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# RAILROAD COMMISSION OF TEXAS

## HEARINGS DIVISION

**OIL AND GAS DOCKET NO. 08-0321863**

**APPLICATION OF RUGER PROPERTIES, LLC (734092) PURSUANT TO STATEWIDE RULE 9 FOR A COMMERCIAL PERMIT TO DISPOSE OF OIL & GAS WASTE BY INJECTION INTO A POROUS FORMATION NOT PRODUCTIVE OF OIL AND GAS, WHITE SWD LEASE, WELL NO. 1, SPRABERRY (TREND AREA) FIELD, MARTIN COUNTY, TEXAS**

### PROPOSAL FOR DECISION

**HEARD BY:** Petar Buva – Technical Examiner  
Ezra A. Johnson - Administrative Law Judge

### PROCEDURAL HISTORY:

Application Filed:	May 14, 2019
Protest Received:	May 30, 2019
Request for Hearing Received:	June 10, 2019
Prehearing Conference:	October 22, 2019
Hearing on the Merits:	November 18, 2019
Transcript Received:	December 13, 2019
Proposal for Decision:	April 27, 2020

### APPEARANCES:

**Applicant:**  
Ruger Properties

**Represented by:**  
Clay Nance, Attorney  
Greg Cloud, Engineer  
Don Hale, Owner

**Protestants:**  
Cactus Energy, Inc.  
Kerry Pollard, Engineer

**Represented by:**  
Stephen Fenoglio

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## **I. Statement of the Case**

Applicant Ruger Properties, LLC (“Ruger” or “Applicant”) filed an application seeking authority pursuant to 16 Tex. Admin. Code § 3.9 (“SWR 9”) to dispose of oil and gas waste by injection into a porous formation not productive of oil or gas on the White SWD Lease, Well No. 1, in the Spraberry (Trend Area) Field, in Martin County, Texas. The proposed injection well is located approximately 7.5 miles north-northeast of Stanton, Texas, which is the nearest town in Martin County.

For this commercial well Ruger requests authority to dispose of 30,000 barrels per day (“bpd”) of produced water, into the San Andres, Glorieta, and Clearfork formations from a depth of 3,850 feet to 5,500 feet, with a maximum surface injection pressure at 1,925 psig.

The subject applications are protested by Cactus Energy, Inc. Operating, LLC. Protestant is a surface owner approximately 1/2 mile from Ruger’s proposed well. Protestant contends that there are improperly plugged wells in the area that will harm water and/or mineral resources should the subject disposal well be approved. Protestant also claims that there is a lack of industry need for a disposal well in the area.

Based on the evidence in the record, the Administrative Law Judge and Technical Examiner (collectively “Examiners”) recommend that the applications be approved.

## **II. Notice and Jurisdiction**

Sections 81.051 and 81.052 of the Texas Natural Resources Code provide the Commission with jurisdiction over all persons owning or engaged in drilling or operating oil or gas wells in Texas, and the authority to adopt all necessary rules for governing and regulating persons and their operations under the jurisdiction of the Commission.

Ruger published a notice of application for Well No. 1 in the *Martin County Messenger*, a newspaper of general circulation in Martin County, Texas, on May 2, 2019 as required by SWR 9. On or about that date, Ruger also provided notice of the subject applications to the Martin County Clerk, offset operators, and each affected person described in SWR 9. The proposed injection wells are not within the corporate limits of a city or town.

On October 3, 2019, the Hearings Division of the Commission sent a Joint Notice of Prehearing Conference (“Notice”) for both applications via first-class mail to Applicant and all affected persons setting a pre-hearing conference date of October 22, 2019. The Notices contain (1) a statement of the time, place, and nature of the pre-hearing conference; (2) a statement of the legal authority and jurisdiction under which the hearing is to be held; (3) a reference to the particular sections of the statutes and rules involved; and (4) a short and plain statement of the matters asserted. The pre-hearing conference was held on October 22, 2019. Applicant and Protestants appeared and participated. The hearing on the merits was set for November 18, 2019 and the parties were provided notice. Applicant and Protestants appeared and participated in the hearing on the merits.

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Consequently, all parties received more than 10 days' notice of the hearing and an opportunity for hearing.

### **III. Applicable Law**

Statewide Rule 9 (16 Tex. Admin. Code § 3.9) states the following:

Any person who disposes of saltwater or other oil and gas waste by injection into a porous formation not productive of oil, gas, or geothermal resources shall be responsible for complying with 16 Tex. Admin. Code § 3.9, Texas Water Code, Chapter 27, and Title 3 of the Natural Resources Code.

Tex. Water Code § 27.031 states in pertinent part:

PERMIT FROM RAILROAD COMMISSION. No person may continue using a disposal well or begin drilling a disposal well or converting an existing well into a disposal well to dispose of oil and gas waste without first obtaining a permit from the railroad commission.

