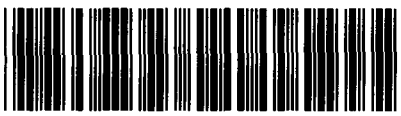

Control Number: 46948

Item Number: 26

Addendum StartPage: 0

SOAH DOCKET NO. 473-17-5930.WS
PUC DOCKET NO. 46948

APPLICATION OF VINEYARD RIDGE, LLC TO OBTAIN A WATER CERTIFICATE OF CONVENIENCE AND NECESSITY IN GILLESPIE COUNTY	§ § § § § § § § § §	**PUBLIC UTILITY COMMISSION OF TEXAS**

JOHN MCRAE'S RESPONSE TO APPLICANT VINEYARD RIDGE, LLC'S MOTION TO RECONSIDER ORDER NO. 6 GRANTING JOHN MCRAE'S MOTION TO INTERVENE AND REQUEST FOR A PUBLIC HEARING; AND ORDER REFERRING THE DOCKET TO SOAH

TO THE HONORABLE ADMINISTRATIVE LAW JUDGE:

Comes now, John McRae (McRae) and files this Response to Applicant, Vineyard Ridge, LLC's Motion to Reconsider Order No. 6 Granting John McRae's Motion to Intervene and Request for a Public Hearing; and Order Referring the Docket to the State Office of Administrative Hearings (SOAH) (hereinafter Applicant's Motion) and would show the following:

I. BACKGROUND

On March 15, 2017, Vineyard Ridge, LLC (Applicant) filed its Application with the Public Utility Commission (the Commission) for a new water certificate of convenience and necessity (CCN) in Gillespie County (the Application). By its Order No. 5, the Commission set August 11, 2017 as the deadline for intervention. On August 11, 2017, McRae timely filed his Motion to Intervene and Request for Public Hearing, which the Commission granted by its Order No. 6 on August 29, 2017. The Commission the next day issued its Order of Referral, referring this docket to SOAH to conduct a hearing and issue a proposal for decision if necessary to resolve any issues contested by the parties.

On September 14, 2017, Applicant filed Applicant's Motion. Applicant argues that McRae is not an affected person and requests that the Commission's Order No. 6 and Order of

Referral be withdrawn with new orders rendered denying McRae's Motion to Intervene and Request for a Public Hearing and rescinding the referral to SOAH.

Contrary to Applicant's arguments, to have standing to intervene, McRae need only show a justiciable interest that may be adversely affected by the outcome of this proceeding. Applicant's groundwater availability determination remains incomplete, as Applicant has not yet conducted the necessary pump tests to complete this Application or its others pending before other agencies. McRae's concerns about groundwater availability for Applicant's subdivision may be borne out by the results of the necessary pump tests, and McRae has therefore alleged the necessary injury, causation, and redressability to show a justiciable interest. The Commission's Orders should therefore remain in effect and McRae should be allowed to proceed to a hearing on the merits of the adequacy of water supply.

McRae received Applicant's Motion on September 14, 2017 and files this response within five working days of receipt.[1] This response is therefore timely filed.

II. DISCUSSION

A. McRae's Property and Wells

Attached hereto as Exhibit A is a true and correct copy of an affidavit executed by John McRae, supporting the statements herein and further evidencing his justiciable interest which may be adversely affected by the outcome of the proceeding.

McRae owns approximately 512 acres of land in two tracts in Gillespie County, "Tract 1" and "Tract 2" as depicted on the maps attached as Exhibit A-1 to the Affidavit of John McRae, attached here as Exhibit A.[2] The southern boundary of Tract 1 lies within one mile of Applicant's Property that is the subject of this Application (Applicant's Property). McRae has owned Tract 1 since 2009 and Tract 2 since 2011.

There are two wells on Tract 1 and one well on Tract 2. The "house well" on Tract 1 was drilled in 1999 and is 202 feet deep, the "windmill well" on Tract 1 was drilled in the 1930s and is 100 feet deep, and the well on Tract 2 was drilled in 1966 and is 184 feet deep. All are

[1] 16 Tex. Admin. Code § 22.78(a) (TAC).
[2] *See* Exhibit A, Affidavit of John McRae, and Exhibit A-1, McRae Property maps.

completed in the Ellenburger-San Saba Aquifer. McRae uses the wells for domestic and livestock watering purposes.

B. To Have Standing, McRae Must Show a Justiciable Interest

Applicant argued McRae lacks standing because he is not an affected person as defined in Commission Rule 24.3(5). Although that rule limits affected persons to landowners within the CCN area, utilities affected by Commission action, a person whose utility service or rates are affected by the proceeding, or a competitor of a utility,[3] the requirements for standing are not so restrictive. The Commission's procedural rules do not tie standing to intervene to the affected-person definition, but rather state that a "person has standing to intervene if that person: . . . has . . . a *justiciable interest which may be adversely affected* by the outcome of the proceeding."[4] The test for whether McRae has standing to intervene is therefore only limited by whether he has a justiciable interest which may be adversely affected by this proceeding.

McRae's concern – his justiciable interest – is the injury Applicant's groundwater pumping could cause to his wells if Applicant is allowed to provide retail utility service to 160 platted subdivision lots if the water supply in the Ellenburger-San Saba Aquifer is inadequate to supply the subdivision. Applicant has drilled two wells, and now must test them pursuant to Title 30 Texas Administrative Code (TAC) Chapter 290 and the permit-application requirements of the Hill Country Groundwater Conservation District (District).[5] However, to McRae's knowledge, Applicant has not yet conducted the 36-hour pump test required by 30 TAC 290.41(c)(3)(A) (pump test). McRae desires the opportunity for his hydrologist to review results of the forthcoming pump test of Applicant's wells to determine what harm the pumping might cause to his wells.

