Exhibit No. 5

TGI's Aquifer Evaluation Report on Badgerjack Well Nos. 1 through 12, inclusive, dated February 10, 2023

THORNHILL GROUP, INC.

Professional Hydrogeologists • Water Resources Specialists

February 10, 2023

Badgerjack Resource Holdings, LP
P.O. Box 5432
Bryan, Texas 77805

Re: Aquifer Evaluation Report –
Permit Application for Proposed Twelve (12) Wells
To Be Completed in the Simsboro Aquifer, Robertson County, Texas

Dear Sir or Madam:

Per your request and in compliance with the rules of the Brazos Valley Groundwater Conservation District (BVGCD), Thornhill Group, Inc. (TGI) provides herein an evaluation of the projected effect of producing 16,421 acre-feet of water per year from twelve (12) proposed new production wells to be completed in the Simsboro aquifer on the properties identified as 000013-000100, 000014-000150, 000014-000160, 000017-000240, 000017-000340, 000020-000011, 000020-000030, 000021-000012, 000021-000013, 000021-000020, 000021-000050, 000021-000140, 000032-000930, 000063-000270, 000063-000310, 000063-000530, 000063-000540, 000063-000700, 000063-000940, 000063-001350, 000218-000090, 000243-000040, 000243-000070, 000021-000110, 000021-000111, 000021-000112, 000021-000113, 000021-000116, 000021-000117, 000021-000118, and 000063-000640 in the Robertson County Central Appraisal District (CAD) database located in Robertson County and totaling 2,578.20 acres. TGI conducted its evaluations and prepared this report in compliance with the rules and guidelines provided by the BVGCD, specifically in Rule 8.4(b)(7)(B) for wells (and multiple wells) capable of producing 800 or more acre-feet per year.

TGI's evaluations focused on assessing local aquifer conditions and parameters, and the extent to which production from the subject wells may influence other groundwater users in the BVGCD. TGI's evaluations are based on previous investigations conducted, including permit applications and field-testing. Additionally, TGI relied upon reported data, published reports, the applicable groundwater availability model (GAM), and TGI's extensive experience with and knowledge of the Simsboro aquifer in Central Texas, within the BVGCD, and particularly in Robertson County. Specifically, TGI's work was conducted to accomplish the following goals:

- Assess the local hydrogeologic setting, focusing on the physical characteristics and hydraulic parameters of the local Simsboro aquifer;

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- Estimate and calculate the potential short-term and long-term drawdown at each of the wells, including interference drawdown between wells;
- Establish a target maximum proposed pumping rate for each well and for the aggregated well field;
- Model the feasibility of the targeted pumping rate and the potential impacts (e.g., artesian pressure reduction) to the aquifer and other nearby well owners (e.g., drawdown); and,
- Provide this Hydrogeological Evaluation Report in compliance with District rules.

For convenience, applicable illustrations and supporting documentation are included in the following attachments:

Attachment 1 – Figures
Attachment 2 – Tables
Attachment 3 – Reference Materials
Attachment 4 – Selected References

Proposed Pumping Location and Permit Pumping Rates

Figure 1 provides a map showing the locations of the proposed wells and the outlines of the six (6) distinct contiguous properties on which the proposed well permits are sought. Proposed well identifications, coordinates, and estimated land-surface elevations in feet above mean sea level (MSL) as obtained from the National Elevation Dataset (NED) are as follows:

Well Identification	Latitude*	Longitude*	NED Land Surface Elevation (ft AMSL)
Badgerjack_1	31.031647° N	-96.670903° W	309
Badgerjack_2	31.009261° N	-96.675999° W	360
Badgerjack_3	31.015504° N	-96.662516° W	381
Badgerjack_4	31.018854° N	-96.635383° W	380
Badgerjack_5	31.070913° N	-96.496684° W	547
Badgerjack_6	31.048130° N	-96.471423° W	446
Badgerjack_7	31.044044° N	-96.469902° W	429
Badgerjack_8	31.048451° N	-96.359233° W	370
Badgerjack_9	31.047258° N	-96.356276° W	342
Badgerjack_10	30.959359° N	-96.448018° W	431
Badgerjack_11	30.952789° N	-96.443033° W	400
Badgerjack_12	31.005677° N	-96.655249° W	373

*Coordinate system is NAD83 State Plane Texas Central (feet) (EPSG 32039) converted to NAD83 (EPSG 4269).