Tex. Water Code § 27.051(b) states:

- (b) The railroad commission may grant an application for a permit under Subchapter C<sup>1</sup> in whole or part and may issue the permit if it finds:
  - (1) that the use or installation of the injection well is in the public interest;
  - (2) that the use or installation of the injection well will not endanger or injure any oil, gas, or other mineral formation;
  - (3) that, with proper safeguards, both ground and surface fresh water can be adequately protected from pollution; and
  - (4) that the applicant has made a satisfactory showing of financial responsibility if required by Section 27.073.<sup>2</sup>

### **IV. Matters Officially Noticed**

The Examiners take official notice of the Notice of Hearing in this matter and correspondence with Commission Staff and Lario Oil & Gas Company ("Lario"). The

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<sup>1</sup> Subchapter C of the Texas Water Code authorizes the Commission to issue permits for injection wells used to dispose of oil and gas waste. See, e.g., Tex. Water Code § 27.031.

<sup>2</sup> Section 27.073 of the Texas Water Code authorizes the Commission to require financial assurance in order to issue an injection well permit. Statewide Rule 78 does require financial assurance for operators of disposal wells. See, e.g., Tex. Admin. Code § 3.78(a)(6), (d), (g).

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Examiners further take official notice of late-filed Form W-2 reports submitted by Ruger at the request of the Examiners for the following wells:

Madison No. 1	API No. 317-10304
W.T. Powell No. 1	API No. 317-10289
McKenny No. 1	API No. 317-30008
J.D. Phillips No. 2	API No. 317-31464
Williams No. 1	API No. 317-10313
Williams B No. 1	API No. 317-51507
Hale No. 1	API No. 317-30001
Caffey No. 1	API No. 317-31509

## **V. Discussion of the Evidence**<sup>3</sup>

At the hearing, Greg Cloud and Don Hale appeared on behalf of Ruger to offer sworn testimony and to sponsor documentary evidence. Protestant appeared at the hearing but declined the right to present a direct case, maintaining that Kerry Pollard, expert witness for the protestant, would only reiterate what was presented in Ruger's direct case and subsequent cross examination.

### **A. Applicant's Evidence**

#### **1. *Application***

The proposed Well No. 1, White SWD Lease, in the Spraberry (Trend Area) Field, in Martin County, Texas, would be newly drilled commercial injection well. The proposed well has design and operation limitations as follows:<sup>4</sup>

1. Drilled to a total depth of 5,500 feet;
2. Surface casing (9 5/8-inch) to 250 feet, cemented to the top;
3. Long string (7-inch) set at 3,850 feet with cement circulated to surface;
4. 4 ½-inch tubing will be set on a packer at 3,750 feet;
5. Disposal interval of 3,850-5,500 feet, which includes the San Andres, Glorieta, and Clearfork formations;
6. A maximum daily injection volume equal to 30,000 bpd; and
7. A maximum surface injection pressure equal to 1,925 psig.

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<sup>3</sup> The hearing transcript in this case is referred to as "Tr. Pg.[page(s)], Ln. [line(s)]." Because Cactus decided not to present a direct case in this matter, but did introduce exhibits on cross-examination of Ruger's witnesses, the exhibits from Ruger's direct case are referred to as "Ex. [number]" and "Cross Ex. [number]."

<sup>4</sup> Ex. Nos. 2 & 12, Tr. Pg. 15-16, Ln. 21-19.

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On May 22, 2019, the Commission requested Ruger to perform an injectivity test to verify that the proposed injection interval has capacity to accept the permitted disposal volumes without exceeding the maximum permitted surface pressure. Ruger agreed to perform an injectivity test as a permit condition.<sup>5</sup>

**a. Geology and Area of Review**

The proposed disposal zone for Well No. 1 includes the San Andres, Glorieta, and Clearfork formations.<sup>6</sup> Statewide Rule 3.9(7)(a) provides:

Except as otherwise provided in this paragraph, the applicant shall review the date of public record for wells that penetrate the proposed disposal zone within a 1/4 mile radius of the proposed disposal well to determine if all abandoned wells have been plugged in a manner that will prevent the movement of fluids from the disposal zone into freshwater strata. The applicant shall identify in the application any wells which appear from such review of public records to be unplugged or improperly plugged and any other unplugged or improperly plugged wells of which the applicant has actual knowledge.<sup>7</sup>

Ruger performed a 1/4-mile and 1/2-mile area of review study of active and plugged wells. Ruger's witness, Mr. Greg Cloud, a petroleum engineer and consultant, presented the 1/4-mile area of review map for the proposed well.<sup>8</sup> There are three permitted horizontal well locations north and west of the proposed location held by Parsley Energy Operations. North of the proposed well is the Williams "B" No. 1 well (API 42-317-31507). The Williams "B" No. 1 is the only plugged and abandoned well in the 1/4-mile area of review.