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[3] *See* 16 TAC § 24.3(5).

[4] 16 TAC § 22.103(b)(2) (emphasis added).

[5] *See* 30 Tex. Admin. Code § 290.41(c)(3)(A) (Texas Commission on Environmental Quality, rule requiring public water system to provide results of 36-hour pump test as part of well-completion data) (TAC); Hill Country Underground Water Conservation District Rules, R. 5.6D (requiring pump tests to determine production limits).

C. If the Results of Applicant's Pump Test Show Likely Injury to McRae, McRae Has a Justiciable Interest Which May be Adversely Affected by this Proceeding

1. The Wet Rock Study

Applicant argues that matters of public record, including Applicant's filed subdivision plat, the adequacy-of-water-supply letter from the District, the Wet Rock Study (as defined below), and Applicant's applications to this Commission, the Texas Commission on Environmental Quality (TCEQ), and the District,[6] disprove McRae's allegations of lack of groundwater to serve Applicant's subdivision. Applicant further claims that McRae is using this proceeding as a vehicle to collaterally attack Gillespie County's granting of Applicant's plat.

On the contrary, McRae points out the deficiencies in the county's plat-approval decision because such deficiencies are relevant to groundwater availability and the adequacy of water supply, issues within the jurisdiction of this Commission that also affect McRae's justiciable interest in his wells and the groundwater below his land.[7]

Each of the matters of public record referenced by Applicant depend on the hydrogeologic study commissioned by Applicant and conducted by Wet Rock Groundwater Services, LLC for Applicant, as reported in the Report of Findings Vineyard Ridge Subdivision Groundwater Availability Certification for Platting: Gillespie County, Texas, dated September 2016 (the Wet Rock Study) (attached as Exhibit 8 to Applicant's Motion).

McRae retained a hydrologist, George Rice, who reviewed the Wet Rock Study and concluded the Wet Rock Study overestimated groundwater availability because Wet Rock overlooked the significant drawdown measured during the final four hours of the water well pump test on the House Well, one of the existing water wells on Applicant's Property.

More specifically, the June 2, 2016 pump test failed to establish a sustainable pumping rate prior to conducting the test.[8] Pursuant to the Rice Evaluation, the transmissivity calculation in the Wet Rock Study "overlooked the drawdowns measured during the last four hours of the

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[6] All attached as exhibits to Applicant's Motion.

[7] *See* 16 TAC § 24.102(a)(1)(B) (requiring applicant to have "access to an adequate supply of water . . . .").

[8] *See* Rice Evaluation, at 3.

test."[9] Consequently, "the transmissivity value calculated by Wet Rock will likely result in an over-estimate of groundwater availability."[10] The Rice Evaluation recommends Applicant therefore either "use the last four hours of test data to calculate aquifer transmissivity and estimate groundwater availability, or [] perform a longer aquifer test to better determine how the aquifer will response to long-term pumping."[11]

In addition to the problematic conclusion that there is adequate groundwater available for the subdivision, the results of the Wet Rock Study show that Gillespie County approved the plat without fully complying with its subdivision regulations.[12] Pursuant to the Subdivision Rules, "sufficient quantity of groundwater is defined as meeting or exceeding a sustainable well production capacity of ten (10) gallons per minute per lot after full build-out . . . . For those areas where well production capacity is less than ten (10) gallons per minute, lot sizes shall be adjusted accordingly."[13] According to Applicant's plat, full build-out is 160 lots. For Applicant to have demonstrated a ten gallon per minute (gpm) per lot well-production capacity for the Property, the tested well would have had to show the ability to produce 1600 gpm. The Wet Rock Study reports that the existing House Well on the Property was tested at an average of 52 gpm, with a recommended well yield of approximately 50 gpm.[14]

Moreover, the October 6, 2016 letter provided by the District to Gillespie County in support of adequate groundwater supply fails to address the Subdivision Rules' definition of a sufficient quantity of groundwater is 10 gpm per lot after full build-out. Instead, the letter recites the Wet Rock Study's projection that the subdivision will use approximately 44 acre feet of water per year[15] and the TCEQ requirement that the system be capable of producing at least 0.6 gpm per connection. Applicant provides no evidence the aquifer will be able to provide the 1600

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[9] *Id.* at 1.

[10] *Id.*

[11] *Id.*

[12] *See* Gillespie County Subdivision Rules, Sec. H, at 30-32 (hereinafter "Subdivision Rules").

[13] Subdivision Rules, at 32, Sec. H.4.f.

[14] *See* Wet Rock Study, at 14, 18.

[15] For comparison, 44 acre feet per year converts to 27.26 gpm, far short of the 1600 gpm that would be required under the Subdivision Rules.

gpm required by the Subdivision Rules. Accordingly, pursuant to the Subdivision Rules, the county should have required adjustment of lot sizes accordingly.

