RAILROAD COMMISSION OF TEXAS

HEARINGS DIVISION

PROPOSAL FOR DECISION

OIL & GAS DOCKET NO. 01-0295757

THE APPLICATION OF TRIPLE STAR WELLS, LLC PURSUANT TO STATEWIDE RULE 9 FOR A COMMERCIAL PERMIT TO DISPOSE OF OIL AND GAS WASTE BY INJECTION INTO A POROUS FORMATION NOT PRODUCTIVE OF OIL OR GAS, REED FOWLERTON SWD, WELL NO. 1, EAGLEVILLE (EAGLE FORD-1) FIELD, LA SALLE COUNTY, TEXAS

HEARD BY: Peggy Laird, P.G. – Technical Examiner
John Dodson – Administrative Law Judge

REVIEWED BY: Jennifer Cook – Administrative Law Judge

APPEARANCES:

APPLICANT:	**REPRESENTING:**
Michael Choate Michael McElroy Dale Miller Phillip Massey	Triple Star Wells, LLC

PROTESTANTS:	**REPRESENTING:**
Andrew Brown Honorable County Judge Joel Rodriguez Charles Graham	La Salle County
Peter Gregg Ed Walker Ronald Green, PhD	Wintergarden Groundwater Conservation District
Scott Stabler	Whitewater Resources
David Nelson Robert Frey Nancy Frey	Robert and Nancy Frey
Doug Dashiell	EOG Resources, Inc.

Brian Pond
Stephanie Bleich

PROCEDURAL HISTORY

Application Filed:	November 24, 2014
Protest Received:	November 19, 2014
Request for Hearing:	February 11, 2015
Notice of Hearing:	May 1, 2015
Hearing Held:	August 18-19, 2015
Transcript Received:	September 1, 2015
Requested Briefing Received:	September 16, 2015
Late-filed Exhibits Received:	September 25, 2015
Response to Briefing Received:	September 28, 2015
Draft Permit Received:	June 28, 2016
Notice of Proposal to take Official Notice:	July 11, 2016
Proposal for Decision Issued:	January 12, 2017

STATEMENT OF THE CASE

Pursuant to Statewide Rule 9 (16 Tex. Admin. Code § 3.9), Triple Star Wells, LLC ("TSW") seeks authority from the Railroad Commission ("Commission") to commercially dispose of oil and gas waste into a porous formation not productive of oil or gas in the Reed Fowlerton SWD, Well No. 1, Eagleville (Eagle Ford-1) Field, La Salle County, Texas. This application is for a newly-drilled well on a 30.27-acre tract located on the north side of State Highway 97, about 1.8 miles southwest of Fowlerton, Texas. The proposed disposal well will inject salt water and non-hazardous oil and gas waste fluids into the Edwards Formation in the depth interval from 9,980 feet to 11,100 feet. The application is protested by several parties, including: (1) La Salle County; (2) Whitewater Resources LLC ("Whitewater"), an operator of a well within one-half mile of the proposed well; (3) adjoining property owners Robert and Nancy Frey; and (4) the Wintergarden Groundwater Conservation District. Nearby operator EOG Resources, Inc. ("EOG") initially protested the application, but withdrew its protest during the hearing when TSW agreed to move the surface location of the proposed disposal well about 80 feet to the east, as reflected on a revised Form W-14.[1]

Upon review of the evidence in the record, the Administrative Law Judge ("ALJ") and Technical Examiner (collectively, "Examiners") conclude that TSW has met its burden of proof demonstrating that the proposed disposal well application meets the requirements of Statewide Rule 9 and the Texas Water Code. The Examiners recommend TSW's application be granted and a permit issued.

APPLICABLE LAW

The Railroad Commission may grant an application for a disposal well permit under Texas Water Code § 27.051(b) and may issue a permit if it finds:

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[1] TSW Exh. No. 26.

1. The use or installation of the injection well is in the public interest;

2. The use or installation of the injection well will not endanger or injure any oil, gas, or other mineral formation;

3. With proper safeguards, both ground and surface fresh water can be adequately protected from pollution; and

4. The applicant has made a satisfactory showing of financial responsibility as required by Section 27.073.

Additionally, the applicant must comply with the Commission's Statewide Rule 9.[2]

DISCUSSION OF THE EVIDENCE

APPLICANT'S EVIDENCE

Dale Miller, consulting engineer, and Phillip Massey, an accountant who serves as manager of the TSW limited liability corporation, provided testimony and evidence on behalf of TSW.

Notice

On November 13, 2014, notice of the application was published in the Frio-Nueces Current, a newspaper of general circulation in La Salle County, Texas. On November 22, 2014, TSW mailed a copy of the application to the La Salle County Clerk, to offset operators of wells within a one-half mile radius, to the surface owners, and to offset surface owners of adjoining tracts.

At the hearing TSW amended its application by moving the surface location 80 feet to the east to resolve a protest from EOG. Amending the application in this manner did not impact the parties entitled to notice of the original application. The offset surface owners of adjoining tracts of land remained unchanged, and no additional operators of oil or gas wells were identified within the shifted one-half mile radius of the proposed disposal well.