Mr. Cloud provided a wellbore schematic of the Williams "B" No. 1 well for inclusion in the record.<sup>9</sup> The well has casing that covers the proposed disposal interval, down to a depth of 8,400 feet. According to the available data for the plugging operation on the Williams "B" No. 1 well, the calculated top of Plug No. 1 is shown at 7,260 feet.<sup>10</sup> The perforations on the well are identified at 7,312 to 8,330 feet and have been cement squeezed. In addition, the well was filled with mud-laden fluid with a weight of 9.5 pounds per gallon per Commission standards. Mr. Cloud concluded that the Williams "B" No. 1 well, the only plugged and abandoned wellbore in the 1/4-mile area of review, was plugged in accordance with Commission standards and would not be a conduit for the migration of fluids out of the proposed disposal zone.

Mr. Cloud next discussed three well logs introduced at the hearing. He testified that these records show consistency in impermeable, non-productive strata between the base of the proposed injection interval and the productive zone below it.<sup>11</sup> At 5,650 feet

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<sup>5</sup> Ex. No. 3.

<sup>6</sup> Tr. Pg. 16, Ln. 10-12; Ex. No. 2.

<sup>7</sup> 16 Tex. Admin. Code § 3.9(7)(A).

<sup>8</sup> Ex. No. 2; Tr. Pg. 17, Ln. 14-23.

<sup>9</sup> Ex. No. 13.

<sup>10</sup> *Id.*

<sup>11</sup> Ex. No. 8, 10, & 11.

is the base of Clearfork Lime, which is below the base of the proposed disposal interval at 5,500 feet. The Clearfork Lime is a dense, nonproductive, nonporous, limestone in this area. The Clearfork Lime continues down to 6,750 feet, the top of Sprayberry formation, which is the shallowest production zone in the area, creating 1,250 feet of confinement.<sup>12</sup> The completion report for Williams "B" Well No. 1 shows presence of impermeable red beds at depths from 130 to 1,560 feet, as well as low porosity anhydrite and salt formation from 2,750 to 4,025 feet.<sup>13</sup> Mr. Cloud stated his opinion that the offset well logs and completion reports show the presence of a confining layer above and below the proposed disposal interval.<sup>14</sup>

Mr. Cloud also sponsored an exhibit showing all the wells in the 1/2-mile area of review around the proposed well.<sup>15</sup> He testified that the plugged wells in the half-mile area have been plugged in accordance with the Commission rules in a manner that "prevents the movement of fluids from the proposed disposal interval into the wellbore."<sup>16</sup> He also acknowledged the casing is sufficient to prevent the wells from serving as conduits for the migration of fluids out of the proposed disposal interval.<sup>17</sup> The Form W-3, plugging reports, indicate that all of the plugged wells within the half-mile area of review have steel casing covering the entire disposal interval.

During cross-examination of Mr. Cloud, Cactus introduced a plugging report for the Powell "D" No. 1 well.<sup>18</sup> The last page of the exhibit indicates collapsed casing and inability of the plug to hold the pressure.<sup>19</sup> Mr. Cloud testified on cross examination that the collapsed casing does not mean casing failure.<sup>20</sup> He further testified that the mud-laden fluid in the wellbore will provide insulation between the wellbore and the deeper zones.<sup>21</sup> Due to the collapsed casing, this well does not have a plug placed immediately above perforations as required by the Statewide Rule 13, but it does have four plugs all above the proposed injection interval preventing upward migration of injected fluid.<sup>22</sup> The plugging procedure for the Powell "D" No.1 was approved by the Commission's staff.

Cactus identified a second well during cross-examination, the Wiley Estate No. 1, with a plugging report indicating a potential problem.<sup>23</sup> Mr. Cloud testified that the Form W-3, for the Wiley Estate No. 1 shows that the well has steel casing from 3,374 to 8,500 feet covering the entire disposal interval. According to Mr. Cloud, the steel casing will prevent the movement of fluids from the proposed disposal interval into the wellbore.<sup>24</sup> The plugging report also indicates the well is filled with mud-laden fluid with a weight of 9.5 pounds per gallon, in accordance with Commission standards, which further prevents

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<sup>12</sup> Tr. Pg. 24, Ln. 24 – Pg. 25 Ln. 16.

<sup>13</sup> Ex. No. 13.

<sup>14</sup> Tr. Pg. 34, Ln. 1-22

<sup>15</sup> Ex. Nos. 2 & 14.

<sup>16</sup> Tr. Pg. 149, Ln. 2-4.

<sup>17</sup> Tr. Pg. 146, Ln 4-22.

<sup>18</sup> Cross Ex. 3.

<sup>19</sup> *Id.*

<sup>20</sup> Tr. Pg. 1446, Ln, 19-22.

<sup>21</sup> Tr. Pg. 151, Ln. 10-16.

<sup>22</sup> Cross Ex. 3; Tr. Pg. 144, Ln. 3-6 and Pg. 148-9, Ln. 5-23.

<sup>23</sup> Cross Ex. No. 2.