The proposed production capacity in gallons per minute (GPM) and requested permit allocation in acre-feet per year are as follows:

Well Identification	Maximum Pumping Rate (GPM)	Annual Permit Allocation (AF)
Badgerjack_1	900	1,161
Badgerjack_2	1,300	1,742
Badgerjack_3	1,300	1,742
Badgerjack_4	1,200	1,532
Badgerjack_5	900	1,162
Badgerjack_6	900	1,170
Badgerjack_7	900	1,170
Badgerjack_8	600	726
Badgerjack_9	600	726
Badgerjack_10	1,400	1,774
Badgerjack_11	1,400	1,774
Badgerjack_12	1,300	1,742

The proposed well locations comply with the BVGCD rules regarding spacing between wells and allocation of acreage per well. All wells are within or exceed the ½ foot per GPM rule for spacing distance from property lines, and do not violate the 1 foot per GPM rule for spacing distance from other wells completed in the same aquifer, with the exception of Badgerjack_4. Well No. 4 overlaps a previously registered exempt Simsboro well (BVR-0073), but the well in conflict is on the same contiguous property and Badgerjack Resource Holdings will waive the spacing requirement with regards to their own well. Figure 2 shows all BVGCD registered Simsboro wells within 1 (one) mile of the proposed wells at a 1-inch to 1,000-foot scale. Note that only properties A and B have Simsboro wells within the 1-mile radius. Figure 3 shows locations for BVGCD registered wells within five (5) miles of the proposed wells.

Hydrogeologic Conditions and Aquifer Characteristics

Surface Geologic Setting

Figure 4 is a surface geology map that shows the general trend in strike along outcrops is southwest to northeast. Beds dip normal to the trend in strike direction at an increasing rate towards the coast. The wedge of sediments that make up the area of interest thicken gulf-ward and represent a repeating pattern of transgressional and regressional depositional environments that were deposited between 35 to 65 millions years ago. In general, coarser-grained near-shore or terrestrial deposits are bounded by much finer marine shales and clays.

A representative hydrostratigraphic column of the area is provided for correlation and interpretation of surficial and sub-surface lithology.

Period	Series	Strata	Hydrogeologic Unit
Tertiary	Eocene	Jackson Group	Yegua-Jackson Aquifer
		Yegua Fmn.	
		Cook Mountain Fmn.	Confining Unit
		Sparta Sand	Sparta Aquifer
		Weches Fmn.	Confining Unit
		Queen City Sand	Queen City Aquifer
		Reklaw Fmn.	Confining Unit
		Carrizo Sand	Carrizo-Wilcox Aquifer
		Calvert Bluff Fmn.	
		Simsboro Fmn.	
	Paleocene	Hooper Fmn.	
		Miday Fmn.	Confining Unit

Properties A and B overlie the Calvert Bluff, property C overlies the Carrizo Sand, property D overlies the Carrizo Sand and the Reklaw Formation, property E overlies the Queen City Sand with a partial covering of Alluvium, and property F overlies the Queen City Sand, the Weches Formation, and the Sparta Sand. The Sparta Sand is the youngest and stratigraphically the highest formation encountered across all properties. In terms of lithology, it is predominately a clastic sedimentary sandstone with varying degrees of silts and clays with incidental beds of coal. It is a Minor Aquifer of Texas. Underlying the Sparta is the Weches Formation which is a quartz sand interbedded with layers of clay and hydraulically behaves as a confining layer between the Sparta and Queen City Aquifers. Moving down the stratigraphic column, the Queen City is another Minor Aquifer of Texas that is composed of laminated or thinly stratified sands and sandy clays. It is hydraulically separated from the Carrizo-Wilcox by the Reklaw Formation, which is dominated by sand and clay beds with the latter traditionally being found in the upper part of the formation and acting as a hydraulic barrier to the vertical migration of subsurface water to the underlying formations of the Carrizo-Wilcox Aquifer. From youngest to oldest, the Carrizo-Wilcox is composed of the Carrizo Sand, the Calvert Bluff Formation, the Simsboro Formation, and the Hooper Formation. While the Carrizo-Wilcox is mapped as a single Major Aquifer by the Texas Water Development Board (TWDB), it does not behave as a single aquifer within the BVGCD boundaries. This is due to the depositional history of the formations the comprise the aquifer. In general terms, coarser grained near shore deposits are bound and hydraulically separated to varying degrees by finer grained marine deposits.