Design and Operation

The proposed Reed Fowlerton SWD will be located on a 30.27-acre tract of land about 1.8 miles southwest of Fowerlton, Texas. The property is owned by Carl and Frances Reed of San Antonio, Texas, and Jay and Barbara Reed of Floresville, Texas, who acquired the property in 1986. A survey plat of the well states the property description is recorded in Volume 162, Page 276 of the La Salle County deed records, and the property is shown to be within both the A. Jones Survey, Abstract A-555, and the J.

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[2] 16 Tex. Admin. Code § 3.9.

Blanton Survey, Abstract A-1782.[3] The disposal tract is located on the north side of State Highway 97. The Frio River forms the north boundary of the disposal tract.

TSW has an easement, surface use and lease agreement with the surface owners that enables it to drill and operate the facility. TSW proposes to drill, complete, and operate the well as follows:

- Drilled to a total depth of 11,100 feet (see Attachment A, Wellbore Schematic);
- Surface casing (10 3/4-inch) will be set at a depth of 4,200 feet and cemented to the surface;
- Long-string casing (7 5/8-inch) will be set to a depth of 11,100 feet, and 1,615 sacks of cement will be circulated to a calculated depth 4,000 feet below ground surface;
- The long-string casing will be perforated for injection in the disposal interval from about 9,980 feet to 11,100 feet, into the Edwards Formation;
- Injection tubing (4 ½-inch) will be set with a packer at a depth of 9,880 feet;
- The maximum daily injection volume will be 30,000 barrels of water per day ("bwpd") and the estimated average daily injection volume will be 15,000 bwpd;
- The maximum surface injection pressure will be 4,990 pounds per square inch gauge ("psig") and the average surface injection pressure will be 2,300 psig; and
- Injected waste will be limited to produced salt water and non-hazardous oil and gas waste exempt from regulation under the Resource Conservation and Recovery Act.[4]

On cross examination, Mr. Miller stated that extending the surface casing through the underground sources of drinking water ("USDW") would require an additional 500 feet of casing. In addition to increasing well costs, the additional length of casing would increase the technical complexity and difficulty of fully circulating cement behind the surface casing to the ground surface. Mr. Miller stated that the well will be constructed in compliance with Statewide Rule 13 (Casing, Cementing, Drilling, Well Control, and Completion Requirements).[5]

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3 TSW Exh. Nos. 1, 27 & 28.

4 Resource Conservation and Recovery Act: Examples of RCRA exempt oil and gas waste includes produced water, drilling fluids, hydraulic fracturing flow back fluids, rig wash and workover wastes.

5 Tr. Vol. 1, 155 – 161.

Surface facility design details were not described at the hearing. The standard permit conditions for a commercial disposal facility include provisions for certain aspects of surface facility design and operation.

Groundwater, Geology and Hydrocarbon Resources

The Commission's Groundwater Advisory Unit ("GAU") determined the base of usable quality water ("BUQW") occurs to a depth of 3,950 feet. Specifically, the GAU indicated that usable-quality water must be protected in the intervals from the land surface to a depth of 100 feet, and from a depth of 1,650 feet to 2,550 feet. Furthermore, the Carrizo Formation, which occurs in the depth interval from 2,750 feet to 3,450 feet, contains superior quality water that must be isolated from water in underlying and overlying beds. This information is consistent with a water well survey submitted by TSW for the area based on data obtained from the Texas Water Development Board.[6] The GAU estimated the base of underground sources of drinking water ("USDW") is at a depth of 4,650 feet at the site of the subject well. The GAU concludes that, if otherwise compliant with Commission rules and guidance, drilling and using this disposal well and injecting oil and gas waste into the subsurface stratum will not endanger freshwater strata in the area.

The Edwards Formation disposal interval is an approximately 1,000-foot thick carbonate stratum that lies below the fresh water and productive hydrocarbon zones in the area. TSW estimates the top of the Edwards Formation will occur at a depth of 9,980 feet, but the top of the Edwards may be deeper, based on an analysis of regional geologic structure. There is current exploration and production from the overlying Eagle Ford Formation. The Edwards Formation is separated from the productive Eagle Ford Formation by about 185 feet of limestone and clay in the Buda, Del Rio, and Georgetown Formations. The Del Rio Formation consists of about 50 feet of clay or shale. Together, these three formations form a geologic seal at the top of the disposal interval preventing the upward migration of injected fluids.[7]

Seismicity

A review of the records of the U. S. Geologic Survey identified no seismic events with a magnitude greater than zero within a 9.08 kilometer radius (100 square miles) of the proposed disposal well between January 1, 1900, and November 21, 2014.

Area of Review

No wellbores penetrate the proposed disposal interval within the one-quarter mile area of review. No wellbores penetrate the disposal interval within a one-half mile radius of the proposed disposal well. One vertical well and the lateral portions of four horizontal wells are located within a one-half mile radius of the proposed disposal well. Again, however, none of those five wellbores penetrate the disposal interval.