<sup>24</sup> Tr. Pg. 146, Ln. 8-9.

migration of the injected fluids. The plugging procedure for Wiley Estate No. 1 was approved by the Commission's staff.<sup>25</sup>

***b. Public Interest***

Ruger maintains that there was a rise in drilling permits issued and well completions approved in the first three quarters of 2019 in the Spraberry (Trend Area) Field in Martin County. Mr. Cloud testified that 711 drilling permits were issued for well locations in Martin County during the first three quarters of 2019.<sup>26</sup> He also noted 41, 125, and 167 approved completions in the county for the first, second and third quarters of 2019, respectively, showing an upward trend during that time.<sup>27</sup> Each completed well is expected to produce several million gallons of water and that frac flowback needs a disposal solution.<sup>28</sup> This market analysis is the basis for Ruger's application to provide additional disposal capacity in the area of the proposed well.<sup>29</sup>

Mr. Cloud testified that hundreds of horizontal and vertical wells have been drilled within ten miles of the proposed well.<sup>30</sup> In his opinion, there is room to drill several hundred more wells in this area.<sup>31</sup> Ruger also presented evidence showing 33 two-mile-long proposed horizontal well locations permitted by XTO within one-half mile of the proposed well.<sup>32</sup> According to Mr. Cloud, these proposed long-lateral horizontal wells will be fracture-stimulated and will generate large volumes of produced water.<sup>33</sup> Ruger also demonstrated that there are six producing horizontal wells within one mile of the proposed well.<sup>34</sup> Based on their initial potential test data, these six wells alone generated a combined 12,547 barrels of water per day ("BWPD") immediately after production.<sup>35</sup> If hundreds of similar additional wells are drilled, it was Mr. Cloud's opinion that the initial test data from the six nearby wells indicated the large volumes of frac flowback and water that might be produced in this area.<sup>36</sup>

With an expected increase in the number of drilling permits and wells drilled in the area, Ruger projected a need for disposal in the ten-mile area of review. For its calculations, Ruger assumed that two wells would be drilled per week over the course of a one-year period.<sup>37</sup> Each week, operators in the area would need an estimated 300,000 bbls of water to fracture stimulate these newly drilled wells. Ruger further estimated that 160,000 bbls of this water would be produced as frac flowback in the first year of production. The remaining 140,000 bbls would be produced over the next five years.<sup>38</sup>

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<sup>25</sup> Cross Ex. 2.

<sup>26</sup> Ex. No. 15.

<sup>27</sup> Ex. No. 16.

<sup>28</sup> Tr. Pg. 41, Ln. 17-22.

<sup>29</sup> Tr. Pg. 43, Ln. 17-22.

<sup>30</sup> Ex. No. 17.

<sup>31</sup> Tr. Pg. 46, Ln. 19-23.

<sup>32</sup> Ex. No. 18. On cross-examination, Mr. Hale, owner of Ruger Properties, testified that there are 70 wells permitted by XTO within five miles of the proposed well.

<sup>33</sup> Tr. Pg. 48, Ln. 3-11.

<sup>34</sup> Ex. No. 19.

<sup>35</sup> Ex. No. 19.

<sup>36</sup> Tr. Pg. 50, Ln. 1-8.

<sup>37</sup> Ex. No. 20.

<sup>38</sup> Tr. Pg. 51, Ln. 17- Pg. 52 Ln. 12.



Accordingly, Ruger estimates that additional disposal capacity of 30,000 BWPd is needed within five miles of the proposed well.<sup>39</sup>

Mr. Hale, the owner of Ruger properties, testified that Ruger services 160 customers who need disposal of water generated by drilling and operating horizontal wells.<sup>40</sup> Based upon his observations of drilling activity in the area, he believes that there is need for additional disposal capacity within five miles of the proposed well and is prepared to install a commercial disposal facility that can accept trucked and piped water at a cost of \$3.1 Million.<sup>41</sup>

Mr. Hale compared activities and operations in and around Ruger's existing Sulphur Draw SWD facility to the expected activity within five miles of the proposed well. The Sulphur Draw SWD facility is located approximately twelve miles from the proposed well.<sup>42</sup> Between 100-125 trucks per day offload water at that location.<sup>43</sup> 150 truckloads is the upper practical limit that the facility can accept in a single day due to the amount of time it takes each truck to unload its contents.<sup>44</sup> Mr. Hale described long lines on some days of trucks waiting to unload at the Sulphur Draw SWD location.<sup>45</sup> In addition, Ruger is finalizing an agreement with Endeavor Energy to send 10,000 BWPd to the Sulphur Draw facility via pipeline.<sup>46</sup> This would account for all remaining disposal capacity at that location.<sup>47</sup>

The proposed well will be located on the leasehold interest of Lario, one of Ruger's existing customers.<sup>48</sup> Lario recently drilled 12 wells on this leasehold interest and is currently trucking water up to ten miles to reach the Sulphur Draw SWD facility.<sup>49</sup> Mr. Hale testified that the proposed well would greatly reduce Lario's disposal costs on trucked water and would incentivize a pipeline connection (which could reduce costs even further).<sup>50</sup> Other operators in the area would also realize these savings in disposal and operating costs.<sup>51</sup>

In addition, Mr. Hale was personally aware of nine drilling rigs operating on behalf of XTO within ten miles of the proposed location.<sup>52</sup> Mr. Hale observed extensive site clearing and location staking within five miles of the proposed well.<sup>53</sup> In Mr. Hale's opinion, the activity seen around the proposed well was very similar to earlier drilling

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<sup>39</sup> Tr. Pg. 52, Ln. 13-16

<sup>40</sup> Tr. Pg. 70, Ln. 1-2.

