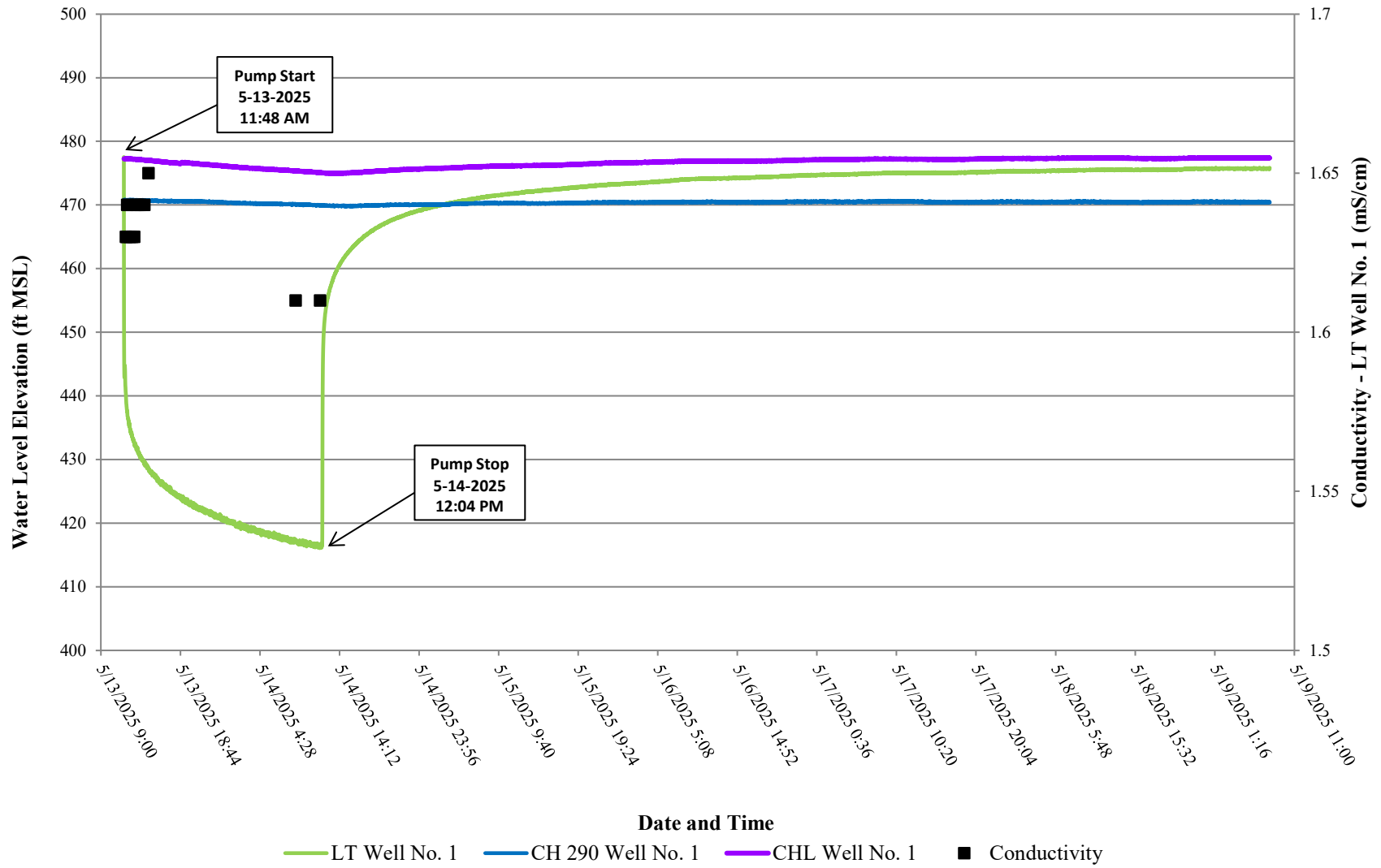


Figure 13: Aquifer Test hydrograph of LT Well No. 1 and Observation Wells with field conductivity (May 13, 2025)



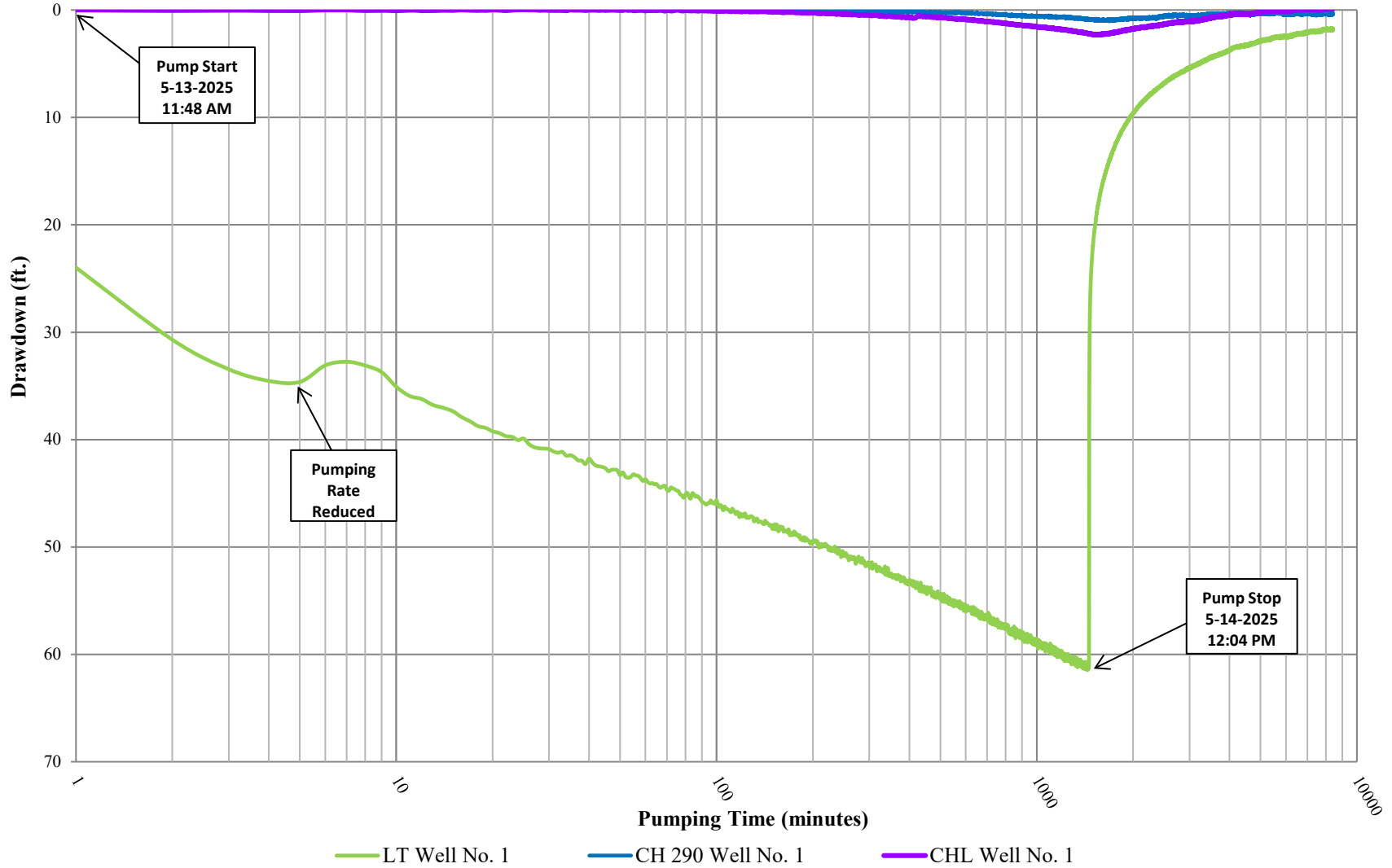


Figure 14: Drawdown hydrograph (semi-log plot) of LT Well No. 1 and Observation Wells (May 13, 2025)



After nearly 5 days since the pump was shut off, neither the pumping well nor the CH 290 Well No. 1 fully recovered to the pre-test static water levels; however, CHL Well No. 1 fully recovered within 68 hours after the pump was shut off. This could be due to a decreasing water level trend in the area noted by background water level measurements and from nearby District and TWDB monitor wells. In theory, the water level should recover at the same rate the water level drew down during the recovery phase. In reality, however, the rate to achieve 90% recovery may take longer. Driscoll (1986) points out that *“drawdown and recovery should be identical if the aquifer conditions conform to the basic assumptions of the Theis concept... Complete recovery generally requires a period considerably longer than the previous pumping period, except in cases where recharge to the aquifer occurs during the pumping and recovery periods. The storativity for a confined aquifer depends upon the elastic properties of the formation. If the aquifer is not perfectly elastic, it does not rebound vertically during recovery of water levels (recovery of pressure) at the same rate that it is compressed as a result of the drawdown during the preceding pumping.”* The heterogeneity, anisotropy, and non-perfect elasticity characteristics of the Lower Trinity Aquifer may explain the delayed recovery rates post pumping phase of the aquifer test.

The data from the aquifer test was analyzed using the Cooper-Jacob (1946) and Theis (1935) solutions in the Aqtesolv software suite (Duffield, 2007). The results of the aquifer testing were representative of a slightly heterogeneous system. Table 3 provides a summary of the aquifer testing results. The average calculated transmissivity for the LT Well No. 1 was 70.99 ft.<sup>2</sup>/day from both the Theis and Cooper-Jacob methods (Table 3). During the aquifer test, the CHL Well No. 1 and the CH 290 Well No. 1 had a maximum drawdown of 2.2 feet and 0.93 feet, respectively (Figure 13; Table 3). The storativity was calculated for the observation wells using both the Theis and Cooper-Jacob methods, resulting in an average value of 5.33 x 10<sup>-4</sup> (Table 3). The comparatively lower transmissivity value that was calculated for the pumping well may be partially due to several factors, including well efficiency, skin effects near the open well bore, insufficient well development upon construction, aquifer heterogeneity, and/or turbulent flow within the pumping well.

**Table 3: Summary of aquifer test results**

Test Date	Well	Final Pump Rate (gpm)	Drawdown (ft.)	Specific Capacity (gpm/ft)	Analytical Method	Transmissivity (ft <sup>2</sup> /day)	Storativity	Aquifer Thickness (ft.)
May 13, 2025	LT No. 1 (PW)	25	131.25	0.41	Theis	70.99	-	318
					Cooper-Jacob	70.99	-	
	CHL No. 1 (OW)	-	2.2	-	Theis	263.4	1.59 x 10 <sup>-4</sup>	317
					Cooper-Jacob	256.1	1.40 x 10 <sup>-4</sup>	
	CH 290 No. 1 (OW)	-	0.93	-	Theis	382.4	1.42 x 10 <sup>-4</sup>	297
					Cooper-Jacob	480.3	9.21 x 10 <sup>-5</sup>	

Notes: ft. = feet; gpm = gallons per minute; PW = Pumping Well; OW = Observation Well

### V.3. Water Quality

A water quality sample was collected from the pumping well at the end of the pumping phase of the aquifer test. The sample was collected by Aqua-Tech Laboratories, Inc. staff in a sealed container and



stored on ice in a cooler. The water quality parameters analyzed were outlined in the aquifer test work plan approved by SWTCGCD staff. Appendix E includes the laboratory water quality reports. In addition to the laboratory analyzed samples, field parameters were taken for pH and specific conductance periodically during the pumping phase of the test. Table 4 provides the water quality summary of the samples. The results were compared to Texas Commission on Environmental Quality (TCEQ) Maximum Contaminant Levels (MCL) and Secondary Contaminant Levels (SCL). The results show all constituents met the TCEQ MCLs and all the SCLs with the exception of total dissolved solids (TDS; 1,010 mg/L) and sulfate (531 mg/L) within LT Well No. 1.

Table 5 provides the field parameter data collected during the aquifer test, including pH and specific conductance taken at various times during the pumping phase of the aquifer test. The results indicate that the pH and specific conductance slightly changed throughout the test. The reason for the slight increase in pH is unknown; however, the increase could be attributed to chemical residues leftover from the drilling process (i.e. drilling mud and/or sodium based solutions). No negative impacts to water quality are anticipated with prolonged production from LT Well No. 1.



**Table 4: LT Well No. 1 water quality summary**

Well	Date	pH	TDS	Cl	F	Fe	NO <sub>3</sub>	Al	As	Cu	Mn	Zn	SO <sub>4</sub>	Na	Ca	Alk as CaCO <sub>3</sub>	Mg	K
		Maximum and Secondary Contaminant Levels (MCL/SCL) Units in mg/L																
		≥ 7.0 <sup>2</sup>	1,000 <sup>2</sup>	300 <sup>2</sup>	4.0 <sup>1</sup> & 2.0 <sup>2</sup>	0.3 <sup>2</sup>	10 <sup>1</sup>	0.2 <sup>2</sup>	0.01 <sup>1</sup>	1.0 <sup>2</sup>	0.05 <sup>2</sup>	5.0 <sup>2</sup>	300 <sup>2</sup>	300 <sup>2</sup>	-	-	-	-
No. 1	5/14/2025	7.7	<b>1,010</b>	48.6	0.49	0.242	<0.02	0.00281	0.0075	0.0027	0.0012	0.00017	<b>531</b>	9.39	11.6	227	74.4	19.2
Note: 1 = TCEQ Maximum Contaminant Level; 2 = TCEQ Secondary Contaminant Level; Concentrations in <b>red</b> are above TCEQ SCLs																		

**Table 5: LT Well No. 1 field water quality summary**

Date	pH	Specific Conductance (mS/cm)
5/13/25 12:03 PM	7.27	1.63
5/13/25 12:08 PM	7.45	1.63
5/13/25 12:13 PM	7.50	1.64
5/13/25 12:18 PM	7.53	1.64
5/13/25 12:33 PM	7.567	1.63
5/13/25 12:48 PM	7.55	1.63
5/13/25 1:03 PM	7.55	1.63
5/13/25 1:18 PM	7.58	1.64
5/13/25 1:33 PM	7.59	1.64
5/13/25 1:48 PM	7.61	1.64
5/13/25 2:18 PM	7.65	1.64
5/13/25 2:48 PM	7.65	1.65
5/14/25 8:48 AM	7.65	1.61
Notes: measurements taken by Wet Rock Groundwater Services, LLC		



## **Section VI: Potential Unreasonable Impacts Analysis**

As required by the SWTCGCD, the effects of current and projected pumpage on water levels on surrounding wells for a one week, one year, and seven year period were estimated using the Theis equation (Theis, 1935).

The Theis equation has several critical 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.

It is important to note that several of the assumptions used to derive the Theis equation are not necessarily appropriate for the Trinity Aquifer. These include assumptions 1, 3 and 7. In addition, the Theis assumptions that (i) the formation receives no recharge from any source and (ii) that all water removed from the well comes from aquifer storage may lead to inaccuracies in estimating drawdown. Driscoll (1986) states, “The assumption that an aquifer receives no recharge during the pumping period is one of the six fundamental conditions upon which the non-equilibrium formulas (Theis) are based. Therefore, all water discharged from a well is assumed to be taken from storage within the aquifer. It is known, however that most formations receive recharge. Hydrographs from long-term observation wells monitored by the US Geological Survey, various state agencies, and similar data-gathering agencies in other parts of the world show that most water-bearing formations receive continual or intermittent recharge.”

Furthermore, contrary to the Theis assumptions, Konikow and Leake (2014) note that with increased pumping time, (i) the fraction of pumpage derived from storage tends to decrease, and (ii) the fraction derived from capture (recharge) increases (Figure 15). Eventually a new equilibrium will be achieved when no more water is derived from storage and heads, or water levels, in the aquifer stabilize. This result is achieved when the initial cone of depression formed by discharge reaches a new source of water, typically the recharge zone of the aquifer. The actual response time for an aquifer system to reach a new equilibrium is a function of the dimensions, hydraulic properties, and boundary conditions for each specific aquifer. For example, the response time will decrease as the hydraulic diffusivity of the aquifer increases (Theis 1940; Barlow and Leake 2012). The response time can range from days to millennia (Bredehoeft and Durbin 2009; Walton 2011).



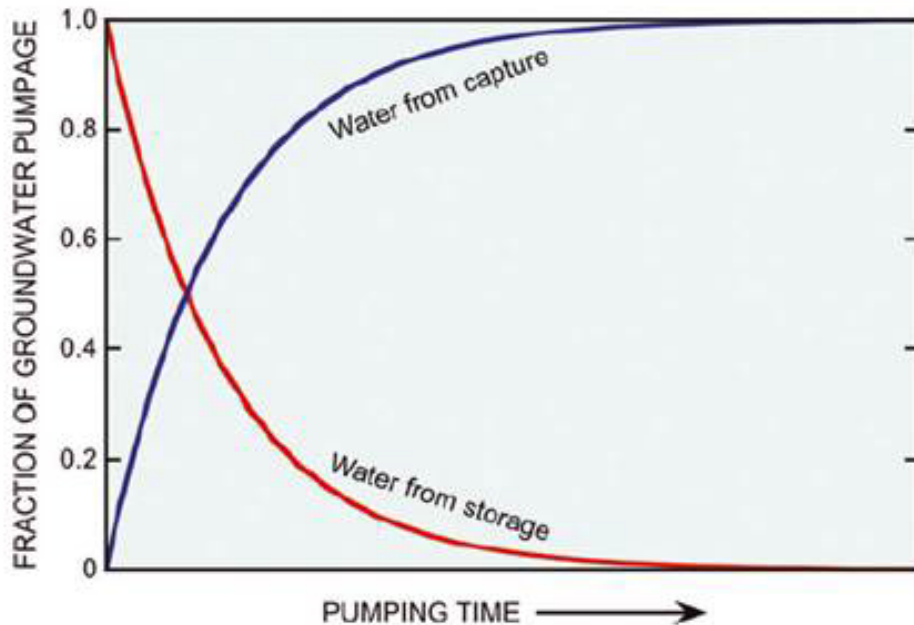


Figure 15: Water sources to a pumping well over time (from Konikow and Leake (2014))

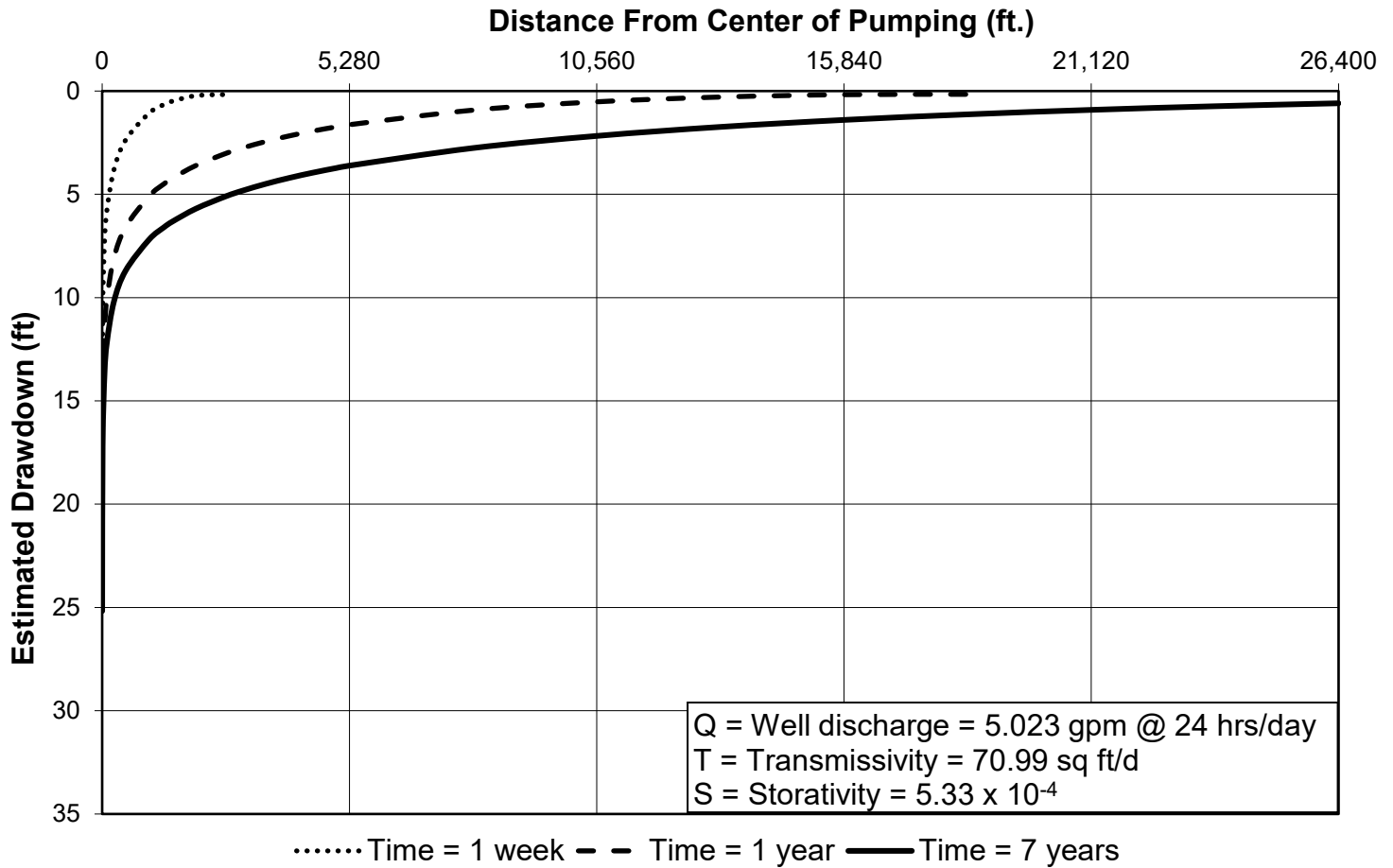
Since the Theis equation (Theis, 1935) assumes (i) that all water is derived from storage and (ii) that the aquifer receives no recharge, the Theis equation may overestimate drawdown within a well that is located in an aquifer that receives rapid recharge.

#### VI.1 LT Well No. 1

The groundwater model was designed to estimate drawdown for LT Well No. 1 pumping for 1 week (5.023 gpm; 50,631 gallons total), 1 year (5.023 gpm; 2,640,089 gallons total), and 7 years (5.023 gpm; 18,480,622 gallons total). The following values used for the drawdown calculations are summarized below:

- LT Well No. 1 Production Rate: 5.023 gpm (2,640,089 gallons per year). Note – the production rate was rounded to the nearest thousandth, resulting in a larger volume than the requested permit volume;
- Transmissivity value of 70.99 ft<sup>2</sup>/day was obtained from the average transmissivity values calculated from the pumping well; and,
- Storativity value of  $5.33 \times 10^{-4}$  was obtained from the average storativity values calculated from the observation wells.

The results of the model are summarized in Figures 16 through 21. Table 6 provides a summary of the modeling results on observation wells with only LT Well No. 1 pumping.



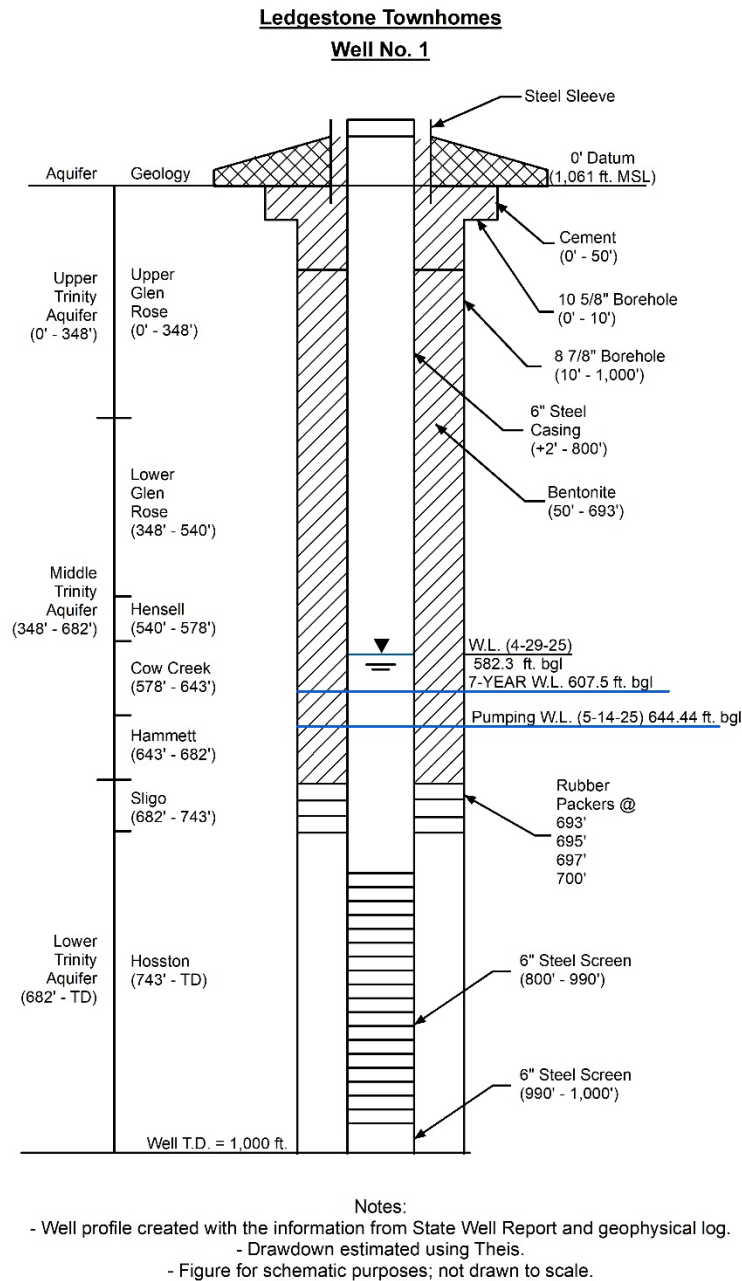
**Figure 16: LT Well No. 1 distance-drawdown estimations**

**Table 6: Summary of the projected drawdown resulting from production at LT Well No. 1**

Map ID	Latitude Longitude	State Well Report Tracking Number	Total Depth (ft.)	Aquifer	Distance from Pumping Well (ft.)	Drawdown After 1-Week Pumping (ft.)	Drawdown After 1-year Pumping (ft.)	Drawdown After 7-years pumping (ft.)
LT Well No. 1	30.228 -97.926861	696109	1,000	Lower Trinity	0	18.78	23.07	25.18
CH 290 Well No. 1	30.229222 -97.921444	696101	920	Lower Trinity	990	0.30	3.81	5.91
CHL Well No. 1	30.228806 -97.924056	696105	950	Lower Trinity	1,815	1.21	5.27	7.38



Figure 17 provides a well profile with the static water levels measured prior to starting the aquifer test, maximum drawdown recorded during the aquifer test, and the estimated drawdown after 7 years of pumping.



**Figure 17: Well profile schematic of the LT Well No. 1 with theoretical drawdown estimate**

Figures 18 through 20 provide plan view maps of theoretical maximum drawdown after 1 week, 1 year, and 7 years of continuous pumping. Wells shown in Figure 18 through 20 were obtained from well records in the TWDB database.

