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DANA AVANT LEWIS, *DIRECTOR*

# RAILROAD COMMISSION OF TEXAS

## HEARINGS DIVISION

### PROPOSAL FOR DECISION

**OIL & GAS DOCKET NO. 08-0308857**

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**APPLICATION OF RUGER PROPERTIES, LLC (734092) 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 FOR THE CHANDLER SWD LEASE, WELL NO. 1, SPRABERRY (TREND AREA) FIELD, MARTIN COUNTY, TEXAS**

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**HEARD BY:** Peggy Laird, P.G. – Technical Examiner  
Kristi M. Reeve – Administrative Law Judge

**PREPARED BY:** Karl Caldwell – Technical Examiner  
Kristi M. Reeve – Administrative Law Judge

### **APPEARANCES:**

#### **APPLICANT:**

Clay Nance  
Shannon Chapman  
Greg Cloud  
Don Hale

#### **REPRESENTING:**

Ruger Properties, LLC

#### **PROTESTANTS:**

Peter T. Gregg  
  
Rhonda Holloway

#### **REPRESENTING:**

Kathy Nobs  
Virginia (Tandy) Poindexter  
Kelly Poindexter  
Self

#### **OBSERVER:**

Craig Spamer

**PROCEDURAL HISTORY**

Application Filed:	October 10, 2017
Protest Received:	October 12, 2017
Protest Received:	November 3, 2017
Docket Opened:	January 25, 2018
Request for Hearing:	February 1, 2018
Notice of Hearing:	February 7, 2018
Pre-Hearing Conference:	March 13, 2018
First Hearing Date:	May 15, 2018
Late-Filed Exhibits Received:	May 30, 2018
Second Hearing Date:	July 2, 2018
Late-filed Exhibits Received:	July 11, 2018
Transcript Received:	July 18, 2018
Hearing Closed:	August 29, 2018
Proposal for Decision Issued:	December 7, 2018

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## **I. STATEMENT OF THE CASE**

Pursuant to Statewide Rule 9 (16 Tex. Admin. Code § 3.9), Ruger Properties, LLC ("Ruger" or "Applicant") seeks a commercial permit to dispose of oil and gas waste by injection into a porous formation not productive of oil or gas, for the Chandler SWD Lease, Well No. 1 ("Chandler SWD"), in the Spraberry (Trend Area) Field, Martin County, Texas. The proposed disposal well will be located on a forty-acre tract near the intersection of County Road 3200 and Farm-to-Market 1212, about 5 miles southwest of Tarzan, Texas. A drilling permit (No. 830764) for the Chandler SWD (API No. 42-317-41009) was issued on September 15, 2017. Ruger seeks authority to dispose up to 25,000 barrels of water per day into the San Andres and Glorieta Formations in the depth interval from 4,300 feet to 6,200 feet. Nearby operator Pioneer Natural Resources, USA ("Pioneer") initially protested the application, but withdrew its protest prior to the hearing. The application is currently protested by adjacent landowners Kathy Nobs, Virginia (Tandy) Poindexter, Kelly Poindexter, and Rhonda Holloway. Craig Spamer appeared at the hearing as an observer in support of Ms. Holloway.

Upon review of the evidence in the record, the Administrative Law Judge and Technical Examiner (collectively, "Examiners") recommend approval of the application with the addition of two special permit conditions to be met prior to commencing disposal operations.

## **II. JURISDICTION<sup>1</sup>**

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.

Section 27.031 of the Texas Water Code states that 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 Commission.

## **III. 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:

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;

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<sup>1</sup> The transcript for the hearing in this case is in three parts, one for the prehearing conference and two for the hearing on the merits and is referred to as, for the prehearing conference, "PH Tr. pg. [page no.]" or, for the hearing on the merits as, "Tr. Vol. [Vol. no.], pg(s). [page no.]" Ruger's exhibits are referred to as "Ruger Exhibit No. [exhibit no.]" Protestants' Poindexter and Nobs' exhibits are referred to as "Protestants' Exhibit No. [exhibit no.]"

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.

#### **IV. NOTICE OF APPLICATION FOR MS. NOBS**

Of note, none of the protestants were represented by counsel at the prehearing conference. All but Ms. Holloway were represented by counsel at the hearing on the merits.

At the prehearing conference and again at the hearing on the merits, Ms. Nobs stated she did not receive notice of the permit application.<sup>2</sup> Statewide Rule 9(5)(B) requires:

a commercial disposal well permit applicant shall give notice to owners of record of each surface tract that adjoins the proposed disposal tract by mailing or delivering a copy of the application to each such surface owner.

Ruger's application included a certification that the Form W-14, along with a map for the well, were mailed to surface owners within a half-mile radius.<sup>3</sup> Ms. Nobs was listed, with her mailing address. Ms. Nobs confirmed at the prehearing conference that the address used was the correct address.

At the hearing on the merits, Mr. Hale, owner of Ruger, testified that to his knowledge, none of the mail that was part of their notice of the application was returned. Counsel for Ruger argued that Ms. Nobs had waived her argument regarding notice, as she had appeared at the hearing.<sup>4</sup> Ms. Nobs' counsel argued that "compliance with the statutory and regulatory notice requirements never become irrelevant."<sup>5</sup>

At the prehearing conference Ms. Nobs stated that her daughter (Ms. Poindexter, who is also an adjoining surface owner) had received notice of the application.<sup>6</sup> Additionally, Ms. Poindexter testified that her mother had received a copy, of what appeared to the Examiners to be the entire application file, from the Commission prior to the prehearing conference, which Ms. Nobs stated she had not requested.<sup>7</sup>

The date of April 18, 2018, had been reserved on the docket calendar for the hearing on the merits prior to the calling of the prehearing conference. Given the question

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<sup>2</sup> PH Tr. pg. 15 and Tr. Vol. 1, pgs. 203-207.