Faults associated with the Milano Fault Zone are present at property A. As indicated on Figure 4, the downthrown blocks are on the eastern side. There are no mapped faults at any of the surrounding parcels.

Simsboro Aquifer Conditions and Hydraulic Parameters

The target water bearing formation for all proposed wells is the Simsboro Formation. The following table presents the representative depths to top and bottom of the Simsboro as well as total saturated thickness:

Well Identification	Simsboro Top Depth (feet bgl)	Simsboro Base Depth (feet bgl)	Simsboro Thickness (feet)
Badgerjack_1	172	485	313
Badgerjack_2	228	653	425
Badgerjack_3	389	715	326
Badgerjack_4	379	793	413
Badgerjack_5	722	1,282	560
Badgerjack_6	830	1,405	575
Badgerjack_7	852	1,419	567
Badgerjack_8	1,449	1,897	447
Badgerjack_9	1,421	1,868	447
Badgerjack_10	1,508	2,046	538
Badgerjack_11	1,476	2,014	538
Badgerjack_12	468	826	358

This data is extrapolated from the most recent version of the TWDB Central Portion of the Sparta, Queen City, and Carrizo-Wilcox Aquifer Groundwater Availability Model (GAM). Geophysical logs available from the Bureau of Economic Geology (BEG) indicate depth to the top of the Simsboro to be 325 feet bgl in the vicinity of wells 2, 3, and 12. Logs southeast of Franklin, approximately 1.3 miles downdip of wells 6 and 7, indicate a possible depth to top of the Simsboro around 1,500 to 1,600 feet, which is substantially deeper than that indicated by the GAM. TGI also extracted hydraulic data for the subject properties from the most recent version of the GAM (Young, et al., 2018) which are presented in the following table.

Well Identification	Hydraulic Conductivity (ft/d)	Transmissivity (gpd/ft)	Storage Coefficient (-)
Badgerjack_1	14.3	33,463	0.0001
Badgerjack_2	14.6	46,347	0.0001
Badgerjack_3	15.3	37,277	0.0001
Badgerjack_4	16.2	49,951	0.0001
Badgerjack_5	10.8	45,382	0.0001
Badgerjack_6	11.6	49,984	0.0001
Badgerjack_7	11.7	49,443	0.0001
Badgerjack_8	13.1	43,764	0.0001
Badgerjack_9	13.1	43,764	0.0001
Badgerjack_10	15.8	63,536	0.0001
Badgerjack_11	16.5	66,179	0.0001
Badgerjack_12	16.4	43,908	0.0001

Water level elevations from the GAM were utilized in conjunction with the estimated elevation of the top of the Simsboro formation in feet AMSL to assess confinement of the target aquifer at each proposed well site. The results are presented in the following table:

Well Identification	Extracted GAM Heads (ft AMSL)	Simsboro Top (ft AMSL)	Artesian Head (ft)
Badgerjack_1	223	137	86
Badgerjack_2	237	131	106
Badgerjack_3	237	-8	245
Badgerjack_4	235	0	234
Badgerjack_5	276	-175	451
Badgerjack_6	269	-383	653
Badgerjack_7	262	-423	685
Badgerjack_8	264	-1079	1,343
Badgerjack_9	264	-1079	1,343
Badgerjack_10	229	-1076	1,305
Badgerjack_11	225	-1076	1,302
Badgerjack_12	236	-95	331