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6 TSW Exh. No 20. Tr. Vol. 1, 70.

7 TSW Exh. No. 3. Tr. Vol. 1, 32 – 33.

The Whitewater CAT Fowlerton SWD Well No. 1 is located about 2,300 feet northeast of the proposed Reed Fowlerton SWD. The Whitewater well was drilled to a total depth of 5,820 feet and is authorized to inject fluids into the depth interval from 4,700 feet to 5,700 feet, more than 4,000 feet above the top of the proposed Reed Fowlerton SWD disposal interval. The nearby horizontal wells produce from the Eagleville (Eagle Ford-1) Field, which is separated from the proposed disposal interval by about 185 feet of the Buda, Del Rio and Georgetown Formations at the subject well's proposed location.

Public Interest and Need for Additional Disposal Capacity

TSW asserts that its proposed Reed Fowlerton SWD disposal well is in the public interest because there is a continuing need for additional disposal capacity in the area corresponding to continued exploration and production from the Eagle Ford Formation. The number of drilling permits issued in the Eagle Ford Shale (including but not limited to La Salle County) has increased significantly from 94 in 2009 to 5,613 in 2014. From January through June 2015 1,332 drilling permits were issued, a pace comparable to that of 2011.[8] From 2010 through 2015 the number of producing wells in La Salle and McMullen Counties has more than doubled from 1,974 to 4,687, and the number of injection wells has also increased from 44 to 80 wells in those counties.[9]

TSW identified 29 disposal wells within a 20-mile radius of the proposed well. Of these, 14 were indicated in Commission records at the time of the hearing to be actively injecting waste, and 10 of the wells had been permitted but not yet drilled. The 14 active disposal wells reported an average utilization of 47 percent (average monthly injection volume as reported on the most recent Form H-10 report cycle divided by the permitted maximum injection volume).[10] Mr. Miller noted that the most current data available for the protestant Whitewater's nearby disposal well reported that in May 2015 the well disposed of 131,937 barrels of waste, for a monthly utilization of about 17 percent of its permitted capacity.[11]

Financial Assurance

TSW has an active Organization Report (Form P-5, Operator No. 870471). TSW has filed a $25,000 cash deposit with the Commission for blanket financial assurance.

PROTESTANTS' EVIDENCE

La Salle County

Judge Joel Rodriguez testified on behalf of La Salle County. Judge Rodriguez stated that the proposed disposal well tract is within the Naylor Jones Subdivision, which was platted in La Salle County before he began serving as County Judge in 2003. The

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8 TSW Exh. No 17.

9 TSW Exh. No 19. The McMullen County line is about three miles to the east of the proposed disposal well.

10 TSW Exh. No 14.

11 TSW Exh. Nos. 14 and 30.

Naylor Jones Subdivision also pre-dates the area's Eagle Ford Formation oil and gas exploration and production activities. Judge Rodriguez stated that the Naylor Jones Subdivision remains in place although it was not developed further. He stated that the platted subdivision has never been cancelled by La Salle County on the request of a landowner and pursuant to the process described in Texas Government Code § 232.008. According to Judge Rodriguez, the Naylor Jones Subdivision granted 40-foot easements to La Salle County.[12] Therefore, Judge Rodriguez argues, the County is entitled to notice as an adjacent property owner, which should have been in addition to the requirement in Statewide Rule 9 that the County Clerk receive notice. The County did not receive notice of the application as an adjoining landowner.

La Salle County questioned the accuracy of TSW's evidence demonstrating the subject disposal tract property description was recorded in Volume 162, Page 276 of the La Salle County deed records (see TSW Exh. Nos. 1 and 27). La Salle County Exhibit No. 1 is a copy of a different deed dated November 13, 1970, unrelated to the subject property, that was obtained from Volume 162, Page 276 of the La Salle County deed records.

Wintergarden Groundwater Conservation District

Manager Ed Walker and Dr. Ron Green, a consulting hydrologist, testified on behalf of the Wintergarden Groundwater Conservation District. Wintergarden is concerned that the proposed disposal well, as represented in the application and at hearing, does not contain sufficient safeguards to protect fresh surface and groundwater from pollution. Wintergarden identified two concerns with the proposed well design.

First, Wintergarden is concerned that fresh groundwater resources will not be adequately protected from pollution. Wintergarden is experiencing increased demands for the use of groundwater resources in the area. Therefore, Wintergarden seeks to ensure that fresh groundwater is protected to the USDW, which is estimated by the GAU to occur at a depth of 4,650 feet in this area. The proposed well will include surface casing to a depth of 4,200 feet, but Wintergarden believes it would be prudent to fully isolate the fresh water through the USDW. Dr. Green testified that extending the surface casing through the base of USDW (4,650 feet) or setting an intermediate casing string through this interval would effectively isolate the potentially usable groundwater in the area.