<sup>41</sup> Tr. Pg. 71, Ln. 4-14.

<sup>42</sup> Tr. Pg. 85-, Ln. 16-18.

<sup>43</sup> Tr. Pg. 80, Ln. 20-22.

<sup>44</sup> Tr. Pg. 85, Ln. 9-13.

<sup>45</sup> Tr. Pg. 85 Ln. 3-8.

<sup>46</sup> Tr. Pg. 84, Ln. 23 – Pg. 85, Ln. 2.

<sup>47</sup> *Id.*

<sup>48</sup> Tr. Pg. 80, Ln. 16-20.

<sup>49</sup> *Id.*

<sup>50</sup> Tr. Pg. 80, Ln. 21 – Pg. 81, Ln. 2. The Examiners note that Lario initially filed a protest in this matter but did not prosecute the protest or offer public comment at the hearing after Commission staff determined administratively that Lario was not entitled to a hearing on the Application as a protestant.

<sup>51</sup> Tr. Pg. 99, Ln. 1-11.

<sup>52</sup> Tr. Pg. 79, Ln. 2-14; Tr. Pg. 101 Ln. 4-13.

<sup>53</sup> Tr. Pg. 82, Ln. 18-20.

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activity he observed around the Sulphur Draw SWD facility.<sup>54</sup> He expected that the new activity within five miles of the proposed well would result in disposal demand similar to that then occurring at the Sulphur Draw SWD facility.<sup>55</sup> On cross-examination, Mr. Hale conceded a downward trend in disposed volumes at the Sulphur Draw, SWD in the latter half of 2019, but attributed this to cyclical industry slowdowns in operations at the end of each year.<sup>56</sup>

The proposed well will accept trucked water. In response to clarifying questions by the Examiners, Mr. Cloud states that only two of the seven disposal wells within five miles of the proposed well are set up to accept trucked water.<sup>57</sup> The combined permitted capacity for those two wells is approximately 13,000 barrels per day.<sup>58</sup> Taken all presented data into consideration, Ruger claims there is obvious public interest need for disposal wells in the within five miles of the proposed well area.

### ***c. Protection of Useable Quality Water Aquifers***

In its May 9, 2019 letter, the Commission's Groundwater Advisory Unit ("GAU") determined that the usable-quality water-bearing strata is estimated to occur at a depth of 150 feet at the proposed location for Whit SWD Well No. 1. The Base of Underground Sources of Drinking Water (USDW) is estimated to occur at a depth of 1,000 feet.<sup>59</sup> The water-bearing strata must be protected.<sup>60</sup> Ruger proposes to run 9 5/8-inch surface casing to 250 feet, cemented to the top, and 7-inch string set at 3,850 feet with cement circulated to surface.

### ***d. Financial Assurance***

Ruger has an active Form P-5 Organization Report. As required by Statewide Rule 78, Ruger demonstrated financial responsibility in the form of a \$25,000 cash deposit.<sup>61</sup>

## **B. Protestant's Evidence**

The protestant, Cactus Energy, Inc., waived their right to present their direct case. Cactus chose to pass on a direct case presuming that Mr. Pollard, Engineer and expert witness for Cactus, would reiterate a number of things established during the cross examination of Mr. Cloud.<sup>62</sup>

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<sup>54</sup> Tr. Pg. 86 Ln.1-9.

<sup>55</sup> *Id.*

<sup>56</sup> Tr. Pg. 105-1-11

<sup>57</sup> Tr. Pg. 175, Ln. 1-8; Ex. No. 23.

<sup>58</sup> Tr. Pg. 175, Ln. 17-21.

<sup>59</sup> Ex. No. 2.

<sup>60</sup> Tex. Water Code § 27.051(b)(3).

<sup>61</sup> Ex. No. 5, Tr. Pg. 9, Ln. 17-20.

<sup>62</sup> Tr. Pg. 179, Ln. 18-20; Tr. Pg. 180, Ln. 7-12.

## **VI. Examiners' Analysis of the Evidence**

The Examiners conclude that the evidence demonstrates that Ruger's proposed injection wells meet the requirements of the Texas Water Code and Statewide Rule 9.

### **A. Protection of Oil, Gas and Geothermal Resources**

The evidence demonstrates that the proposed injection wells will be drilled, completed, and operated in a manner that will not endanger or injure any oil, gas, or geothermal resource, as required by the Statewide Rule 9. The shallowest productive zone in the area of the proposed injection well, the Sprayberry Formation, starts at 6,750 feet which is 1,250 feet below the bottom of the proposed injection interval at 5,500 feet. Ruger presented three nearby well logs<sup>63</sup> that consistently show the presence of a confining barrier above the productive zone and below the proposed injection interval. The confining interval starts at 5,650 feet, the base of Clearfork Lime. The Clearfork Lime is a dense, nonproductive, nonporous, limestone in this area that continues down to 6,750 feet, the top of Sprayberry Formation.