<sup>3</sup> Ruger Application.

<sup>4</sup> Tr. pg. 205.

<sup>5</sup> Tr. pg. 206.

<sup>6</sup> PH Tr. pgs. 15 and 49.

<sup>7</sup> PH Tr. pg. 30.

of notice and the desire of the unrepresented protestants to having additional time, the Examiners noticed the parties on the record that the hearing on the merits would occur on May 15, 2018, giving them an additional month.

The purpose of any notice requirement for an application is to ensure that those affected are able to participate/protest the application if they so desire. Ms. Nobs stated she did not receive her copy of the notice of application. Mr. Hale stated no mail was returned. Notice is effective when mailed, not when received. Ms. Nobs did receive actual notice of the application via her daughter. Ms. Nobs was afforded the opportunity to participate. Ms. Nobs, as well as all the protestants, was provided additional time to prepare for the hearing on the merits and to obtain counsel if so desired. Thus, the purpose of the notice requirement was fulfilled.

## **V. DISCUSSION OF THE EVIDENCE**

### **APPLICANT'S EVIDENCE**

Greg Cloud, consulting engineer for the applicant and Don Hale, owner of Ruger, provided testimony and evidence for Ruger.

#### **Notice**

On September 22, 2017, notice of the application was published in the *Midland Reporter-Telegram*, a newspaper of general circulation published in Midland, Ector, Howard, Crane, Glasscock, Martin, Upton, and Andrews Counties, Texas. On September 28, 2017, Ruger mailed copies of the application to the owner of the surface tract, owners of adjacent tracts, operators of wells within a one-half mile radius, and the Martin County Clerk.

#### **Facility Design and Operation**

The proposed Chandler SWD will be located on a forty-acre tract of land near the intersection of County Road 3200 ("CR 3200") and Farm-to-Market 1212 ("FM 1212"), about 5 miles southwest of Tarzan, Texas. The property is owned by Chandler & Son Inc., and is shown to be within the T&P RR CO Survey, A-290, Martin County. Ruger has an easement, surface use and lease agreement with the surface owner that enables it to drill and operate the facility.

Maverick Disposal, LLC ("Maverick") previously filed a Form W-14 and was granted a permit pursuant to Statewide Rule 9 (Permit No. 14464) for a disposal well on the Chandler Lease to inject oil and gas waste in the depth interval from 4,450 feet to 5,200 feet at a maximum surface injection pressure of 2,225 psig and a maximum injection volume of 10,000 bpd.<sup>8</sup> The permit was issued on March 3, 2014. The well was not permitted to be in the exact location as the subject well, but was to be located in the

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<sup>8</sup> Ruger Exhibit No. 17.

same quarter section with the same surface owner, Chandler, as referenced by Section 5, Block 38, Abstract No. 290 in both disposal well application files.<sup>9</sup> The Maverick permit was transferred over to 3 Ten at some point; the permit expired May 9, 2017, since the disposal well was not spudded within three years of the issuance of the permit (Permit No. 14464 Standard Condition No. 8).<sup>10</sup>

### Well Construction

The well construction plan is to set 9 5/8-inch surface casing at a depth a 400 feet and cement the casing with cement circulated to surface. The surface casing will be set 100 feet below the BUQW, identified to be at a depth of 300 feet. Statewide Rule 13<sup>11</sup> requires surface casing to be set at a depth to protect the BUQW but does not require surface casing to be set below the USDW, which is estimated at a depth of approximately 1,550 feet.

After the 9 5/8-inch surface casing is set at 400 feet and cement circulated to surface, the proposed disposal well will have 7-inch long string casing set at a depth of 4,300 feet and cemented with cement circulated to surface. The proposed well will then be drilled to a total depth (TD) of approximately 6,200 feet. The proposed disposal interval will be open hole, with a disposal interval from 4,300 feet to 6,200 feet. The requested maximum daily injection volume is 25,000 barrels of water per day ("bwpd") of produced salt water, at a maximum surface injection pressure of 1,850 pounds per square inch gauge ("psig").<sup>12</sup>

### Groundwater, Surface Water and Geology

The Commission's Groundwater Advisory Unit ("GAU") reports that the base of usable-quality groundwater at the location of the Chandler SWD is at a depth of approximately 300 feet and the interval from the land surface to 300 feet must be protected. The base of underground sources of drinking water ("USDW") is estimated to occur at a depth of 1,550 feet at the site of the Chandler SWD. In a letter dated September 27, 2017, the GAU states, "Our review of the data contained in the application and of other available geologic data indicate that, if otherwise compliant with Railroad Commission rules and guidance, drilling and using this disposal well and injecting oil and gas waste into the subsurface stratum will not endanger the freshwater strata in that area."<sup>13</sup>

The proposed San Andres-Glorieta disposal interval is shown on the Compensated Neutron Log of the Pioneer Resources USA, Inc., Meek "5" #1 Well (API No. 42-317-35895), Spraberry (Trend Area) in Martin County, Texas.<sup>14</sup> This interval is commonly used for oil and gas waste disposal in the region. The well log indicates a 400-foot continuous sequence of low porosity limestone underlying the proposed disposal interval.

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<sup>9</sup> Tr. Vol. 1, pg. 46.

<sup>10</sup> Ruger Exhibit Nos. 17 and 18, Tr. Vol. 1, pg. 46-47.

<sup>11</sup> Statewide Rule 13 refers to 16 Tex. Admin. Code § 13.