Second, TSW did not describe the proposed surface facilities in the application or at the hearing, and Wintergarden is concerned there may not be adequate containment to prevent surface contamination. Lightning strikes can cause catastrophic tank failure at disposal well facilities in Texas. Standard permit conditions for commercial disposal wells contain some provisions for secondary containment. However, Dr. Green stated these provisions do not expressly state that the necessary volume that must be within the secondary containment structure. Specifically, Dr. Green stated that Wintergarden requests "sufficient capacity for 100 percent of the tank battery plus the displacement of

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[12] Tr. Vol. 1, 243 – 244.

tanks... and sufficient capacity to accommodate a 24-hour 25-year event, which in La Salle (County) at this area is about 7.55 inches."[13]

Whitewater Resources LLC

General Manager Scott Stabler testified on behalf of Whitewater, which operates its CAT Fowlerton SWD Well No. 1, which is located about 2,300 feet northeast of the proposed disposal well. Whitewater also holds a commercial disposal well permit for its CAT Fowlerton SWD Well No. 2, which is located nearby, and has not yet been drilled. Mr. Stabler stated Whitewater's protest of the proposed disposal well is based on several issues: (1) the TSW facility will contribute to further traffic congestion in the area; (2) the close physical proximity of the proposed TSW disposal well to Whitewater's existing disposal well may negatively impact the operation of the latter; and (3) there is a lack of economic demand in the area.[14]

According to Mr. Stabler, there are currently 11 operational and four additional permitted commercial disposal wells within an 11 mile radius of the proposed TSW well. Mr. Stabler testified that Whitewater's CAT Fowlerton SWD Well No. 1 experienced a decline in monthly injection volume from 2014 to 2015, and that this decline mirror's the industry's declining need for injection capacity in the area. The CAT Fowlerton well is permitted to dispose 760,000 barrels of water per month ("bwpm"). In June 2014 the well operated at 54 percent of this capacity, but in June 2015 the utilization had fallen to 25 percent of permitted capacity. However, Whitewater's data indicated that reported injection volumes declined less than 1 percent between June 2014 and June 2015, although these numbers may not include recently-activated disposal wells.[15] Mr. Stabler acknowledge that there was still a market for disposal services in the area, but he considered that existing and permitted capacity could accommodate additional need.[16]

Mr. Stabler did not provide a conceptual model for how the proposed TSW disposal well might impact the operation of Whitewater's CAT Fowlerton SWD, and he acknowledged that TSW seeks authority to inject into a different disposal interval. Whitewater's CAT Fowlerton SWD Well Nos. 1 and 2 are both permitted to inject into the subsurface interval from 4,700 feet to 5,700 feet; TSW is seeking authority to inject fluid into the subsurface interval from 9,980 feet to 11,100 feet.[17] Mr. Stabler testified, "But after talking with Mr. Massey yesterday, and with the understanding that they will speak to the Commission about potentially lowering, deepening their surface casing to the base of the USDW and taking and adding additional cement to surface, that takes away my concern."[18]

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13 Tr. Vol. 1, 27: 19 – 25.

14 Whitewater Exh. No. 1.

15 Whitewater Exh. No. 2.

16 Tr. Vol. 2, 18: 2 and 31: 5 – 12.

17 TSW Exh. No. 13.

18 Tr. Vol. 2, 15:24 – 16:4.

Robert and Nancy Frey

Robert and Nancy Frey are adjoining surface owners to the proposed disposal well tract. The Frey's home is on the southwest corner of their property–immediately adjacent to the southeast corner of TSW's proposed disposal well tract, about 70 feet from the property line.[19] The Freys are primarily concerned about the close proximity of the TSW well and facility to their house, and would prefer for TSW to construct the facility closer to the Frio River. Building the facility closer to the Frio River would require the placement of fill elevating the facility above potential flood level. The Freys are concerned about several potential physical hazards from living in close proximity to a disposal well, including the potential for fire, pollution, traffic hazards, noise, dust, and 24-hour lighting.

The Whitewater CAT Fowlerton disposal wells are located on the Frey's property, and the Freys derive income from the operation of the Whitewater facility. The CAT Fowlerton SWD disposal well is located about 1,800 feet east of the Freys home. Mr. Frey stated that the potential presence of a competitor was not a major concern of his. Mr. Frey also stated that Whitewater built its facility atop fill placed to raise the ground above the Frio River floodplain.

Mr. Frey stated that on September 11, 2014, he experienced what he believed to be an earthquake at his home. He later learned of a M3.2 earthquake that was reported near Charlotte, about 30 miles to the northeast. The Freys are concerned about the potential for additional earthquakes in the area.

EXAMINERS' ANALYSIS

The evidence in the record demonstrates TSW has met its burden of proof and that the proposed Reed Fowlerton SWD disposal well application meets the requirements of Chapter 27 of the Texas Water Code and Statewide Rule 9. The Examiners recommend the subject disposal well application be approved and the permit issued. The required elements of the Texas Water Code § 27.051(b) will be taken in turn. Lastly, the Examiners will give attention to the matters raised by La Salle County.