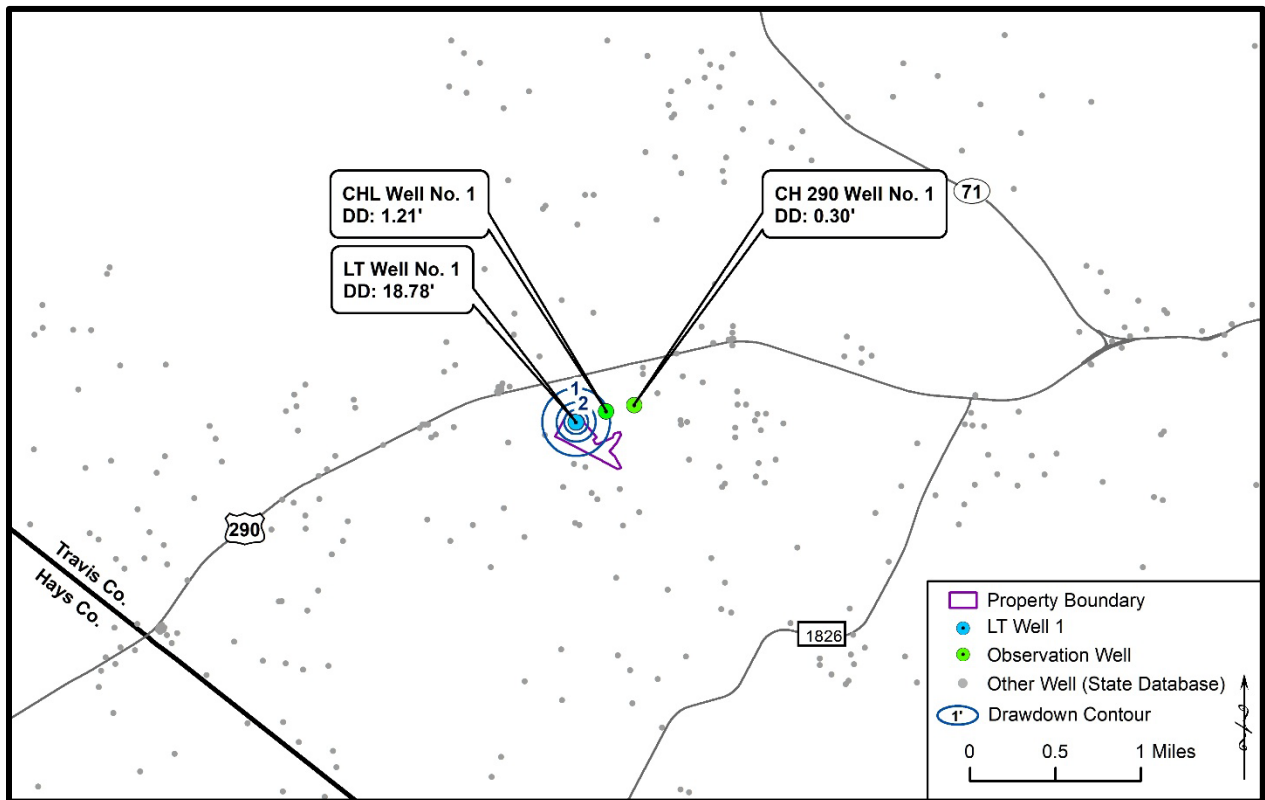


Figure 18: Estimated drawdown after 1 week of pumping

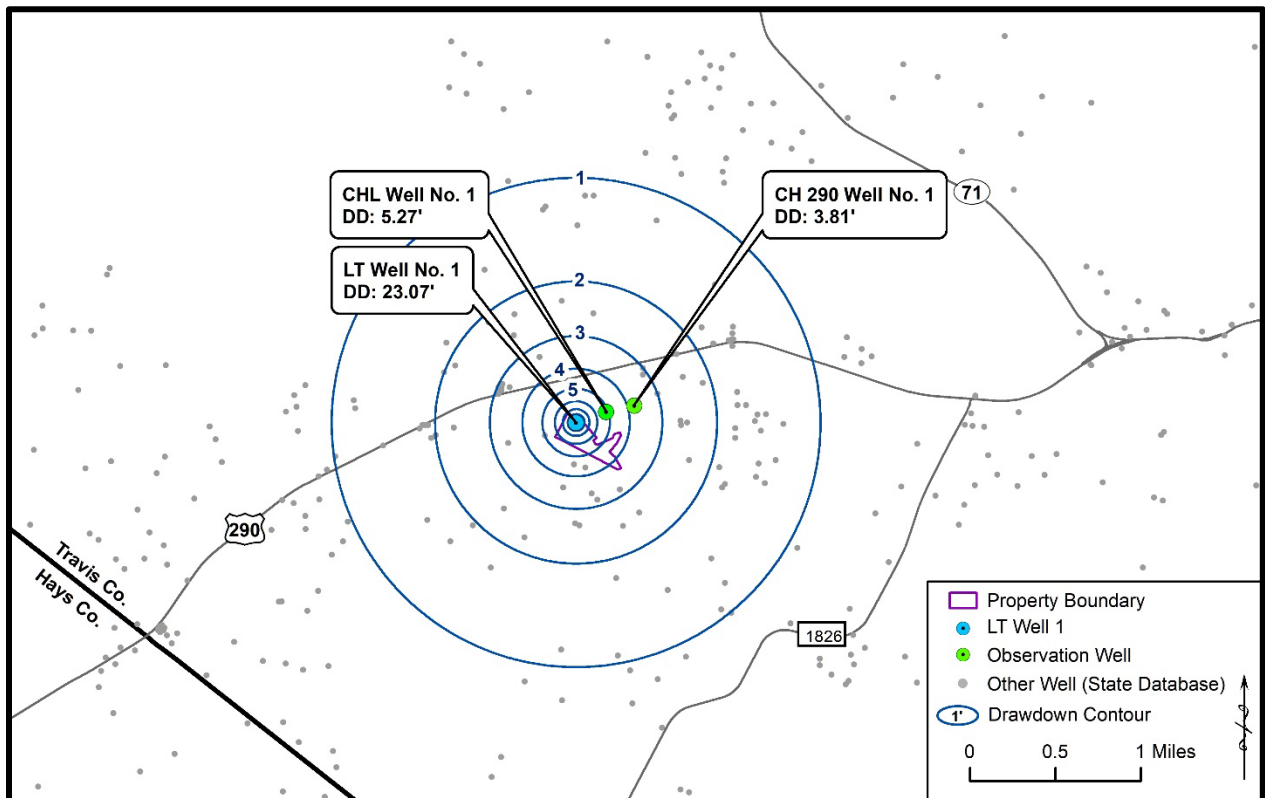
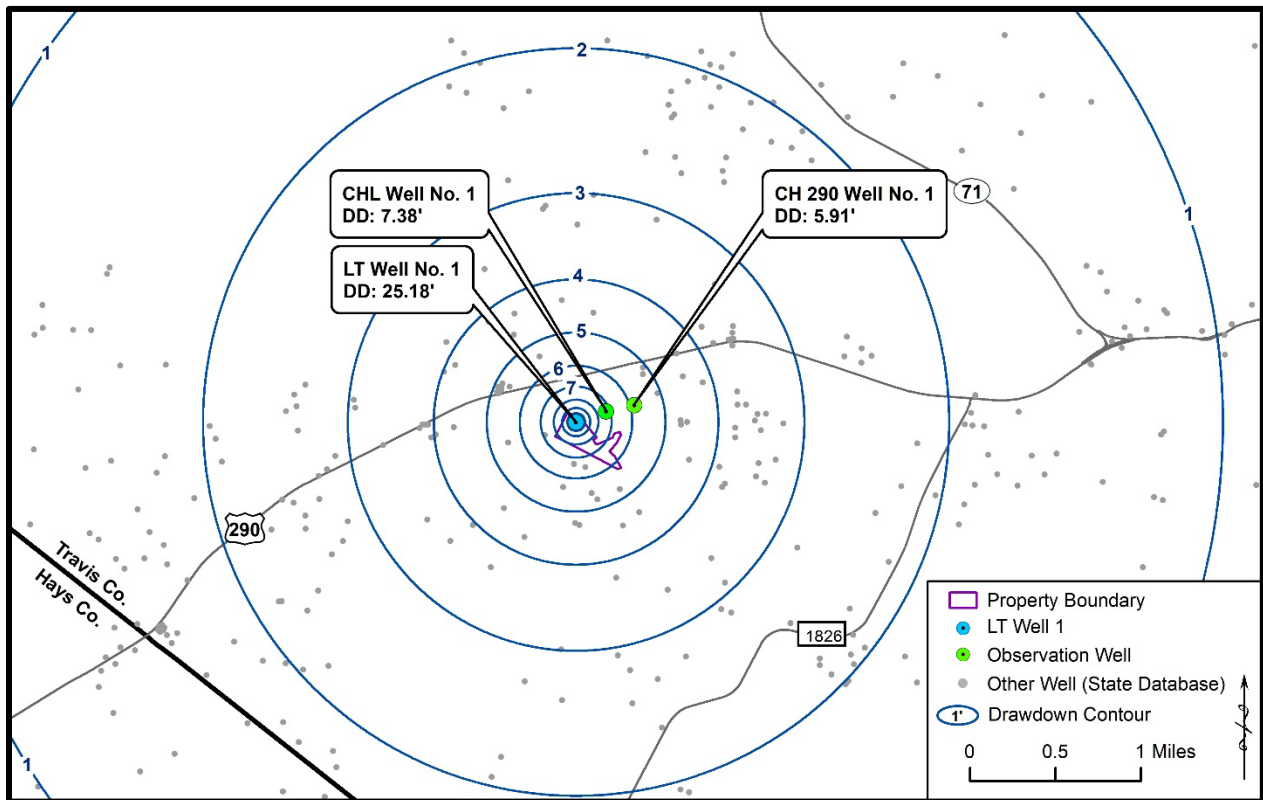


Figure 19: Estimated drawdown after 1 year of pumping



**Figure 20: Estimated drawdown after 7 years of pumping**

Based upon the drawdown calculated from the distance-drawdown projections, the drawdown after 1 week of production at 5.023 gpm from LT Well No. 1 results in 18.78 feet of drawdown at the well. The extent of the cone of depression within the Lower Trinity Aquifer is approximately 0.5 miles, where the drawdown equals 1 foot (Figure 18). The drawdown after 1 year of production at 5.023 gpm from the pumping well results in 23.07 feet of drawdown at the well. At a distance of 4 miles from the well, the drawdown equals approximately 1 foot within the Lower Trinity Aquifer (Figure 19). The drawdown after 7 years of production at 5.023 gpm from the pumping well results in 25.18 feet of drawdown at the well. At a distance of approximately 3.8 miles from the well, the drawdown equals approximately 1 foot within the Lower Trinity Aquifer (Figure 20). Based upon the results of the aquifer testing and subsequent modeling, drawdown will likely be experienced in neighboring wells completed within the Lower Trinity Aquifer within a 4-mile radius; however, that drawdown is not expected to have any unreasonable impacts on the aquifer or surrounding wells, springs, or surface water due to the static water level and relatively low pumping volumes.

Figure 21 provides a hydrogeologic cross-section of the project area showing the estimated water levels in neighboring wells along with the modeled water levels after 7 years of proposed pumping. The static water levels in Well ID 58491RU were estimated; other water level data were sourced from field measurements or published records.

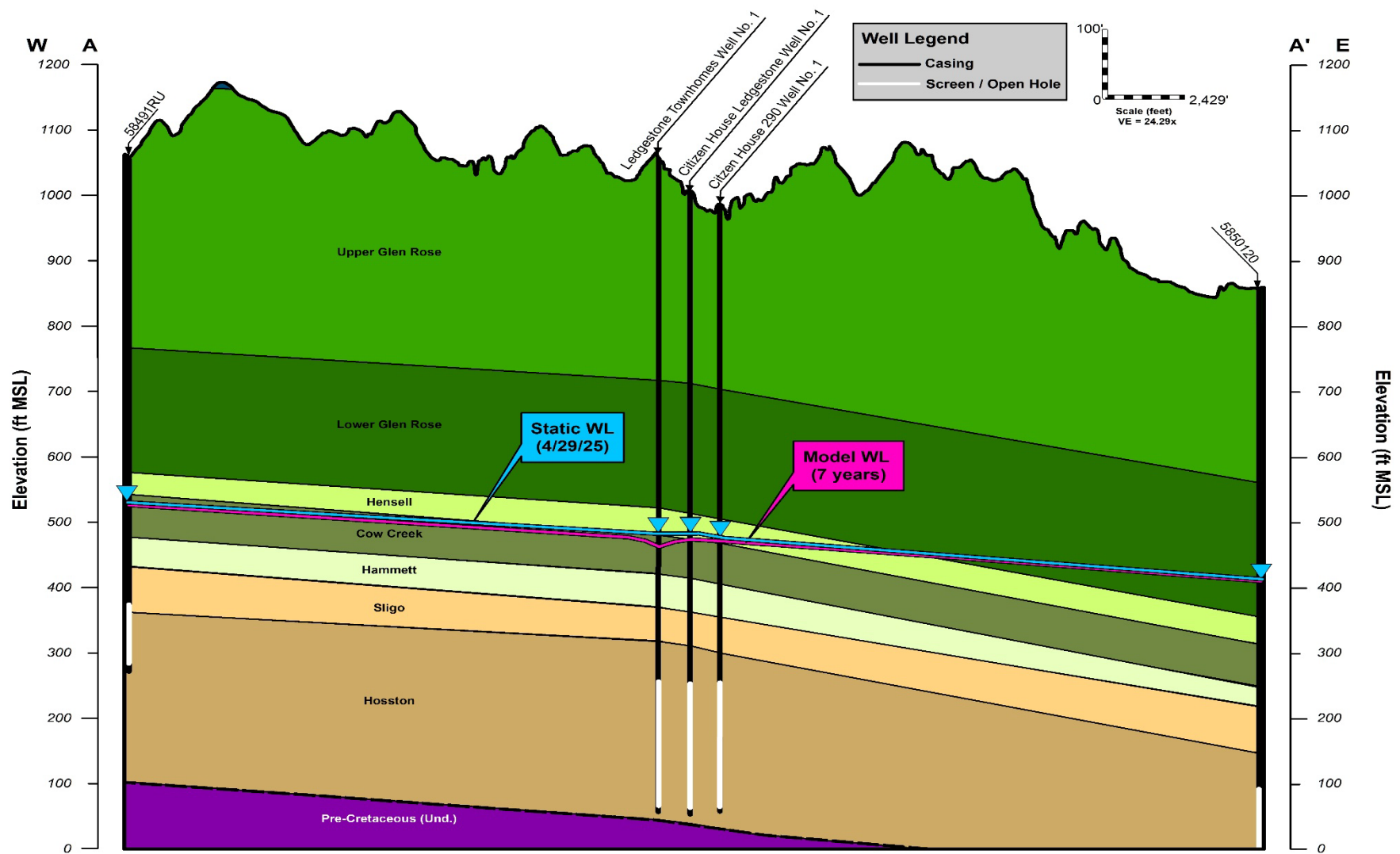


Figure 21: Geologic cross section with estimated 7-year water levels



## VI. 2 Ledgestone Wells

At the request of SWTCGCD staff, a groundwater model was designed to estimate the combined drawdown for the three proposed OP III ATX Ledgestone wells (CH290 Well No. 1, CHL Well No. 1, and LT Well No. 1) after pumping for 1 week (16.043 gpm; 161,713.44 gallons total), 1 year (16.043 gpm; 8,432,200.8 gallons total), and 7 years (16.043 gpm; 59,025,405.6 gallons total). The following values used for the drawdown calculations are summarized below:

### CH 290 Well No. 1

- CH 290 Well No. 1 Production Rate: 5.35 gpm (2,811,960 gallons per year). Note – the production rate was rounded to the nearest thousandth, resulting in a larger volume than the requested permit volume;
- Transmissivity value of 77.3 ft<sup>2</sup>/day was obtained from the average transmissivity values calculated from the pumping well; and,
- Storativity value of  $6.80 \times 10^{-5}$  was obtained from the average storativity values calculated from the observation wells.

### CHL Well No. 1

- CHL Well No. 1 Production Rate: 5.67 gpm (2,980,152 gallons per year). Note – the production rate was rounded to the nearest thousandth, resulting in a larger volume than the requested permit volume;
- Transmissivity value of 74.85 ft<sup>2</sup>/day was obtained from the average transmissivity values calculated from the pumping well; and,
- Storativity value of  $9.14 \times 10^{-5}$  was obtained from the average storativity values calculated from the observation wells.

### LT Well No. 1

- LT Well No. 1 Production Rate: 5.023 gpm (2,640,089 gallons per year). Note – the production rate was rounded to the nearest thousandth, resulting in a larger volume than the requested permit volume;
- Transmissivity value of 70.99 ft<sup>2</sup>/day was obtained from the average transmissivity values calculated from the pumping well; and,
- Storativity value of  $5.33 \times 10^{-4}$  was obtained from the average storativity values calculated from the observation wells.

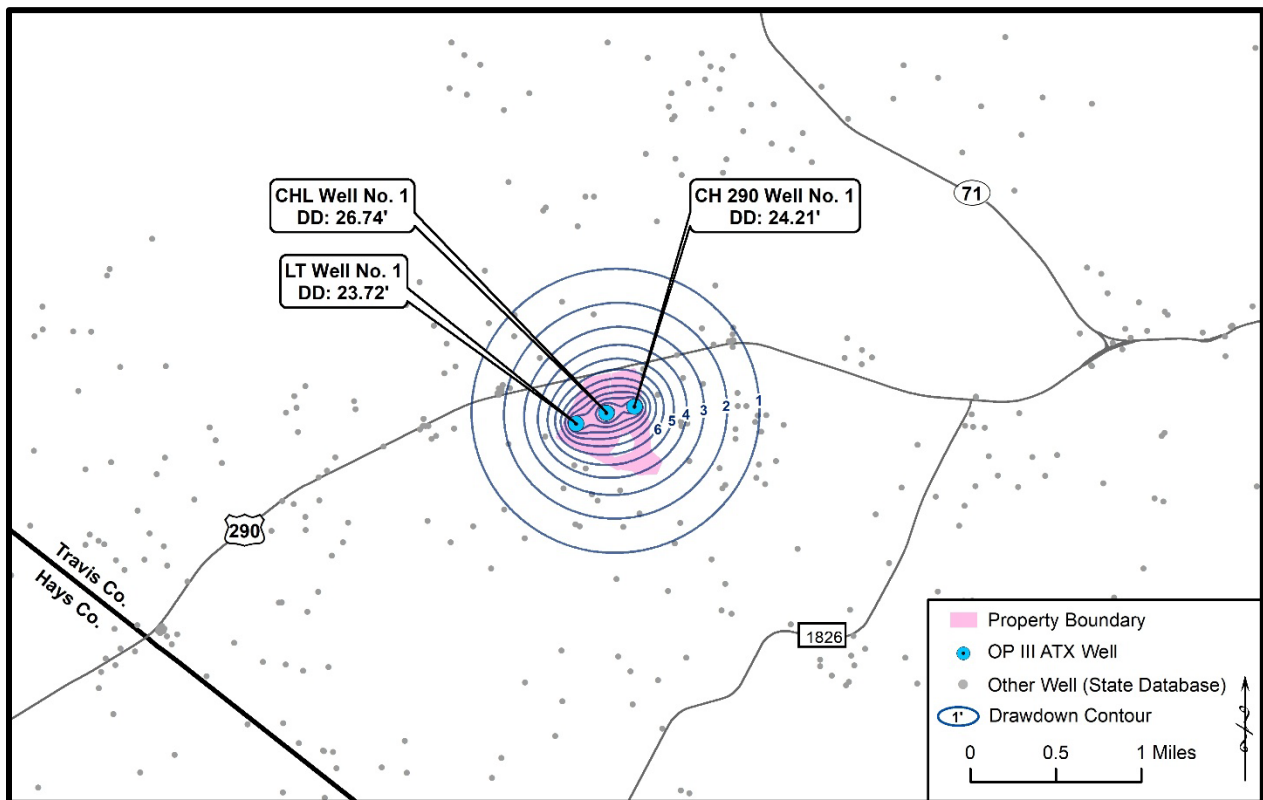
The calculated drawdown from each well was combined using the principle of superposition to determine the overall impact from pumping. The results of the model are summarized in Figures 22 through 24. Table 7 provides a summary of the modeling results from the combined OP III ATX pumping.



**Table 7: Summary of the projected drawdown resulting from Combined OP III ATX Pumping**

Map ID	Latitude Longitude	State Well Report Tracking Number	Total Depth (ft.)	Aquifer	Drawdown After 1-Week Pumping (ft.)	Drawdown After 1-year Pumping (ft.)	Drawdown After 7-years pumping (ft.)
CHL Well No. 1	30.228806 -97.924056	696105	950	Lower Trinity	26.74	39.56	45.99
CH 290 Well No. 1	30.229222 -97.921444	696101	920	Lower Trinity	24.21	36.46	42.88
LT Well No. 1	30.228 -97.926861	696109	1,000	Lower Trinity	23.72	36.64	43.06

Figures 22 through 24 provide plan view maps of theoretical maximum drawdown after 1 week, 1 year, and 7 years of continuous pumping. Wells shown in Figures 22 through 24 were obtained from well records in the TWDB database.



**Figure 22: Estimated drawdown after 1 week of pumping (OP III ATX Combined Pumping)**

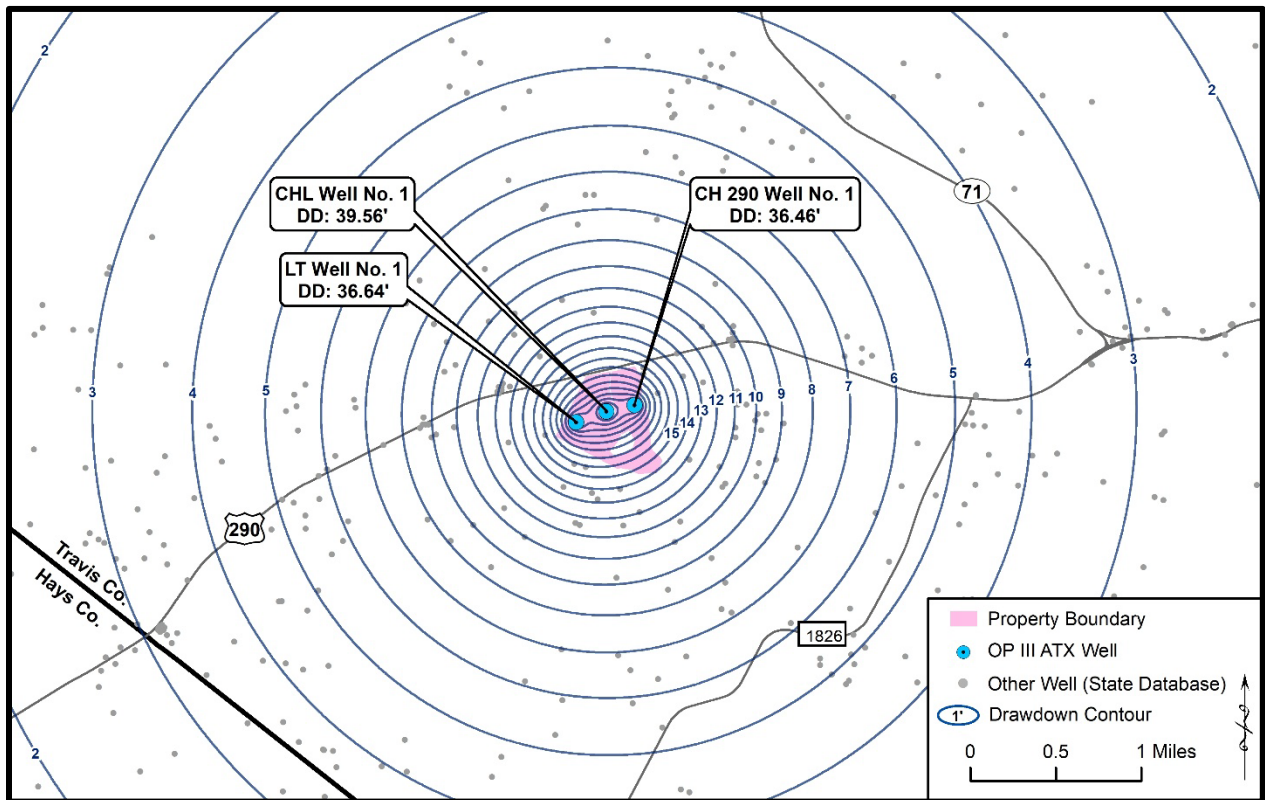


Figure 23: Estimated drawdown after 1 year of pumping (OP III ATX Combined Pumping)

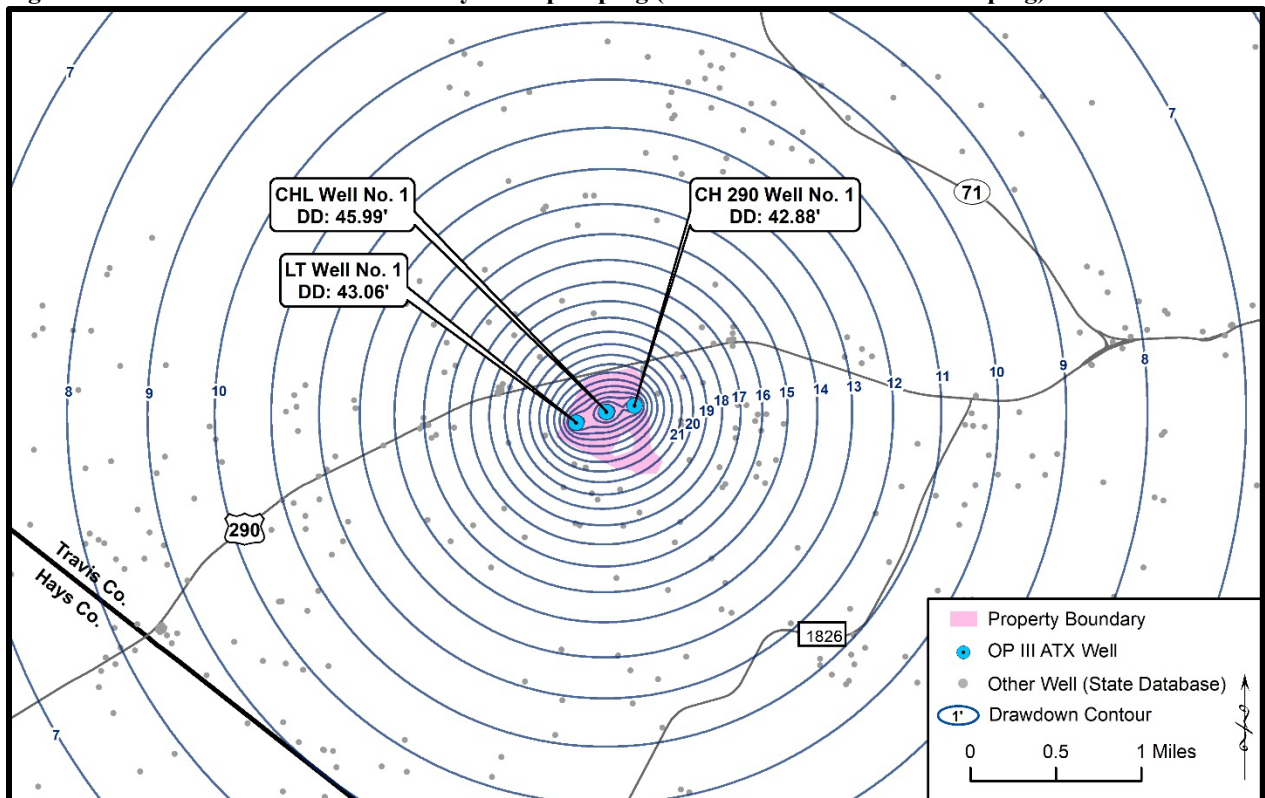


Figure 24: Estimated drawdown after 7 years of pumping (OP III ATX Combined Pumping)

Based on distance-drawdown projections for combined OP III ATX pumping, the radial extent of the cone of depression corresponding to 5 feet of drawdown in the Lower Trinity Aquifer is estimated as follows:

- After 1 week: the 5-foot drawdown contour remains near the OP III ATX property boundaries (Figure 22);
- After 1 year: the 5-foot drawdown contour extends approximately 1.8 miles beyond the OP III ATX property boundaries (Figure 23);
- After 7 years: the 5-foot drawdown contour extends approximately 5 miles beyond the OP III ATX property boundaries (Figure 24).