<sup>12</sup> Ruger Exhibit No. 1.

<sup>13</sup> Ruger Exhibit No. 1.

<sup>14</sup> Ruger Exhibit No. 5.

CLARIFYING EXAMINATION BY EXAMINERS:

Q: Now, I'm gonna refer to Exhibit 5. And you made the statement that there was -- there was confining anhydrites and shales both above and below the injection interval?

A Yes.

Q You included -- there's a well log with Exhibit 5. Do you have the thickness of the confining layers?

A Generally -- if you look at this log, at the bottom of the interval, it's roughly 6400 feet. That would be on Page 3 of the log. You can see a depth of 6500 feet where there's a big gamma ray deflection to the left and then the neutron porosity. This is a cased hole log. The neutron porosity, reading back to the right, which is zero porosity, that is a large limestone unit, so that's 100, 200 -- that's approximately 400 feet.

Q Okay.

A -- on the -- at the base of the interval. And you generally have that same at the top of the interval. Unfortunately the top of the interval is at 4200 feet. And this log -- excuse me. I think the top of the interval is 4300 feet. The top of this log here was only logged up as high as 4200. So you're not able to see on this particular log the confining intervals, but there are some wells in the area where there is a formation record available that shows the silt, shows the anhydrite and shale stringers above 4300 feet.<sup>15</sup>

To demonstrate the overlying confining layer, Ruger presented Form W-2 completion reports for two wells completed in 1971, one 2,500 feet northeast and the other 2,500 feet southeast of the proposed well.<sup>16</sup> The formation record included in the Form W-2 completion reports for each well list about 2,800 feet of anhydrites, salt, shale, and lime intervals encountered when drilling these wells that would overlie the proposed disposal interval. Mr. Cloud stated this sequence was considered the confining sequence above the proposed disposal interval.<sup>17</sup>

### **Productive Formations and Geology**

Form W-14 lists the oil and productive zones within two miles of the proposed Chandler SWD No.1 location as the Spraberry (Trend Area) Field, Strawn, Atoka, and Mississippian. These productive zones are identified on Form W-14 to be at depths

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<sup>15</sup> Tr. Vol. 1, pgs. 234-235.

<sup>16</sup> Ruger Exhibit No. 29.

<sup>17</sup> Tr. Vol. 1, pgs. 236-237.



ranging from 7,600 feet to 11,000 feet, which are more than 1,000 feet deeper than the proposed disposal interval within the Glorieta and San Andres Formations. Below the base of the San Andres Formation is approximately 400 feet of limestone with the well log indicating zero porosity. Ruger's engineering witness also described non-permeable shales at the base of the disposal interval.

### **Area of Review**

Ruger conducted a review of Commission records to identify all wellbores within a one-quarter mile area of review ("AOR") around the proposed well location. There are three plugged and abandoned wells within the AOR that penetrate the disposal interval of the Chandler SWD. According to Commission records, the wells were plugged in accordance with Commission rules and are as follows:<sup>18</sup>

- API No. 42-317-33193, Greathouse -85- Lease, Well No. 2 drilled in 1985 in the Spraberry (Trend Area) Field, total depth 9,410 feet, plugged on 10/23/2007;
- API No. 42-317-30378, Glendenning Lease, Well No. 1 drilled in 1971 in the Spraberry (Trend Area) Field, total depth 9,325 feet, plugged on 10/29/1988; and
- API No. 42-317-30489, Hopper Lease, Well No. 1 drilled in 1971 in the Spraberry (Trend Area) Field, total depth 9,350 feet,, plugged on 02/09/1978.

### **Public Interest and Need for Additional Disposal Capacity**

Ruger asserts that there is a continuing and growing need for waste water disposal capacity in the area of its proposed Chandler SWD. Mr. Cloud stated, "...the subject location is in the Spraberry (Trend Area) Field. That is a very hot trend that's being drilled in the State of Texas."<sup>19</sup> He further asserted that the proposed Chandler SWD location is in the "heart of the drilling and production activity in the Spraberry (Trend Area) Field."<sup>20</sup>

Ruger provided a series of exhibits to support their analysis of exploration and production trends in the area. Exhibit 10 is a map that shows the location of the proposed well centered within a 20 square-mile portion of Martin County.<sup>21</sup> The map depicts approximately 200 producing wells and 200 permitted wells not yet drilled. Vertical and horizontal wells, and areas where wells could potentially be permitted and drilled are shown on the map.<sup>22</sup>

Ruger focused on the Spraberry (Trend Area) Field and horizontal wells to demonstrate need for disposal wells in the area. Horizontal well drilling permits issued for Martin County have steadily increased from 149 issued in the third quarter of year 2017 to 189 issued in the first quarter of year 2018.<sup>23</sup> Well completions approved for horizontal wells in Martin County have increased from 61 in the third quarter and 26 in the fourth

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<sup>18</sup> Ruger Exhibit No. 1.

<sup>19</sup> Tr. Vol. 1, pgs.30-32.

<sup>20</sup> Tr. Vol. 1, pgs.17-21, 32.

<sup>21</sup> Ruger Exhibit No. 10.

<sup>22</sup> Tr. Vol. 1, pgs.30-31.