Public Interest

The Examiners conclude the evidence in the record demonstrates that the use or installation of TSW's proposed disposal well is in the public interest. TSW has presented an argument establishing a public interest need for the well, and its argument was balanced with evidence of on-going oil and gas exploration and production and the need for sufficient commercial disposal capacity to keep pace with that development. The number of drilling permits issued in the Eagle Ford Shale (including but not limited to La Salle County) has increased significantly from 94 in 2009 to 5,613 in 2014. From January through June 2015, 1,332 drilling permits were issued, a pace comparable to that of 2011. From 2010 through 2015 the number of producing wells in La Salle and McMullen Counties has more than doubled from 1,974 to 4,687, and the number of injection wells

[19] Frey Exh. No. 1. Note: the location of the Jacob Blanton Survey line as illustrated on this differs from the location of the survey line shown on TSW's Exh. No. 1.

has also increased from 44 to 80 wells in the two counties. TSW identified 29 disposal wells within a 20-mile radius of the proposed well. Of these, 14 were indicated in Commission records at the time of the hearing to be actively injecting waste, and 10 of the wells had been permitted but not yet drilled. The 14 active disposal wells reported an average utilization of 47 percent; Whitewater's nearby disposal well reported May 2015 monthly utilization of about 17 percent.

Wintergarden stated its position that there is no need for additional disposal capacity in the area at this time, and therefore the proposed disposal well was not in the public interest. However, Wintergarden did not offer testimony or evidence to support this position.

Whitewater, which operates one nearby commercial disposal well and has a second permit to operate another in the same area, is a competitor to TSW. Similarly, the Freys derive income from the Whitewater wells. While this may not preclude Whitewater or the Freys from making arguments against the TSW well in this case, the existence of a competitive relationship does cause the Examiners to weigh the evidence accordingly.

Whitewater and the Freys both argued that the well was not in the public interest because of traffic safety concerns along State Highway 97. The Commission has historically declined to consider traffic issues as properly part of its public interest inquiry.[20]

The Freys also expressed concern that the proposed TSW disposal well and associated facility may be located too close to their home, and such a close proximity could present them with physical hazards including fire from lightning strikes and pollution. Their preference would be for TSW to build its facility on the north end of the Reed property, adjacent to the Frio River.

In a related issue concerning the proposed well's location, the Freys' Exhibit No. 1 indicates the location of the Jacob Blanton Survey line differs from the location of the same survey line as shown on TSW's Exhibit Nos. 1 and 28. Because of this difference, the Freys argue that the location of the proposed well as shown on the Form W-14 is not correct.[21] A comparison of the Metes and Bounds survey descriptions, as shown on TSW Exhibit No. 28 and Frey Exhibit No. 1, concludes the locations for the 30-acre tract are the same. The Examiners agree the distance of the well relative to the subject survey line may be different, based on the plat used for the location. To avoid confusion about the location of the proposed well, the Examiners suggest that the latitude/longitude as shown on the revised Form W-14, Item No. 13, be used to locate the proposed well.[22]

The standard permit conditions for commercial disposal wells, as well as other Commission rules (*e.g.*, Statewide Rule 8–Water Protection, and Statewide Rule 36–Operations in Hydrogen Sulfide Areas) are applicable to all activities and facilities

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20 *See, e.g., R.R. Comm'n of Texas v. Texas Citizens for a Safe Future & Clean Water*, 336 S.W.3d 619, 628 (Tex. 2011).

21 Tr. Vol 2, 111 1 – 11.

22 TSW Exh. No 26.

regulated by the Commission. The Examiners decline to impose additional requirements to the surface facilities in this case.

Based on the evidence in the record, the Examiners conclude that the subject well is in the public interest pursuant to Texas Water Code § 27.051(b)(1).

Endanger or Injure Any Oil, Gas, or Other Mineral Formation

TSW seeks authority to dispose of oil and gas waste by injection into the Edwards Formation. No wellbores within a one-half mile radius penetrate the Edwards Formation disposal interval. The nearest oil and gas production in the area is from the Eagle Ford Formation. The Eagle Ford Formation is separated from the Edwards Formation by about 185 feet of limestone and clay/shale of the Buda, Del Rio and Georgetown Formations. The proposed disposal well will be cased and cemented above the disposal interval and entirely through and above the productive Eagle Ford Formation. One operator of oil and gas wells in the area, EOG, originally protested the application, but withdrew the protest when TSW agreed to relocate the disposal well 80 feet to the east. None of the remaining Protestants presented testimony or evidence that the proposed disposal activities would endanger or injure any oil, gas, or other mineral formation. The Examiners conclude TSW has met its burden of proof with this element of the Texas Water Code. The evidence in the record demonstrates the proposed disposal well will not endanger or injure any oil, gas, or other mineral formation pursuant to Texas Water Code § 27.051(b)(2).