Based on aquifer test results and subsequent groundwater modeling, measurable drawdown may occur in nearby wells completed in the Lower Trinity Aquifer within an approximate 5-mile radius; however, the magnitude of this drawdown is not expected to result in unreasonable impacts to the aquifer or to surrounding wells, springs, or surface water features, given the deep static water levels and relatively low pumping rates.

Figure 25 provides a hydrogeologic cross-section of the project area showing the estimated water levels in neighboring wells along with the modeled water levels after 7 years of proposed combined pumping. The static water levels in Well ID 58491RU were estimated; other water level data were sourced from field measurements or published records. The cross-section area is discussed in Section IV.4.



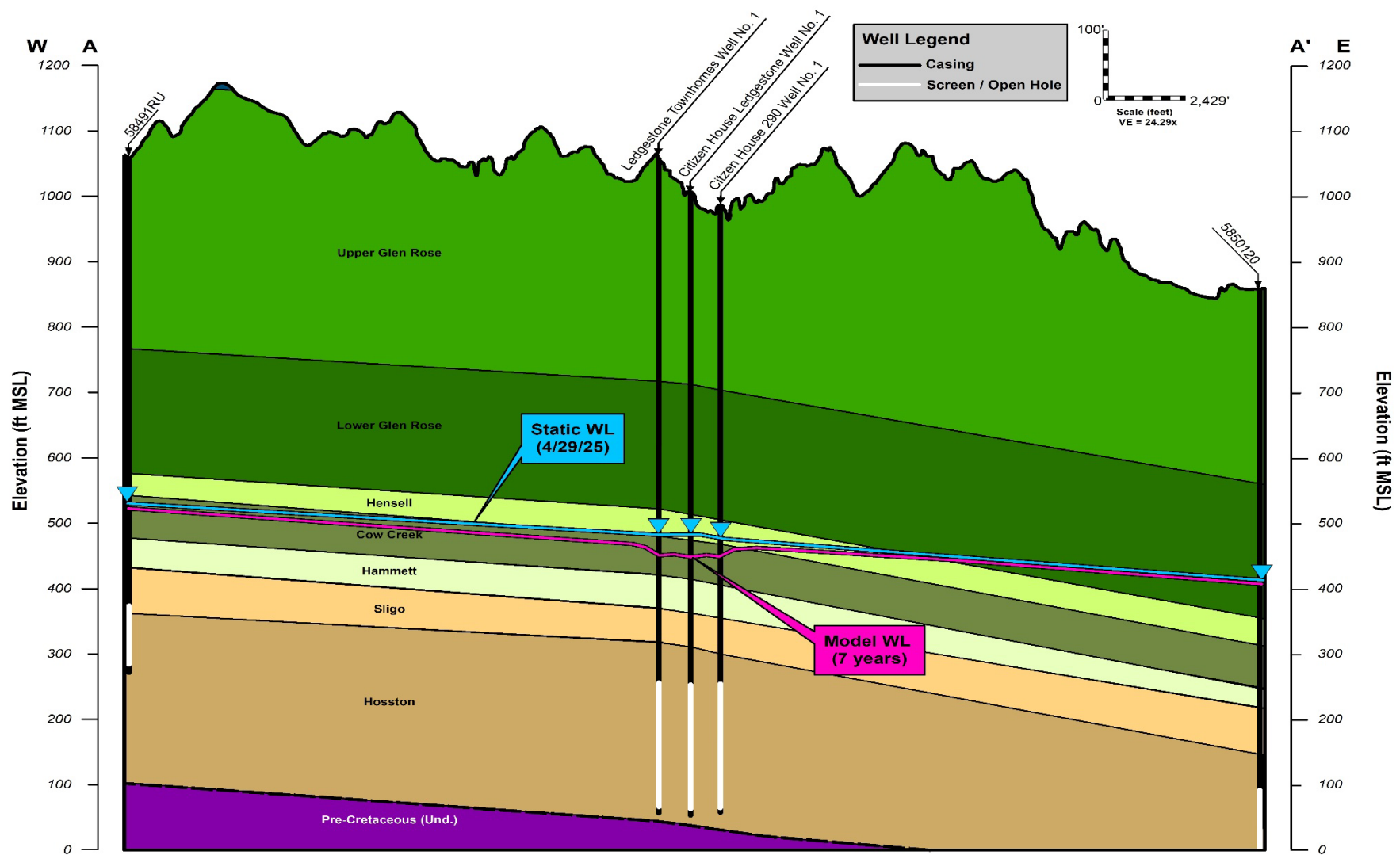


Figure 25: Geologic cross section with estimated 7-year water levels (OP III ATX Combined Pumping)



### VI. 3 Modeled Available Groundwater

The Modeled Available Groundwater (MAG) volume of the Trinity Aquifer for Groundwater Management Area (GMA) 9, within SWTCGCD ranges from 8,542 to 8,485 acre-ft/yr, for the years 2030 to 2060 (Table 8). The requested annual permit volume for the LT Well No. 1 is 2,640,000 gallons per year (8.10 acre-ft/yr) which represents approximately 0.095% of the total MAG volume (Table 7). The DFC for the Trinity Aquifer within GMA 9, adopted on 11/15/21 states an “increase in average drawdown of approximately 30 feet through 2060 [no more than 30 feet of average water level decline in 2016, as compared to 2008 water levels]”. The requested permit volume is comparatively low (0.095% of the MAG) therefore, the proposed pumping should have little to no impact on the DFC.

**Table 8: Total Production and Desired Future Conditions**

Year	MAG for Trinity Aquifer (Acre-ft/yr)	Requested Permit Volume (Acre-ft/yr)	Percentage of MAG
2030	8,542	8.10	0.095
2040	8,530	8.10	0.095
2050	8,515	8.10	0.095
2060	8,485	8.10	0.095

Notes: MAG = Modeled Available Groundwater



## **Section VII: Conclusions**

This report details the results of a hydrogeologic study to meet the guidelines mandated by the Southwestern Travis County Groundwater Conservation District (SWTCGCD) for a regular production permit application. OP III ATX Ledgestone I TH, LP is submitting a non-agricultural operating permit application to produce up to 2,640,000 gallons per year from a newly constructed Lower Trinity Aquifer well located in southwestern Travis County. Water produced from the completed well will serve the sole purpose of irrigation within the property boundary. The conclusions from this report are as follows:

- Ledgestone Townhomes (LT) Well No. 1 is located within property acquired by OP III ATX Ledgestone I TH, LP and will be discharged into an onsite irrigation system. The anticipated pumping rate for the well is 35 gallons per minute. The pumping schedule for water to be produced from the well will be dependent upon irrigation demand and local precipitation; the majority of use will likely occur in the summer months;
- An aquifer test work plan was designed and approved by SWTCGCD staff prior to starting the field work. To meet the guidelines for the SWTCGCD Tier 2 report and to adequately assess the properties of the Lower Trinity Aquifer, an aquifer test was conducted by utilizing the newly completed LT Well No. 1 and two (2) nearby newly completed Lower Trinity Aquifer wells;
- The aquifer test consisted of pumping the well for at least 24 hours followed by a recovery phase while continuously measuring water levels in the pumping and observation wells. A total of 36,461.4 gallons were pumped during the aquifer testing. During the pumping phase of the test, LT Well No. 1 was pumped at an average rate of 25.04 gpm; the initial rate was 32 gpm and the final measured pumping rate was 25 gpm with 61.11 feet of drawdown, resulting in a specific capacity of 0.41 gpm/ft.;
- The average calculated transmissivity for LT Well No. 1 was 70.99 ft.<sup>2</sup>/day from the Cooper and Jacob and Theis methods. Drawdown was observed in the two observation wells; therefore, the average calculated storativity value using both the Theis and Cooper and Jacob methods was  $5.33 \times 10^{-4}$ . The aquifer test data indicate that there were no major effects from nearby pumping of surrounding wells and no significant recharge or discharge boundaries experienced.
- Water quality was analyzed during the testing. In general, the water quality results indicate the water produced during the aquifer testing meets TCEQ standards, with the exception of elevated total dissolved solids and sulfate concentrations in LT Well No. 1. Field parameter data were collected during the aquifer test, including pH and specific conductance taken at various times during the pumping phase of the aquifer test. The results indicate that the pH and specific conductance slightly changed throughout the pumping phase. The specific conductance increased slightly throughout the test while the pH values fluctuated. No negative impacts to water quality are anticipated with prolonged production from LT Well No. 1; and,
- As required by the SWTCGCD, the effects of current and projected pumpage on water levels on surrounding wells for a one week, one year, and seven year period were estimated using the Theis equation. Based on the results of the modeling, LT Well No. 1 continuously pumping at a rate of 5.023 gpm for 1 week, 1 year, and 7 years results in an estimated 18.78 feet, 23.07 feet, and 25.18 feet, respectively. Based upon the results of the aquifer testing and subsequent modeling, drawdown will likely be experienced in neighboring wells



completed within the Lower Trinity Aquifer within a 4-mile radius; however, that drawdown is not expected to have any unreasonable impacts on the aquifer or surrounding wells, springs, or surface water due to the static water level and relatively low pumping volumes; and,

- Further evaluation of the combined proposed pumping from the three OP III ATX Ledgestone wells (combined rate of 16.043 gpm) results in approximately 42.88 to 45.99 feet of drawdown within the subject wells after 7 years of continuous pumping. Measurable drawdown may occur in nearby wells completed in the Lower Trinity Aquifer within an approximate 5-mile radius from the property boundaries; however, it is not expected to have any unreasonable impacts on the aquifer or surrounding wells, springs, or surface water.



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# **Appendix A**

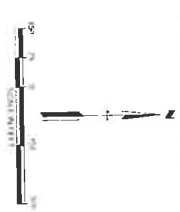
Detailed Site Plan



Wet Rock Groundwater Services, LLC



*Groundwater Specialists*



NO.	DESCRIPTION	DATE
1	ISSUED FOR PERMITS	08/11/2011
2	REVISIONS	
3	REVISIONS	
4	REVISIONS	
5	REVISIONS	
6	REVISIONS	
7	REVISIONS	
8	REVISIONS	
9	REVISIONS	
10	REVISIONS	

NOT TO SCALE  
 THIS PLAN IS A PRELIMINARY DESIGN AND SHOULD NOT BE USED FOR CONSTRUCTION WITHOUT THE APPROVAL OF THE LOCAL AUTHORITY.  
 ALL DIMENSIONS SHOWN ON THIS PLAN ARE APPROXIMATE AND SHOULD BE VERIFIED ON THE GROUND.  
 ANY CHANGES TO THIS PLAN MUST BE APPROVED BY THE DESIGNER.  
 THE DESIGNER ASSUMES NO LIABILITY FOR ANY DAMAGES WHICH MAY OCCUR.  
 811  
 Know what's below.  
 Call before you dig.

PROJECT NO: 11-001  
 SHEET NO: 1  
 DATE: 08/11/2011

**LJA Engineering, Inc.**  
 7810 Puente Boulevard  
 Houston, Texas 77055  
 Phone: 281-433-4300  
 Fax: 281-433-4310  
 FRS: F-1538

**LEDGESTONE TERRACES  
 SITE CONSTRUCTION PLANS**  
 OVERALL PROJECT LAYOUT

NO.	DESCRIPTION	DATE
1	ISSUED FOR PERMITS	08/11/2011
2	REVISIONS	
3	REVISIONS	
4	REVISIONS	
5	REVISIONS	
6	REVISIONS	
7	REVISIONS	
8	REVISIONS	
9	REVISIONS	
10	REVISIONS	

# **Appendix B**

State Well Reports



Wet Rock Groundwater Services, LLC



*Groundwater Specialists*

## STATE OF TEXAS WELL REPORT for Tracking #696109

Owner: <b>OP III ATX Ledgestone</b>	Owner Well #: <b>SWTCGCD#58492op3</b>
Address: <b>500 W. 5th St, #700 Austin, TX 78701</b>	Grid #: <b>58-49-2</b>
Well Location: <b>9021 W Hwy 290 Austin, TX 78736</b>	Latitude: <b>30° 13' 40.8" N</b>
Well County: <b>Travis</b>	Longitude: <b>097° 55' 36.7" W</b>
	Elevation: <b>1052 ft. above sea level</b>
Type of Work: <b>New Well</b> Proposed Use: <b>Irrigation</b>	

Drilling Start Date: **3/26/2025**      Drilling End Date: **4/11/2025**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	<b>10.625</b>	<b>0</b>	<b>10</b>
	<b>8.875</b>	<b>10</b>	<b>1000</b>

Drilling Method: **Air Rotary**  
 Borehole Completion: **Perforated or Slotted**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks &amp; material)</i>
Annular Seal Data:	<b>0</b>	<b>50</b>	<b>Cement 50</b>
	<b>50</b>	<b>693</b>	<b>Bentonite 91</b>

Seal Method: **Pressure**  
 Sealed By: **Driller**

Distance to Property Line (ft.): **400**  
 Distance to Septic Field or other  
 concentrated contamination (ft.): **n/a**  
 Distance to Septic Tank (ft.): **n/a**

Method of Verification: **No Data**

Surface Completion: **Surface Sleeve Installed**

Water Level: **No Data**

Packers: **Rubber at 693 ft.**  
**Rubber at 695 ft.**  
**Rubber at 697 ft.**  
**Rubber at 700 ft.**

Type of Pump: **Submersible**

Pump Depth (ft.): **860**

Well Tests: **Jetted**                      **Yield: 40+ GPM**



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**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**

# STATE OF TEXAS WELL REPORT for Tracking #696105

Owner:	<b>OP III ATX Ledgestone</b>	Owner Well #:	<b>SWTCGCD#58492op2</b>
Address:	<b>500 W. 5th , #700 Austin, TX 78701</b>	Grid #:	<b>58-49-2</b>
Well Location:	<b>9021 W Hwy 290 Austin, TX 78736</b>	Latitude:	<b>30° 13' 43.7" N</b>
Well County:	<b>Travis</b>	Longitude:	<b>097° 55' 26.6" W</b>
		Elevation:	<b>991 ft. above sea level</b>
Type of Work:	<b>New Well</b>	Proposed Use:	<b>Irrigation</b>

Drilling Start Date: **3/25/2025**      Drilling End Date: **4/15/2025**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	<b>10.625</b>	<b>0</b>	<b>10</b>
	<b>8.875</b>	<b>10</b>	<b>950</b>

Drilling Method: **Air Rotary**

Borehole Completion: **Perforated or Slotted**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks &amp; material)</i>
Annular Seal Data:	<b>0</b>	<b>50</b>	<b>Cement 29</b>
	<b>50</b>	<b>640</b>	<b>Bentonite 74</b>

Seal Method: **Pressure**

Sealed By: **Driller**

Distance to Property Line (ft.): **1000**

Distance to Septic Field or other  
concentrated contamination (ft.): **N/A**

Distance to Septic Tank (ft.): **N/A**

Method of Verification: **No Data**

Surface Completion: **Surface Sleeve Installed**

Water Level: **520 ft. below land surface on 2025-04-16**      Measurement Method: **Electric Line**

Packers: **Rubber at 640 ft.**  
**Rubber at 643 ft.**  
**Rubber at 647 ft.**  
**Rubber at 650 ft.**

Type of Pump: **Submersible**      Pump Depth (ft.): **840**

Well Tests: **Jetted**      Yield: **40+ GPM**

Water Quality:                      **No Data**                      **No Data**

Strata Depth (ft.)                      Water Type

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:    **Bee Cave Drilling, Inc.**  
**185 Angel Fire Rd.**  
**Dripping Springs, TX 78620**

Driller Name:                      **Michael Scott**                      License Number:    **59719**

Comments:                      **No Data**

Lithology:			Casing:					
DESCRIPTION & COLOR OF FORMATION MATERIAL			BLANK PIPE & WELL SCREEN DATA					
Top (ft.)	Bottom (ft.)	Description	Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
0	10	tan limestone	5.5	Blank	New Steel		-3	750
10	45	grey limestone	5.5	Perforated or Slotted	New Steel		750	940
45	180	grey limestone	5.5	Blank	New Steel		940	950
180	260	grey limestone / shale mix						
260	520	grey limestone						
520	600	grey limestone						
600	660	grey clay						
660	770	grey sandstone						
770	820	tan sandstone						
820	900	red sandstone						
900	950	tan sandstone						

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

# STATE OF TEXAS WELL REPORT for Tracking #696101

Owner:	OP III ATX Ledgestone	Owner Well #:	SWTCGCD#584920pl
Address:	500 W. 5th St, # 700 Austin, TX 78701	Grid #:	58-49-2
Well Location:	8921 W Hwy 290 Austin, TX 78736	Latitude:	30° 13' 45.2" N
Well County:	Travis	Longitude:	097° 55' 17.2" W
		Elevation:	971 ft. above sea level
Type of Work: <b>New Well</b>		Proposed Use: <b>Irrigation</b>	

Drilling Start Date: **3/24/2025**      Drilling End Date: **4/7/2025**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	<b>10.625</b>	<b>0</b>	<b>10</b>
	<b>8.875</b>	<b>10</b>	<b>920</b>

Drilling Method: **Air Rotary**  
 Borehole Completion: **Perforated or Slotted**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks &amp; material)</i>
Annular Seal Data:	<b>0</b>	<b>50</b>	<b>Cement 37</b>
	<b>50</b>	<b>630</b>	<b>Bentonite 65</b>

Seal Method: **Pressure**  
 Sealed By: **Driller**

Distance to Property Line (ft.): **200**  
 Distance to Septic Field or other  
 concentrated contamination (ft.): **n/a**  
 Distance to Septic Tank (ft.): **n/a**  
 Method of Verification: **No Data**

Surface Completion: **Surface Sleeve Installed**

Water Level:	443 ft. below land surface on <b>2025-04-15</b>	Measurement Method: <b>Electric Line</b>
Packers:	<b>Rubber at 630 ft.</b> <b>Rubber at 633 ft.</b> <b>Rubber at 637 ft.</b> <b>Rubber at 640 ft.</b>	
Type of Pump:	<b>Submersible</b>	Pump Depth (ft.): <b>800</b>
Well Tests:	<b>Jetted</b>	<b>Yield: 40+ GPM</b>



GWDB Reports and Downloads

Well Basic Details

Scanned Documents

<b>State Well Number</b>	5850120	<b>Well Type</b>	Observation
<b>County</b>	Travis	<b>Well Use</b>	Unused
<b>River Basin</b>	Colorado	<b>Water Level Observation</b>	TWDB Water Data for Texas
<b>Groundwater Management Area</b>	9	<b>Water Quality Available</b>	No
<b>Regional Water Planning Area</b>	K - Lower Colorado	<b>Pump</b>	None
<b>Groundwater Conservation District</b>	Southwestern Travis County GCD	<b>Pump Depth (feet below land surface)</b>	
<b>Latitude (decimal degrees)</b>	30.235	<b>Power Type</b>	
<b>Latitude (degrees minutes seconds)</b>	30° 14' 06" N	<b>Annular Seal Method</b>	Halliburton
<b>Longitude (decimal degrees)</b>	-97.8730556	<b>Surface Completion</b>	Surface Slab Installed
<b>Longitude (degrees minutes seconds)</b>	097° 52' 23" W	<b>Owner</b>	H.E. Butt
<b>Coordinate Source</b>	Global Positioning System - GPS	<b>Driller</b>	Central Texas Drilling
<b>Aquifer Code</b>	217HSTN - Hosston Formation	<b>Other Data Available</b>	Aquifer Test; Drillers Log; Gamma Ray; Neutron
<b>Aquifer</b>	Trinity	<b>Well Report Tracking Number</b>	
<b>Aquifer Pick Method</b>		<b>Plugging Report Tracking Number</b>	
<b>Land Surface Elevation (feet above sea level)</b>	832	<b>U.S. Geological Survey Site Number</b>	
<b>Land Surface Elevation Method</b>	Interpolated From Topo Map	<b>Texas Commission on Environmental Quality Source Id</b>	
<b>Well Depth (feet below land surface)</b>	855	<b>Groundwater Conservation District Well Number</b>	
<b>Well Depth Source</b>	Driller's Log	<b>Owner Well Number</b>	
<b>Drilling Start Date</b>		<b>Other Well Number</b>	
<b>Drilling End Date</b>	11/10/1984	<b>Previous State Well Number</b>	
<b>Drilling Method</b>	Mud (Hydraulic) Rotary	<b>Reporting Agency</b>	Texas Water Development Board
<b>Borehole Completion</b>	Open Hole	<b>Created Date</b>	3/13/2003
		<b>Last Update Date</b>	3/4/2020

**Remarks** Estimated yield 60-80 GPM in 1984. Observation well for aquifer test of Freescale wells in 2004. Test data in TWDB files.

**Casing**

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
9	Blank	Steel			0	760
8	Open Hole				760	855

**Well Tests - No Data**

**Lithology**

Top Depth (ft.)	Bottom Depth (ft.)	Description
0	4	Top Soil
4	18	Gravel
18	175	Blue Lime
175	300	Gray Lime
300	320	Brown Lime
320	500	Gray Lime
500	540	White Lime
540	680	Dark Brown Lime
680	710	Hammett Shale
710	780	Brown Lime
780	790	Trinity Blue Sand
790	855	Trinity & Red Beds

**Annular Seal Range**

Annular Seal Material	Amount	Unit	Top Depth (ft.)	Bottom Depth (ft.)
Cement		Unknown	0	760

**Borehole**

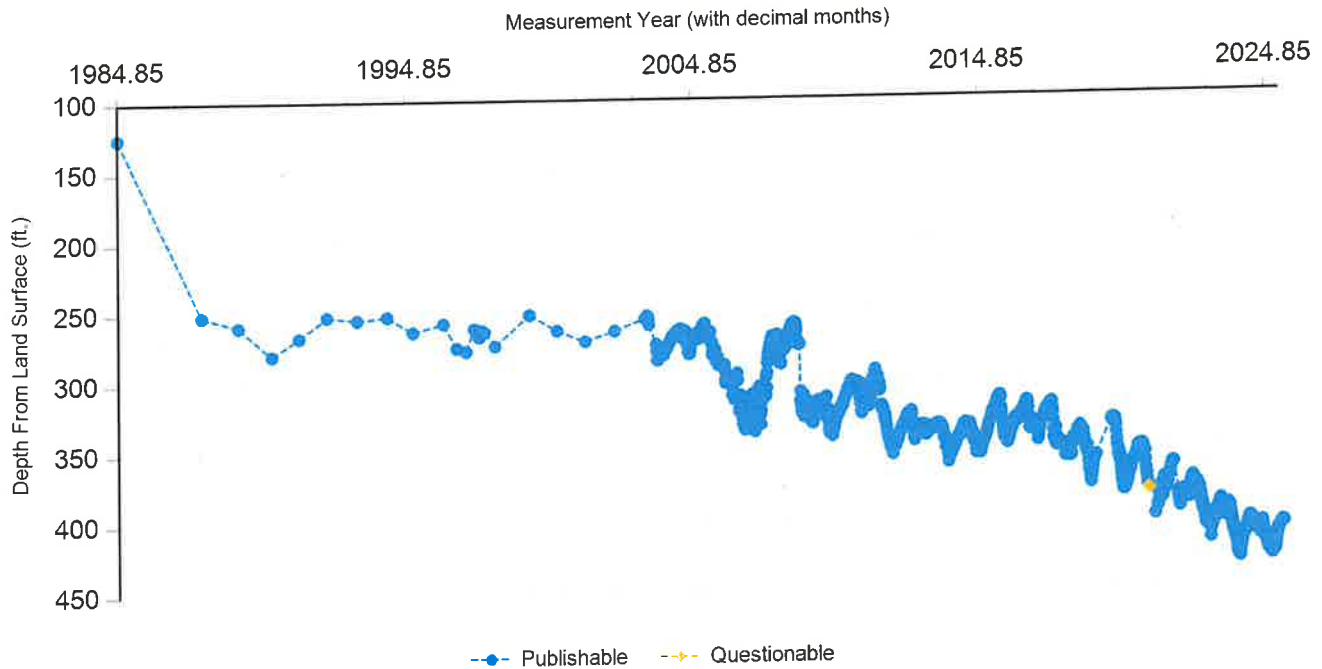
Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
12	0	755
8	755	855

**Plugged Back - No Data**

**Filter Pack - No Data**

**Packers - No Data**

Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in ( ) indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	11/10/1984		125		707	1	Registered Water Well Driller	Unknown		
P	10/1/1987		251.3	126.30	580.7	2	Texas Water Development Board	Steel Tape		
P	1/11/1989		259.05	7.75	572.95	1	Texas Water Development Board	Steel Tape		
P	3/4/1990		279.7	20.65	552.3	1	Texas Water Development Board	Steel Tape		
P	2/14/1991		267	(12.70)	565	1	Texas Water Development Board	Steel Tape		
P	2/7/1992		252.2	(14.80)	579.8	1	Texas Water Development Board	Steel Tape		
P	2/25/1993		254.6	2.40	577.4	1	Texas Water Development Board	Steel Tape		
P	3/11/1994		252.4	(2.20)	579.6	1	Texas Water Development Board	Steel Tape		
P	1/31/1995		263.5	11.10	568.5	1	Texas Water Development Board	Steel Tape		
P	2/20/1996		257.6	(5.90)	574.4	1	Texas Water Development Board	Steel Tape		
P	8/8/1996		275.11	17.51	556.89	1	Texas Water Development Board	Steel Tape		
P	12/4/1996		277.4	2.29	554.6	1	Texas Water Development Board	Steel Tape		
P	3/13/1997		261.45	(15.95)	570.55	1	Texas Water Development Board	Steel Tape		
P	4/16/1997		264.7	3.25	567.3	1	Texas Water Development Board	Electric Line		
P	5/15/1997		267.32	2.62	564.68	1	Texas Water Development Board	Steel Tape		
P	6/18/1997		262.7	(4.62)	569.3	1	Texas Water Development Board	Steel Tape		
P	7/21/1997		263.9	1.20	568.1	1	Texas Water Development Board	Steel Tape		
P	12/4/1997		273.9	10.00	558.1	1	Texas Water Development Board	Steel Tape		
P	2/16/1999		252.1	(21.80)	579.9	1	Texas Water Development Board	Steel Tape		
P	2/4/2000		263.5	11.40	568.5	1	Texas Water Development Board	Steel Tape		
P	2/2/2001		271.3	7.80	560.7	1	Texas Water Development Board	Steel Tape		

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Water Quality Analysis - No Data Available

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# Appendix C

Geophysical Logs

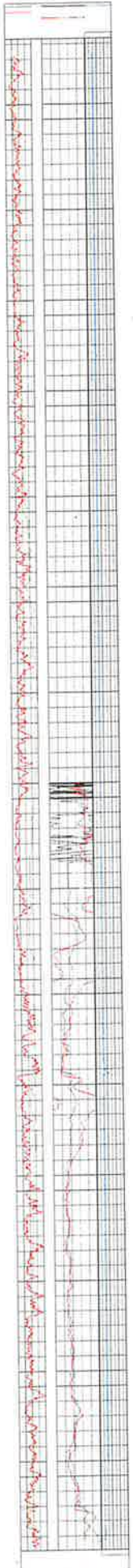


Wet Rock Groundwater Services, LLC

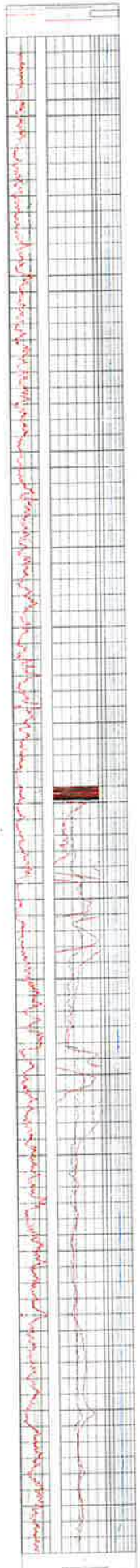


*Groundwater Specialists*

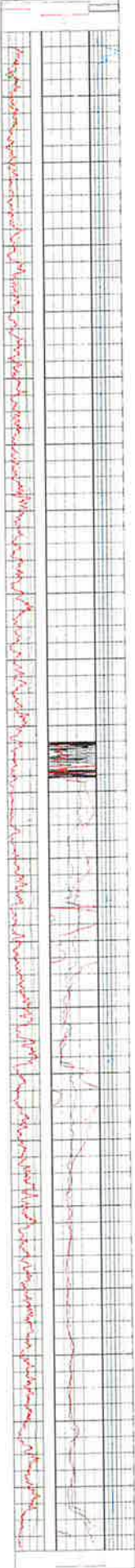
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Time	Temp	Humidity	Wind	Pressure
00:00	22.5	65	10	1013
01:00	22.0	65	10	1013
02:00	21.5	65	10	1013
03:00	21.0	65	10	1013
04:00	20.5	65	10	1013
05:00	20.0	65	10	1013
06:00	19.5	65	10	1013
07:00	19.0	65	10	1013
08:00	18.5	65	10	1013
09:00	18.0	65	10	1013
10:00	17.5	65	10	1013
11:00	17.0	65	10	1013
12:00	16.5	65	10	1013
13:00	16.0	65	10	1013
14:00	15.5	65	10	1013
15:00	15.0	65	10	1013
16:00	14.5	65	10	1013
17:00	14.0	65	10	1013
18:00	13.5	65	10	1013
19:00	13.0	65	10	1013
20:00	12.5	65	10	1013
21:00	12.0	65	10	1013
22:00	11.5	65	10	1013
23:00	11.0	65	10	1013





Borehole: 11505 SW OAKS

Logs: GAMMA

Water Well Logging & Video Recording Services

Geo Cam, Inc. 126 Palo Duro, San Antonio, TX 210-495-9121

Project: 11505 SW OAKS

Date: 08-26-11

Client: BARTON SPRINGS WCD

County: TRAVIS

Location: N30° 13' 09.15" W97° 58' 39.96"

State: TX

BOREHOLE DATA

Drilling Contractor: NA

Driller T.D. (ft) : NA

Elevation: 850' GPS

Logger T.D. (ft) : 782'

Depth Ref: G.L.