<sup>23</sup> Ruger Exhibit No. 11

quarter of year 2017, to 119 for the first quarter of year 2018.<sup>24</sup> Mr. Cloud asserts that the increase in horizontal well drilling and the associated hydraulic fracture stimulation will produce large volumes of water to be disposed. The water is from two sources, frac flowback and lease production water.<sup>25</sup> As an example of the water volume that can be produced, Ruger provided completion information from Commission records for four horizontal wells within about 3 miles of the proposed Chandler SWD.<sup>26</sup> Initial water production from these wells ranged from 1,403 to 4,187 barrels of water per day (bwpd). According to *FracFocus*, the volume of water used to hydraulically fracture stimulate these wells ranged from 315,000 to 558,000 bbl of water.<sup>27</sup> Mr. Cloud stated that, "...approximately half of that volume is flowed back with the oil and gas production in the first year."<sup>28</sup>

On cross-examination, Mr. Cloud stated that the capacity of a truck that would dispose of saltwater at the proposed disposal well is 110 bbl in most cases, and there is also some saltwater piping in this area, but until that piping infrastructure is in place for the subject disposal well, water will need to be trucked to be disposed of.<sup>29</sup> Based on a maximum permitted disposal volume of 25,000 bpd at 110-bbl per truck, the math is 227 trucks a day to reach the maximum permitted volume.<sup>30</sup>

Mr. Hale, is an experienced operator of commercial disposal facilities.<sup>31</sup> He operates the nearby Nail facility, which Ruger used as an example of the facility design previously discussed. The Nail facility is located about 5.5 miles from the proposed Chandler SWD.

Mr. Hale discussed the two main factors that he reviews in studying the market for water disposal needs. One is new development that will produce high volumes of frac flow-back water. The other is the location of other disposal facilities and their available capacities.<sup>32</sup>

Q Okay. What types of factors do you consider in studying the market for water disposal?

A Well, naturally we are -- our first goal is to look at the number of drilling permits that are in a specific area to determine that the drilling and -- you know, the industry today, the biggest part of the water that you're gonna get is from the flowback in the frac. So we're looking

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<sup>24</sup> Ruger Exhibit No. 12

<sup>25</sup> Tr. Vol. 1, pgs. 31-32.

<sup>26</sup> Ruger Exhibit Nos. 14 and 15.

<sup>27</sup> Statewide Rule 29 (16 Tex. Admin. Code § 29) requires Texas oil and gas operators to disclose on the FracFocus website ([fracfocus.org](http://fracfocus.org)), chemical ingredients and water volumes used in hydraulic fracturing treatments.

FracFocus is a public Internet chemical registry hosted by the Ground Water Protection Council (GWPC) and the Interstate Oil and Gas Compact Commission (IOGCC). The GWPC is a national association of state ground water and underground injection control agencies. The IOGCC is a national commission of state oil and gas regulators.

<sup>28</sup> Tr. Vol. 1, pg. 42.

<sup>29</sup> Tr. Vol. 1, pgs. 94-95.

<sup>30</sup> Tr. Vol. 1, pg. 95.

<sup>31</sup> Tr. Vol. 1, pgs. 106-108.

<sup>32</sup> Tr. Vol. 1, pgs. 108-109.

at the new development, new developed areas that are gonna have high frac water volumes coming back because the operators that have their own disposals, most of the time they can't handle the frac water. So they're sending it to other sources to dispose of it. So we're getting in there and we work with a lot of these operators to take that water. And the second thing is -- that we look for is the location of other disposals and the capacities that they have available. And we don't want to go build a disposal right next to another one that's got a 20,000 barrel-a-day volume and they're only taking 2 or 3,000 barrels. We don't want to get in a price war with trying to say we need that water instead of you. And that's basically the two big factors that we look at.<sup>33</sup>

Mr. Hale provided a list of twenty trucking companies and operators that currently bring water for disposal to the Nail facility.<sup>34</sup> Mr. Hale stated that the Nail SWD and other operations in the area had to turn away business because they couldn't handle the volume of truck water.<sup>35</sup> When trucks cannot use the Nail facility, they are traveling further distances for disposal, resulting in greater travel time and expense. According to Mr. Hale, the Chandler SWD will reduce the cost of disposing the water and the lease operating cost of the operator.<sup>36</sup>

As part of their disposal operation and plan, Ruger intends to develop contracts to pipe water to the Chandler SWD. Ruger anticipates a significant amount of pipeline water will be brought to the Chandler SWD based on water volumes that are being piped to the Nail facility. Ruger has existing customers, CrownQuest Operating, LLC and XTO Energy, Inc., that currently pipe water to the Nail facility. Total volumes of piped water injected for these two customers increased from 170,060 barrels in January 2018 to 480,420 barrels in April 2018.<sup>37</sup>

## **Financial Assurance**

Ruger has an active organization report (Form P-5, Operator No. 734092). Ruger has filed a \$25,000 letter of credit with the Commission for blanket financial assurance.<sup>38</sup> According to Mr. Hale, Ruger also has a \$2,000,000 umbrella liability insurance policy.<sup>39</sup>

## **Seismicity**

A review of the records of the U. S. Geologic Survey identified no seismic event of any magnitude within a 9.08 kilometer radius (100 square miles) of the proposed disposal well between January 19, 1973 and September 26, 2017.<sup>40</sup> At the hearing, Mr. Cloud

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<sup>33</sup> Tr. Vol. 1, pg. 108-109.

<sup>34</sup> Ruger Exhibit No. 21.

<sup>35</sup> Ruger Exhibit No. 23, Tr. Vol. 1, p.121-123.

<sup>36</sup> Tr. Vol. 1, pg. 124.

<sup>37</sup> Ruger Exhibit No. 24, Tr. Vol. 1, p.126.

<sup>38</sup> Ruger Exhibit No. 2.

<sup>39</sup> Tr. Vol. 1, pgs. 10-15, 111.