The protestant expressed concerns about two plugged wells located close to the 1/2-mile radius from White SWD Well No. 1. Cactus maintains that the two wells, the Powell "D" No. 1 (API No. 317-10336) and the Wiley Estate No. 1 (API No. 317-31163), have been improperly plugged and could potentially serve as a conduit for the injected fluids and could jeopardize productive zones.

The first well identified by Cactus, the Powell "D" No. 1, does not have a plug placed immediately above perforations, as required by the Statewide Rule 13, but it does have four plugs all above the proposed injection interval preventing upward migration of injected fluid. In addition, the mud-laden fluid in the wellbore will provide insulation between the wellbore and the deeper zones. The plugging procedure for the Powell "D" No.1 was approved by the Commission's staff and the Examiners find that the wellbore will not act as a conduit for injected fluids.

The second well identified by Cactus, the Wiley Estate No. 1, also had plugging problems indicated on its plugging reports. The well has steel casing from 3,374 to 8,500 feet covering the entire disposal interval. This steel casing will prevent the movement of fluids from the proposed disposal interval into the wellbore. The plugging report also indicates the well is filled with mud-laden fluid with a weight of 9.5 pounds per gallon, in accordance with Commission standards, which further prevents migration of the injected fluids. The plugging procedure for Wiley Estate No. 1 was approved by the Commission's staff, and the Examiners find that the well will not act as a conduit.

### **B. Protection of Ground and Surface Fresh Water**

The evidence presented demonstrates the wells will be cased and cemented in a manner that will adequately protect ground and surface fresh water from pollution. At the location of the proposed injection well GAU determined the presence of usable-quality

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<sup>63</sup> Ex. No. 8, 10, & 11; Tr. Pg. 24-25, Ln. 24-16.

water-bearing strata at a depth of 150 feet and the USDW to occur at a depth of 1,000 feet.<sup>64</sup> Wellbore schematic for White SWD Well No. 1 suggests surface casing down to 250 feet, cemented to the top, and a 7-inch string set at 3,850 feet with cement circulated to surface. It is Examiner's opinion that the proposed well design will be protective of ground and surface water.

As discussed in the previous section, all wells that were plugged and abandoned in the half-mile radius from the proposed well are sufficiently cased, cemented, and plugged in accordance with Commission rules. The Examiners find that these wells will not act as a conduit for injected fluids to endanger ground and surface fresh water.

The evidence demonstrates that the proposed well will be constructed and operated in a manner that will adequately protect ground and surface fresh water from pollution. The completion report for Williams "B" Well No. 1 shows presence of impermeable red beds at depths from 130 to 1,560 feet, as well as low porosity anhydrite and salt formation from 2,750 to 4,025 feet. The presence of anhydrate and red beds is further supported in the Form W-2 records from eight nearby wells officially noticed by the Examiners.<sup>65</sup> The record demonstrates that the base of usable-quality water, at a depth of 150 feet, is isolated from the top of the proposed disposal interval by a minimum of 1,500 feet of an impermeable strata. Since the usable-quality water-bearing strata and USDW are at depths of 150 and 1,000 feet respectively, the proposed injection well with its top injection interval at 3,850 feet will not endanger or injure ground and surface water.

### **C. Financial Responsibility**

Ruger has an active Form P-5 Organization Report. As required by Statewide Rule 78, Ruger demonstrated financial responsibility in the form of a \$25,000 cash deposit.

### **D. Public Interest**

Section 27.051 of the Texas Water Code requires that the use or installation of a proposed injection well or facility be in the "public interest."<sup>66</sup> The Commission generally defines "public interest" in terms of "industry need" within the area of the proposed well; i.e., whether there are sufficient disposal facilities in a particular area to prevent waste of hydrocarbons caused by excessive disposal costs. Accordingly, "industry need" may be demonstrated when it is shown that the economic life of a producing well will be extended and more oil produced if an operator has a means of disposing of his produced water. "Industry need" for commercial wells may also be shown when excessive wait times at disposal facilities in a particular area compel traveling greater distances at greater expense to dispose of produced water. The Commission has also considered an applicant's willingness to incur the expense of drilling and operating a disposal well based upon a factually supported market assessment of area industry need as evidence of public interest.

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<sup>64</sup> Ex. No. 2.

<sup>65</sup> Section IV *supra*.

<sup>66</sup> Tex. Water Code §27.051(b)(1).

Ruger has conducted a market analysis of industry need in the area of the proposed well based upon a review of permitted drilling activity, reported flowback volumes for nearby completed horizontal wells, and observed clearing and staking operations in the area. The data available at the time suggests that demand for disposal capacity is increasing. Based on the rising number of drilled wells and issued drilling permits, Ruger calculated that the volume of water produced is greater than the injection capacity of the currently operating SWDs in the area. Ruger's calculations are based on the assumption that in a one-year period two wells would be drilled per week. Each week 300,000 bbls of water would be used to fracture stimulate the wells. 160,000 bbls of that water would come as frac flowback in the first year of production, and the remaining water would be produced over the next 5 years. While the underlying assumptions concerning future drilling rates appear to be somewhat aggressive, Ruger has indicated a willingness to make a substantial capital investment based upon this analysis.