Date Drilled: NA

BIT RECORD

CASING RECORD

RUN	BIT SIZE (in)	FROM (ft)	TO (ft)	SIZE/WGT/THK	FROM (ft)	TO (ft)	TD
1	NA			4 1/2" PVC	+1.6'		
2							
3							

Drill Method: NA

Weight:

Fluid Level (ft) : 521'

Hole Medium:

Mud Type:

Time Since Circ:

Viscosity:

Rm: at:

Deg C

Logged by: Robert C. Becknal

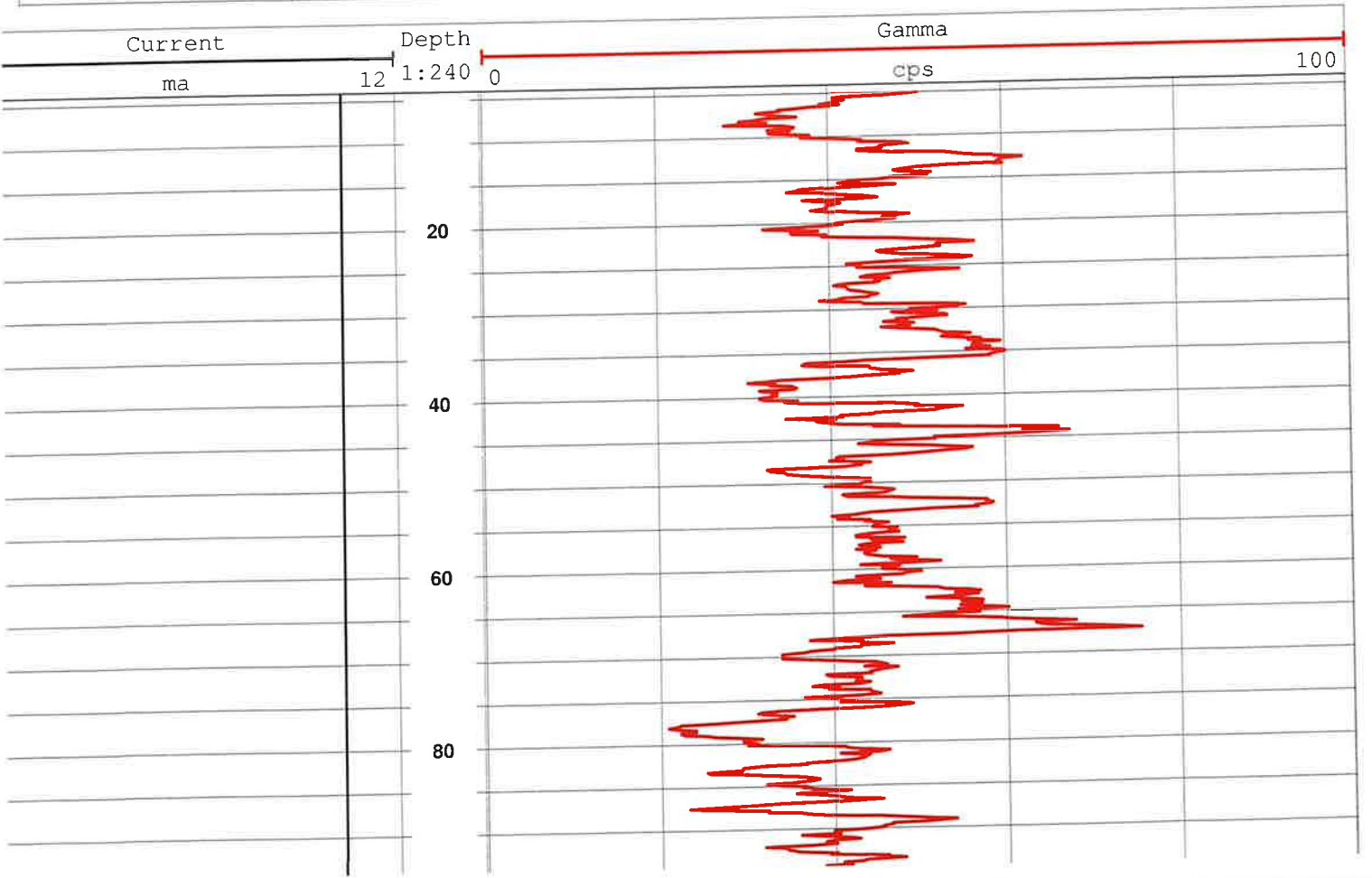
Unit/Truck: 03

Witness:

LOG TYPE	RUN NO	SPEED (ft/min)	FROM (ft)	TO (ft)	FT./IN.
GAMMA	2	22	782'	5'	20

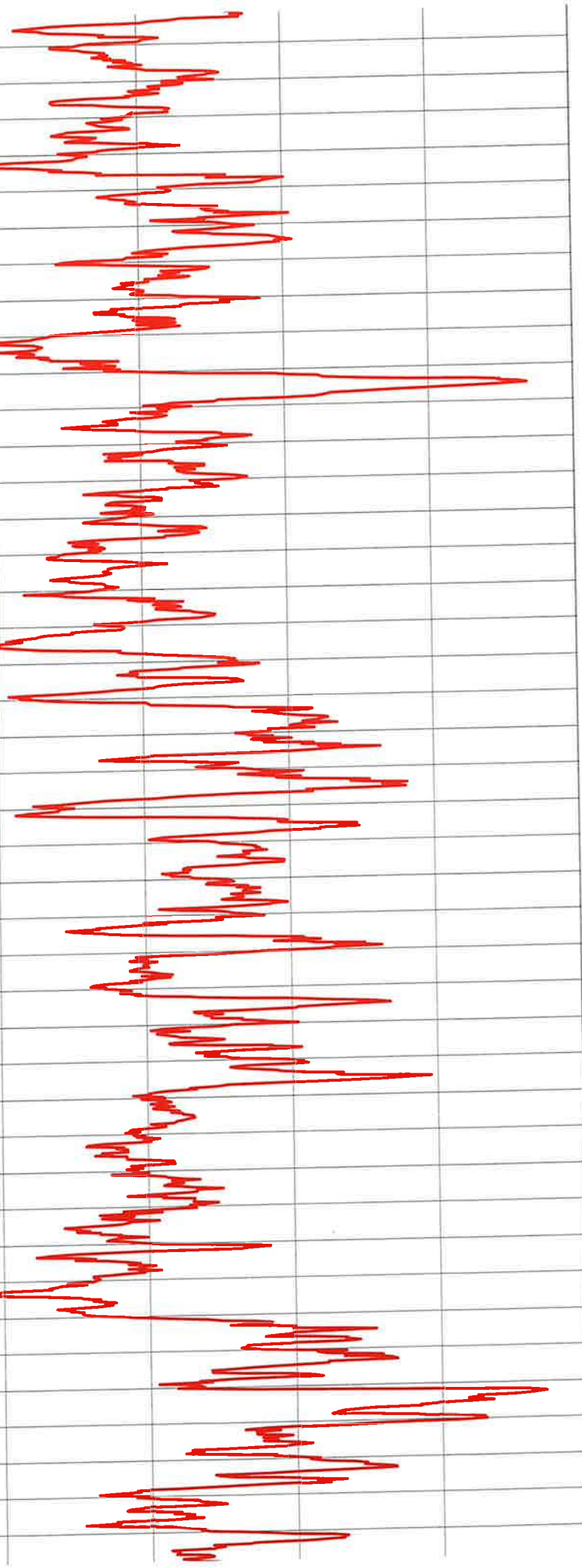
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58491RU

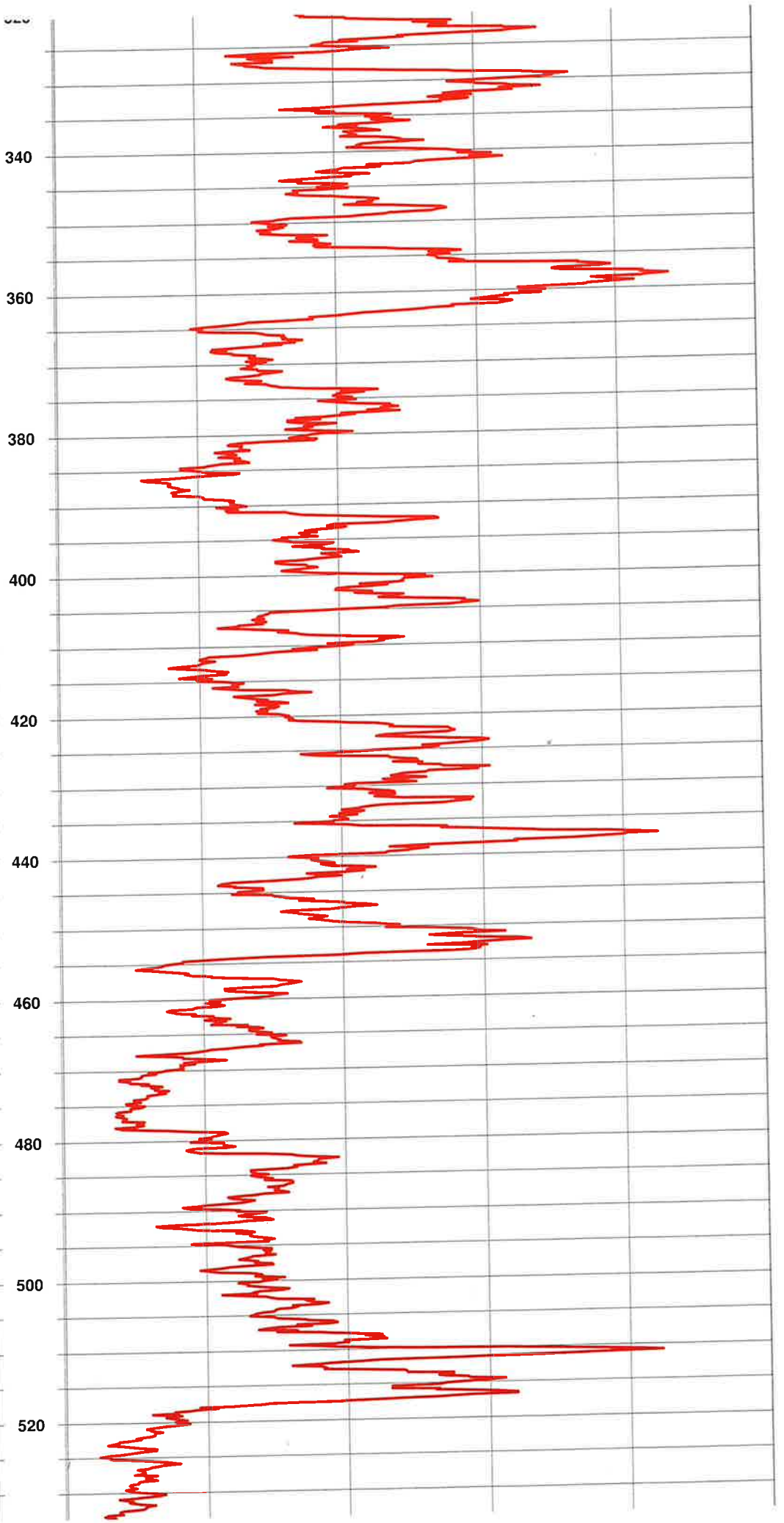


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120  
140  
160  
180  
200  
220  
240  
260  
280  
300

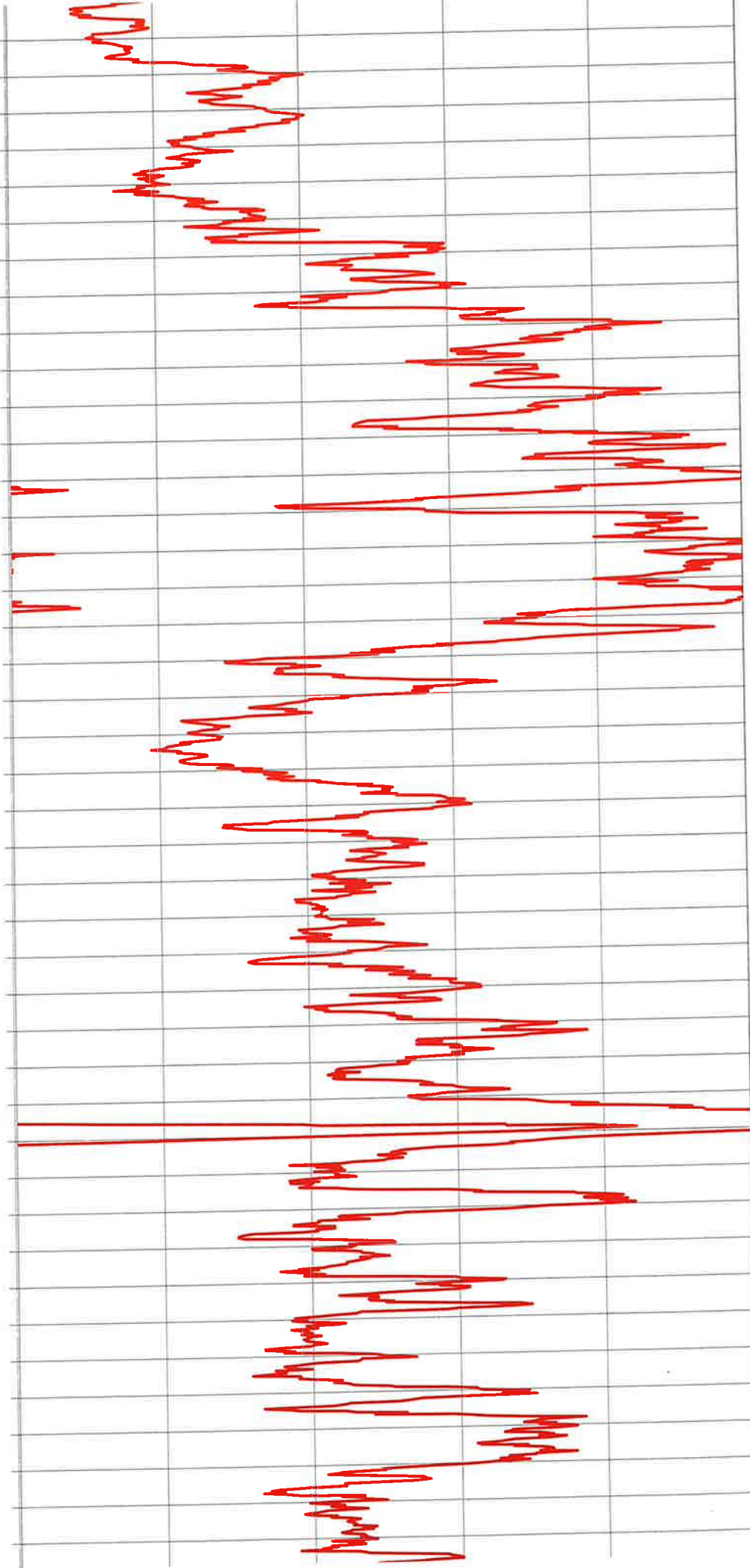
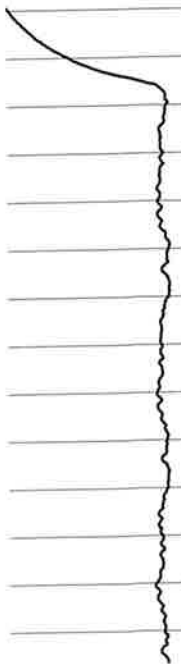


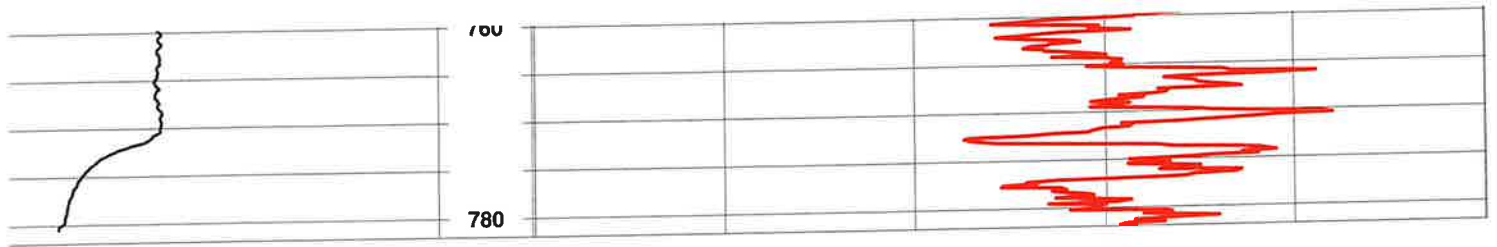
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58491RU

540  
560  
580  
600  
620  
640  
660  
680  
700  
720  
740





**58491RU**



Borehole: HEB MW 5120

Logs: GAMMA, RESISTIVITY

Water Well Logging & Video Recording Services

Geo Cam, Inc. 126 Palo Duro, San Antonio, TX 210-495-9121

Project: HEB MW 5120

Date: 01-10-12

Client: BARTON SPRINGS WCD

County: TRAVIS

Location: N30° 14' 06.10" W97° 52' 23.47"

State: TX

BOREHOLE DATA

Drilling Contractor: CENTRAL TEXAS DRILLING Driller T.D. (ft) : 850'

Elevation: 850' GPS Logger T.D. (ft) : 850'

Depth Ref: G.L. Date Drilled: NA

BIT RECORD

CASING RECORD

RUN	BIT SIZE (in)	FROM (ft)	TO (ft)	SIZE/WGT/THK	FROM (ft)	TO (ft)
1	NA			8" STEEL	+3'	750'
2						
3						

Drill Method: NA Weight: Fluid Level (ft) : 340'

Hole Medium: Mud Type: Time Since Circ:

Viscosity: Rm: at: Deg C

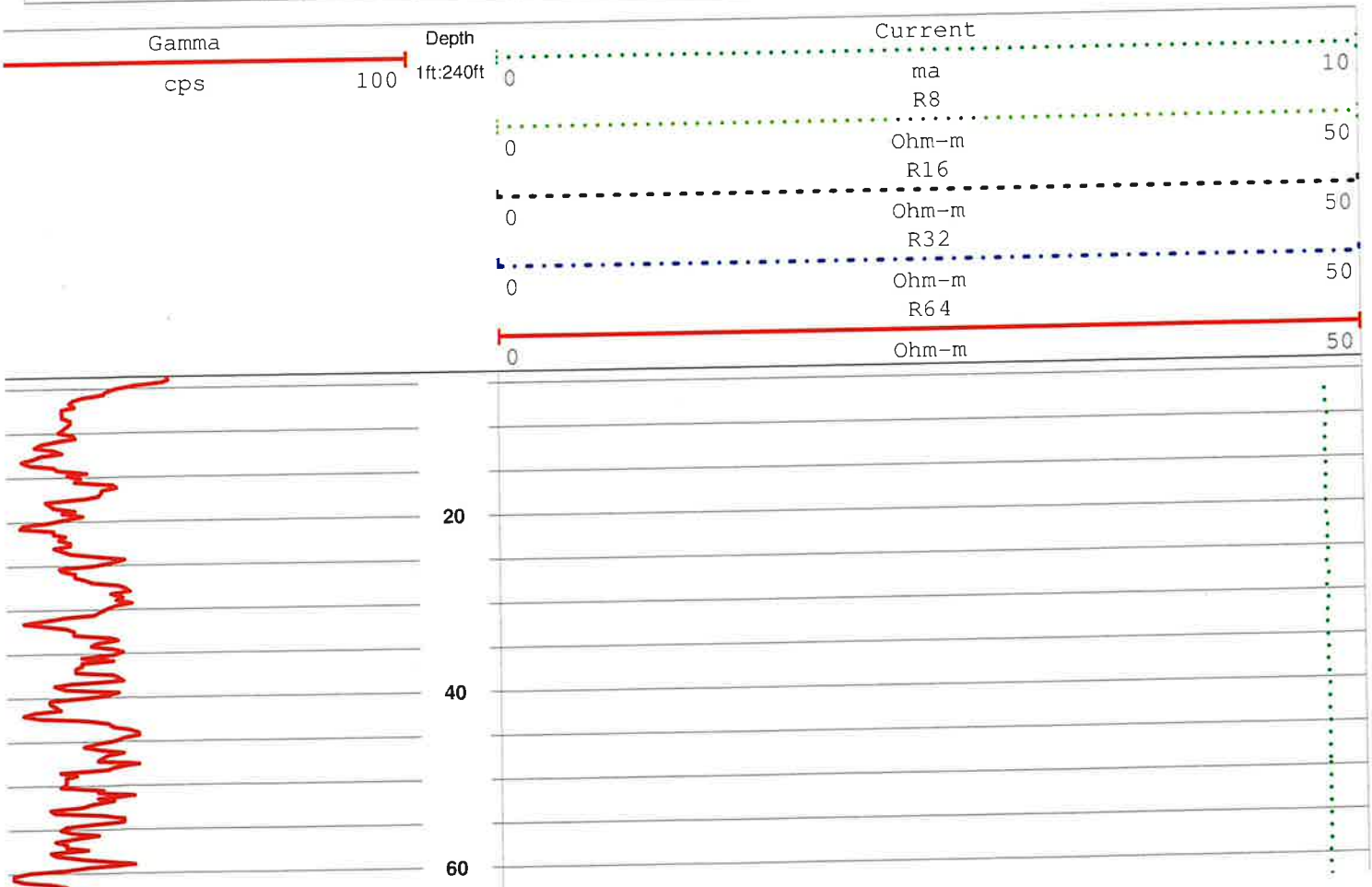
Logged by: Robert C. Becknal Unit/Truck: 03

Witness:

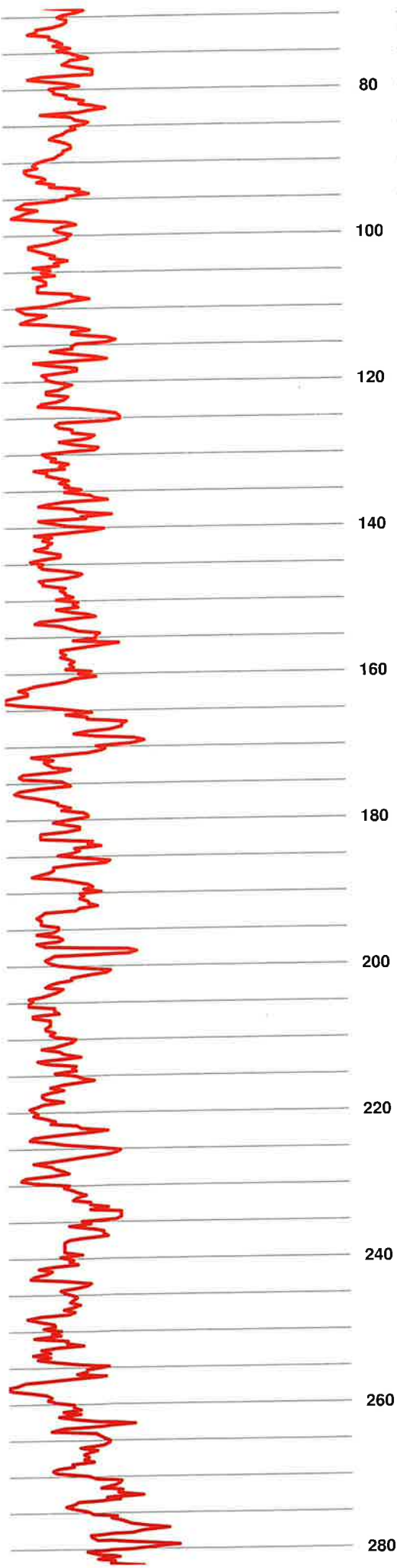
LOG TYPE	RUN NO	SPEED (ft/min)	FROM (ft)	TO (ft)	FT. / IN.
GAMMA	2	30	847'	4'	20
RESISTIVITY	2	30	850'	755'	20

Comments:

5850120

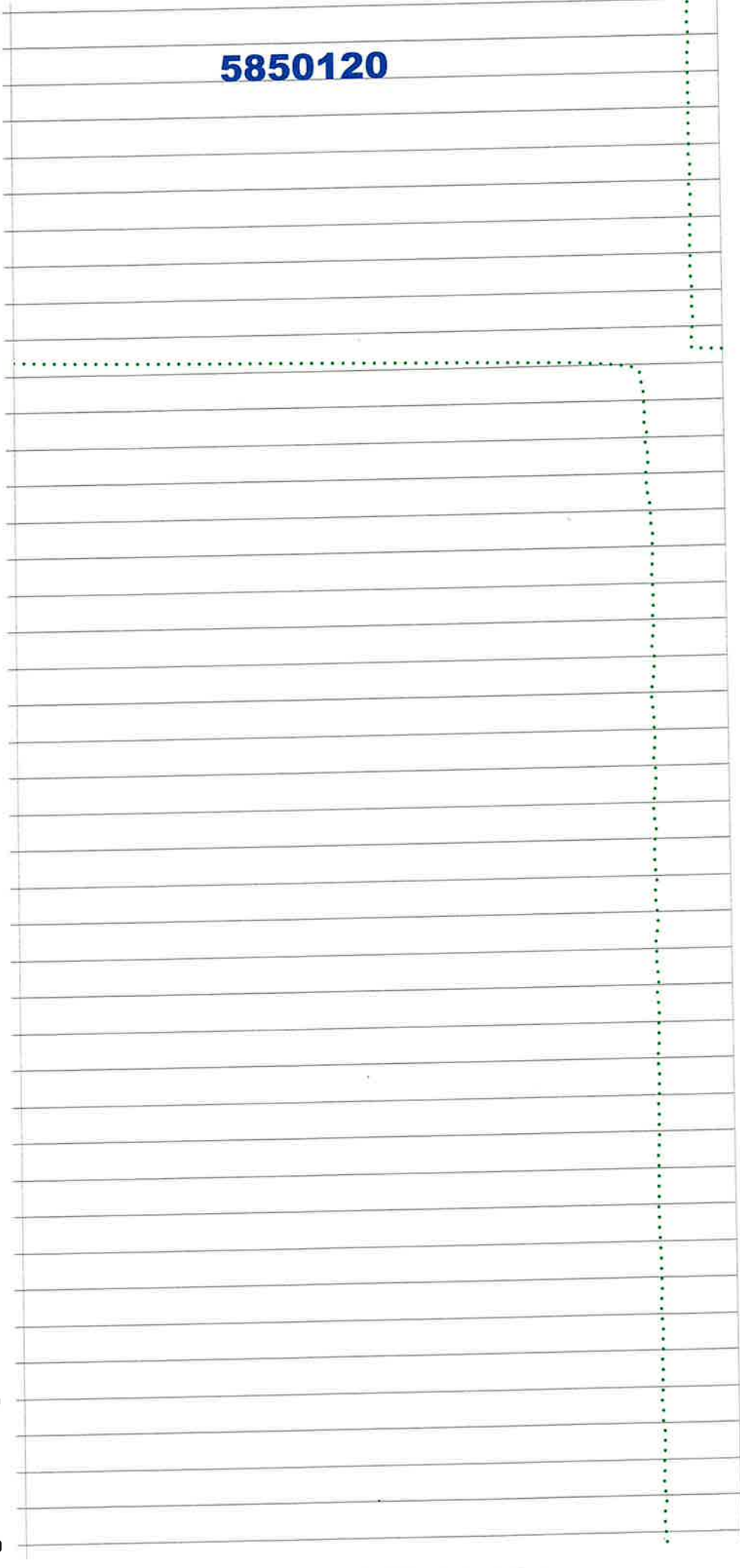
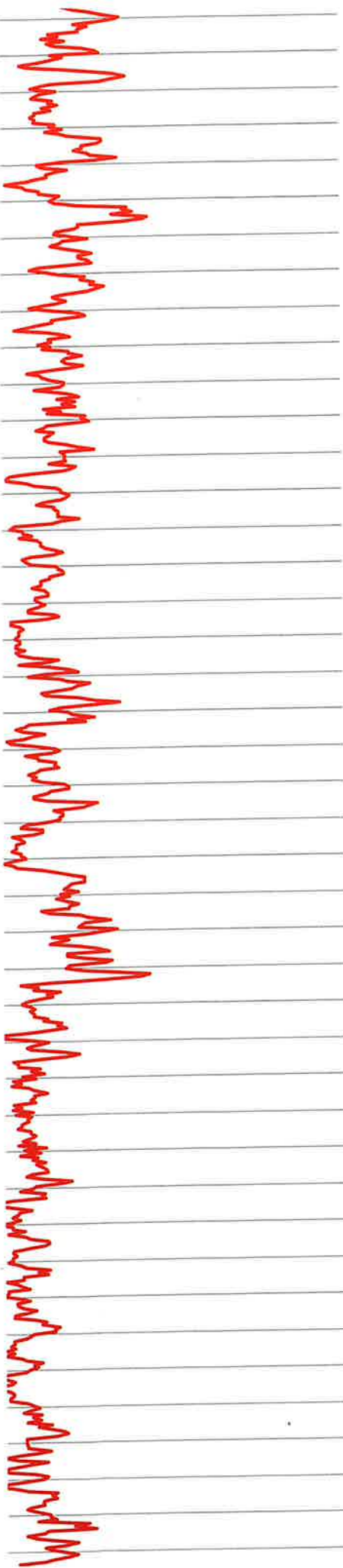


**5850120**



**5850120**

300  
320  
340  
360  
380  
400  
420  
440  
460  
480  
500



**5850120**

520

540

560

580

600

620

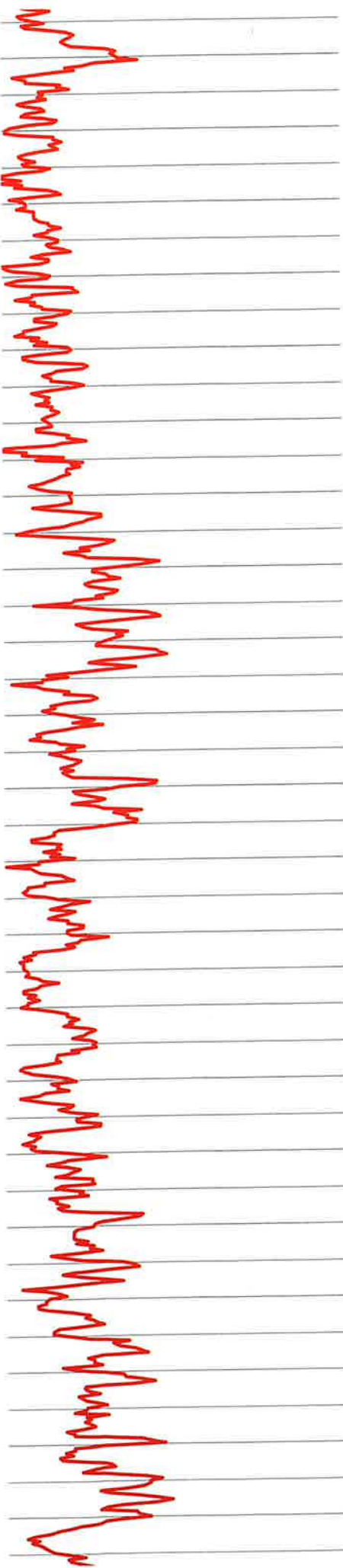
640

660

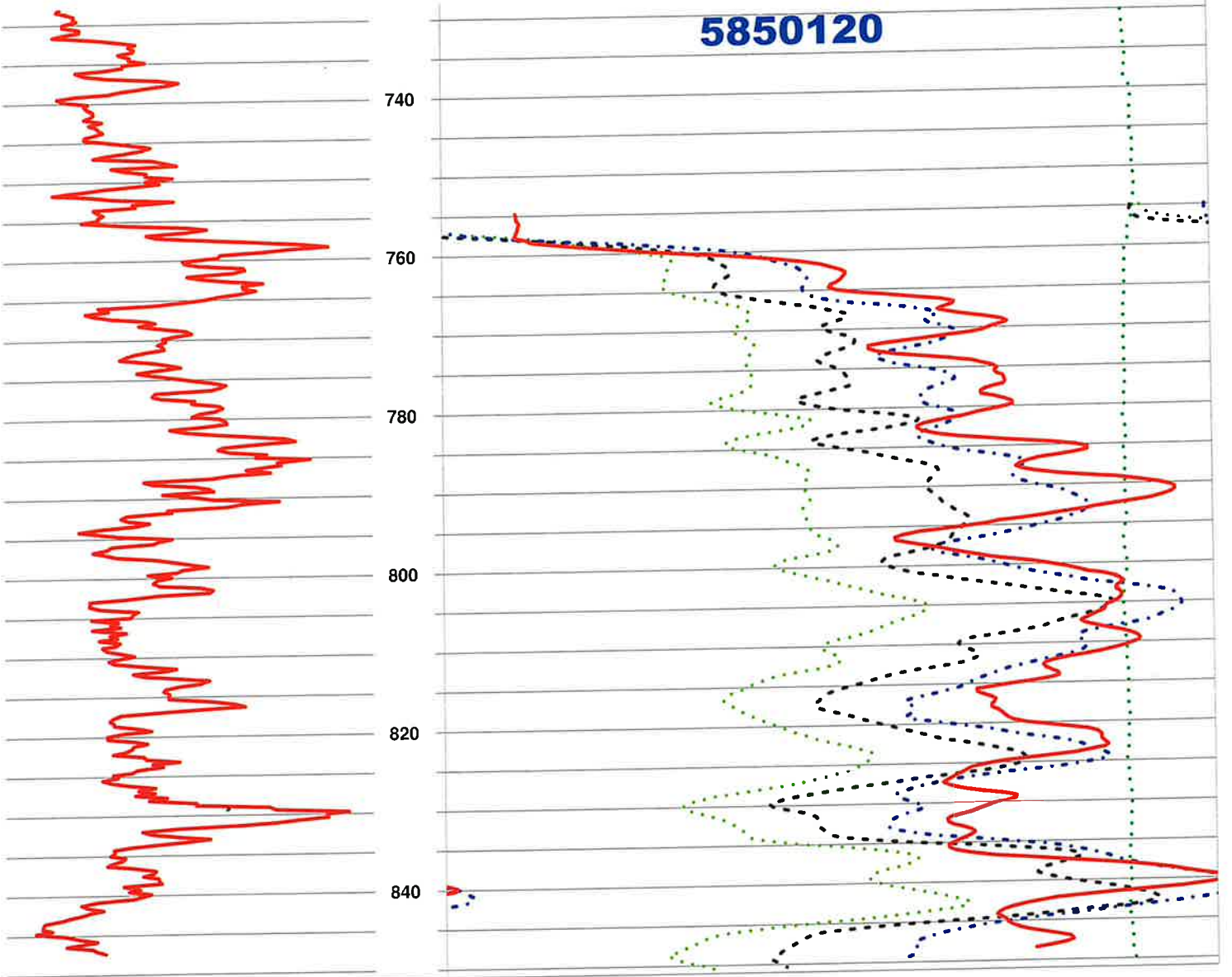
680

700

720



5850120



# **Appendix D**

Aquifer Test Analyses



Wet Rock Groundwater Services, LLC



*Groundwater Specialists*

Ledgestone Townhomes Well No. 1 - Aquifer Test (May 13, 2025)

Date and Time	Time Since Pump Start (min)	Time Since Pump Stop (min)	PW L.T. Well No. 1 Temperature (F)	PW L.T. Well No. 1 Water Level (ft bgs)	PW L.T. Well No. 1 Water Level (ft MSL)	PW L.T. Well No. 1 Drawdown (ft)	PW L.T. Well No. 1 Pump Rate (gpm)	PW L.T. Well No. 1 Specific Capacity (gpm/ft)	Comments	OW CH 290 Well No. 1 Water Level (ft MSL)	OW CH 290 Well No. 1 Drawdown (ft)	OW CHL Well No. 1 Water Level (ft MSL)	OW CHL Well No. 1 Drawdown (ft)
5/13/25 11:48 AM	0		77.74	583.47	477.53	0.00			Pump Start	470.80	0.00	477.26	0.00
5/13/25 11:49 AM	1		77.75	607.46	453.55	23.98				470.78	0.02	477.26	-0.01
5/13/25 11:50 AM	2		77.63	614.17	446.83	30.70	32.0	1.04		470.82	-0.02	477.23	0.03
5/13/25 11:51 AM	3		77.58	616.92	444.08	33.45	32.0	0.96		470.80	0.00	477.23	0.02
5/13/25 11:52 AM	4		77.53	618.01	442.99	34.53	26.0	0.75	Pumping Rate Reduced	470.72	0.08	477.24	0.02
5/13/25 11:53 AM	5		77.49	618.10	442.90	34.63	23.0	0.60		470.72	0.08	477.21	0.05
5/13/25 11:54 AM	6		77.47	616.57	444.43	33.09	23.5	0.70		470.82	-0.02	477.26	-0.01
5/13/25 11:55 AM	7		77.41	616.23	444.78	32.75	25.5	0.72		470.77	0.02	477.25	0.00
5/13/25 11:56 AM	8		77.39	616.58	444.43	33.10	25.5	0.60		470.73	0.06	477.22	0.03
5/13/25 11:57 AM	9		77.51	617.19	443.81	33.71	25.5	0.76		470.74	0.06	477.24	0.02
5/13/25 11:58 AM	10		77.44	618.55	442.45	35.08	25.5	0.73		470.85	-0.05	477.19	0.06
5/13/25 11:59 AM	11		77.48	619.40	441.60	35.93	25.5	0.60		470.84	-0.04	477.23	0.02
5/13/25 12:00 PM	12		77.41	619.69	441.31	36.22	25.5	0.70		470.67	0.12	477.25	0.01
5/13/25 12:01 PM	13		77.38	620.24	440.76	36.77	25.0	0.68		470.72	0.08	477.23	0.03
5/13/25 12:02 PM	14		77.43	620.51	440.49	37.03	25.0	0.67		470.76	0.03	477.25	0.01
5/13/25 12:03 PM	15		77.43	620.82	440.18	37.35	25.0	0.64		470.73	0.06	477.25	0.01
5/13/25 12:08 PM	20		77.53	622.69	438.31	39.22	25.0	0.64		470.75	0.05	477.25	0.00
5/13/25 12:13 PM	25		77.63	623.38	437.62	39.91	25.0	0.63		470.78	0.02	477.29	-0.04
5/13/25 12:18 PM	30		77.75	624.36	436.64	40.89	25.0	0.61		470.71	0.09	477.25	0.00
5/13/25 12:33 PM	45		78.03	626.13	434.84	42.66	25.0	0.59		470.84	-0.04	477.22	0.03
5/13/25 12:48 PM	60		78.24	627.16	433.84	43.68	25.0	0.57		470.74	0.05	477.17	0.08
5/13/25 1:03 PM	75		78.36	628.20	432.80	44.73	25.0	0.56		470.75	0.05	477.24	0.02
5/13/25 1:18 PM	90		78.40	629.23	431.77	45.76	25.0	0.55		470.77	0.03	477.20	0.06
5/13/25 1:33 PM	105		78.47	630.05	430.95	46.58	25.0	0.54		470.71	0.09	477.22	0.03
5/13/25 1:48 PM	120		78.55	630.58	430.42	47.10	25.0	0.53		470.74	0.06	477.06	0.19
5/13/25 2:18 PM	150		78.62	631.80	429.20	48.33	25.0	0.52		470.67	0.13	477.03	0.23
5/13/25 2:48 PM	180		78.66	632.39	428.61	48.92	25.0	0.51		470.67	0.13	477.00	0.26
5/13/25 3:18 PM	210		78.62	633.45	427.55	49.98				470.68	0.12	476.96	0.30
5/13/25 3:48 PM	240		78.68	633.81	427.19	50.33				470.72	0.08	476.89	0.36
5/13/25 4:48 PM	300		78.68	635.17	425.83	51.70				470.60	0.20	476.74	0.51
5/13/25 5:48 PM	360		78.69	636.13	424.87	52.66				470.60	0.20	476.66	0.60
5/13/25 6:48 PM	420		78.68	637.18	423.82	53.71				470.66	0.14	476.55	0.71
5/13/25 7:48 PM	480		78.69	638.16	422.84	54.69				470.50	0.29	476.56	0.69
5/13/25 8:48 PM	540		78.75	638.49	422.51	55.01				470.62	0.18	476.47	0.79
5/13/25 9:48 PM	600		78.68	638.96	422.04	55.49				470.48	0.32	476.35	0.90

Note: bgs = below ground surface  
 Column Pipe Diameter = 1 1/2 inches  
 Horsepower = 7.5 HP  
 MSL = Mean Sea Level  
 Pump Setting = 860 ft

Ledgestone Townhomes Well No. 1 - Aquifer Test (May 13, 2025)

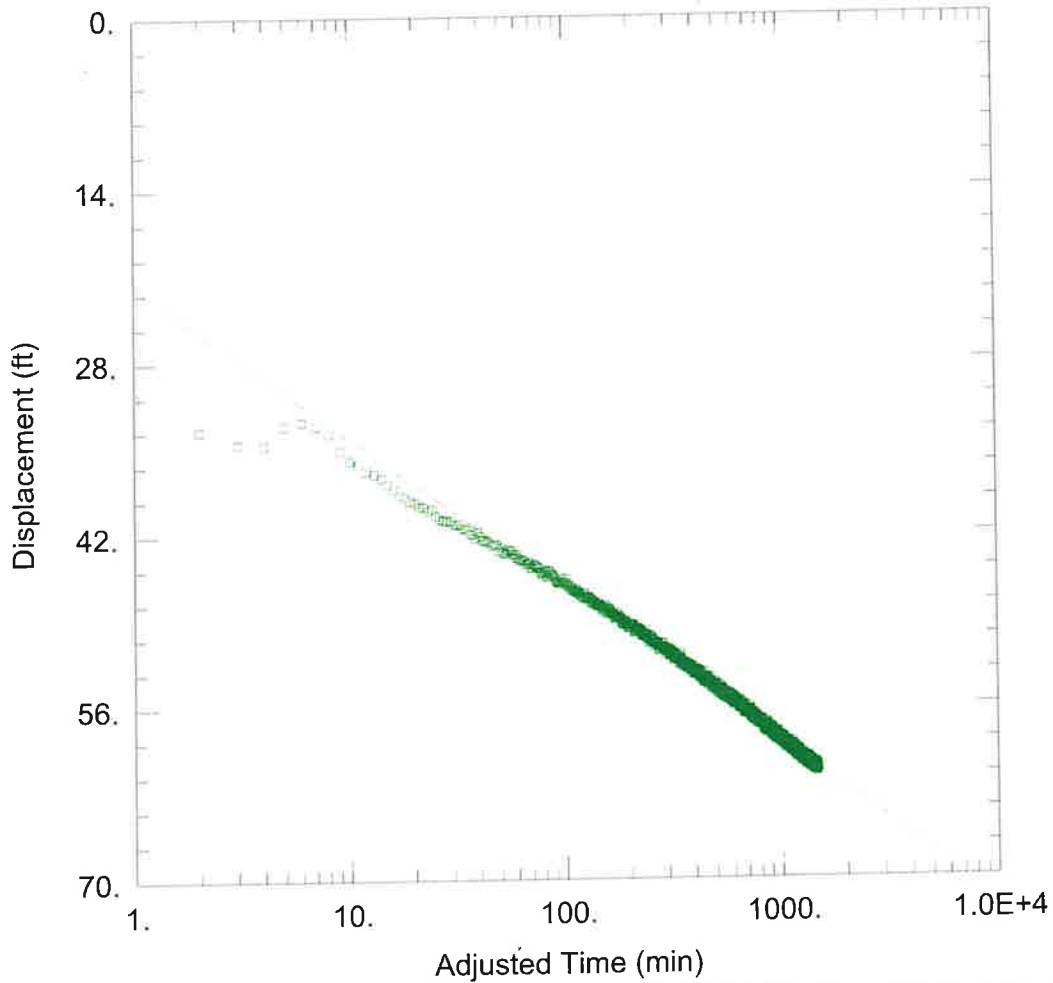
Date and Time	Time Since Pump Start (min)	Time Since Pump Stop (min)	PW LT Well No. 1 Temperature (F)	PW LT Well No. 1 Water Level (ft hgs)	PW LT Well No. 1 Water Level (ft MSL)	PW LT Well No. 1 Drawdown (ft)	PW LT Well No. 1 Pump Rate (gpm)	PW LT Well No. 1 Specific Capacity (gpm/ft)	Comments	OW CH 290 Well No. 1 Water Level (ft MSL)	OW CH 290 Well No. 1 Drawdown (ft)	OW CHL Well No. 1 Water Level (ft MSL)	OW CHL Well No. 1 Drawdown (ft)
5/13/25 10:48 PM	660		78.66	639.53	421.47	56.05				470.46	0.34	476.25	1.00
5/13/25 11:48 PM	720		78.72	640.02	420.98	56.55				470.46	0.33	476.17	1.08
5/14/25 12:48 AM	780		78.71	640.60	420.40	57.13				470.35	0.45	476.04	1.22
5/14/25 1:48 AM	840		78.69	641.45	419.55	57.98				470.33	0.46	475.95	1.30
5/14/25 2:48 AM	900		78.67	641.58	419.42	58.10				470.18	0.61	475.84	1.41
5/14/25 3:48 AM	960		78.67	642.15	418.85	58.68				470.19	0.60	475.76	1.49
5/14/25 4:48 AM	1,020		78.71	642.79	418.21	59.32				470.21	0.59	475.64	1.62
5/14/25 5:48 AM	1,080		78.67	642.76	418.24	59.29				470.19	0.61	475.60	1.65
5/14/25 6:48 AM	1,140		78.68	643.01	417.99	59.54				470.21	0.59	475.50	1.75
5/14/25 7:48 AM	1,200		78.68	643.45	417.55	59.98				470.12	0.67	475.44	1.82
5/14/25 8:48 AM	1,260		78.70	643.94	417.07	60.46	25.0	0.41		470.03	0.76	475.39	1.86
5/14/25 9:48 AM	1,320		78.76	644.06	416.94	60.59				470.01	0.78	475.25	2.01
5/14/25 10:48 AM	1,380		78.93	644.63	416.37	61.15				469.99	0.81	475.21	2.04
5/14/25 11:48 AM	1,440		78.86	644.50	416.56	61.03			Pump Stop	469.92	0.88	475.07	2.19
5/14/25 12:04 PM	1,456	0	78.89	644.44	416.56	60.97				469.87	0.93	475.04	2.22
5/14/25 12:05 PM	1,457	1	78.92	638.90	422.10	55.42				469.88	0.92	475.05	2.20
5/14/25 12:06 PM	1,458	2	78.92	627.14	433.86	43.67				469.92	0.87	475.01	2.24
5/14/25 12:07 PM	1,459	3	78.90	621.29	439.72	37.81				469.91	0.88	475.02	2.24
5/14/25 12:08 PM	1,460	4	78.85	618.16	442.84	34.68				469.94	0.85	475.05	2.20
5/14/25 12:09 PM	1,461	5	78.78	615.97	446.55	32.50				469.93	0.87	475.07	2.18
5/14/25 12:10 PM	1,462	6	78.78	614.65	446.35	31.18				469.91	0.88	475.04	2.21
5/14/25 12:11 PM	1,463	7	78.75	613.58	447.42	30.11				469.97	0.83	475.06	2.20
5/14/25 12:12 PM	1,464	8	78.74	612.85	448.15	29.37				469.89	0.91	475.03	2.22
5/14/25 12:13 PM	1,465	9	78.73	612.14	448.86	28.67				469.96	0.84	475.04	2.21
5/14/25 12:14 PM	1,466	10	78.77	611.57	449.43	28.09				469.94	0.86	475.06	2.21
5/14/25 12:15 PM	1,467	11	78.74	611.11	449.89	27.63				469.86	0.93	475.01	2.24
5/14/25 12:16 PM	1,468	12	78.74	610.76	450.24	27.29				469.95	0.85	475.04	2.22
5/14/25 12:17 PM	1,469	13	78.79	610.34	450.66	26.87				469.95	0.85	475.04	2.22
5/14/25 12:18 PM	1,470	14	78.77	610.05	450.95	26.57				469.91	0.89	475.02	2.24
5/14/25 12:19 PM	1,471	15	78.77	609.68	451.32	26.21				469.97	0.83	475.02	2.23
5/14/25 12:24 PM	1,476	20	78.79	608.50	452.50	25.03				469.97	0.83	475.03	2.22
5/14/25 12:29 PM	1,481	25	78.76	607.57	453.43	24.09				469.85	0.94	474.99	2.26
5/14/25 12:34 PM	1,486	30	78.80	606.87	454.13	23.40				469.95	0.85	475.00	2.26
5/14/25 12:39 PM	1,491	35	78.78	606.22	454.79	22.74				469.88	0.92	475.00	2.26
5/14/25 12:44 PM	1,496	40	78.74	605.63	455.37	22.15				469.88	0.92	474.97	2.28

Note: hgs = below ground surface Column Pipe Diameter = 1 1/2 inches Horsepower = 7.5 HP  
MSL = Mean Sea Level Pump Setting = 860 ft

Ledgestone Townhomes Well No. 1 - Aquifer Test (May 13, 2025)

Date and Time	Time Since Pump Start (min)	Time Since Pump Stop (min)	PW LT Well No. 1 Temperature (°F)	PW LT Well No. 1 Water Level (ft hgs)	PW LT Well No. 1 Water Level (ft MSL)	PW LT Well No. 1 Drawdown (ft)	PW LT Well No. 1 Pump Rate (gpm)	PW LT Well No. 1 Specific Capacity (gpm/ft)	Comments	OW CH 290 Well No. 1 Water Level (ft MSL)	OW CH 290 Well No. 1 Drawdown (ft)	OW CH 290 Well No. 1 Water Level (ft MSL)	OW CH 290 Well No. 1 Drawdown (ft)
5/14/25 12:49 PM	1,501	45	78.75	605.09	455.91	21.62	5.0	0.23		469.84	0.96	474.98	2.28
5/14/25 1:04 PM	1,516	60	78.70	603.91	457.09	20.44				469.87	0.93	475.00	2.26
5/14/25 1:19 PM	1,531	75	78.64	602.97	458.03	19.50				469.82	0.97	474.96	2.29
5/14/25 1:34 PM	1,546	90	78.63	601.98	459.02	18.50				469.86	0.94	474.99	2.27
5/14/25 2:04 PM	1,576	120	78.52	600.63	460.37	17.15				469.88	0.91	474.98	2.27
5/14/25 2:34 PM	1,606	150	78.36	599.64	461.36	16.17				469.87	0.92	474.99	2.27
5/14/25 3:04 PM	1,636	180	78.27	598.70	462.30	15.23				469.86	0.94	475.05	2.21
5/14/25 4:04 PM	1,696	240	78.24	597.30	463.70	13.82				469.88	0.92	475.17	2.09
5/14/25 5:04 PM	1,756	300	78.14	596.07	464.93	12.60				469.94	0.86	475.22	2.03
5/14/25 6:04 PM	1,816	360	78.00	595.16	465.84	11.69				469.97	0.82	475.34	1.91
5/14/25 7:04 PM	1,876	420	77.99	594.39	466.61	10.92				469.99	0.81	475.40	1.85
5/14/25 8:04 PM	1,936	480	77.95	593.77	467.23	10.30				470.08	0.71	475.55	1.71
5/14/25 9:04 PM	1,996	540	77.93	593.12	467.88	9.65				470.08	0.72	475.61	1.64
5/14/25 10:04 PM	2,056	600	77.87	592.67	468.33	9.20				470.10	0.70	475.62	1.63
5/14/25 11:04 PM	2,116	660	77.85	592.13	468.88	8.65				469.99	0.80	475.68	1.57
5/15/25 12:04 AM	2,176	720	77.84	591.81	469.19	8.34				470.08	0.72	475.75	1.50
5/15/25 1:04 AM	2,236	780	77.83	591.46	469.54	7.99				469.98	0.82	475.74	1.51
5/15/25 2:04 AM	2,296	840	77.84	591.17	469.83	7.70				470.03	0.77	475.82	1.43
5/15/25 3:04 AM	2,356	900	77.80	590.89	470.11	7.41				470.08	0.71	475.83	1.43
5/15/25 4:04 AM	2,416	960	77.81	590.68	470.32	7.21				470.19	0.61	475.90	1.36
5/15/25 5:04 AM	2,476	1020	77.78	590.36	470.64	6.88				470.20	0.59	475.97	1.28
5/15/25 6:04 AM	2,536	1080	77.77	590.19	470.81	6.72				470.24	0.56	476.02	1.24
5/15/25 7:04 AM	2,596	1140	77.75	589.98	471.02	6.51				470.25	0.55	476.07	1.18
5/15/25 8:04 AM	2,656	1200	77.81	589.67	471.33	6.20				470.31	0.48	476.11	1.15
5/15/25 9:04 AM	2,716	1260	77.79	589.60	471.40	6.13				470.23	0.57	476.10	1.16
5/15/25 10:04 AM	2,776	1320	77.85	589.44	471.56	5.97				470.31	0.49	476.12	1.13
5/15/25 11:04 AM	2,836	1380	77.74	589.27	471.73	5.80							
5/15/25 12:04 PM	2,896	1440	77.78	589.07	471.93	5.60				470.29	0.50	476.15	1.10

Note: hgs = below ground surface      Column Pipe Diameter = 1 1/2 inches      Horsepower = 7.5 HP  
 MSL = Mean Sea Level      Pump Setting = 860 ft



### WELL TEST ANALYSIS

Data Set: \...\LT1 CJ.aqt  
Date: 06/27/25

Time: 09:55:29

### PROJECT INFORMATION

Company: WRGS  
Client: Endeavor  
Location: Travis County  
Test Well: LT Well  
Test Date: 5/13/25

### AQUIFER DATA

Saturated Thickness: 318. ft

Anisotropy Ratio (Kz/Kr): 1.