<sup>40</sup> Ruger Exhibit 1.

stated he had reviewed the seismic information since the application was submitted to see if there was any change during that time and found none.<sup>41</sup>

## **PROTESTANTS' EVIDENCE**

### **Protestants Poindexter and Nobs Evidence**

Kelly and Tandy Poindexter ("Poindexters") own the northeast corner of Section 1 and the remainder of the section is owned by Kathy Nobs. The proposed Chandler SWD No. 1 disposal well location is approximately 801 feet from the water well on Kelly and Tandy Poindexter's property.<sup>42</sup> Mr. Poindexter also estimates 800 feet to be the approximate distance from the proposed disposal well location and a point between the Poindexters' house and shop, and 701 feet between the proposed disposal well and where horses are kept on the Poindexters' property.<sup>43</sup>

One of the Poindexters' concerns regarding the proposed disposal well is contamination of their water well, as the only source of water at the Poindexters' residence is the water well on their property. Mr. Poindexter asserts that if the water well becomes contaminated, the Poindexters would be unable to live on their property, or raise cattle or grow crops.<sup>44</sup>

On cross-examination, Mr. Poindexter stated the distance from the proposed disposal well location to the water well on the Poindexters' property is 801 feet and the distance to a horse pen is 718 feet. While the distance to the Poindexters' house is over 800 feet, but not much farther than 800 feet, according to Mr. Poindexter.<sup>45</sup>

Another concern of Protestants Poindexter and Nobs is that there is not a need for additional disposal capacity in this area. Using the staked location for the proposed disposal well as the control point, Mr. Poindexter determined there to be twelve (12) disposal wells within 8 miles, as the crow flies, of the proposed disposal well location.<sup>46</sup> Mr. Poindexter participated with his family members in an observation study of these 12 disposal wells to visually observe the activity level. The study included driving to each location, recoding the number of trucks at each facility, whether there were any wait times for trucks at the facilities, and taking photographs to support their observations during the time spent at each facility. A total of four (4) trips to each of the facilities were made prior to the hearing on May 15, 2018.

At each site observation, the Protestants Poindexter and Nobs recorded the time of day they arrived at the facility, the time of day they left the facility, the number of trucks present upon arrival, the number of bays utilized upon arrival, if there were any trucks waiting, and the total number of trucks observed during the visit duration. The arrival time

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<sup>41</sup> Tr. Vol. 1, pgs. 17-15, 49.

<sup>42</sup> Protestants' Exhibit No. 7.

<sup>43</sup> *Id.*

<sup>44</sup> Tr. Vol. 1, pgs. 246-248.

<sup>45</sup> Tr. Vol. 2, pgs. 131-132.

<sup>46</sup> Protestants' Exhibit No. 4.

and day of the week at each facility varied during each of the four trips to each facility to obtain a more representative view of day-to-day operations.

Two of the 12 facilities, the Buckhorn Energy Services Horned Frog Commercial SWD and the Environmental Disposal Systems Dickenson No. 1, located 1.06 miles away, did not have lights at night, so no night time observations were made at these facilities.<sup>47</sup> In summary, Mr. Poindexter's conclusion based on his observations was that wait times at each facility were minimal, if at all, as only once did he observe someone waiting during a visit, and he never observed a full facility.<sup>48</sup>

Mr. Poindexter reviewed the Form H-10 injection volumes for each of the 12 disposal wells within 8-miles of the proposed disposal well and compared the reported injection volumes to the permitted disposal volumes for the 12 wells. For January 2018, the total cumulative daily permitted disposal volumes for the 12 disposal wells is 202,300 barrel per day (bpd). For the 31-day month of January 2018, the permitted disposal volume is 6,271,300 bbl, while the actual volume of water disposed for the month of January 2018 was 1,779,866 bbl, a cumulative average of 28% of the permitted volume. This indicated to Mr. Poindexter that these 12 facilities within 8-miles of the proposed disposal well are not at capacity, which appears to support the observations made during Mr. Poindexter's disposal facility observation visits. The largest percentage of injected volume to maximum permitted volume in January 2018 for the 12 facilities was 60%, which was Ruger's Nail facility.<sup>49</sup>

On cross-examination, Mr. Poindexter indicated that only three of the disposal wells are located within a five-mile radius of the proposed disposal well location.<sup>50</sup> Mr. Poindexter stated that he has never owned or operated a saltwater disposal well and does not have any knowledge of tank capacities and evaluating tanks to know how much water is in a tank at a saltwater disposal well facility.<sup>51</sup> Mr. Poindexter also stated that he does not have any knowledge or experience evaluating wellbores used in saltwater disposal or any knowledge or experience evaluating pumps and pump sizes used in saltwater disposal, any experience operating saltwater pipelines, any experience hauling saltwater by truck, and has never been retained by a saltwater disposal company to conduct a market analysis.<sup>52</sup>

On cross-examination, Mr. Poindexter stated that there was no determination made regarding the amount of time spent observing each saltwater disposal facility during the study, but the time spent at each facility was a product of the amount of time required to pull off the side of the road, take pictures, and make general observations regarding the activities at each facility.<sup>53</sup> Mr. Poindexter stated that the observations were made from the right-of-way of the road, and Mr. Poindexter did not speak with anyone within the

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<sup>47</sup> Tr. Vol. 1, pg. 276.

<sup>48</sup> Protestants' Exhibit No. 21.

<sup>49</sup> Tr. Vol. 1, pg. 289.

<sup>50</sup> Tr. Vol. 2, pg. 130.

<sup>51</sup> Tr. Vol. 2, pg. 113.

<sup>52</sup> Tr. Vol. 2, pg. 114.