Prevent Pollution of Ground and Surface Fresh Water

The Commission's Groundwater Advisory Unit (GAU) indicates the interval from the ground surface to a depth of 3,950 feet contains fresh water and must be protected. Specifically, the GAU indicated that usable-quality water must be protected in the intervals from (1) the ground surface to a depth of 100 feet, and (2) from 1,650 feet to 2,550 feet. Furthermore, the Carrizo Formation, which occurs in the depth interval from about 2,750 feet to 3,450 feet, contains superior quality water that must be isolated from water in underlying and overlying beds. This information is consistent with a water well survey submitted by TSW for the area based on data obtained from the Texas Water Development Board. The base of the underground sources of drinking water ("USDW") is estimated to occur at a depth of 4,650 feet, according to the GAU.

Form W-14 (TSW Exh. No. 26) and the Proposed Wellbore Diagram shown on Appendix A, indicates the surface casing will be set at a depth of 4,200 feet and cemented to the surface with an estimated 1,900 sacks of cement. The long-string casing will be set at a depth of 11,100 feet and cemented to a depth of 4,000 feet with an estimated 1,615 sacks of cement. The Examiners consider the controlling application and permit condition is that cement be brought to the depth specified, and the burden of proving such belongs to the applicant.

On this same issue, both Wintergarden and Whitewater argue the surface casing should be set at a depth of about 4,700 feet, below the base of the USDW. Wintergarden believes such protection is prudent and stated that the Texas Water Development Board is evaluating usability of groundwater resources with total dissolved solids content of up

to 10,000 milligrams per liter in the Wintergarden District.[23] Wintergarden has also retained Southwest Research Institute to conduct similar groundwater resource evaluations for this area. Whitewater believes surface casing set to 4,700 feet also to be prudent to protect the USDW. In closing statements, TSW's attorney stated that an Examiners recommendation to deepen the surface casing to 4,700 feet would not be considered adverse.[24]

The Examiners conclude such a recommendation to deepen the surface casing to 4,700 feet is appropriate in this case to ensure protection of the groundwater resources. The attached proposed final order includes a permit condition that the surface casing be set at a depth of 4,700 feet and cemented to the ground surface.

Wintergarden also raises concerns about the surface facilities, a description of which was not offered at the hearing. Specifically, Wintergarden is concerned that the surface facilities be designed with sufficient containment features to prevent the release of waste from the facility, and that the containment also be sufficient to simultaneously contain rainfall equal to a 25-year, 24-hour storm event (about 7.55 inches in this part of La Salle County). The Examiners note that standard permit conditions for disposal wells that are designed to prevent pollution from activities associated with surface facilities. Wintergarden requests that the secondary containment system be designed and built with sufficient capacity to include (1) 100 percent of the tank battery volume plus the displacement of the tanks, and (2) sufficient capacity to accommodate a 24-hour 25-year rainfall event of 7.55 inches.[25] TSW's counsel stated the applicant was not opposed to such a requirement.[26] The Examiners conclude additional containment requirements beyond the standard provisions is appropriate in this case. The attached proposed final order includes a permit condition that the secondary containment system be designed and built with sufficient capacity to include 100 percent of the tank battery volume plus the displacement of the tanks, and sufficient capacity to accommodate a 24-hour 25-year rainfall event of 7.55 inches.

The Examiners find the evidence in the record demonstrates that, with proper safeguards, both ground and surface fresh water can be adequately protected from pollution pursuant to Texas Water Code § 27.051(b)(3).

Demonstrate Financial Responsibility

TSW has an active Organization Report (Form P-5, Operator No. 870471), and has filed a $25,000 cash deposit for financial assurance. The Protestants presented no testimony or evidence regarding TSW's ability to meet its financial assurance obligations. The evidence in the record demonstrates the applicant has made a satisfactory showing of financial responsibility as required by Texas Water Code § 27.073 pursuant to Texas Water Code § 27.051(b)(4).

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23 Tr. Vol. 1, 266-267

24 Tr. Vol. 2, 113: 9 – 10.

25 Tr. Vol. 1, 271: 19 – 25.

26 Tr. Vol. 2, 133: 11 – 20.

Issues Raised by La Salle County

According to Judge Rodriguez, La Salle County was granted a surface easement ensuring rights of passage across the proposed disposal well tract (and all tracts within the Naylor Jones Subdivision). The subdivision has not been formally cancelled according to the Texas Government Code; the subdivision remains intact. No documentation of this easement or its terms was submitted as evidence. Pursuant to Statewide Rule 9, notice was provided to the clerk of La Salle County.[27] The Examiners conclude notice is sufficient in this case. Additionally, the County protested, attended the hearing, participated and provided a prepaired presentation. Even if there were insufficient notice—and the Examiners disagree that there was insufficient notice—there has been no harm to the County. In fact, Judge Rodriguez did not testify as to any harm to the County or what remedy the County is seeking regarding this issue.

Further, La Salle County raised an issue as to the accuracy of the volume and page number referenced on the plat of the well site. The County provided an unrelated deed with the same volume and page number that was referenced on the plat. Whether or not the plat correctly identifies the location of the deed in county records is not determinative. The lease and other documentation in the record correctly identifies the property where the well is located and that the applicant has a right to operate the proposed well at the proposed location; TSW provided sufficient evidence to support a good faith claim to operate.