Current operations at the nearby Sulphur Draw SWD facility further suggest that there is substantial demand for facilities to accept trucked water within five miles of the proposed well. At present, only two wells in the area with a combined permitted capacity of 13,000 BWPD are presently capable of accepting trucked water. While wait times at the Sulphur Draw SWD facility do not appear to be excessive, the expected contract with Endeavor to pipe 10,000 BWPD to that facility would cause the facility to reach its permitted capacity. This would reasonably be expected to have a substantial adverse effect on wait times for trucked water. Ruger has also demonstrated that the proposed well would allow at least one of its existing customers, Lario, to avoid trucking water 10 miles to the Sulphur Draw SWD facility. Lario is the lease operator of the tract on which the proposed well is located and has drilled multiple wells on this leasehold interest. A disposal well on this leasehold would reasonably be expected to extend the economic life of Lario's nearby wells.

In its cross examination of Ruger's witnesses, Cactus attempted to show that Ruger's market analysis of industry need was faulty because the underlying assumptions were unreasonable or unreliable. However, the Examiners find particularly compelling the relatively low permitted capacity for trucked water in the area of the proposed well. Even if Ruger's underlying assumptions are unduly optimistic, the evidence presented at the hearing shows a demand for trucked water that is likely to exceed 13,000 BWPD if the observed clearing and staking activity in the area culminates in producing long-lateral horizontal wells. Also compelling is the apparent immediate benefit to the economic life of wells drilled by Lario on its leasehold interest surrounding the proposed well due to reduced travel distances for trucked water. Accordingly, the Examiners find the evidence presented by Lario in support of a finding that the proposed well is in the public interest to be sufficient.

## **VII. Findings of Fact and Conclusions of Law**

The Examiners recommend that the Commission adopt the following Findings of Fact and Conclusions of Law:

### **Findings of Fact**

1. On May 2, 2019, Ruger published notice of the subject application in the *Martin County Messenger*, a newspaper of general circulation in Martin County, Texas.
2. On May 14, 2019, Ruger provided notice of the subject application to the Martin County Clerk, operators of wells within 1/2-mile of the proposed location, and all other affected persons, as required by 16 Tex. Admin. Code § 3.9.
3. On May 30, 2019, Cactus Energy, Inc. filed with the Commission a protest of the subject application.
4. On August 6, 2019, Ruger filed a request for hearing on Statewide Rule 9 for a Permit to dispose of oil and gas waste by injection into a porous formation non-productive of oil or gas.
5. On October 3, 2019, the Hearings Division of the Commission sent a Joint Notice of Prehearing Conference ("Notice") for the application via first-class mail to Applicant and all affected persons setting a pre-hearing conference date of October 22, 2019. The Notices contain (1) a statement of the time, place, and nature of the pre-hearing conference; (2) a statement of the legal authority and jurisdiction under which the hearing is to be held; (3) a reference to the particular sections of the statutes and rules involved; and (4) a short and plain statement of the matters asserted. The pre-hearing conference was held on October 22, 2019. Applicant and Protestants appeared and participated. The hearing on the merits was set for November 18, 2019 and the parties were provided notice. Applicant and Protestants appeared and participated in the hearing on the merits. Consequently, all parties received more than 10 days' notice of the hearing and an opportunity for hearing.
6. The proposed location for Well No. 1 is approximately 7.5 miles north-northeast of Stanton, Texas, which is the nearest town in Martin County.
7. The proposed injection wells will be completed and operated as follows:
  - a) Drilled to a total depth of 5,500 feet;
  - b) Surface casing (9 5/8-inch) to 250 feet, cemented to the top;
  - c) Long string (7-inch) set at 3,850 feet with cement circulated to surface;
  - d) 4 1/2-inch tubing will be set on a packer at 3,750 feet;
  - e) Disposal interval of 3,850-5,500 feet, which includes the San Andres, Glorieta, and Clearfork formations;
  - f) A maximum daily injection volume equal to 30,000 bpd; and
  - g) A maximum surface injection pressure equal to 1,925 psig.
8. On May 22, 2019 the Commission requested Ruger to perform an injectivity test to verify that the proposed injection interval has the injectivity capacity to accept the permitted disposal volumes without exceeding the maximum permitted

surface pressure. Ruger agreed to perform an injectivity test as a permit condition.