<sup>53</sup> Tr. Vol. 2, pg. 117.

saltwater disposal properties.<sup>54</sup> Mr. Poindexter is not aware whether any of the facilities were closed when he made his observations, but there were two facilities that were not lit up at night, so those may not be 24-hour facilities and may be closed at night.<sup>55</sup> A total of about 42 minutes over 4 days was spent observing the activity at the NGL Water Solutions Permian Martin #2 SWD, or less than 1% of the time during the four-day period observing the activity at the facility.<sup>56</sup> In observing the Ruger Properties Nail No.1 on April 17, 2018, two trucks were unloading upon the Poindexters' arrival at the facility, and the total number of trucks observed between 3:03 pm and 3:08 pm was two.<sup>57</sup>

On re-direct examination, Mr. Poindexter stated that all pictures taken during the site visits have been included in Protestants' hearing exhibits, and the Poindexters were not selective in what they did and did not choose to present at the hearing.<sup>58</sup>

#### Virginia "Tandy" Poindexter

Kelly Poindexter is Virginia "Tandy" Poindexter's husband. Ms. Poindexter agrees with everything Mr. Poindexter testified to in the hearing.<sup>59</sup> The Poindexters' house is located across CR 3200 from the proposed disposal well location, with the water well on their property approximately 800 feet from the proposed disposal well location. Where CR 3200 meets FM 1212 is a two lane road. Ms. Poindexter does not consider CR 3200 to be a major road, but the road is a paved road. Ms. Poindexter has several concerns with the proposed disposal well being located across the street, including a potential impact to groundwater and potential seismic activity.

Ms. Poindexter asserts that if the groundwater is affected by the proposed disposal well, the Poindexters would not be able to live in, or sell the home, as there is no other source of drinking water at the residence.<sup>60</sup> Ms. Poindexter is concerned with water becoming contaminated as a result of surface spills and groundwater impacted as a result of contamination from subsurface deficiencies.

On cross-examination Ms. Poindexter stated that even if the Applicant designs the wellbore in accordance with Statewide Rule 9, Ms. Poindexter will always have concerns with the proposed disposal well.<sup>61</sup>

Mustang Draw is a surface feature that runs on the Chandler property where the proposed disposal well will be located, and the feature extends onto the Poindexters' property. Ms. Poindexter compares Mustang Draw to a funnel, so if there is a problem at the proposed disposal well location, that problem would funnel from that location onto the Poindexters' property.<sup>62</sup>

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<sup>54</sup> Tr. Vol. 2, pgs. 116-117.

<sup>55</sup> Tr. Vol. 2, pg. 121.

<sup>56</sup> Tr. Vol. 2, pgs. 125-126, Protestants' Exhibit No. 21.

<sup>57</sup> Tr. Vol. 2, pg. 127.

<sup>58</sup> Tr. Vol. 2, pg. 139.

<sup>59</sup> Tr. Vol. 2, pg.13.

<sup>60</sup> Tr. Vol. 2, pgs. 14-15.

<sup>61</sup> Tr. Vol. 2, pg. 144.

<sup>62</sup> Tr. Vol. 2, pg. 17.

On cross-examination, Ms. Poindexter stated that no work was performed to determine the elevation and outer boundaries of Mustang Draw, and to Ms. Poindexter's knowledge her home is not located in a floodplain.<sup>63</sup>

In the time since the first day of hearings on the subject disposal well application on May 15, 2018, Ms. Poindexter conducted additional disposal well observations, which took place on June 25 and 27, 2018. These additional visits were not to all 12 of the disposal well locations previously observed, but focused on 9 disposal wells. Ms. Poindexter maintains that the level of activity was the same or less than that observed during the visits conducted prior to May 15, 2018, and there was no difference in truck traffic or wait time.<sup>64</sup> Based on her observations, the truck traffic that Mr. Hale described at the Blue Duck facility is surrounding a food truck at the location which serves breakfast and lunch on a daily basis.<sup>65</sup>

On cross-examination, Ms. Poindexter stated that on June 25 and 27, 2018, when additional disposal well observations were made, the observation time at each facility was approximately 5 minutes.<sup>66</sup> On re-direct examination, Ms. Poindexter confirmed that by design of the study, the facilities were visited at different times of the day during the observation days. Ms. Poindexter maintains that the data collected during each site visit was consistent with every day-to-day observations made of the facilities, and the observations are representative of the truck activity at each facility.<sup>67</sup>

#### Kathy Nobs

Kathy Nobs' property abuts her daughter, Tandy Poindexter, and son-in-law, Kelly Poindexter's property. The Nobs' property extends east and west along CR 3200. Ms. Nobs participated in some of the disposal well observations and agrees with the information provided by the Poindexters.<sup>68</sup> If the proposed disposal well contaminated groundwater it would impact Ms. Nobs' property.<sup>69</sup> Ms. Nobs preference would be to locate the proposed disposal well further to the northwest on the Chandler property which would be a greater distance away.<sup>70</sup> Ms. Nobs' asserts there is not a need for an additional facility based on her observations of the truck activity at the existing disposal wells.<sup>71</sup>

On cross-examination, Ms. Nobs stated that she lives in Midland but visits her daughter and son-in law every week. Ms. Nobs has observed oilfield traffic on FM 1212 and CR 3200 in addition to traffic driving directly in front of her daughter and son-in law's

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<sup>63</sup> Tr. Vol. 2, pg. 145.

<sup>64</sup> Tr. Vol. 2, pg. 32.

<sup>65</sup> Tr. Vol. 2, pgs. 34-35.

<sup>66</sup> Tr. Vol. 2, pg. 149.

<sup>67</sup> Tr. Vol. 2, pgs. 149-150.

<sup>68</sup> Tr. Vol. 2, pg.44.

<sup>69</sup> Tr. Vol. 2, pgs. 45-46.