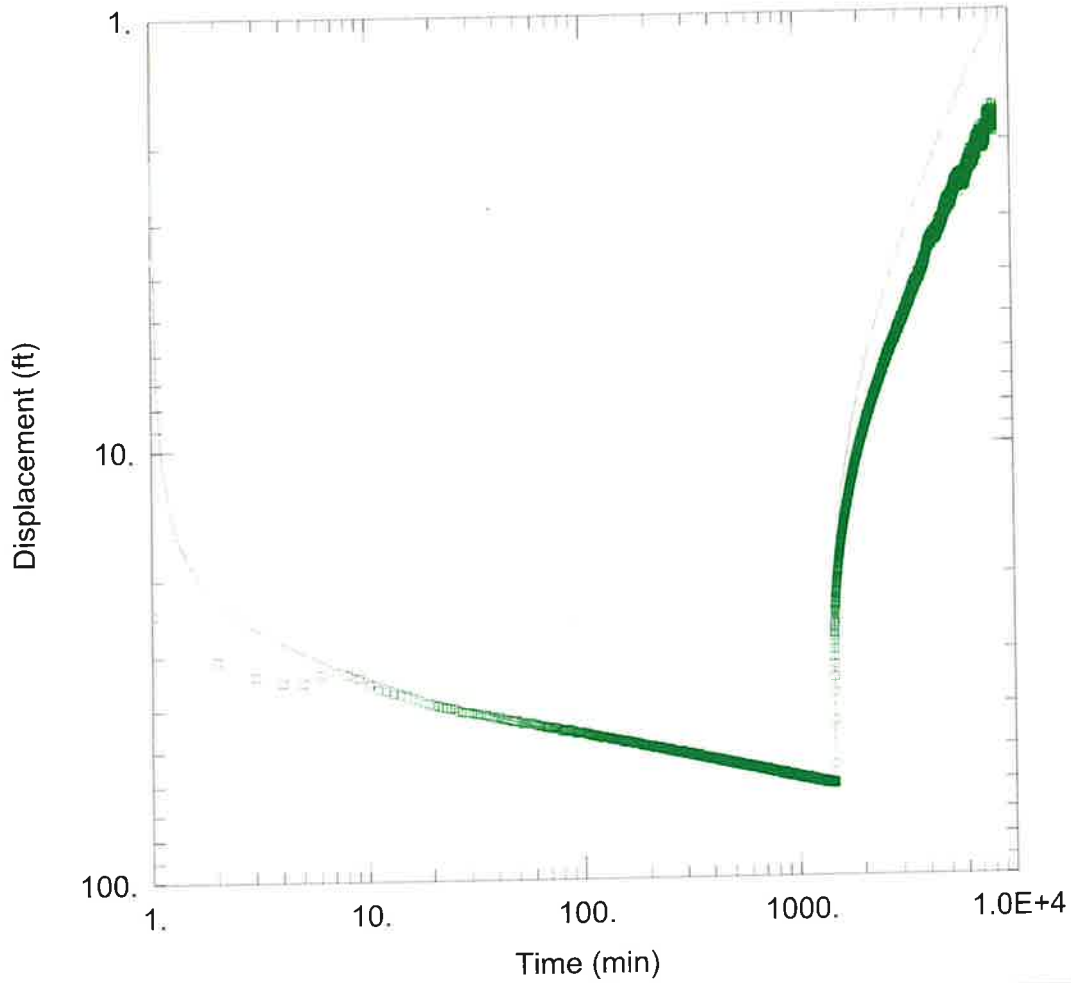
### WELL DATA

Pumping Wells			Observation Wells		
Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
Ledgestone TH Well	3056510.5	10054869.4	Ledgestone TH Well	3056510.5	10054869.4

### SOLUTION

Aquifer Model: Confined  
T = 70.99 ft<sup>2</sup>/day

Solution Method: Cooper-Jacob  
S = 0.01407



### WELL TEST ANALYSIS

Data Set: \...\LT1 Theis.aqt  
Date: 06/27/25

Time: 09:55:48

### PROJECT INFORMATION

Company: WRGS  
Client: Endeavor  
Location: Travis County  
Test Well: LT Well  
Test Date: 5/13/25

### WELL DATA

Pumping Wells			Observation Wells		
Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
Ledgestone TH Well	3056510.5	10054869.4	Ledgestone TH Well	3056510.5	10054869.4

### SOLUTION

Aquifer Model: Confined

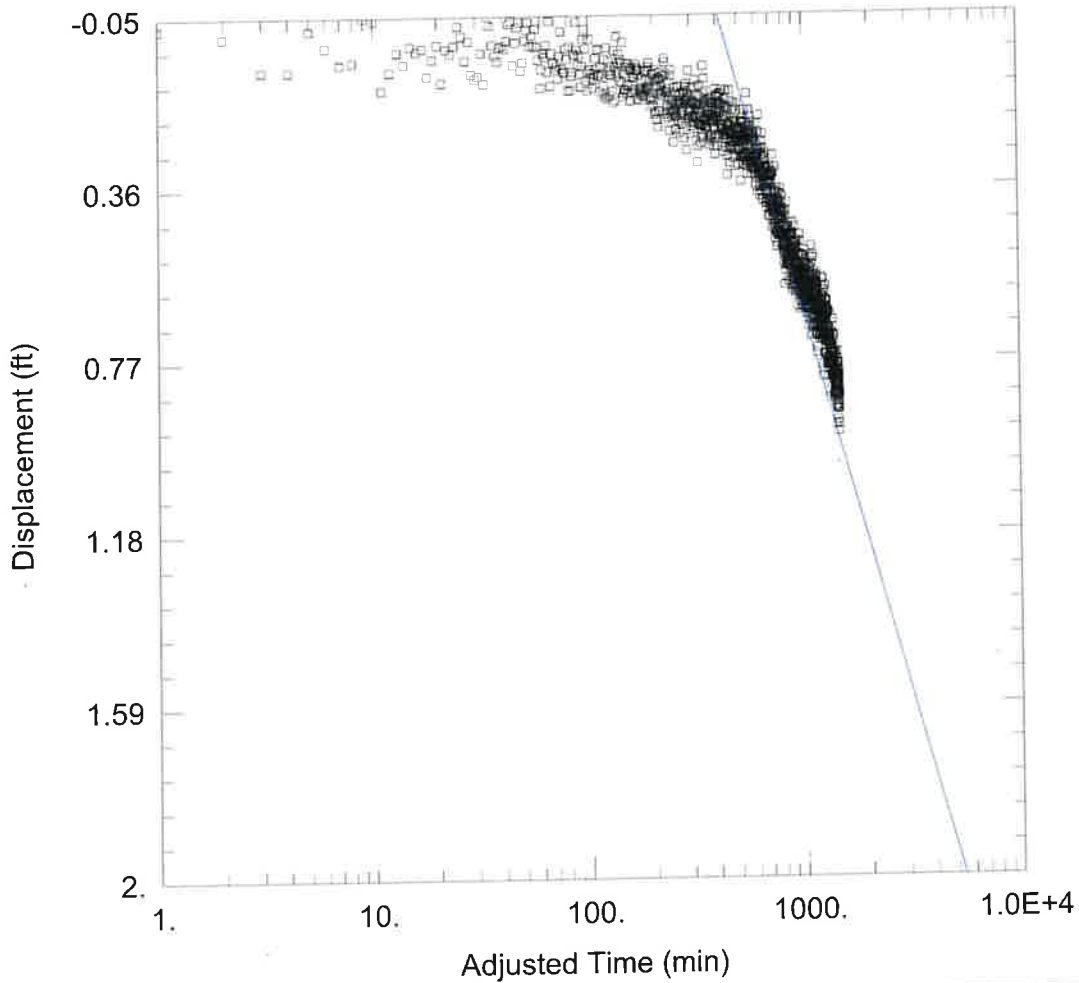
Solution Method: Theis

T = 70.99 ft<sup>2</sup>/day

S = 0.01329

Kz/Kr = 1.

b = 318. ft



### WELL TEST ANALYSIS

Data Set: \...\ch290 cj.aqt  
Date: 06/27/25

Time: 09:40:46

### PROJECT INFORMATION

Company: WRGS  
Client: Endeavor  
Location: Travis County  
Test Well: LT Well  
Test Date: 5/13/25

### AQUIFER DATA

Saturated Thickness: 318 ft

Anisotropy Ratio (Kz/Kr): 1.

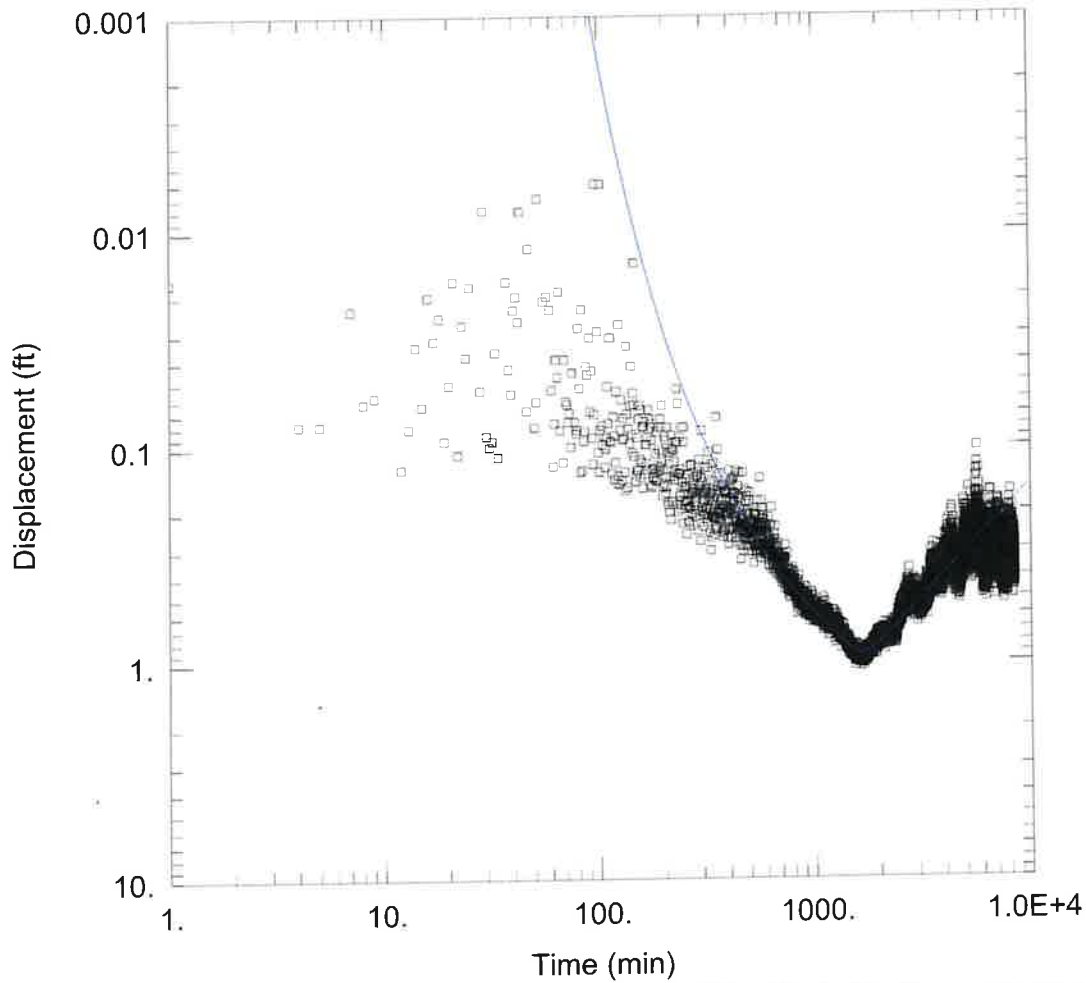
### WELL DATA

Pumping Wells			Observation Wells		
Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
Ledgestone TH Well	3056510.5	10054869.4	□ CH 290 Well	3058316.206	10055393.5

### SOLUTION

Aquifer Model: Confined  
T = 480.3 ft<sup>2</sup>/day

Solution Method: Cooper-Jacob  
S = 9.206E-5



### WELL TEST ANALYSIS

Data Set: \...\ch290 theis.aqt  
Date: 06/27/25

Time: 09:54:10

### PROJECT INFORMATION

Company: WRGS  
Client: Endeavor  
Location: Travis County  
Test Well: LT Well  
Test Date: 5/13/25

### WELL DATA

Pumping Wells			Observation Wells		
Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
Ledgestone TH Well	3056510.5	10054869.4	CH 290 Well	3058316.206	10055393.5

### SOLUTION

Aquifer Model: Confined

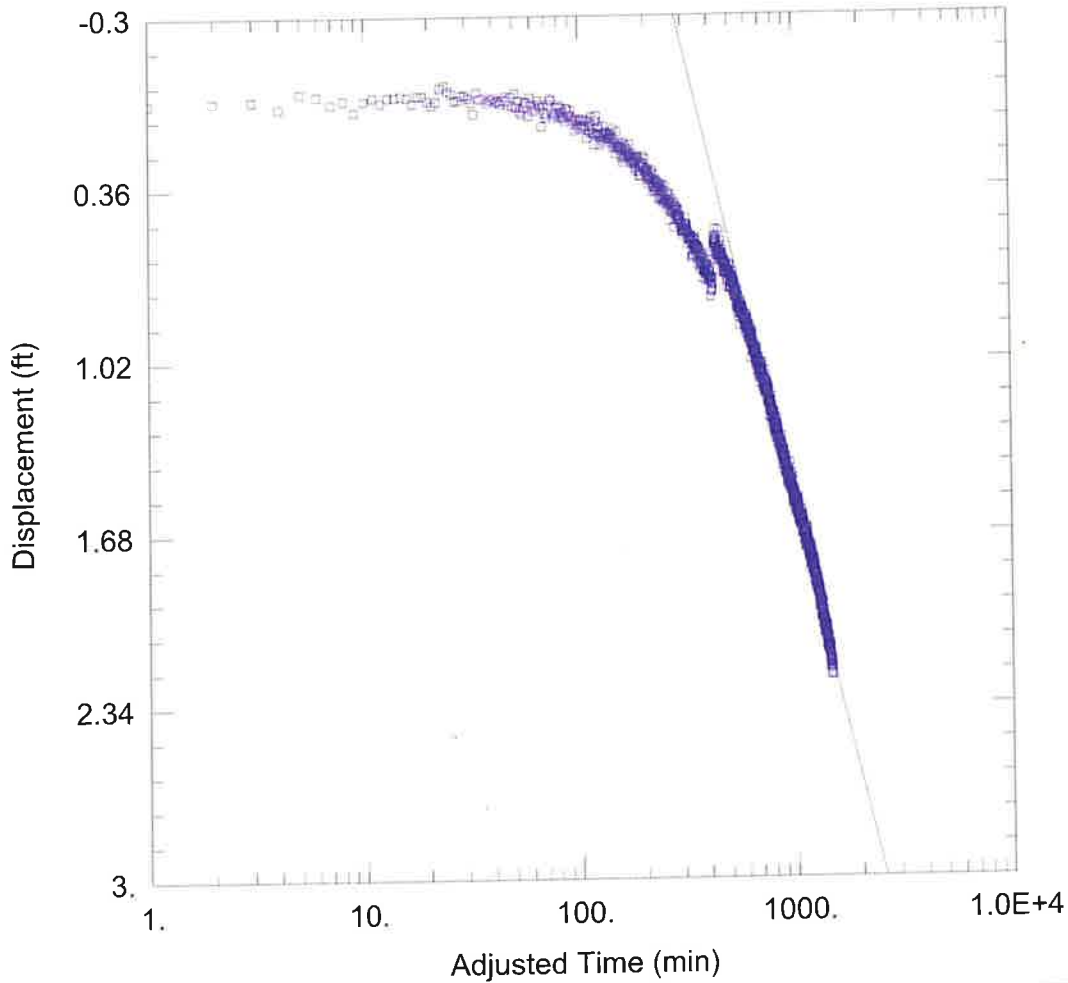
Solution Method: Theis

T = 382.4 ft<sup>2</sup>/day

S = 0.0001416

Kz/Kr = 1.

b = 318. ft



### WELL TEST ANALYSIS

Data Set: \...\chl CJ.aqt  
Date: 06/27/25

Time: 09:54:42

### PROJECT INFORMATION

Company: WRGS  
Client: Endeavor  
Location: Travis County  
Test Well: LT Well  
Test Date: 5/13/25

### AQUIFER DATA

Saturated Thickness: 318. ft

Anisotropy Ratio (Kz/Kr): 1.

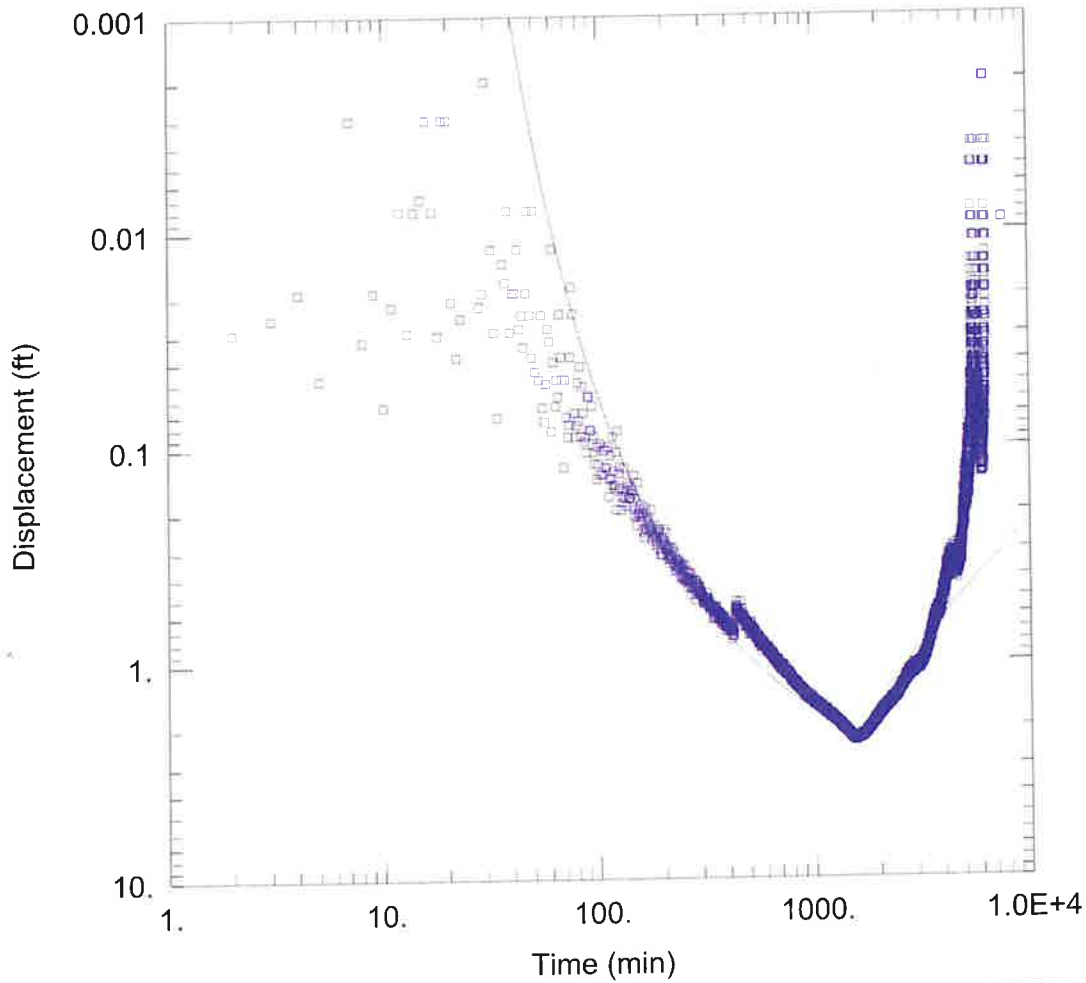
### WELL DATA

Pumping Wells			Observation Wells		
Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
Ledgestone TH Well	3056510.5	10054869.4	CH Ledgestone Well	3057443.8	10055198.7

### SOLUTION

Aquifer Model: Confined  
T = 256.1 ft<sup>2</sup>/day

Solution Method: Cooper-Jacob  
S = 0.0001397



### WELL TEST ANALYSIS

Data Set: \...\chl this.aqt  
Date: 06/27/25

Time: 09:55:02

### PROJECT INFORMATION

Company: WRGS  
Client: Endeavor  
Location: Travis County  
Test Well: LT Well  
Test Date: 5/13/25

### WELL DATA

Pumping Wells			Observation Wells		
Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
Ledgestone TH Well	3056510.5	10054869.4	CH Ledgestone Well	3057443.8	10055198.7

### SOLUTION

Aquifer Model: Confined

Solution Method: Thisis

T = 263.4 ft<sup>2</sup>/day

S = 0.0001588

Kz/Kr = 1.

b = 318. ft

# **Appendix E**

Water Quality



Wet Rock Groundwater Services, LLC



*Groundwater Specialists*

Email information for report date:  
6/8/25 11:19  
1014373

## Bee Cave Drilling

Attn: Greg Svetlik

185 Angel Fire Drive  
Dripping Springs, TX 78620

Please contact us for your sampling needs or if you have any questions. Some convenient contacts are listed below. You can also access your results and reports through our ClientConnect™ portal on our website ([www.aqua-techlabs.com](http://www.aqua-techlabs.com)).

For sampling questions:

samplingbryan@aqua-techlabs.com (Bryan area)  
samplinggaustin@aqua-techlabs.com (Austin area)  
reporting@aqua-techlabs.com (report questions)

Aqua-Tech values you as a customer and encourages you to speak with our staff at 979-778-3707 or the above emails if you have questions.

Thank you for your business,  
June M. Brien  
Executive Technical Director

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The analyses summarized in this report were performed by Aqua-Tech Laboratories, Inc. unless otherwise noted. Aqua-Tech Laboratories, Inc. holds accreditation from the State of Texas in accordance with TNI and/or through the TCEQ Drinking Water Commercial Laboratory Approval Program.

### The following abbreviations indicate certification status:

NEI TNI accredited parameter.  
ANR Accreditation not offered by the State of Texas.  
DWP Approval through the TCEQ Drinking Water Commercial Laboratory Approval Program.  
INF Aqua-Tech Laboratories, Inc. is not accredited for this parameter. It is reported on an informational basis only.

Subcontracted data summarized in this report is indicated by "Sub" in the Lab column.

### General Definitions:

NR Not Reported.  
RPD Relative Percent Difference.  
% R Percent Recovery.  
dry Results with the "dry" unit designation are reported on a "dry weight" basis.  
SQL The Sample Quantitation Limit is the value below which the parameter cannot reliably be detected. The SQL includes all sample preparations, dilutions and / or concentrations.

Adj MDL The Adjusted Method Detection Limit is the MDL value adjusted for any sample dilutions or concentrations.

MDL The Method Detection Limit is the lowest theoretical value that is statistically different from zero for a specific method, taking into account all preparation steps and instrument settings.

All samples are reported on an "as received" basis unless the designation "dry" is added to the reported unit.

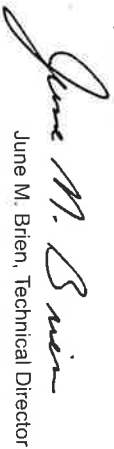
Copies of Aqua-Tech Laboratories, Inc. procedures and individual sampling plans are available upon request. Note that samples are collected by Aqua-Tech Laboratories, Inc. personnel unless otherwise noted in the "Sample Collected" field of this report as "Client" or "CLT".

Samples included in this report were received in acceptable condition according to Aqua-Tech Laboratories, Inc. procedures and 40 CFR, Chapter I, Subchapter D, Part 136.3, TABLE II. - *Required containers, preservation techniques, and holding times, unless otherwise noted in this report.*

### Record Retention:

All reports, raw data, and associated quality control data are kept on file for 10 years before being destroyed. Any client that would like copies of records must contact Aqua-Tech Laboratories, Inc. no later than six months prior to the scheduled disposal. An administrative fee for retrieval and distribution will apply.

This report was approved by:

  
June M. Brien, Technical Director

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TCEQ Lab ID T104704371

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Report Printed:

6/8/25

11:19

Analytical Report

Bee Cave Drilling

1014373

**Ledgestone Well 3**

Collected: 05/14/25 09:12 by CLIENT  
 Received: 05/14/25 14:10 by Ana Garza

Matrix: Drinking Water  
 C-O-C #: 1014373

Lab ID# 1014373-01

Result	Units	Notes	MDL	Adj MDL	SQL	Lab	Analyzed	Method	Batch
<b>General Chemistry</b>									
Total Dissolved Solids	1010	mg/L	25.0	50.0	50.0	Austin	05/19/25 13:36 KHA	SM2540 C 2015	M193691
Nitrate as N (NO3M)	<0.020	mg/L	0.020	0.020	0.020	Calc	05/21/25 08:23 MSA	SM4500-NO3-F 2011	[CALC]
Nitrite as N	<0.01	mg/L	0.002	0.002	0.01	Austin	05/15/25 09:30 MSA	SM4500 NO2- B 2011	M193527
Nitrate/Nitrite as N	<0.02	mg/L	0.02	0.02	0.02	Bryan	05/21/25 08:23 CTG	SM4500-NO3-F 2011	M193747
Total Alkalinity as CaCO3 (pH4.5)	227	mg/L	5.00	20.0	20.0	Austin	05/16/25 07:00 MSA	SM2320 B 2011	M193568
Fluoride	0.49	mg/L	0.04	0.04	0.10	Bryan	05/20/25 07:51 ATG	SM4500-F C 2011	M193705
<b>Metals (Total)</b>									
Aluminum	2.81	ug/L	0.299	0.305	1.02	Bryan	05/29/25 14:58 ABM	EPA 200.8 R5.4	M193994
Arsenic	7.51	ug/L	0.032	0.033	0.408	Bryan	05/29/25 14:58 ABM	EPA 200.8 R5.4	M193994
Calcium	11.6	mg/L	0.023	0.023	0.102	Bryan	05/20/25 16:49 ABM	EPA 200.7 R4.4	M193719
Copper	2.69	ug/L	0.029	1.02	1.02	Bryan	05/29/25 14:58 ABM	EPA 200.8 R5.4	M193994
Iron	0.242	mg/L	0.002	0.010	0.010	Bryan	05/20/25 16:11 ABM	EPA 200.7 R4.4	M193717
Manganese	12.5	ug/L	0.108	0.110	0.408	Bryan	05/29/25 14:58 ABM	EPA 200.8 R5.4	M193994
Potassium	19.2	mg/L	0.011	0.011	0.102	Bryan	05/20/25 16:11 ABM	EPA 200.7 R4.4	M193717
Sodium	9.39	mg/L	0.011	0.011	0.102	Bryan	05/20/25 16:49 ABM	EPA 200.7 R4.4	M193719
Zinc	1.72	ug/L	0.379	0.387	0.510	Bryan	05/29/25 14:58 ABM	EPA 200.8 R5.4	M193994

Please see the attached subcontract report for subcontracted data.