2. Injury

Applicant incorrectly asserts that McRae necessarily lacks a concrete, particularized interest because he is not one of the stated "affected persons" in Rule 24.3(5). Applicant has standing pursuant to the PUC rules if he has a justiciable interest.[16] General standing law requires that, to show a justiciable interest, McRae must show a concrete, particularized, imminent injury caused by Applicant's activities and redressable by the Commission in this proceeding.[17] An injury-in-fact is "the cornerstone of these requirements, [and] is conceptually distinct from the question of whether the plaintiff has incurred a legal injury—i.e., whether the plaintiff has a viable cause of action on the merits."[18]

McRae has a legally protected interest in the groundwater beneath his land.[19] Applicant's pump test may show that Applicant's pumping will cause a concrete, particularized injury to McRae's interest in the groundwater beneath his land by draining the groundwater in his wells. His particularized harm will be the cost to lower his pumps, assuming water is available for those pumps to find at all in this portion of the Ellenburger-San Saba Aquifer. If he fails to find water once his wells dry up, then his particularized injury will measured by the cost of a replacement source of water.

If the pump tests show a concrete, particularized injury to McRae, the injuries are unique to him and not common to members of the public. The fact that other wells in the vicinity may also be affected by Applicant's pumping does not make McRae's injury an injury suffered by the general public.[20] It may simply mean other well owners have also suffered concrete, particularized injury.

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[16] 16 TAC § 22.103(b)(2).

[17] *See Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560–61 (1992); *City of Waco v. Tex. Comm'n on Envtl. Quality*, 346 S.W.3d 781, 802 (Tex.App.—Austin 2011) *rev'd on other grounds*, 413 S.W.3d 409 (Tex. 2013).

[18] *Stop the Ordinances Please v. City of New Braunfels*, 306 S.W.3d 919, 926-27 (Tex.App.—Austin 2010, no pet.).

[19] *See Edwards Aquifer Auth. v. Day*, 369 S.W.3d 814, 831 (Tex. 2012) (holding landowners own the groundwater below their land in place).

[20] *Andrade v. NNACP of Austin*, 345 S.W.3d 1, 7-8 (Tex. 2011).

3. Causation

Applicant also incorrectly argues that there is no causal nexus between the Commission granting this CCN and McRae's injury. Applicant states the issuance of a CCN "merely grants the holder the right to a monopoly to provide retail water within the area described within the Certificated Area." Applicant could eventually use "alternative and supplemental water supplies, be it groundwater or surface water, from other sources."[21] However, the CCN application currently before the Commission is based on two water supply wells near McRae's wells, to be completed in the Ellenburger-San Saba Aquifer, the same aquifer in which McRae's wells are completed. If the Commission grants the CCN application in its current form, Applicant will provide water from the wells included in its application. The fact that Applicant could later obtain other groundwater or surface water sources is no consolation to McRae if Applicant initially uses the public water supply wells that are the foundation of this Application. Therefore, if this Application is granted in its current form, McRae's harm will be caused by issuance by this Commission of a CCN allowing Applicant to provide retail water service from the two wells currently proposed in its application.

4. Redressability

Applicant further asserts that McRae fails to prove that his injury is redressable in this proceeding. On the contrary, if the Commission denies this Application, Applicant would not have the right to provide retail utility service to a subdivision of 160 lots from the two proposed public water supply wells.[22] Applicant is also incorrect that Applicant could allow individual lot owners the right to drill and produce from exempt wells on their lots, because individual wells are prohibited in platted subdivisions under the county's Subdivision Rules.[23]

III. PRAYER

Therefore, McRae respectfully requests that the Honorable Administrative Law Judge deny Applicant's motion to reconsider. McRae further requests that the Administrative Law

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[21] Applicant's Motion, at 8.

[22] *See* Tex. Water Code § 13.242(a); 16 TAC § 24.101(a) (requiring a utility to obtain from the Commission a certificate of convenience and necessity before providing retail water service).

[23] Subdivision Rules, Sec. H.3.c

Judge allow McRae time to receive and meaningfully review Applicant's pump test results, and thereafter set this matter for a hearing to resolve the issues presented by the Application regarding adequacy of groundwater supply.

Respectfully Submitted,

Branscomb | PC
711 Navarro St., Ste. 500
San Antonio, TX 78205
(210) 598-5400
(210) 598-5405 (fax)
scanseco@branscombpc.com

SUSANA E. CANSECO
State Bar No. 24047829

CLINT BUCK
State Bar No. 24078280

CERTIFICATE OF SERVICE

I, Susana E. Canseco, attorney for applicant VM Neighbors Water Group, certify that a copy of this document was served on all parties of record in this proceeding on the 20th day of September, 2017 in accordance with 16 TAC § 22.74.

Edmond R. McCarthy, Jr.
McCarthy & McCarthy LLP
Westgate Tower
1122 Colorado St., Suite 2399
Austin, Texas 78701
Ph: (512) 904-2313
Fax: (512) 692-2826

Vineyard Ridge, LLC
Attn: Davy Roberts
P.O. Box 1987
Marble Falls, Texas 78654
Fax (800) 511-2430

TJ Harris
Public Utility Commission of Texas
Attorney-Legal Division
P.O. Box 13326
Austin, Texas 78711
Fax (512) 936-7268

Bryan Boyd, P.G.
Wet Rock Groundwater Services, L.L.C.
317 Ranch Road 620 South, Suite 203
Austin, Texas 78734

Susana E. Canseco

EXHIBIT A

SOAH DOCKET NO. 473-17-5930.WS
PUC DOCKET NO. 46948

APPLICATION OF VINEYARD RIDGE, LLC TO OBTAIN A WATER CERTIFICATE OF CONVENIENCE AND NECESSITY IN GILLESPIE COUNTY	§ § § § § § § §	**PUBLIC UTILITY COMMISSION OF TEXAS**

AFFIDAVIT OF JOHN MCRAE

STATE OF TEXAS §
§
COUNTY OF GILLESPIE §

Before me, the undersigned authority, on this day personally appeared John McRae, a person known to me, who after being duly sworn said as follows:

1. My name is John McRae. I am of sound mind and capable of making this Affidavit. The facts stated in this Affidavit are within my personal knowledge and true and correct.