FINDINGS OF FACT

1. Notice of this hearing was given to all parties entitled to notice at least ten days prior to the date of hearing.

2. Notice of the application was published on November 13, 2014, in the Frio-Nueces Current, a newspaper of general circulation in La Salle County.

3. On November 22, 2014, notices for the application were mailed to the La Salle County Clerk, the surface owners, the owners of all adjoining surface tracts, and all operators of wells within a one-half mile radius of the proposed disposal well surface location.

4. The application is protested by La Salle County, Whitewater Resources LLC, adjoining property owners Robert and Nancy Frey, and the Wintergarden Groundwater Conservation District.

5. EOG Resources, Inc. withdrew its protest during the hearing when TSW agreed to move the surface location of the proposed disposal well about 80 feet to the east. Amending the application in this manner did not impact the parties entitled to notice of the original application.

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[27] *See* 16 Tex. Admin. Code § 3.9(5)(A).

6. TSW has an easement, surface use and lease agreement with the surface owners that enable it to drill and operate the facility.

7. TSW proposes to drill, complete, and operate the well as follows:

   a. Drilled to a total depth of 11,100 feet (see Attachment A, Wellbore Diagram);

   b. Surface casing (10 3/4-inch) will be set at a depth of 4,200 feet and cemented to the surface;

   c. TSW's attorney stated that an Examiners recommendation to deepen the surface casing to 4,700 feet would not be considered adverse;

   d. Long-string casing (7 5/8-inch) will be set to a depth of 11,100 feet, and 1,615 sacks of cement will be circulated to a calculated depth 4,000 feet below ground surface;

   e. The long-string casing will be perforated for injection in the disposal interval from about 9,980 feet to 11,100 feet, into the Edwards Formation;

   f. Injection tubing (4 ½-inch) will be set with a packer at a depth of 9,880 feet;

   g. The maximum daily injection volume will be 30,000 barrels of water per day ("bwpd") and the estimated average daily injection volume will be 15,000 bwpd;

   h. The maximum surface injection pressure will be 4,990 psig and the average surface injection pressure will be 2,300 psig; and

   i. Injected waste will be limited to produced salt water and non-hazardous oil and gas waste exempt from regulation under the Resource Conservation and Recovery Act.

8. The use or installation of the injection well is in the public interest.

   a. TSW identified 29 disposal wells within a 20-mile radius of the proposed well. The 20-mile radius includes part of McMullen County.

      i. Fourteen of the 29 wells were indicated in Commission records at the time of the hearing to be actively injecting waste.

      ii. Ten of the 29 wells had been permitted but not yet drilled.

iii. The 14 active disposal wells reported an average utilization of 47 percent.

b. From 2010 through 2015 the number of producing wells in La Salle and McMullen Counties has more than doubled from 1,974 to 4,687.

9. The use or installation of the injection well will not endanger or injure any oil, gas, or other mineral formation.

a. The Edwards Formation is separated from the productive Eagle Ford Formation by about 185 feet of limestone and clay in the Buda, Del Rio and Georgetown Formations.

b. The Del Rio Formation consists of about 50 feet of clay or shale.

10. With proper safeguards, both ground and surface fresh water can be adequately protected from pollution.

a. The BUQW at the location of the Subject Well is at a depth of 3,950 feet, and the intervals from the land surface to 100 feet and the zone from a depth of 1,650 feet to 2,550 feet contains water of useable quality that must be protected.

b. The Carrizo from 2,750 feet to 3,450 feet contains superior quality water which must be isolated from water in overlying and underlying beds.

c. The base of underground sources of drinking water (USDW) is estimated to occur at a depth of 4,650 feet at the site of the Subject Well.

d. The well will be cased and cemented in accordance with Commission rules to prevent waste migration into freshwater zones.

e. Surface casing set at a depth of 4,700 feet and cemented to the surface will be protective of ground water.

f. As a commercial disposal well, the proposed permit will include a set of standard conditions to prevent a surface release of waste fluids.

g. The secondary containment system will be designed and built with sufficient capacity to include 100 percent of the tank battery volume plus the displacement of the tanks, and sufficient capacity to accommodate a 24-hour 25-year rainfall event of 7.55 inches.

11. The applicant has made a satisfactory showing of financial responsibility as required by Texas Water Code § 27.073. TSW has an active Organization

Report (Form P-5, Operator No. 870471), and has filed a $25,000 cash deposit for financial assurance.

CONCLUSIONS OF LAW

1. Resolution of the subject application is a matter committed to the jurisdiction of the Railroad Commission of Texas. Tex. Nat. Res. Code § 81.051

2. All notice requirements have been satisfied. 16 Tex. Admin. Code § 3.9

3. The use or installation of the proposed disposal well is in the public interest. Texas Water Code § 27.051(b)(1).

4. The use or installation of the proposed disposal wells will not endanger or injure any oil, gas, or other mineral formation. Texas Water Code § 27.051(b)(2).