**Explanation of Notes**

J Analyte detected below the SQL but above the MDL.

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**Analytical Report**  
 Bee Cave Drilling  
 6/8/25 11:19  
 1014373

**General Chemistry - Quality Control**

Result	Units	Notes	M/DL	SCL	Analyzed	Spike Amount	Source Result	%R	%R Limits	RPD	RPD Limit	Batch
<b>Fluoride - SM4500-F C 2011</b>												
Initial Cal Check	0.38	mg/L			05/20/25 07:51 ATG	0.390		96.2	90 - 110			2505264
LCV	0.10	mg/L			05/20/25 07:51 ATG	0.0997		98.5	70 - 130			2505264
Blank	<0.10	mg/L	0.04	0.10	05/20/25 07:51 ATG	0.798		102	92.3 - 112			M193705
LCS	0.81	mg/L	0.04	0.10	05/20/25 07:51 ATG	0.798		102	92.3 - 112	0.860	4.23	M193705
LCS Dup	0.82	mg/L	0.04	0.10	05/20/25 07:51 ATG	0.798	0.49	99.5	95.9 - 114			M193705
Matrix Spike	1.28	mg/L	0.04	0.10	05/20/25 07:51 ATG	0.798	0.49	101	95.9 - 114	1.25	3.67	M193705
Matrix Spike Dup	1.29	mg/L	0.04	0.10	05/20/25 07:51 ATG	0.798	0.49	101	95.9 - 114			M193705
<b>Nitrate/Nitrite as N - SM4500-NO3-F 2011</b>												
Initial Cal Check	1.0	mg/L			05/21/25 08:23 CTG	0.959		107	90 - 110			2505283
Interference Check A	2.0	mg/L			05/21/25 08:23 CTG	2.00		102	90 - 110			2505283
Low Cal Check	0.02	mg/L	0.02	0.02	05/21/25 08:23 CTG	0.0200		100	70 - 130			2505283
Blank	<0.02	mg/L	0.02	0.02	05/21/25 08:23 CTG	0.500		100	96.5 - 107			M193747
LCS	0.50	mg/L	0.02	0.02	05/21/25 08:23 CTG	0.500		100	96.5 - 107	0.199	1.53	M193747
LCS Dup	0.50	mg/L	0.02	0.02	05/21/25 08:23 CTG	0.500	<0.02	101	97.8 - 108			M193747
Matrix Spike	0.50	mg/L	0.02	0.02	05/21/25 08:23 CTG	0.500	<0.02	101	97.8 - 108	0.595	1.56	M193747
Matrix Spike Dup	0.51	mg/L	0.02	0.02	05/21/25 08:23 CTG	0.500	<0.02	101	97.8 - 108			M193747
<b>Nitrite as N - SM4500 NO2- B 2011</b>												
Initial Cal Check	0.08	mg/L			05/15/25 09:30 MSA	0.0736		103	90 - 110			2505214
Low Cal Check	0.009	mg/L			05/15/25 09:30 MSA	0.0100		89.1	70 - 130			2505214
Blank	<0.01	mg/L	0.002	0.01	05/15/25 09:30 MSA	0.0800		102	90 - 110			M193527
LCS	0.08	mg/L	0.002	0.01	05/15/25 09:30 MSA	0.0800		103	90 - 110	0.883	6.75	M193527
LCS Dup	0.08	mg/L	0.002	0.01	05/15/25 09:30 MSA	0.0800	<0.01	87.7	56.7 - 127			M193527
Matrix Spike	0.07	mg/L	0.002	0.01	05/15/25 09:30 MSA	0.0800	<0.01	85.9	56.7 - 127	2.09	10.6	M193527
Matrix Spike Dup	0.07	mg/L	0.002	0.01	05/15/25 09:30 MSA	0.0800	<0.01	85.9	56.7 - 127			M193527
Initial Cal Check	0.08	mg/L			10/04/24 08:45 MSA	0.0740		105	90 - 110			2410074
<b>Total Alkalinity as CaCO3 (pH4.5) - SM2320 B 2011</b>												
Initial Cal Check	6.87	mg/L			05/16/25 07:00 MSA	6.86		100	97 - 103			2505224
Initial Cal Check	9.14	mg/L			05/16/25 07:00 MSA	9.18		99.6	97 - 103			2505224
Low Cal Check	20.6	mg/L			05/16/25 07:00 MSA	18.8		110	70 - 130			2505224
Duplicate	224	mg/L	20.0	20.0	05/16/25 07:00 MSA	75.2	223	104	94 - 108	0.805	5.37	M193568
LCS	78.0	mg/L	20.0	20.0	05/16/25 07:00 MSA	75.2		102	94 - 108			M193568
LCS	77.0	mg/L	20.0	20.0	05/16/25 07:00 MSA	75.2		102	94 - 108			M193568
LCS Dup	76.9	mg/L	20.0	20.0	05/16/25 07:00 MSA	75.2		102	94 - 108	1.40	5.9	M193568

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**Analytical Report**  
 Bee Cave Drilling  
 6/8/25 11:19  
 Report Printed:  
 1014373

**General Chemistry - Quality Control**

Result	Units	Notes	MDL	SQL	Analyzed	Spike Amount	Source Result	%R	%R Limits	RPD	RPD Limit	Batch
<b>Total Dissolved Solids - SM2540 C 2015</b>												
Blank	<25.0	mg/L	25.0	25.0	05/19/25 13:36 KHA							M193691
Duplicate	1010	mg/L	50.0	50.0	05/19/25 13:36 KHA	1010	1010	93.2	66 - 140	0.197	15.6	M193691
Reference	468	mg/L	100	100	05/19/25 13:36 KHA	502						M193691

**Metals (Total) - Quality Control**

Result	Units	Notes	MDL	SQL	Analyzed	Spike Amount	Source Result	%R	%R Limits	RPD	RPD Limit	Batch
<b>Aluminum - EPA 200.8 R5.4</b>												
Blank	<1.02	ug/L	0.305	1.02	05/29/25 13:43 ABM							M193994
LCS	114	ug/L	0.308	1.03	05/29/25 13:50 ABM	105		109	84.5 - 115.4			M193994
LCS Dup	115	ug/L	0.308	1.03	05/29/25 13:56 ABM	105	144	110	84.5 - 115.4	0.591	20	M193994
Duplicate	148	ug/L	0.305	1.02	05/29/25 14:03 ABM					2.86	20	M193994
Matrix Spike	261	ug/L	0.308	1.03	05/29/25 14:10 ABM	105	144	112	69.5 - 130.4			M193994
<b>Arsenic - EPA 200.8 R5.4</b>												
Blank	<0.408	ug/L	0.033	0.408	05/29/25 13:43 ABM							M193994
LCS	11.3	ug/L	0.033	0.412	05/29/25 13:50 ABM	10.0		113	84.5 - 115.4			M193994
LCS Dup	11.1	ug/L	0.033	0.412	05/29/25 13:56 ABM	10.0		111	84.5 - 115.4	1.12	20	M193994
Duplicate	0.887	ug/L	0.033	0.408	05/29/25 14:03 ABM		0.861			2.93	20	M193994
Matrix Spike	11.9	ug/L	0.033	0.412	05/29/25 14:10 ABM	10.0	0.861	111	69.5 - 130.4			M193994

<b>Calcium - EPA 200.7 R4.4</b>												
Blank	<0.102	mg/L	0.023	0.102	05/29/25 16:32 ABM							M193719
LCS	10.2	mg/L	0.024	0.104	05/29/25 16:35 ABM	10.0		102	84.5 - 115.4			M193719
LCS Dup	10.3	mg/L	0.024	0.104	05/29/25 16:39 ABM	10.0		103	84.5 - 115.4	0.469	20	M193719
Duplicate	11.5	mg/L	0.023	0.102	05/29/25 16:42 ABM		11.6			1.36	20	M193719
Matrix Spike	21.9	mg/L	0.024	0.104	05/29/25 16:46 ABM	10.0	11.6	103	69.5 - 130.4			M193719

<b>Copper - EPA 200.8 R5.4</b>												
Blank	<1.02	ug/L	1.02	1.02	05/29/25 13:43 ABM							M193994
LCS	1060	ug/L	1.03	1.03	05/29/25 13:50 ABM	960		110	84.5 - 115.4			M193994
LCS Dup	1070	ug/L	1.03	1.03	05/29/25 13:56 ABM	960		111	84.5 - 115.4	0.614	20	M193994
Duplicate	5.88	ug/L	1.02	1.02	05/29/25 14:03 ABM		5.92			0.677	20	M193994
Matrix Spike	959	ug/L	1.03	1.03	05/29/25 14:10 ABM	960	5.92	99.3	69.5 - 130.4			M193994

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**Analytical Report**  
 Bee Cave Drilling  
 6/8/25 11:19  
 1014373

**Metals (Total) - Quality Control**

Result	Units	Notes	MDL	SQL	Analyzed	Spike Amount	Source Result	%R	%R Limits	RPD	RPD Limit	Batch
<b>Iron - EPA 200.7 R4.4</b>												
Blank	<0.010		0.010	0.010	05/20/25 15:47 ABM	1.00		106	84.5 - 115.4			M193717
LCS	1.06		0.010	0.010	05/20/25 15:50 ABM	1.00		105	84.5 - 115.4	0.395	20	M193717
LCS Dup	1.05		0.010	0.010	05/20/25 15:54 ABM	1.00	0.004	105	84.5 - 115.4	9.43	20	M193717
Duplicate	0.005	(0.005)	0.010	0.010	05/20/25 15:57 ABM	1.00	0.004	105	69.5 - 130.4		20	M193717
Matrix Spike	1.06		0.010	0.010	05/20/25 16:01 ABM	1.00	0.004	105	69.5 - 130.4			M193717
<b>Manganese - EPA 200.8 R5.4</b>												
Blank	<0.408		0.110	0.408	05/29/25 13:43 ABM	105		106	84.5 - 115.4			M193994
LCS	111		0.111	0.412	05/29/25 13:50 ABM	105		105	84.5 - 115.4	0.338	20	M193994
LCS Dup	111		0.111	0.412	05/29/25 13:56 ABM	105		105	84.5 - 115.4	1.64	20	M193994
Duplicate	<0.408	J (0.290)	0.110	0.408	05/29/25 14:03 ABM	105	<0.408	104	69.5 - 130.4		20	M193994
Matrix Spike	109		0.111	0.412	05/29/25 14:10 ABM	105	0.286	104	69.5 - 130.4			M193994
<b>Potassium - EPA 200.7 R4.4</b>												
Blank	<0.102		0.011	0.102	05/20/25 15:46 ABM	10.0		94.2	84.5 - 115.4			M193717
LCS	9.42		0.011	0.104	05/20/25 15:50 ABM	10.0		92.7	84.5 - 115.4	1.57	20	M193717
LCS Dup	9.27		0.011	0.104	05/20/25 15:53 ABM	10.0		193	84.5 - 115.4	6.34	20	M193717
Duplicate	1.81		0.011	0.102	05/20/25 15:57 ABM	10.0	1.93	122	69.5 - 130.4		20	M193717
Matrix Spike	14.1		0.011	0.104	05/20/25 16:00 ABM	10.0	1.93	122	69.5 - 130.4			M193717
<b>Sodium - EPA 200.7 R4.4</b>												
Blank	<0.102		0.011	0.102	05/20/25 16:32 ABM	10.0		106	84.5 - 115.4			M193719
LCS	10.6		0.011	0.104	05/20/25 16:35 ABM	10.0		111	84.5 - 115.4	4.39	20	M193719
LCS Dup	11.1		0.011	0.104	05/20/25 16:39 ABM	10.0		112	84.5 - 115.4	1.00	20	M193719
Duplicate	9.48		0.011	0.102	05/20/25 16:42 ABM	10.0	9.39	112	69.5 - 130.4		20	M193719
Matrix Spike	20.6		0.011	0.104	05/20/25 16:46 ABM	10.0	9.39	112	69.5 - 130.4			M193719
<b>Zinc - EPA 200.8 R5.4</b>												
Blank	<0.510		0.387	0.510	05/29/25 13:43 ABM	105		105	84.5 - 115.4			M193994
LCS	110		0.390	0.515	05/29/25 13:50 ABM	105		105	84.5 - 115.4	0.294	20	M193994
LCS Dup	110		0.390	0.515	05/29/25 13:56 ABM	105		105	84.5 - 115.4	0.0647	20	M193994
Duplicate	50.4		0.387	0.510	05/29/25 14:03 ABM	105	50.4	94.7	69.5 - 130.4		20	M193994
Matrix Spike	150		0.390	0.515	05/29/25 14:10 ABM	105	50.4	94.7	69.5 - 130.4			M193994

**Preparation Procedures - Quality Control**

Result	Units	Notes	MDL	SQL	Analyzed	Spike Amount	Source Result	%R	%R Limits	RPD	RPD Limit	Batch
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**Analytical Report**  
 Bee Cave Drilling  
 6/8/25 11:19  
 1014373

Sample	Result	Units	Notes	Preparation Procedures - Quality Control				Spike Amount	Source Result	%R	%R Limits	RPD	RPD Limit	Batch
				MDL	SOL	Analyzed	Lab							
<b>Turbidity - SM2130 B 2011</b>														
Initial Cal Check	10	NTU				01/09/25 10:10 ABM	Bryan	10.8		92.2	90 - 110			2501097
Low Cal Check	1.2	NTU				01/09/25 10:10 ABM	Bryan	1.00		124	70 - 130			2501097

**Sample Preparation Summary**

Sample	Method	Prepared	Lab	Bottle	Initial	Units	Final	Units	External Dilution Factor	Batch
<b>1014373-01</b>										
Aluminum	EPA 200.8 R5.4	5/27/25 9:55 ABM	Bryan	E	10.0	mL	10.2	mL	1	M193994
Arsenic	EPA 200.8 R5.4	5/27/25 9:55 ABM	Bryan	E	10.0	mL	10.2	mL	1	M193994
Calcium	EPA 200.7 R4.4	5/20/25 13:00 ABM	Bryan	E	10.0	mL	10.2	mL	1	M193719
Copper	EPA 200.8 R5.4	5/27/25 9:55 ABM	Bryan	E	10.0	mL	10.2	mL	1	M193994
Fluoride	SM4500-F C 2011	5/20/25 7:51 ATG	Bryan	D	25.0	mL	25.0	mL	1	M193705
Iron	EPA 200.7 R4.4	5/20/25 13:00 ABM	Bryan	E	10.0	mL	10.2	mL	1	M193717
Manganese	EPA 200.8 R5.4	5/27/25 9:55 ABM	Bryan	E	10.0	mL	10.2	mL	1	M193994
Nitrate/Nitrite as N	SM4500-NO3-F 2011	5/21/25 7:23 CTG	Bryan	G	10.0	mL	10.0	mL	1	M193747
Nitrite as N	SM4500 NO2- B 2011	5/15/25 9:30 MSA	Austin	F	25.0	mL	25.0	mL	1	M193527
Potassium	EPA 200.7 R4.4	5/20/25 13:00 ABM	Bryan	E	10.0	mL	10.2	mL	1	M193717
Sodium	EPA 200.7 R4.4	5/20/25 13:00 ABM	Bryan	E	10.0	mL	10.2	mL	1	M193719
Total Alkalinity as CaCO3 (pH4.5)	SM2320 B 2011	5/16/25 7:00 MSA	Austin	C	50.0	mL	200	mL	1	M193568
Total Dissolved Solids	SM2540 C 2015	5/19/25 13:36 KHA	Austin	F	50.0	mL	100	mL	1	M193691
Turbidity	SM2130 B 2011	5/20/25 9:41 ATG	Bryan	E	10.0	mL	10.0	mL	1	M193708
Zinc	EPA 200.8 R5.4	5/27/25 9:55 ABM	Bryan	E	10.0	mL	10.2	mL	1	M193994

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 6/8/25 11:19  
 Report Printed:  
 1014373

**Chain-of-Custody Summary**  
 The following record summarizes custody for work orders sampled by Aqua-Tech Laboratories, Inc. personnel on route.  
 Original signatures are kept on file by Aqua-Tech Laboratories, Inc. and are available upon request.

**WORK ORDER 1014373**

Cooler ID	Temperature °C	Condition Good?	On Ice?	Preservation Correct?	Custody Maintained by ATL?	See comments below or comments and qualifiers with analytical results explaining any "No" answers.	
T005	2.2	Yes	Yes	Yes	Yes		
<b>1014373-01</b>	Grab	Sampling Begun: 5/14/25 9:12			Sampling Ended: 5/14/25 9:12		
Container & Description		pH Checks / Comments		Container & Description		pH Checks / Comments	
A	[SUB] ANA CI SO4 0.25LP		B	[SUB] ANA 0.5LP HNO3		C	ALK 0.25LP
D	FI 0.5LP		E	Metals 0.5LP HNO3		F	NO2 TDS 0.5LP
G	NO3 0.1LP H2SO4			pH<2			
Sampled & Submitted to Lab by: Ana Garza (Route Driver)		Received: 5/14/25 14:10 By Ana Garza (Austin)					

Project  
**1147807**

## AQU1-G

AquaTech Laboratories  
John Brien  
635 Phil Gramm Blvd.  
Bryan, TX 77807-9104

Printed 05/23/2025  
15:50

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I014373

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1147807_r03_03_ProjectResults	SPL Kilgore Project P:1147807 C:AQU1 Project Results t:304 PO: I014373	2
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1147807_r03_06_M_ProjectTRRP	SPL Kilgore Project P:1147807 C:AQU1 Project TRRP Results Report for Class M	2
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# SAMPLE CROSS REFERENCE

Project  
**1147807**

Printed 5/23/2025 Page 1 of 1  
 1014373

AquaTech Laboratories  
 John Brien  
 635 Phil Gramm Blvd.  
 Bryan, TX 77807-9104

Sample	Sample ID	Taken	Time	Received
2409045	1014373-01	05/14/2025	09:12:00	05/16/2025

- Bottle 01 Client supplied plastic
- Bottle 02 16 oz HNO3 Metals Plastic
- Bottle 03 Prepared Bottle: ICP Preparation for Metals (Batch 1175846) Volume: 50.00000 mL <== Derived from 02 ( 50 ml )
- Bottle 04 Prepared Bottle: ICP Preparation for Metals (Batch 1175846) Volume: 50.00000 mL <== Derived from 02 ( 50 ml )
- Bottle 05 Prepared Bottle: ICP Preparation for Metals (Batch 1175846) Volume: 50.00000 mL <== Derived from 02 ( 50 ml )

Method	Bottle	PrepSet	Preparation	QcGroup	Analytical
EPA 300.0 2.1	01	1176280	05/16/2025	1176280	05/16/2025
EPA 300.0 2.1	01	1176890	05/22/2025	1176890	05/22/2025
EPA 200.7 4.4	03	1175846	05/19/2025	1175918	05/19/2025

Email: [Kilgore.ProjectManagement@spllabs.com](mailto:Kilgore.ProjectManagement@spllabs.com)

Report Page 2 of 12



**AQU1-G**

AquaTech Laboratories  
 John Brien  
 635 Phil Gramm Blvd.  
 Bryan, TX 77807-9104

Project  
**1147807**

Printed: 05/23/2025

I014373

**RESULTS**

**Sample Results**

<b>2409045</b>	<b>I014373-01</b>					Received:	05/16/2025
Drinking Water	Collected by: Client	AquaTech Laboratorie				PO:	I014373
	Taken: 05/14/2025	09:12:00					
<hr/>							
EPA 200.7.4.4		Prepared:	1175846	05/19/2025	06:20:00	Analyzed	1175918 05/19/2025 10:49:00 CAS
ELAC	Parameter	Results	Units	RL	Flags	CAS	Bottle
	Magnesium, Total	74.4	mg/L	0.500		7439-95-4	03
<hr/>							
EPA 300.0.2.1		Prepared:	1176280	05/16/2025	19:50:00	Analyzed	1176280 05/16/2025 19:50:00 KR-1
ELAC	Parameter	Results	Units	RL	Flags	CAS	Bottle
	Chloride	48.6	mg/L	3.00			01
<hr/>							
EPA 300.0.2.1		Prepared:	1176890	05/22/2025	12:27:00	Analyzed	1176890 05/22/2025 12:27:00 KR-1
ELAC	Parameter	Results	Units	RL	Flags	CAS	Bottle
	Sulfate	531	mg/L	30.0	D		01

**Sample Preparation**

<b>2409045</b>	<b>I014373-01</b>					Received:	05/16/2025
	05/14/2025						I014373
<hr/>							
		Prepared:	05/16/2025	11:17:31	Calculated	05/16/2025	11:17:31 CAL
	Enviro Fee (per Sampling Group)	Verified					
<hr/>							
EPA 200.2.2.8		Prepared:	1175846	05/19/2025	06:20:00	Analyzed	1175846 05/19/2025 06:20:00 MPI
	Liquid Metals Digestion	50/50	ml				02





## AQU1-G

AquaTech Laboratories  
John Brien  
635 Phil Gramm Blvd.  
Bryan, TX 77807-9104

Project  
**1147807**

Printed: 05/23/2025

Qualifiers:

D - Duplicate RPD was higher than expected

We report results on an As Received (or Wet) basis unless marked Dry Weight.

Unless otherwise noted, testing was performed at SPL, Inc., Kilgore laboratory which holds International, Federal, and state accreditations. Please see our Websites for details.

(N)ELAC - Covered in our NELAC scope of accreditation  
z -- Not covered by our NELAC scope of accreditation

These analytical results relate to the sample tested. This report may NOT be reproduced EXCEPT in FULL without written approval of SPL Kilgore. Unless otherwise specified, these test results meet the requirements of NELAC. RL is the Reporting Limit (sample specific quantitation limit) and is at or above the Method Detection Limit (MDL), CAS is Chemical Abstract Service number. RL is our Reporting Limit, or Minimum Quantitation Level. The RL takes into account the Instrument Detection Limit (IDL), Method Detection Limit (MDL), and Practical Quantitation Limit (PQL), and any dilutions and/or concentrations performed during sample preparation (EQL). Our analytical result must be above this RL before we report a value in the 'Results' column of our report (without a 'J' flag). Otherwise, we report ND (Not Detected above RL), because the result is "<" (less than) the number in the RL column. MAL is Minimum Analytical Level and is typically from regulatory agencies. Unless we report a result in the result column, or interferences prevent it, we work to have our RL at or below the MAL.

**Bill Peery, MS, VP Technical Services**





# RESULTS

**AQU1**

Project  
**1147807**

Printed 05/23/2025  
 1014373

AquaTech Laboratories  
 John Brien  
 635 Phil Gramm Blvd.  
 Bryan, TX 77807-9104

Drinking Water

Ion Chromatography

EPA 300.0.2.1

CAS 2409045 1014373-01  
 Parameter Results MDL SDL MOL MOLAdj Flag Units Target Bottle Dilute  
 Collection: 05/14/2025 09:12:00 Client Received: 05/16/2025

Prepared:	1176280	Analyzed:	1176280	5/16/25	19:50:00	01	10.00
Chloride	48.6	0.0593	0.300	3.00	mg/L	Secondary Standard	
Prepared:	1176890 <td>Analyzed:</td> <td>1176890 <td>5/22/25 <td>12:27:00 <td>01 <td>100.00</td> </td></td></td></td>	Analyzed:	1176890 <td>5/22/25 <td>12:27:00 <td>01 <td>100.00</td> </td></td></td>	5/22/25 <td>12:27:00 <td>01 <td>100.00</td> </td></td>	12:27:00 <td>01 <td>100.00</td> </td>	01 <td>100.00</td>	100.00
Sulfate	531	0.0605	0.300	30.0	D mg/L	Secondary Standard	

MDL is Method Detection Limit (4σ CFR 136 Appendix B)  
 MOL is the Method Quantitation Limit and corresponds to a low standard

SDL is Sample Detection Limit and is the adjusted MDL (sample specific dilutions, dry weight)  
 MOLADJ is the Adjusted Method Quantitation Limit (dilutions, dry weight)

Email: Kilgore.ProjectManagement@spllabs.com

2600 Dudley Rd. Kilgore, Texas 75662  
24 Waterway Avenue, Suite 375 The Woodlands, TX 77380  
Office: 903-984-0551 \* Fax: 903-984-5914

# RESULTS

## AQU1

AquaTech Laboratories  
John Brien  
635 Phil Gramm Blvd.  
Bryan, TX 77807-9104

Qualifiers:

D - Duplicate RPD was higher than expected

We report results on an As Received (or Wet) basis unless marked Dry Weight.

Unless otherwise noted, testing was performed at SPL, Inc., Kilgore laboratory which holds International, Federal, and state accreditations. Please see our Websites for details.

(N)ELAC - Covered in our NELAC scope of accreditation

Z - Not covered by our NELAC scope of accreditation

These analytical results relate to the sample tested. This report may NOT be reproduced EXCEPT in FULL without written approval of SPL Kilgore. Unless otherwise specified, these test results meet the requirements of NELAC.

*Bill Peery*

Bill Peery, MS, VP Technical Services



Project  
1147807

Page 2 of 2

Printed 05/23/2025  
1014373

Email: Kilgore.ProjectManagement@spllabs.com



# RESULTS

## AQU1

Project  
**1147807**

Printed 05/23/2025  
 1014373

AquaTech Laboratories  
 John Brien  
 635 Phil Gramm Blvd.  
 Bryan, TX 77807-9104

CAS	Parameter	Results	MDL	SDL	MOL	MOLAdj	Flag	Units	Target	Bottle	Dilute
2409045	Drinking Water									EPA 200.7.4.4	
	1014373-01										

Prepared: 1175846

Collection: 05/14/2025 09:12:00 Client Received: 05/16/2025

7439-95-4	Magnesium, Total	74.4	0.00367	0.00367	0.500	0.500		mg/L	10:49:00	03	1.00
-----------	------------------	------	---------	---------	-------	-------	--	------	----------	----	------

MDL is Method Detection Limit (40 CFR 136 Appendix B) SDL is Sample Detection Limit and is the adjusted MDL (sample specific dilutions, dry weight)  
 MOL is the Method Quantitation Limit and corresponds to a low standard MOLAdj is the Adjusted Method Quantitation Limit (dilutions, dry weight)

- Qualifiers:
- D - Duplicate RPD was higher than expected
- We report results on an As Received (or Wet) basis unless marked Dry Weight.
- Unless otherwise noted, testing was performed at SPL, Inc. - Kilgore laboratory which holds International, Federal, and state accreditations. Please see our Websites for details.
- (NRELAC - Covered in our NRELAC scope of accreditation  
 z - Not covered by our NRELAC scope of accreditation)
- These analytical results relate to the sample tested. This report may NOT be reproduced EXCEPT in FULL without written approval of SPL Kilgore. Unless otherwise specified, these test results meet the requirements of NRELAC.