2. I own approximately 512 acres of land in two tracts in Gillespie County, as depicted on the map attached here as Exhibit A-1, which is a true and correct representation of my property. The southern boundary of Tract 1 lies within one mile of applicant Vineyard Ridge, LLC's (Applicant) property that is the subject of this Application (Applicant's Property). I have owned Tract 1 since 2009 and Tract 2 since 2011.

3. There are two wells on Tract 1 and one well on Tract 2. The house well on Tract 1 was drilled in 1999 and is 202 feet deep, as evidenced by the attached State of Texas Water Well Report, Exhibit A-2. The windmill well on Tract 1 was drilled in the 1930s and is 100 feet deep. The well on Tract 2 was drilled in 1966 and is 184 feet deep, as evidenced by the attached Exhibit A-3. All are completed in the Ellenburger-San Saba Aquifer.

4. I received my Bachelor of Science degree in Geology from Texas Tech University in 1970. I am a Texas licensed professional geoscientist, license number 3307. I have practiced geology from 1970 to the present, and in that time I have worked actively in petroleum exploration all over Texas, the United States, and Canada. I am a member of the West Texas Geological Society, the Society of Economic and Petroleum Geologists, and have been a member of the American Association of Petroleum Geologists since the 1970s.

5. Based on my knowledge and experience working as a geologist for 47 years, I became concerned when I learned that Applicant planned to subdivide approximately 665 acres near me and use the Ellenburger-San Saba Aquifer as a source of public water supply for 160 proposed lots.

6. Based on my professional training and experience, as well as my knowledge of the area in question, I know that my property and Applicant's Property lie near the edge of the Ellenburger-San Saba Aquifer. I have personally observed that the Ellenburger formation is exposed at the surface on my property and on Applicant's Property. The Ellenburger-San Saba Aquifer is thin in our area, and the geology is complex. I personally observed during the drought in the summer of 2011 that the water level in my windmill well dropped 50 feet.

7. Based on my discussions with Paul Tybor, General Manager of the Hill Country Groundwater Conservation District, I know that Applicant has not yet tested the two public water supply wells as required by the rules of the Texas Commission on Environmental Quality. *See* 30 Tex. Admin. Code § 290.41(c)(3)(a).

8. Applicant's consultant Wet Rock Groundwater Services, L.L.C. (Wet Rock) conducted an aquifer test using existing wells on the Property on June 2, 2016, and produced the Report of Findings on Vineyard Ridge Subdivision Groundwater Availability Certification for Platting (Wet Rock Study) to substantiate its request for approval of its plat from Gillespie County. Because of my knowledge of the characteristics of the Ellenburger-San Saba Aquifer in our area, and my concern about the Applicant's proposed pumping, I hired hydrologist George Rice to review the Wet Rock Study. Mr. Rice's Evaluation of Vineyard Ridge Subdivision Aquifer Test is attached here as Exhibit A-4.

9. Mr. Rice's review evidences that the Wet Rock Study overestimates groundwater availability because Wet Rock overlooked substantial increase in the rate of drawdown measured in the observation well during the final four hours of the test, which is the "most significant portion of the test because it best represents how the aquifer would respond to long-term pumping."

10. The foregoing paragraphs are true and correct, and made based on my personal knowledge.

FURTHER AFFIANT SAYETH NOT

John McRae

Sworn to and subscribed before me by John McRae on this 19 day of September, 2017.

STEVEN KAHRS
Notary Public, State of Texas
Comm. Expires 07-17-2021
Notary ID 131211035

Notary Public, State of Texas

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W E
S

McRae Property

The Texas General Land Office makes no representations or warranties regarding the accuracy or completeness of the information depicted on this map or the data from which it was produced.

This map IS NOT suitable for navigational purposes and does not purport to depict or establish boundaries between private and public land.

Printed: Sep 18, 2017

McRae Property

The Texas General Land Office makes no representations or warranties regarding the accuracy or completeness of the information depicted on this map or the data from which it was produced.

This map IS NOT suitable for navigational purposes and does not purport to depict or establish boundaries between private and public land.

Printed: Sep 18, 2017

Exhibit A-1

Exhibit A-2

[redacted]0014

ATTEN[redacted] Confidentiality
Privilege Notice on Reverse Side

STATE OF TEXAS
WATER WELL REPORT

1) OWNER: CHILDS, LONNIE ADDRESS: 40305 FOUNDERS OAK WAY CITY: GEORGETOWN STATE: TX ZIP: 78626-

2) ADDRESS OF WELL:
County: GILLESPIE GRID # 57-43-3
Street or RFD: WAHRMUND/AHRENS ROAD
City, State, Zip code: STONEWALL , TX 78671-

5)

3) TYPE OF WORK: NEW WELL

4) PROPOSED USE: DOMESTIC
If Public Supply well, were plans submitted to the TNRCC?

6) WELL LOG: 00959

DATE DRILLING:
STARTED: 02/02/99
COMPLETED: 02/02/99

DIAMETER OF HOLE

DIAMETER	FROM	TO
9.50	0	50
6.75	50	83
6.00	83	202

7) DRILLING METHOD: AIR HAMMER

8) BOREHOLE COMPLETION: STRAIGHT WALL
IF GRAVEL... FROM FT. TO FT.
FROM FT. TO FT.