5. With proper safeguards, both ground and surface fresh water can be adequately protected from pollution. Texas Water Code § 27.051(b)(3).

6. Triple Star Wells, LLC has made a satisfactory showing of financial responsibility. Texas Water Code § 27.051(b)(4).

7. Triple Star Wells, LLC has met its burden of proof and its application satisfies the requirements of Chapter 27 of the Texas Water Code and the Railroad Commission's Statewide Rule 9.

RECOMMENDATION

Based on the above findings of fact and conclusions of law, the Examiners recommend the Commission enter an order granting the application of Triple Star Wells, LLC for a commercial permit to dispose of oil and gas waste by injection into a porous formation not productive of oil or gas, for the Reed Fowlerton SWD, Well No. 1, in the Eagleville (Eagle Ford-1) Field, La Salle County, Texas.

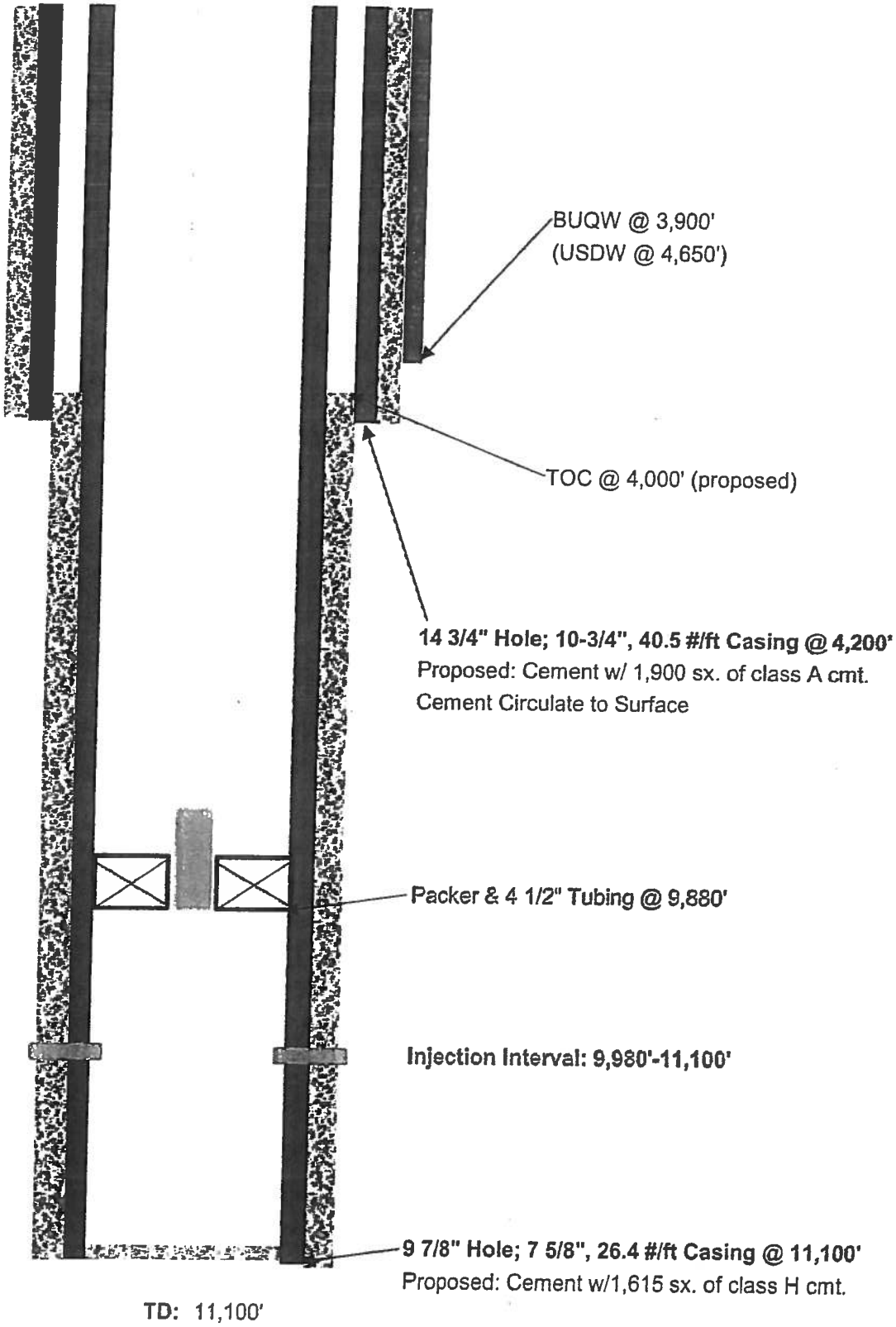
Respectfully submitted,

Peggy Laird
Technical Examiner

Jennifer Cook
Administrative Law Judge

PROPOSED WELLBORE DIAGRAM
TRIPLE STAR WELLS LLC
PROPOSED REED FOWLERTON SWD # 1
LA SALLE COUNTY, TEXAS

Elev. 328' KB



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