Water levels rise between 86 and 331 feet above the top of the aquifer at property A. The remaining properties have a minimum of 234 feet of available drawdown rising to over 1,300 feet at properties E and F. BVGCD monitoring well BVR-2999 indicates a water level of 175 feet bgl, and is positioned halfway between wells 1 and 2, this is roughly 75 feet deeper than what is indicated by the GAM. This introduces the possibility of the aquifer being close to

unconfined conditions, with variability due to seasonality of pumping and environmental conditions an additional consideration. BVR-4287 located between wells 4 and 12 shows a static water level in the Simsboro at 220 feet bgl, which correlates to a depth to water approximately 100 feet deeper than indicated by the GAM for the southern end of property A and property B. It should be noted that both BVR-2999 and BVR-4287 have only one water level measurement each, which is a deficient amount for any long term or comprehensive analysis of water levels. In the City of Franklin, BVGCD monitoring wells BVOP-0027, BVOP-0028, and BVOP-0029, all report depths to water of 250 to 275 feet. Likewise, well BVHU-0022 reports a most recent water level of 236 feet bgl, which is near wells 8 and 9. Based on a minimum depth to the top of the Simsboro of 722 feet based on the GAM for wells 5 through 9, which geophysical logs indicates that it is potentially deeper, and depths to water of 250 feet, there is likely hundreds of feet of artesian head at all wells on properties C, D, and E. Due to the depth of the Simsboro near wells 10 and 11, there are no nearby district monitoring wells in the Simsboro. However, the GAM reports over 1,300 feet or artesian head.

Projected Effects of Proposed Pumping

The immediate impacts from production will be drawdown at the pumping wells. As the wells pump, artesian pressure or potentiometric head around the wells will decline forming a cone of depression. As production continues the cone of depression will extend radially from the well field until an aquifer boundary is reached or the production rate reaches equilibrium with the captured groundwater flows. There may be some inter-aquifer leakage induced from the overlying Calvert Bluff; however, the amount of leakage will serve to lessen the artesian drawdown in the Simsboro and will likely not result in any identifiable water-level changes in the Calvert Bluff due to the stratification in the geologic layers.

Drawdown Simulations Using the GAM

TGI utilized the most recent version of the Central Portion of the Sparta, Queen City, and Carrizo-Wilcox Aquifers GAM to calculate drawdown due to the proposed pumping for continuous pumping periods of one (1) year and 10 years. Figure 5 and Figure 6 provide maps showing modeled drawdown contours after one (1) year and 10 years of pumping at the permitted rate, respectively. Table 1 provides modeled drawdown at specific registered and permitted Simsboro well sites within 5 miles of the proposed well locations.

Due to the grid scale (i.e., one mile) and configuration in the model, the GAM does not provide an accurate spatial representation of drawdown at the well site and in the immediate surrounding area, and the simulation likely predicts less drawdown than will actually occur near the pumping well. The GAM drawdown results at some distance from the proposed well

field are probably more representative of the actual aquifer conditions and the potential results from pumping.

Note that several of the wells designated by the BVGCD as "Simsboro" wells may not actually be deep enough to penetrate the Simsboro aquifer. TGI did not attempt to verify the completion intervals of those wells, but simply reported the dataset as provided by BVGCD.

Drawdown Simulations Using Analytical Modeling

As stated previously, due to the scale and configuration of the GAM grid, the GAM probably does not provide accurate drawdown calculations for the specific well sites and areas in the immediate vicinity of the proposed well field. Therefore, for comparison purposes and per the BVGCD rules TGI used an analytical modeling program based on the Theis non-equilibrium equation to calculate theoretical potentiometric head declines at and surrounding the proposed production wells. TGI has used the Theis model for several submittals to the BVGCD as well as for evaluations and submittals to numerous districts across the State of Texas. The Theis model incorporates many assumptions, most of which are sufficiently satisfied in the local Simsboro aquifer. However, the Theis model assumes an aquifer that is uniform over an infinite area. To account for recharge boundaries and possible inter-aquifer leakage into the Simsboro, TGI modeled long-term pumping (i.e., from one to 10 years) by incorporating a leaky artesian storage coefficient. A table of the transmissivity and storage coefficient values utilized in the analytical modelling by time step is presented below:

Well Identification	Transmissivity (gpd/ft)	1-Year Storage Coefficient (-)	10-Year Storage Coefficient (-)
Badgerjack_1	40,000	0.0005	0.003
Badgerjack_2	45,000	0.0005	0.003
Badgerjack_3	45,000	0.0005	0.003
Badgerjack_4	55,000	0.0005	0.003
Badgerjack_5	55,000	0.0005	0.003
Badgerjack_6	55,000	0.0005	0.003
Badgerjack_7	55,000	0.0005	0.003
Badgerjack_8	55,000	0.0005	0.003
Badgerjack_9	55,000	0.0005	0.003
Badgerjack_10	65,000	0.0005	0.003
Badgerjack_11	65,000	0.0005	0.003
Badgerjack_12	45,000	0.0005	0.003

While the Theis model likely provides more reliable results within and near the well field, it probably overstates drawdown at distance from the pumping center. Additionally, the Theis

model is more accurate for shorter pumping durations; therefore, the 10-year calculation likely overestimates drawdown from the well field.