N*

CASING, BLANK PIPE, AND WELL SCREEN DATA:

DIA	NEW/USED	DESCRIPTION	FROM	TO	GAGE CASING SCREEN
6	N	PLASTIC SOLID	0	54	.280

GEOLOGICAL DESCRIPTION:

FROM	TO	DESCRIPTION
0	3	BROWN CLAY
3	18	WHITE CALICHE AND GRAY CLAY
18	36	GRAY SHALE AND CLAY
36	42	RED AND WHITE LIMESTONE
42	46	RED CLAY
46	58	YELLOW WHITE AND RED LIMESTONE
58	182	WHITE AND RED LIMESTONE
182	202	RED LIMESTONE

WATER DEPTH/YIELD:

FROM	TO	YIELD
78	80	30 GPM
194	198	70+ GPM

9) CEMENTING DATA:
Cemented from No. of Sacks Used
1 FT. TO 50 FT. 3
FT. TO FT.
Method used: GRAVITY CEMENTED
Cemented by: L & L DRILLING CO.
Distance to septic field lines: N/A ft.
Method of verification of above distance:

10) SURFACE COMPLETION:
PITLESS ADAPTOR USED

11) WATER LEVEL:
STATIC LEVEL : 61 FT. DATE: 02/02/99
ARTESIAN FLOW: GPM. DATE:

12) PACKERS:

TYPE	DEPTH

13) TYPE PUMP:
DEPTH TO PUMP:

14) WELL TEST:
JETTED
YIELD: 100+ GPM WITH FT DRAWDOWN AFTER HRS

15) WATER QUALITY:
TYPE OF WATER: DEPTH OF STRATA:
NO STRATA OF UNDESIRABLE WATER PENETRATED

CHEMICAL ANALYSIS MADE
24 GRAINS OF HARDNESS
840 T.D.S.

COMPANY NAME: L & L DRILLING CO. WATER WELL DRILLER'S LICENSE NO.: 1595
ADDRESS: DRAWER 217 CITY: HYE, STATE: TX ZIP CODE: 78635

FOR TWC USE ONLY
WELL NO. _____
LOCATED ON MAP _____

I HEREBY CERTIFY THAT THIS WELL WAS DRILLED BY ME (OR UNDER MY SUPERVISION) AND THAT EACH AND ALL OF THE STATEMENTS HEREIN ARE TRUE TO THE BEST OF MY KNOWLEDGE AND BELIEF. I UNDERSTAND THAT FAILURE TO COMPLETE ITEMS 1 THRU 15 WILL RESULT IN THE LOG(S) BEING RETURNED FOR COMPLETION AND RESUBMITTAL.

(signed) Gregory A. Smith (LICENSED WATER WELL DRILLER)

(signed) _____ (REGISTERED DRILLER TRAINEE)

FILE ID | SEQ # | EMP'D | SEP 15 1999 | DESC CO | COMMENT

DDRemarks DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD?

LONNIE CHILDS - 0[illegible]2/99 - LOG #00959 - R-016[illegible] 3

3 FROM FREDERICKSBURG TAKE RR 2721 TO KLEIN AHRENS ROAD. GO 3

3 4.4 MILE DOWN KLEIN AHRENS ROAD TO WAHRMUND AHRENS ROAD. 3

3 TURN RIGHT AND GO 1.7 MILES DOWN WAHRMUND AHRENS ROAD TO 3

3 BLUE SIGN WITH 2161. GO TO RIGHT OF HOUSE THROUGH GATE. 3

3 FOLLOW ROAD ALONG FIELD .4 MILE. GO THROUGH RED GATE FOLLOW3

3 ROAD TO LEFT .3 MILE. WELL IS BY METER POLE. 3

3 251 CLARENCE JACOBY ROAD 3

@DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDY

Exhibit A-3

000016

GW 7

Send original copy by certified mail to the Texas Water Development Board P. O. Box 12386 Austin, Texas 78711	State of Texas WATER WELL REPORT	For TWDB use only Well No. 57-43-3A Located on map yes Received: 66 Form GW 8 Form GW 9

1) OWNER:
Person having well drilled D. W. MARTIN (Name) Address Johnson City, Texas (Street or RFD) (City) (State)

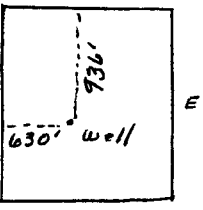
Landowner D.W. MARTIN (Name) Address Johnson City, Texas (Street or RFD) (City) (State)

2) LOCATION OF WELL:
County Gillespie Labor ____ League ____ Abstract No. Riley Price 539

NW¼ NE¼ SW¼ SE¼ of Section ____ Block No. ____ Survey 218
(Circle as many as are known)

miles in ____ (NE, SW, etc) direction from Fredericksburg, Texas (Town)

Well is on the O.W. MARTIN FARM N.E of Fredericksburg Texas Abstract # 539, Survey 218. Well is located on farm as shown.



Sketch map of well location with distances from adjacent section or survey lines, and to landmarks, roads, and creeks.

3) TYPE OF WORK (Check):
New Well ☒ Deepening ☐
Reconditioning ☐ Plugging ☐

4) PROPOSED USE (Check):
Domestic ☐ Industrial ☐ Municipal ☐
Irrigation ☒ Test Well ☐ Other ☐

5) TYPE OF WELL (Check):
Rotary ☒ Driven ☐ Dug ☐
Cable ☐ Jetted ☐ Bored ☐

6) WELL LOG:
Diameter of hole 9 7/8" in. Depth drilled 184' ft. Depth of completed well 184' ft. Date drilled 1-6-66

All measurements made from 0 ft. above ground level.