9. The Groundwater Advisory Unit ("GAU") determined that the usable-quality water-bearing strata within a 200-foot radius from the location of the proposed White SWD Well No. 1 is estimated to occur at a depth of 150 feet. The base of underground sources of drinking water is estimated to occur at a depth of 1,000 feet per GAU letter No. 240469.
10. The proposed injection well will be sufficiently cased and cemented to protect groundwater resources.
11. The shallowest productive zone in the area of the subject well is the Spraberry Formation which starts at 6,750 feet.
12. The use or installation of the proposed injection well will not endanger or injure any oil, gas, or other mineral formation.
13. Ruger performed a 1/4-mile and 1/2-mile area of review study of active and plugged wells. All abandoned wells within one-half mile have been plugged in accordance with Commission standards and would not be a conduit for the migration of fluids out of the proposed disposal zone.
14. The proposed well will be located on the leasehold interest of Lario Oil and Gas Company ("Lario"). Lario recently drilled twelve wells on its nearby leasehold and is currently trucking produced water from these wells up to ten miles away.
15. Three wells have been permitted by Parsley Energy Operations within one-quarter mile of the proposed well.
16. 33 proposed horizontal wells have been permitted by XTO within one-half mile of the proposed well. 70 proposed horizontal wells have been permitted by XTO within ten miles of the proposed well.
17. Ruger estimates that there is sufficient space to drill several hundred new wells in the Spraberry (Trend Area) Field within ten miles of the proposed well and recent historic trends in drilling activity suggest an expected increase in the number of fracture-stimulated horizontal wells drilled in the area.
18. Extensive site clearing and location staking was seen within five miles of the proposed well prior to the filing of the Application. Similar activity surrounding Ruger's nearby existing Sulphur Draw SWD facility presaged significant demand for disposal of trucked water at that location. The new activity observed within five miles of the proposed well is expected to result in disposal demand similar to that occurring at the Sulphur Draw SWD facility.

19. The Sulphur Draw SWD facility is located approximately twelve miles from the proposed well. Between 100-125 trucks per day offload water at that location. 150 truckloads is the upper practical limit that the facility can accept in a single day due to the amount of time it takes each truck to unload its contents.
20. Long lines of trucks waiting to unload at the Sulphur Draw SWD location have been observed on some days.
21. Ruger is finalizing an agreement with Endeavor Energy to send 10,000 BWPD to the Sulphur Draw facility via pipeline. This would account for all remaining disposal capacity at that location and thus adversely affect truck wait times if there is substantial additional horizontal drilling activity in the area.
22. For its market analysis of industry need in the area, Ruger assumed that two wells would be drilled per week over the course of a one-year period. Each week, operators in the area would need an estimated 300,000 bbls of water to fracture stimulate these newly drilled wells. Ruger further estimated that 160,000 bbls of this water would be produced as frac flowback in the first year of production. The remaining 140,000 bbls would be produced over the following five years.
23. Ruger estimates that additional disposal capacity of 30,000 bbls of water per day ("BWPD") is needed within five miles of the proposed well.
24. The proposed well will accept trucked water. Only two of the seven disposal wells within five miles of the proposed well are set up to accept trucked water. The combined permitted capacity for those two wells is approximately 13,000 barrels per day.
25. Ruger is prepared to install a commercial disposal facility that can accept trucked and piped water at a cost of \$3.1 Million based upon its market analysis of industry need for additional disposal capacity within five miles of the proposed well.
26. Installation of the proposed well would extend the economic life of nearby wells and prevent waste of recoverable hydrocarbons.
27. The use or installation of the proposed injection wells is in the public interest.
28. Ruger has an active Form P-5 Organization Report.
29. Ruger made a satisfactory showing of financial responsibility required by Tex. Water Code § 27.073.



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### **Conclusions of Law**

1. Resolution of the Application is a matter committed to the jurisdiction of the Commission. Tex. Nat. Res. Code § 81.051.
2. All notice requirements have been satisfied. 16 Tex. Admin. Code § 3.9.
3. Ruger met its burden of proof, and the subject application satisfied the requirements of Chapter 27 of the Texas Water Code and Commission Statewide Rule 9.
  - a. The use or installation of the proposed injection wells is in the public interest. See Texas Water Code § 27.051(b)(1); 16 Tex. Admin. Code § 3.9.
  - b. The proposed injection well will not endanger oil, gas, or geothermal resources or cause the pollution of freshwater strata unproductive of oil, gas, or geothermal resources. Texas Water Code § 27.051(b)(2); 16 Tex. Admin. Code § 3.9.
  - c. With proper safeguards, both ground and surface fresh water can be adequately protected from pollution, Texas Water Code § 27.051(b)(3); 16 Tex. Admin. Code § 3.9.
  - d. Ruger has made a satisfactory showing of financial responsibility. Texas Water Code § 27.051(b)(4); 16 Tex. Admin. Code § 3.9.


### **VIII. Examiners' Recommendation**

Based on the evidence presented at the hearing, the Examiners recommend approval of the Application of Ruger Properties, LLC commercial permit to dispose of oil and gas waste by injection into the San Andres, Glorieta, and Clearfork formations not productive of oil and gas, for the White SWD Lease, Well No. 1, in the Spraberry (Trend Area) Field, Martin County, Texas.

Respectfully submitted,



Petar Buva  
Technical Examiner

**DocuSigned by:**  
  
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Ezra A. Johnson  
Administrative Law Judge