Email: Kilgore.ProjectManagement@spllabs.com

2600 Dudley Rd. Kilgore, Texas 75662  
24 Waterway Avenue, Suite 375 The Woodlands, TX 77380  
Office: 903-984-0551 \* Fax: 903-984-5914

# RESULTS

AQU1

AquaTech Laboratories  
John Brien  
635 Phil Gramm Blvd.  
Bryan, TX 77807-9104

*Bill Peery*

Bill Peery, MS, VP Technical Services



**SPL**  
The Science of Sure

Page 2 of 2

Project  
**1147807**

Printed 05/23/2025  
1014373

Email: Kilgore.ProjectManagement@spllabs.com

# QUALITY CONTROL



**SPL**  
The Science of Sure

## AQU1-G

AquaTech Laboratories  
John Brien  
635 Phil Gramm Blvd.  
Bryan, TX 77807-9104

Project  
**1147807**

Printed 05/23/2025

EPA 300.0 2.1

Analytical Set 1176280

Blank											
Parameter	PrepSet	Reading	MDL	MQL	Units	File					
Chloride	1176280	ND	0.0593	0.300	mg/L	127625852					
CCB											
Parameter	PrepSet	Reading	MDL	MQL	Units	File					
Chloride	1176280	0	0.0593	0.300	mg/L	127625848					
Chloride	1176280	0	0.0593	0.300	mg/L	127625861					
Chloride	1176280	0.029	0.0593	0.300	mg/L	127625872					
CCV											
Parameter		Reading	Known	Units	Recover <sup>o</sup>	Limits <sup>o</sup>	File				
Chloride		9.73	10.0	mg/L	97.3	90.0 - 110	127625847				
Chloride		10.7	10.0	mg/L	107	90.0 - 110	127625860				
Chloride		9.94	10.0	mg/L	99.4	90.0 - 110	127625871				
LCS Dup											
Parameter	PrepSet	LCS	LCSD	Known	Limits <sup>o</sup>	LCS <sup>o</sup>	LCSD <sup>o</sup>	Units	RPD	Limit <sup>o</sup>	
Chloride	1176280	5.08	5.13	5.00	85.0 - 115	102	103	mg/L	0.979	20.0	
MSD											
Parameter	Sample	MS	MSD	UNK	Known	Limits	MS <sup>o</sup>	MSD <sup>o</sup>	Units	RPD	Limit <sup>o</sup>
Chloride	2407678	497	497	403	100	80.0 - 120	94.0	94.0	mg/L	0	20.0
Chloride	2407697	471	489	406	100	80.0 - 120	65.0 *	83.0	mg/L	24.3 *	20.0

EPA 300.0 2.1

Analytical Set 1176890

Blank											
Parameter	PrepSet	Reading	MDL	MQL	Units	File					
Sulfate	1176890	ND	0.0605	0.300	mg/L	127638236					
CCB											
Parameter	PrepSet	Reading	MDL	MQL	Units	File					
Sulfate	1176890	0	0.0605	0.300	mg/L	127638232					
Sulfate	1176890	0	0.0605	0.300	mg/L	127638252					
Sulfate	1176890	0	0.0605	0.300	mg/L	127638262					
CCV											
Parameter		Reading	Known	Units	Recover <sup>o</sup>	Limits <sup>o</sup>	File				
Sulfate		9.06	10.0	mg/L	90.6	90.0 - 110	127638231				
Sulfate		9.37	10.0	mg/L	93.7	90.0 - 110	127638251				
Sulfate		9.43	10.0	mg/L	94.3	90.0 - 110	127638261				
LCS Dup											
Parameter	PrepSet	LCS	LCSD	Known	Limits <sup>o</sup>	LCS <sup>o</sup>	LCSD <sup>o</sup>	Units	RPD	Limit <sup>o</sup>	
Sulfate	1176890	4.65	4.68	5.00	85.4 - 124	93.0	93.6	mg/L	0.643	20.0	
MSD											
Parameter	Sample	MS	MSD	UNK	Known	Limits	MS <sup>o</sup>	MSD <sup>o</sup>	Units	RPD	Limit <sup>o</sup>

Email: [Kilgore.ProjectManagement@spllabs.com](mailto:Kilgore.ProjectManagement@spllabs.com)



Report Page 9 of 12

# QUALITY CONTROL



**SPL**  
The Science of Sure

## AQU1-G

AquaTech Laboratories  
John Brien  
635 Phil Gramm Blvd.  
Bryan, TX 77807-9104

**Project**  
**1147807**

Printed 05/23/2025

MSD											
Parameter	Sample	MS	MSD	UNK	Known	Limits	MS%	MSD%	Units	RPD	Limit%
Sulfate	2409045	616	642	531	100	80.0 - 120	85.0	111	mg/L	26.5 *	20.0
Sulfate	2409277	34.3	34.5	26.1	10.0	80.0 - 120	82.0	84.0	mg/L	2.41	20.0

EPA 200.7 4.4

Analytical Set 1175918

Blank											
Parameter	PrepSet	Reading	MDL	MDL	Units	File					
Magnesium, Total	1175846	ND	0.00367	0.500	mg/L	127618904					

CCV											
Parameter	Reading	Known	Units	Recover%	Limits%	File					
Magnesium, Total	24.9	25.0	mg/L	99.6	90.0 - 110	127618902					
Magnesium, Total	24.8	25.0	mg/L	99.2	90.0 - 110	127618903					
Magnesium, Total	24.9	25.0	mg/L	99.6	90.0 - 110	127618913					
Magnesium, Total	24.9	25.0	mg/L	99.6	90.0 - 110	127618923					

ICL											
Parameter	Reading	Known	Units	Recover%	Limits%	File					
Magnesium, Total	50.1	50.0	mg/L	100	95.0 - 105	127618896					

ICV											
Parameter	Reading	Known	Units	Recover%	Limits%	File					
Magnesium, Total	25.2	25.0	mg/L	101	90.0 - 110	127618900					

LCS Dup											
Parameter	PrepSet	LCS	LCSD	Known	Limits%	LCS%	LCSD%	Units	RPD	Limit%	
Magnesium, Total	1175846	5.15	5.12	5.00	85.0 - 115	103	102	mg/L	0.584	25.0	

LDR											
Parameter	Reading	Known	Units	Recover%	Limits%	File					
Magnesium, Total	103	100	mg/L	103	90.0 - 110	127618897					

MRL Check											
Parameter	Reading	Known	Units	Recover%	Limits%	File					
Magnesium, Total	0.505	0.500	mg/L	101	25.0 - 175	127618901					

MSD											
Parameter	Sample	MS	MSD	UNK	Known	Limits	MS%	MSD%	Units	RPD	Limit%
Magnesium, Total	2409045	78.6	78.9	74.4	5.00	75.0 - 125	84.0	90.0	mg/L	6.90	25.0

\* Out RPD is Relative Percent Difference:  $\frac{\text{abs}(r1-r2)}{\text{mean}(r1,r2)} * 100\%$

Recover% is Recovery Percent:  $\frac{\text{result}}{\text{known}} * 100\%$

Blank - Method Blank (reagent water or other blank matrices that contains all reagents except standard(s) and is processed simultaneously with and under the same conditions as samples; carried through preparation and analytical procedures exactly like a sample; monitors); CCV - Continuing Calibration Verification (same standard used to prepare the curve; typically a mid-range concentration, verifies the continued validity of the calibration curve); MSD - Matrix Spike Duplicate (replicate of the matrix spike; same solution and amount of target analyte added to the MS is added to a third aliquot of sample; quantifies matrix bias and precision.); ICV - Initial Calibration Verification; LCS Dup - Laboratory Control Sample Duplicate (replicate LCS; analyzed when there is insufficient sample for duplicate or MSD; quantifies accuracy and precision.); LDR - Linear Dynamic Range Standard; MRL Check - Minimum Reporting Limit Check Std; CCB - Continuing Calibration Blank; AWRL/LOQ C - Ambient Water Reporting Limit/LOQ Check Std

Email: [Kilgore.ProjectManagement@spllabs.com](mailto:Kilgore.ProjectManagement@spllabs.com)



Report Page 10 of 12

1147807 CoC Print Group 001 of 001



ATL - Bryan Facility:  
635 Phil Gramm Blvd.  
Bryan, TX 77807  
(979) 778-3707  
Fax (979) 778-3193

ATL - Austin Facility:  
3512 Montopolis Drive  
Austin, TX 78744  
(512) 301-9559  
Fax (512) 301-9552

Chain-of-Custody & Analysis Request



T104704371

SHIPPED TO:  
SPL-Kilgore (T104704201)  
2600 Dudley Road  
Kilgore, TX 75662  
Phone: (903) 984-0551  
Fax: (903) 984-5914

C-O-C #  
**458 - 1014373**

Page 1 of 1

All analyses must be performed by a TNI approved method certified by the TCEQ. Contact ATL's sample custodian via voice and email if your methods do not meet this criteria.

Analysis Request for:	Sample ID: 1014373-01	Sampled: 05/14/25 09:12	Matrix: Drinking Water	Laboratory ID: 2409015
Mg - EPA 200.7 R4.4	Chloride - EPA 300.0	SO4 DW - EPA 300.0		
<b>CONTAINERS SUPPLIED:</b> (ATL indicates cooler number in parentheses for each container - only required if more than one cooler listed below.) ( ) 1014373-01 [A] - [SUB] ANA CI SO4 0.25LP      ( ) 1014373-01 [B] - [SUB] ANA 0.5LP HNO3				

Relinquished by: (print & sign) <b>Kristin Torres</b> <i>Kristin Torres</i>	<input checked="" type="checkbox"/> ATL-Austin <input type="checkbox"/> ATL-Bryan <input type="checkbox"/> Sampler	Date 5-15-25	Time 1600	<input checked="" type="checkbox"/> Iced <input checked="" type="checkbox"/> Custody Sealed <input type="checkbox"/> Not Chilled	Abbreviations: DW - Drinking Water    SP - Sterile Plastic NP - Non-Potable Water    LP - Liter Plastic S - Solid    LG - Liter Glass CTU - Custody Transfer Unbroken
Carrier & Tracking Number <b>Fed Ex</b>	Cooler 1: AQU1 7724 7015 1499	Sample Info *X* all that apply			<b>Aqua-Tech Comments and Special Instructions</b>  Use sample ID as PO# Need new 2010 MALs. Please J Flag metals < MRL & note all metals < MDL on reports.  <b>Do not further sub-contract any analysis. Keep in house or call for further instructions.</b>
Received by: (print & sign) <b>McCabe Wheeler - SPL, Inc.</b> <i>MCC</i>	Date 5/16/25	Time 1930	<input checked="" type="checkbox"/> Received Iced <input checked="" type="checkbox"/> CTU <input checked="" type="checkbox"/> Condition Good <input type="checkbox"/> Not Rec'd Iced		
Line below documents condition at receipt in lab (shipped to) listed above.				Please email reports to: reporting@aquatechlabs.com	
Cooler Temperature (°C)	Temp. Read (TR)	Corrected Temp. (CT)	Thermometer ID	Please return cooler(s) to: <b>Austin Facility</b>	
Cooler 1					
N/A	N/A	N/A			

1147807 CoC Print Group 001 of 001

ORIGIN ID:AUSA (512) 301-9559  
SUZANNE RUDD  
AQUA- TECH LAB  
3512 MONTOPOLIS DR.  
SUITE A  
AUSTIN, TX 78735  
UNITED STATES US

4766 FRI 05/16 08:16 5165126  
TX 75662  
341.342.344.345.353  
300-0  
ETP: 1  
1002826042260007666200772470161460  
BILL-SENDER

TO LOGIN - SAMPLES  
ANA-LAB - SPL CORP  
2600 DUDLEY RD

KILGORE TX 75662

(903) 984-0551 MENO  
NW DEPT  
PO



WED - 05 MAR 10:30A

18 of 20

MPS#

FedEx

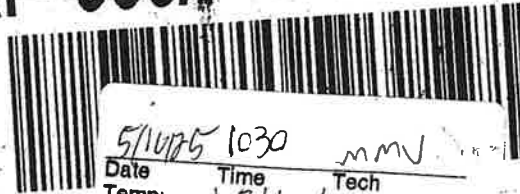
MP-S# 0263 7724 7015 1499

PRIORITY OVERNIGHT  
FRI - 16 MAY AA

XP GGGA

75662

TX-US  
SHV



5/16/05 1030 mmv  
Date Time Tech

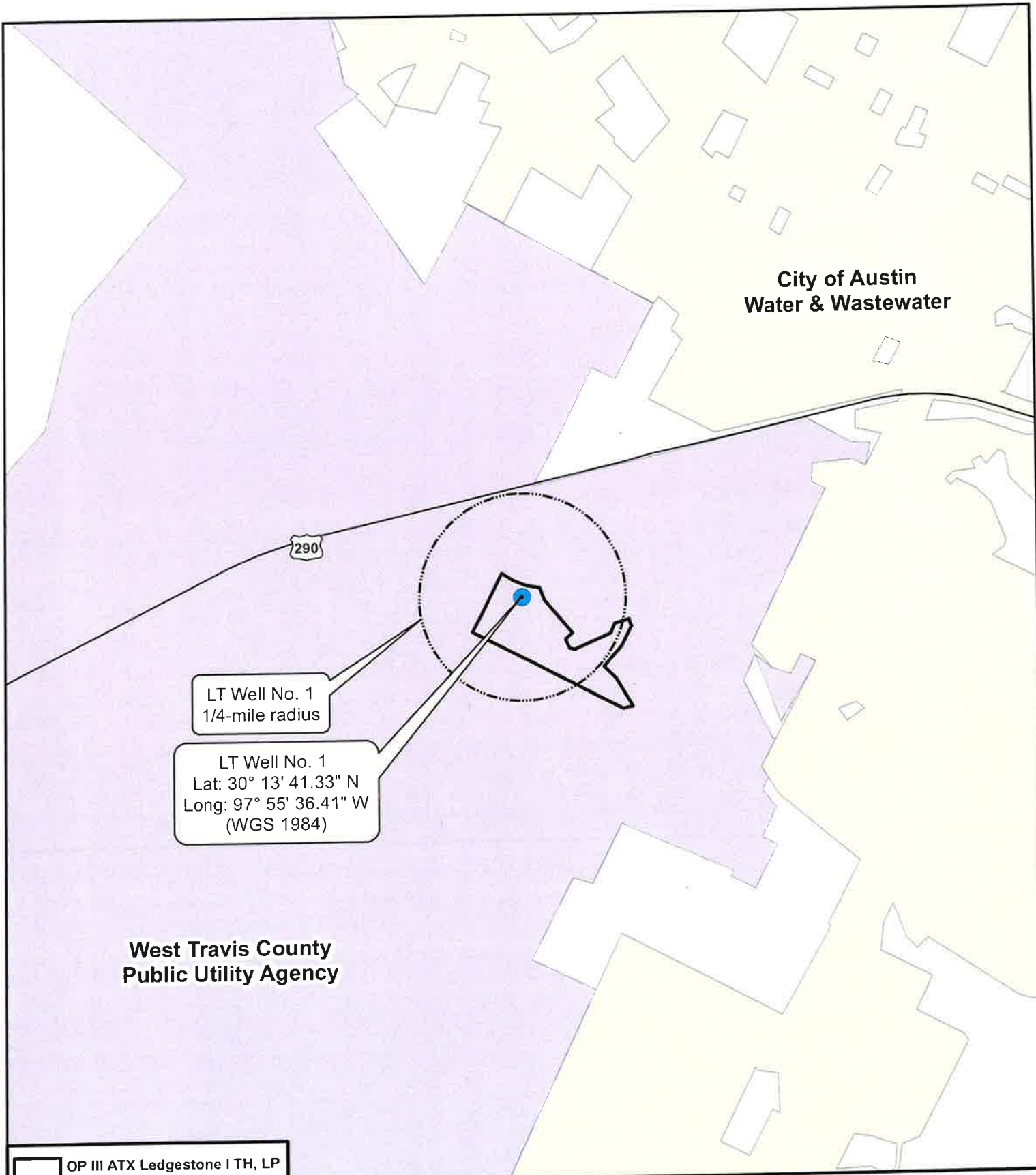
Temp: 1.3/1.4 C

4002629 15May

Therm#: 6205 Corr Fact: 0.1 C

## *8 – Public Notice Contact List/Maps*





**City of Austin  
Water & Wastewater**

290

LT Well No. 1  
1/4-mile radius

LT Well No. 1  
Lat: 30° 13' 41.33" N  
Long: 97° 55' 36.41" W  
(WGS 1984)

**West Travis County  
Public Utility Agency**

 OP III ATX Ledgestone I TH, LP

Scale: 0 750 1,500 Feet

Drawn By: AW Date: 6-26-25

Quad Name and No:  
Signal Hill, TX 30097-B8

Projection: UTM NAD 83 Z 14

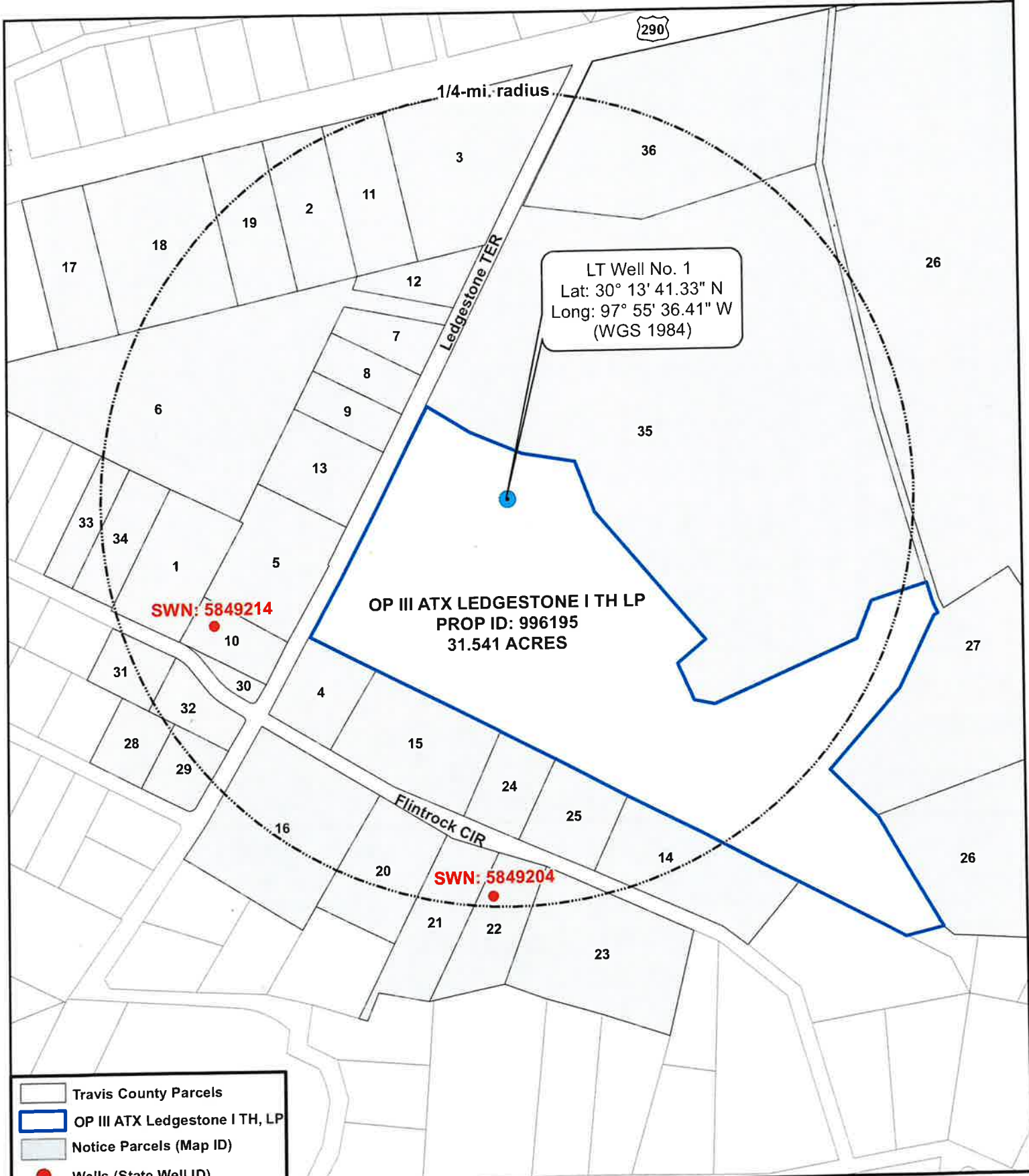


**Ledgestone Townhomes Well No. 1: Water Supply Notice Map**

**9021 West 290  
Ledgestone Townhomes**  
OP III ATX Ledgestone I TH, L.P.  
Travis County, Texas



**Wet Rock Groundwater Services, L.L.C.**  
Groundwater Specialists  
TBPG Firm No: 50038  
317 Ranch Road 620 South, Ste. 303  
Austin, Texas 78734 Ph: 512.773.3226  
www.wetrockgs.com



- Travis County Parcels
- OP III ATX LedgeStone I TH, LP
- Notice Parcels (Map ID)
- Wells (State Well ID)

Scale: 0 200 400 Feet

Drawn By: AW Date: 6-26-25

Quad Name and No:  
Signal Hill, TX 30097-B8

Projection: UTM NAD 83 Z 14



**LedgeStone Townhomes Well No. 1: Public Notice Map**

9021 West 290  
LedgeStone Townhomes  
OP III ATX LedgeStone I TH, L.P.  
Travis County, Texas



**Wet Rock Groundwater Services, L.L.C.**  
Groundwater Specialists  
TBPG Firm No: 50038  
317 Ranch Road 620 South, Ste. 303  
Austin, Texas 78734 Ph: 512.773.3226  
www.wetrockgs.com

**List of Public Water Suppliers within 1/4-Mile of Proposed Well**

1. West Travis County Public Utility Agency  
Mailing Address: 13215 Bee Cave Pkwy, Ste B110 Austin, TX 78738-0055
  
2. City of Austin Water and Wastewater  
Mailing Address: PO Box 1088 Austin, TX 78767-1088

**List of Property Owners within 1/4-Mile of Proposed Well**

The list below was taken from the Travis County Appraisal District Database

Map ID	Property ID	Geo ID	Owner	Mailing Address
1	315483	410580303	SCHMIT MATTHEW	9608 LEDGESTONE TER , AUSTIN, TX 78737
2	315490	410580310	REVERSE COWBOY PRODUCTIONS LLC	140 VINCAS SHADOW CT , DRIFTWOOD, TX 78619
3	315492	410580312	AUSTIN HWY 290 RE LLC	12826 MURPHY RD STAFFORD TX 77477
4	315480	410580201	ZIEGLER SEAN & AMY ZIEGLER	9604 FLINTROCK CIR , AUSTIN, TX 78737
5	315481	410580301	BOLICK KARL MARTIN	9600 LEDGESTONE TER , AUSTIN, TX 78737
6	315494	410580314	MODGLIN KIRK	9304 LEDGESTONE TERR , AUSTIN, TX 78737
7	315495	410580315	HUDSON CHARLES B	6004 KRAUSE LN , AUSTIN, TX 78738
8	315496	410580316	CHRON AMBER	9400 LEDGESTONE TER , AUSTIN, TX 78737
9	315497	410580317	KOHLER MARC DAVID & ANDREA BAC	ANDREA BACHUS KOHLER 9404 LEDGESTONE TER, AUSTIN, TX 78737
10	315482	410580302	WARD HECTOR STEVEN & THOMAS WARD JR & LOURDES WARD	9606 LEDGESTONE TERR , AUSTIN, TX 78737
11	315491	410580311	9217 WEST LLC	2203 BIG HORN DR , AUSTIN, TX 78734
12	315493	410580313	MAXMILE TECHNOLOGIES LLC	10623 WINCHELSEA DR , AUSTIN, TX 78750
13	315498	410580318	MIYASAKI ROY A & JUANITA	9500 LEDGESTONE TER , AUSTIN, TX 78737
14	319192	412550107	HEDRICK TERRY JO	9400 FLINTROCK CIR , AUSTIN, TX 78737
15	319201	412580103	WATSON ROBERT P & PEGGY	9506 FLINTROCK CIR , AUSTIN, TX 78737
16	319203	412580201	SCARIANO GEORGE & JENNIFER A	9603 FLINTROCK CIR , AUSTIN, TX 78737
17	315486	410580306	9409 HWY 290 LLC	2121 LOHMANS CROSSING RD STE 504-166 LAKEWAY TX 78734
18	315488	410580308	SITEPRO RENTALS INC	2025 W BELT LINE RD STE 130 , CARROLLTON, TX 75006
19	315489	410580309	9301 HWY 290 LLC	2005 RIVER HILLS RD , AUSTIN, TX 78733
20	319204	412580202	PERKINS JENNIFER HAMPTON &	BRIAN DAVID PERKINS 9104 HONEYCOMB DR APT B, AUSTIN, TX 78737
21	319205	412580203	LAMB DONALD L & JAMELYN A	9507 FLINTROCK CIR , AUSTIN, TX 78737
22	319206	412580204	WITTEBORT RONALD A &	MARIA VIRGINIA WITTEBORT 9503 FLINTROCK CIR, AUSTIN, TX 78737
23	319207	412580205	KOSTETSKY NICHOLAS	9405 FLINTROCK CIR , AUSTIN, TX 78737
24	319200	412580102	SOMMERS GEORGE & MARJORIE	9504 FLINTROCK CIR , AUSTIN, TX 78737
25	319199	412580101	PELAEZ ANDRES & ARINA CELINA	9500 FLINTROCK CIR , AUSTIN, TX 78737



26	324458	415570136	OP III ATX LEDGESTONE II LP	500 W 5TH ST STE 700 AUSTIN TX 78701
27	324461	415570139	BEGGS ROBERT K	8929 HIGHWAY 290 W , AUSTIN, TX 78736
28	532071	412580602	MCINVALE MELANIE SUE & DARREN LANDIS	9708 PEAKRIDGE DR , AUSTIN, TX 78737
29	532070	412580601	MERCER JAMES LOUIS JR & WANDA LEE	9700 PEAKRIDGE DR , AUSTIN, TX 78737
30	531970	410580321	LEDGESTONE TERRACE PROPERTY OWNERS ASSOCIATION INC	115 WILD BASIN RD STE 308, WEST LAKE HILLS, TX 78746
31	531980	410580404	SHANNON TRACY ADA & MALI RENEE LONG	9713 FLINTROCK CIR , AUSTIN, TX 78737
32	531981	410580405	LEE CHERRY CRAIG & JOSEPH JASON LEE	9701 FLINTROCK CIR , AUSTIN, TX 78737
33	953908	410580336	STRATTON STEPHEN A	2517 IONIAN CV , AUSTIN, TX 78730
34	953907	410580335	MURPHY KELLEY & BRYAN MURPHY	8701 COPANO DR , AUSTIN, TX 78749
35	996196	415570194	OP III ATX LEDGESTONE I LP	500 W 5TH ST STE 700 AUSTIN TX 78701
36	996181	407570601	OP III ATX LEDGESTONE I RETAIL LP	500 W 5TH ST STE 700 AUSTIN TX 78701