From (ft.)	To (ft.)	Description and color of formation material
0	18'	Top Soil
18	57	Caliche
57	70	Gray Shale
70	74	Caliche
74	90	Gray Shale
90	112	limerock ledges yellow clay Between
112	160	Gray limerock
160	184	open cave with water

From (ft.)	To (ft.)	Description and color of formation material
		(Use reverse side if necessary)

7) COMPLETION (Check):
Straight wall ☐ Gravel packed ☐ Other ☐
Under reamed ☐ Open hole ☒

8) WATER LEVEL:
Static level 136' ft. below land surface Date 1-6-66
Artesian pressure ____ lbs. per square inch Date ____

9) CASING:
Type: old ☐ New ☒ Steel ☒ Plastic ☐ Other ☐
Cemented from ____ ft. to ____ ft.

10) SCREEN:
Type ____
Perforated ☐ Slotted ☐

Diameter (inches)	Setting From (ft.)	Setting To (ft.)	Gage
~~133~~ 10 7/8"	0	133'	

Diameter (inches)	Setting From (ft.)	Setting To (ft.)	Slot size

11) WELL TESTS:
Was a pump test made? ☒ Yes ☐ No If yes by whom? Community Service - Mason Tex
Yield: ____ gpm with ____ ft. drawdown after ____ hrs
Bailer test ____ gpm with ____ ft. drawdown after ____ hrs
Artesian flow ____ gpm Date ____
Temperature of water ____
Was a chemical analysis made? ☐ Yes ☒ No
Did any strata contain undesirable water? ☐ Yes ☒ No
Type of water? ____ depth of strata ____

12) PUMP DATA:
Manufacturer's Name ____
Type ____ H.P. ____
Designed pumping rate ____ gpm ☐ gph ☐
Type power unit ____
Depth to bowls, cylinder, jet, etc., ____ ft. below land surface.

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief.

NAME Taylor Viddell (Type or Print) Water Well Drillers Registration No. 240

Address Box 594 (Street or RFD) Llano (City) Texas (State)

(Signed) Taylor Viddell (Water Well Driller) Viddell Bros. Drilling Co. (Company Name)

Please attach electric log, chemical analysis, and other pertinent information, if available.

Plotted
57-43-3A RFB

Evaluation of Vineyard Ridge Subdivision Aquifer Test

George Rice
March 10, 2017

This is an evaluation of an aquifer test performed at the proposed Vineyard Ridge Subdivision (VRS). The test was performed by Wet Rock Groundwater Services, L.L.C (Wet Rock).[1]

As proposed, the VRS would cover 665 acres and contain 160 single family houses.[2] Wet Rock estimates that the VRS water demand would be 43.86 acre-feet per year.[3]

The primary purpose of the aquifer test was to generate data needed to calculate aquifer transmissivity. The transmissivity can then be used to determine groundwater availability. That is, determine whether the underlying aquifers could supply VRS's water demand.

The pumping portion of the test began on June 2, 2016 and lasted for 36.2 hours. The average pumping rate was 52 gallons per minute. Water levels were monitored in the pumped well and an observation well. However, no drawdown occurred in the observation well.[4] Both wells are completed in the Ellenburger-San Saba Aquifer.[5]

The aquifer test data are shown in figure 1.[6] Wet Rock calculated a transmissivity of 161 ft^2/day.[7] However, their analysis overlooked the drawdowns measured during the last four hours of the test. During the last four hours, the rate of drawdown increased substantially. This is the most significant portion of the test because it best represents how the aquifer would respond to long-term pumping.

When transmissivity is calculated using the data from the last four hours, the resulting value is 22 ft^2/day (figure 1).[8] Given the available data, this is the value that should be used to determine whether the Ellenburger-San Saba Aquifer can supply VRS's water demand.

The transmissivity value calculated by Wet Rock will likely result in an over-estimate of groundwater availability. Wet Rock should either 1) use the last four hours of test data to calculate aquifer transmissivity and estimate groundwater availability, or, 2) perform a longer aquifer test to better determine how the aquifer will respond to long-term pumping.

10-14-17

[1] Wet Rock, 2016.
[2] Wet Rock, 2016, page 1.
[3] Wet Rock, 2016, page 3.
[4] Wet Rock, 2016, page 14.
[5] Wet Rock, 2016, page 9.
[6] See notes at the end of this report for additional discussion of the aquifer test.
[7] Wet Rock, 2016, page 14.
[8] Equation for T from Freeze and Cherry, 1979, page 348.