<sup>70</sup> Tr. Vol. 2, pg. 46.

<sup>71</sup> Tr. Vol. 2, pg. 47.

house. However, Ms. Nobs is concerned that the proposed disposal well would result in more oilfield traffic at night than is currently present.<sup>72</sup>

Protestant Rhonda Holloway

The Holloway property consists of two sections of land, Sections 35 and 36. Each section of land is a square mile. Ms. Holloway describes the property as pastureland, and is a habitat for the burrowing owl and the Texas horned lizard. Ms. Holloway contends the proposed disposal well is a threat to the fauna in the area.<sup>73</sup>

Ms. Holloway currently has a 5-acre saltwater spill that has collected in Mustang Draw on her property.<sup>74</sup> The saltwater originated from a saltwater pipeline issue that is unrelated to the subject hearing and does not involve this applicant. On cross-examination, Ms. Holloway stated that the saltwater spill on her property has nothing to do with Ruger.<sup>75</sup>

Ms. Holloway maintains there is sufficient disposal capacity in this area at this time and existing disposal wells can be utilized. Ms. Holloway represents:

*"And the other option would be to relocate this proposed well to a more suitable, less damaging location, which we've talked about the northwest corner of that same section would be such a great alternative, and the protest would disappear if it would no longer affect my land."*<sup>76</sup>

Ms. Holloway asserts that the permit should only be granted if it meets the Commission's regulations and mission statement. Ms. Holloway claims:

*"The company data, the permit application data and/or exhibits submitted by the Applicant suggest noncompliance with your following regulations: Texas Administrative Code, Title 16, Part 1, Chapter 3, Rule 3.9(2) says (as read), Before such formations are approved for disposal use, the Applicant shall show that the formations are separated from freshwater formations by impervious beds which will give adequate protection to such freshwater formations. The Applicant did not provide data supporting the above requirements, such as applicable well logs, geologic cross sections, structure maps and geotechnical studies. Continuing with that, the Applicant's Exhibit dated -- or No. 5, we'd like to turn to that. It provides a well log for a nearby well; however, there's no substantiation provided to demonstrate that the Applicant's proposed well is located in an area offering the same geological substrata characteristics and profile as the, quote, "nearby well." Geological strata, although similar in nearby areas, that is not defined. It's just defined as nearby but will be similar. But there can be -- there can be huge differences. We do not know that the nearby*

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<sup>72</sup> Tr. Vol. 2, pg. 159.

<sup>73</sup> Tr. Vol. 2, pg. 53.

<sup>74</sup> Tr. Vol. 2, pg. 51.

<sup>75</sup> Tr. Vol. 2, pgs. 97-98.

<sup>76</sup> Tr. Vol. 2, pg. 54, line 22 – pg. 55 line 2.



*substrata is the same as what is represented by the area that they are proposing to put the well in.”<sup>77</sup>*

Ms. Holloway also believes Ruger Exhibit No. 20, page 3, picture of Ruger's Nail 1 saltwater disposal well facility, indicates evidence of spills that appears to show water on the ground and it is unknown where this water originated from.<sup>78</sup>

Ms. Holloway contends that Ruger's exhibit showing the input data entered into the USGS survey to determine if there are any historical seismic events within 100 square miles does not match the parameters listed on the Commission website. For example, seismic survey does not match the instructions in Statewide Rule 9 information to search the USGS database. Ms. Holloway asserts:

*“Looking at the input parameters used by the Applicant to detect seismic activity, their parameters do not agree with the parameters established by the Railroad Commission..... So the start date does not comply. The minimum magnitude, the Railroad Commission requires a 2, that was left blank. It does not comply. The maximum magnitude, the Railroad Commission requires that it's blank; the Applicant entered 9. So in these three areas they are not complying. On the next four they do comply. On Page No. 3 you see a copy of the application that Ruger Properties submitted and was put into evidence. And you can see where there is no minimum; there's no maximum. The start date is -- it's incorrect. So those values don't correspond with the requirements.”<sup>79</sup>*

Ms. Holloway also claims that the use or installation of the injection well is not in the public interest for another saltwater disposal well in this area. Lastly, Ms. Holloway contends:

*“And the third part of the Railroad Commission Mission statement is that it is their mission to serve Texas by support of enhanced development and economic vitality for the benefit of Texans. And the Applicant's proposed well will not provide enhanced development and the economic vitality to the affected area. I have to tell you, the -- the area's already developed -- well developed. The economy is very vital. It doesn't need -- it doesn't need this well to be vital. It is a very vital area. We believe that agriculture and farmland will be reduced or destroyed. Not only that, the fauna that is living on these lands, it can have a tremendous effect on them. These animals that do not exist very many places in the world -- I mean, it's a very small habitat for them. We're going to affect that. And we believe that adjacent and nearby properties, specifically the Poindexters and mine, can be reduced and lose value if there is a spill.”<sup>80</sup>*

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<sup>77</sup> Tr. Vol. 2, pgs. 57-58.

<sup>78</sup> Tr. Vol. 2, pg. 68.

<sup>79</sup> Tr. Vol.2, pgs. 59-60.

<sup>80</sup> Tr. Vol. 2, pg. 80, line 12 – pg. 81, line 5.