Figure 7 and Figure 8 provide the Theis-modeled drawdown contours for pumping periods of one (1) year and 10 years, respectively. Table 1 provides the tabulated drawdown at specific Simsboro well sites, based on the locations and designations of aquifers provided by BVGCD in their database files. Estimated drawdowns due to pumping of the proposed wells for both the GAM modelling and analytical scenarios is presented in the following table:

Well Identification	1-Year GAM Drawdown (ft)	10-Year GAM Drawdown (ft)	1-Year Analytical Drawdown (ft)	10-Year Analytical Drawdown (ft)
Badgerjack_1	44	68	87	98
Badgerjack_2	49	73	95	106
Badgerjack_3	28	59	83	94
Badgerjack_4	39	59	81	92
Badgerjack_5	33	42	53	64
Badgerjack_6	37	47	65	75
Badgerjack_7	27	36	43	52
Badgerjack_8	39	50	58	68
Badgerjack_9	38	49	57	68
Badgerjack_10	58	79	88	98
Badgerjack_11	36	46	65	75
Badgerjack_12	28	36	43	52

Depending on the actual depths to the top of the Simsboro at each individual well site and the static water levels, Badgerjack_1 and to a lesser extent Badgerjack_2 and Badgerjack_3 may abstract water from storage. All other wells are predicted to remain under artesian conditions even with the very conservative nature of the analytical modelling.

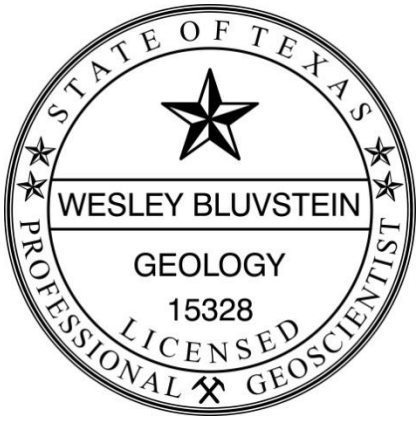
It is worth noting that the nature of the modelling assumes constant pumping for the entire duration being evaluated, i.e. 1 and 10 years. In reality, it is not feasible or practical for a well to pump continuously for 10 years or even 1 year. Breaks in pumping due to well maintenance, operation schedules, and demand needs will allow for recovery periods, and ultimately that will likely decrease the observed drawdown.

Conclusions

Based on our review of the BVGCD rules and the work conducted as described herein, TGI concludes the following:

- The proposed well and pumping amounts can be completed and produced in accordance with the well spacing and production-based acreage (i.e., allocation) rules set forth by the BVGCD;
  - Current available drawdown and predicted drawdown demonstrate that the wells will be capable of sustaining their target rates;
- The predicted drawdown derived from the Theis analytical model are more accurate than the GAM predictions for the proposed well sites and areas near the well field;
- GAM-predicted drawdown probably provides a more reasonable estimate of future impacts at greater distances from the proposed well field and for longer time periods; and,
- Production from the proposed pumping is anticipated to cause only reduction in aquifer interstitial pressure at wells Badgerjack_4 through Badgerjack_12 in all scenarios and the Simsboro will stay completely full. Wells Badgerjack_1 through Badgerjack_3 may abstract water from storage depending on environmental and hydrogeologic conditions encountered in place and according to the conservative assumptions inherent to the analytical modelling.

We very much appreciate the opportunity to again assist you in our specialty. If you have any questions, please call.



Sincerely,
THORNHILL GROUP, INC.

Wesley Bluvstein, P.G.

The seal appearing on this document was authorized by Wesley Bluvstein, P.G. on February 10, 2023.

Attachments