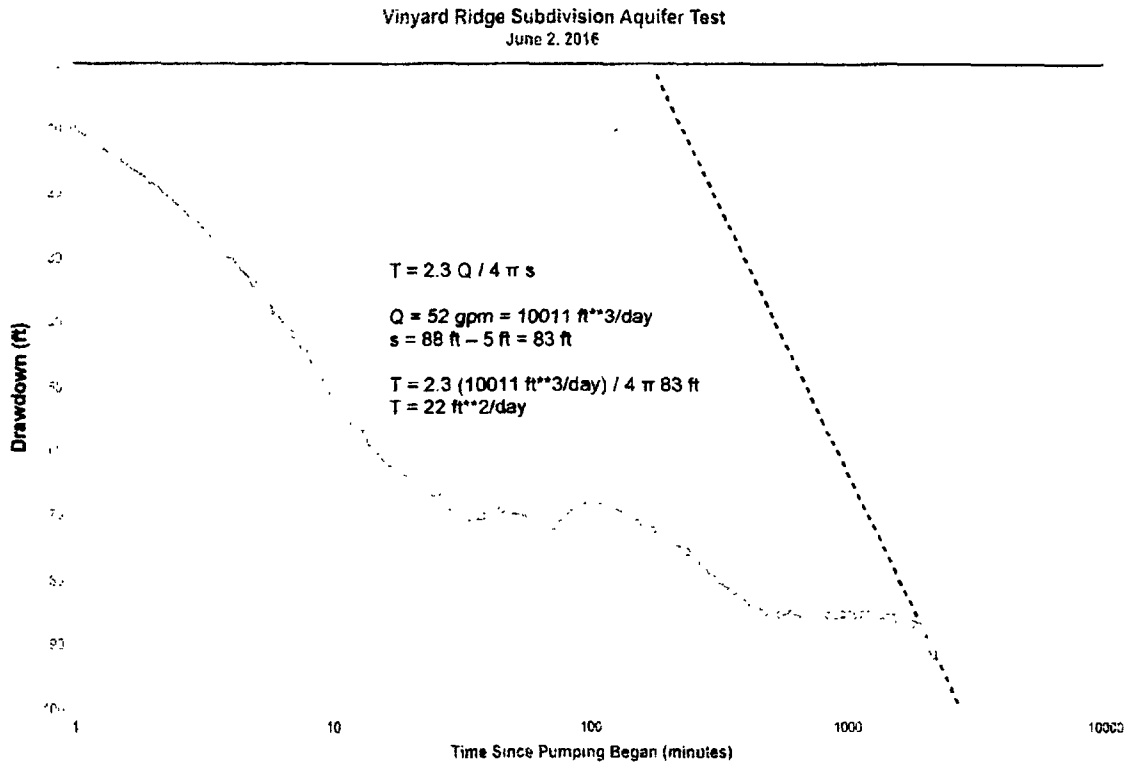


Figure 1
Plot of Aquifer Test Data and Calculation
(Data from Wet Rock, 2016, appendix C)

References

Driscol, F.G., 1986, *Groundwater and Wells,* Johnson Division, St. Paul, MN.

Freeze, R.A., and J.A. Cherry, 1979, *Groundwater*, Prentice-Hall Inc, Englewood Cliffs, NJ.

Kruseman, G.P., De Ritter, N.A., 1976, *Analysis and Evaluation of Pumping Test Data*, International Institute for Land Reclamation and Improvement, Wageningen, the Netherlands.

Wet Rock (Wet Rock Groundwater Services, L.L.C.), 2016, *Report of Findings, Vinyard Ridge Subdivision Groundwater Availability Certification for Platting: Gillespie County, Texas*, Report of Findings: WRGS 16-011, September 2016.

Notes

Note 1

Under ideal conditions the drawdown data would plot as a straight line. There are at least two reasons why the drawdown data for the VRS test do not plot as a straight line.

1) The pumping rate was changed during the test. The initial rate was 70 gpm. The rate was reduced during the first 73 minutes of the test; first to 65 gpm, then to 64 gpm, then 62 gpm, then 60 gpm, and finally to 56 gpm.[9] At some point during the test the pumping rate was reduced to 52 gpm. The time that this was done is not clear, but Wet Rock states that the average pumping rate during the test was 52 gpm.[10]

2) The expanding cone of depression encountered varying aquifer properties or conditions. The nearly flat portion of the plot between about 500 and 1900 minutes could be caused by the cone encountering a more productive zone, or by recharge. The steepest portion of the plot, after about 1900 minutes, could be caused by the cone encountering a less productive zone, or by a flow barrier.

Note 2

The aquifer test does not appear to have been well planned. Prior to the test, the pumping well should have been pumped to establish a sustainable pumping rate.[11] If that had been done, the pumping rate would not have had to be changed during the test. Changing the pumping rate will change the drawdowns, which could affect the value of transmissivity calculated from test data.

Note 3

Wet Rock's report does not identify where water from the pumped well was discharged. If not discharged to an appropriate location, the pumped water could re-enter the aquifer and affect test results.[12]

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[9] Wet Rock, 2016, appendix C.
[10] Wet Rock, 2016, table 2.
[11] Driscoll, 1986, page 535.
[12] Kruseman and De Ritter, 1976, page 29.

An hour meter may be considered as a production monitoring device, if the well output (gpm) can be measured accurately.

RULE 5.6 WELL SPACING AND PRODUCTION REGULATION (§ 36.116).

A. Classification.

(1) Domestic and Livestock Wells. New water wells intended for domestic and livestock use shall be placed on a tract of land seventy-five feet (75 ft.) from property lines and public roadways. Platted and recorded subdivisions in existence prior to May 1, 1990 are exempted from the seventy-five feet (75 ft.) setback requirement for new water wells intended for domestic and livestock use so long as the tract in the subdivision has not been re-platted. On any new division of property, new property lines shall also be seventy-five feet (75 ft.) from any existing wells. It should be noted that where public roadways are involved as a property boundary line it is permissible to use the centerline of a public roadway to calculate the distance required for the setback of a tract border along a roadway.

A variance from the District shall be obtained for a request to decrease the specified setback distance on new water wells intended for domestic and livestock use. An affidavit shall be obtained from the affected adjoining landowner(s), signed by both parties and recorded with the County Clerk's office citing the encroachment and that all parties are agreeable to the encroachment. A fee set by the Board will be assessed to cover administrative charges. In those cases where an adjoining landowner will not agree to the setback encroachment and will not sign the affidavit, the District will allow an encroachment up to the State's required minimum setback established for new wells.

Existing domestic and livestock wells drilled prior to May 1, 1990, that require alterations (i.e. deepening) are not required to obtain an affidavit from the District if the well is within seventy-five feet (75 ft) from property lines. The deepened well, however must obtain a new registration from the District.

(2) Permitted Wells. All water wells intended for permitted use, new or existing, shall satisfy the setback and spacing requirements outlined in Rule 5.6B. Exception is those wells granted historic (grandfathered) status. It should be noted that where public roadways are involved as a property boundary line it is permissible to use the centerline of a public roadway to calculate the distance required for the setback of a tract border along a roadway. Permitted wells that cannot satisfy the setback and spacing

requirements of Rule 5.6B, an affidavit shall be obtained from the affected adjoining landowner(s), signed by both parties and recorded with the County Clerk's office citing the encroachment and that all parties are agreeable to the encroachment. A fee set by the Board will be assessed to cover administrative charges. In those cases where the adjoining landowner(s) will not agree to the encroachment(s), the well can only be used for domestic and livestock use, and a new well shall be drilled which will satisfy the setback and spacing requirements of Rule 5.6B.

All water wells shall meet the State's requirement for location from any concentrated source of pollution, such as existing or proposed livestock or poultry yards and septic system absorption fields. Such horizontal distance may be decreased, provided the total depth of pressurized cement slurry in the annular space is increased by twice the horizontal reduction, or to the top of the water bearing strata, but in no case shall such distance be less than 50 feet (16 Texas Administrative Code, Section 76.1000(a)(1)).

B. In addition to the requirements of 5.6A(2), the following well spacing shall be required on permitted wells, with the exception of wells permitted for landscape irrigation.

ACTUAL PUMPING CAPACITY OF	MINIMUM DISTANCE FROM EXISTING PERMITTED WELLS AND BETWEEN PROPOSED PERMITTED WELLS	DISTANCE FROM PROPERTY LINE
Less than 17.36 gpm	150 feet	100 feet
17.36-200 gpm	300 feet	100 feet
200-400 gpm	750 feet	200 feet
400-800 gpm	1200 feet	400 feet
>800 gpm	1500 feet	400 feet

C. If in the case of development of multiple wells by a single landowner on the same parcel of property and for geological reasons it is desired to cluster wells, the District may consider and may approve such a request provided the spacing requirements are achieved as follows:

(1) In the case of wells of capacity 400-800 gpm the distance from the property line shall be 500 feet to the nearest well of the cluster;

(2) In the case of wells of capacity >800 gpm the distance from the property line shall be 600 feet to the nearest well of the cluster;

(3) Nothing in (1) or (2) above precludes the well owner from obtaining from adjoining landowners a waiver of the property line distances;

(4) The total property upon which the clustered wells are to be located shall be contiguous and owned by the permittee, and the same in square or rectangular configuration as if the wells were not clustered and were located on a grid accommodating both the spacing between wells and the property line distances, e.g., a 2 well field of > 800 gpm/well would require an area of 42.2 acres (800 ft. by 2300 ft.) and a 4 well field of > 800 gpm/well would require an area of 121.44 acres (2300 ft. by 2300 ft.);

(5) In cases where an existing permitted well is located on adjoining property the minimum distance from this well to the nearest well of the cluster shall be maintained as cited in the above table.

D. Production limits for permitted wells are based on service area. Maximum allowable production rates shall be based on the size of tracts in accordance with the following table:

CONTIGUOUS TRACT SIZE OF 10 ACRES OR LESS	
WITH SERVICE AREA	ALLOWED PRODUCTION RATE
>1/2 acres	0.5 acre foot/acre/year

CONTIGUOUS TRACT SIZE AREA OF GREATER THAN 10 ACRES	
WITH SERVICE AREA	ALLOWED PRODUCTION RATE
> 10 acres	1acre foot/acre/year

Production rates as defined above and the total contiguous service area upon which water will be applied shall determine the actual production limits, e.g. a five acre service area on a fifteen acre tract shall be allowed a production of 5 acre feet/year. Production rate limits may be lowered by the Board in HHGUA or CGDA where depletion is a factor and is reasonably necessary to protect existing use (36.116(a)(2)(A)(B)(C)(D)(E)). Final production limits will be determined on a case-by-case basis by the Board. The applicant or permittee may be required to drill test wells and conduct pump tests. A certified engineer or geoscientist maybe required to oversee the test and provide a certified report of the finding. The Board after reviewing the report will decide production limits.

In determining production rates for wells located on tracts not contiguous

with the destination service area, all sources of water allocated to the destination service area will be considered and the permitted production rate based on the total of all sources as if all sources were subject to District production rules, e.g., a destination service area of 200 acres with existing allocations of current 150 acre feet per year would be permitted a production rate of 50 acre feet per year based on a 1 acre foot per acre per year allowed production rate. Permitted production rates for transport or transfer of water may be lowered by the Board in HHGUA or CGDA declarations at the source as above. Further, at permit renewal, production rates will be redetermined by considering first all other water allocations to the service area at the time of renewal.

RULE 5.7 **PROHIBITED AQUIFER PENETRATIONS.** There shall be no excavation or drilling of a well(s), or use of an excavation or a well(s) for the purpose of temporarily or permanently disposing of the following materials or substances, as defined in District Rules, within the District:

(1) Radioactive wastes

(2) Toxic pollutants

(3) Hazardous substances

(4) Hazardous wastes

(5) Polychlorinated biphenyls(PCBs)

(6) Soils, fluids or other materials or substance contaminated with any of the above.