On cross-examination, Ms. Holloway stated that she received royalties from oil and gas production in the area.<sup>81</sup> Ms. Holloway is aware of one producing horizontal well on property where she owns a mineral interest and is also aware of other wells that are in the process of being completed. Ms. Holloway has executed an oil and gas lease with Pioneer Natural Resources and Endeavor, in addition to one or two other oil and gas operators.<sup>82</sup> Ms. Holloway also confirmed that there are lease names that have the name Woody in the lease name on Commission records for this immediate area that Ms. Holloway received royalties from production in the area. Ms. Holloway estimates there are three horizontal wells completed in Martin County in which she owns a mineral interest and she receives royalty payments.<sup>83</sup> In addition to the horizontal well production, Ms. Holloway estimates that she received royalty payment from oil and gas production from between 20 and 40 vertical wells.<sup>84</sup>

Ms. Holloway clarified that if the proposed disposal well were moved to the northwest corner of the Chandler property, she would not be within the radius where she could protest the well, but she would still protest the proposed disposal well if she could.<sup>85</sup> Ms. Holloway stated that her property is not zoned for residential use only, and there are pipelines on her property.<sup>86</sup>

On cross-examination, Ms. Holloway clarified that her testimony regarding available disposal capacity and infrastructure currently available was based on other Protestants' data and her contacts in the oil and gas industry.<sup>87</sup> Ms. Holloway stated that she does not have any experience operating saltwater disposal wells.<sup>88</sup>

On cross-examination, Ms. Holloway stated that she has seen the draft permit written by the Commission as one of Ruger's Exhibits, and if Ruger complied with all of the requirements of the permit, Ms. Holloway would still have concerns with disposal operations at this location.<sup>89</sup> With regards to Ms. Holloway's concern that there appeared to be water shown on the photos of Ruger's Nail facility, Ms. Holloway stated on cross-examination that she is aware there are some regulations contained in the draft permit for the proposed disposal well that include requirements for surface containment of water at facilities.<sup>90</sup>

### **RUGER'S REBUTTAL EVIDENCE**

Mr. Hale stated that Ruger's market area is a 5-mile radius from the proposed disposal well location, and within a 5-mile radius, there are currently six drilling rigs drilling horizontal wells, and there are a total of 64 wells within a 5-mile radius with either a drilling

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<sup>81</sup> Tr. Vol. 2, pg. 87.

<sup>82</sup> Tr. Vol. 2, pgs. 87-88.

<sup>83</sup> Tr. Vol. 2, pgs. 93-94.

<sup>84</sup> Tr. Vol. 2, pg. 96.

<sup>85</sup> Tr. Vol. 2, pgs. 101-102.

<sup>86</sup> Tr. Vol. 2, pg. 107.

<sup>87</sup> Tr. Vol. 2, pg. 99.

<sup>88</sup> *Id.*

<sup>89</sup> Tr. Vol. 2, pg. 102.

<sup>90</sup> Tr. Vol. 2, pg. 105.

permit issued or waiting for completion papers to be filed.<sup>91</sup> The number of drilling permits issued for horizontal wells in the Spraberry (Trend Area) Field in Martin County in the third quarter of 2017 was 149 drilling permits; 154 drilling permits were issued in the fourth quarter of 2017; 189 drilling permits were issued in the first quarter of 2018; and 193 drilling permits were issued in the second quarter of 2018, through June 27, 2018.<sup>92</sup> The general trend is an increase in the number of drilling permits issued. Mr. Hale asserts this evidence is relevant to his marketing analysis for the proposed Chandler SWD, as the number of drilling permits has increased since selecting the subject well location.<sup>93</sup>

Daily water disposal volumes for the Ruger Nail No. 1 SWD on April 2, 26, May 2, 17, and 26, and June 2, 17, and 26, 2018, shows that both XTO and Crownquest pipe water to this facility.<sup>94</sup> In comparing the daily water volumes for this Ruger facility on April 17, and April 26 2018, to the Protestants' observations for these same dates, Mr. Hale notes that on April 17, 2017, the daily pipeline water volume was 16,838 bbl and the truck total volume was 6,752 bbl for a total daily water volume of 23,591 bbl. On April 26, 2018, the daily pipeline water volume was 18,373 bbl and the truck daily volume was 3,651 bbl for a total daily water volume of 22,024 bbl. The Protestants observed a total of 3 trucks at this Ruger facility on those two dates, which Mr. Hale asserts is not representative of the activity at this facility on those two dates.<sup>95</sup>

On May 2, 2018, for the same Ruger Nail No. 1 SWD, the daily pipeline water volume was 17,889 bbl, and the truck daily volume was 1,531 bbl for a total daily water volume of 19,420 bbl, whereas the Protestants observed one truck at the facility on May 2, 2018, which Mr. Hale asserts is not representative of activity at the facility.<sup>96</sup>

On cross-examination, Mr. Hale confirmed that the Form P-18 does not distinguish between water that is piped to the Ruger Nail facility and water that is transported by truck to the facility.<sup>97</sup> Mr. Hale clarified that 64 drilling permits represent the oil and gas activity within a 5-mile radius of the proposed Chandler SWD, and the information is from the Commission's website.<sup>98</sup> Mr. Hale would expect all 64 wells to be drilled, but acknowledged that all permitted wells have not always been drilled in the past. Mr. Hale stated that he hopes to get a saltwater pipeline to the proposed disposal well, but does not know at this time whether there will actually be a pipeline. He is aware of one commercial disposal wells that has been permitted within a 5-mile radius.<sup>99</sup> Mr. Hale agrees that there are five commercial SWD facilities either within or in the immediate vicinity of a 5-mile radius around the proposed disposal well location.<sup>100</sup>

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<sup>91</sup> Tr. Vol. 2, pgs. 163-164.

<sup>92</sup> Ruger Exhibit No. 34.

<sup>93</sup> Tr. Vol. 2, pgs. 175-176.

<sup>94</sup> Ruger Exhibit No. 35.

<sup>95</sup> Tr. Vol. 2, pg. 181.

<sup>96</sup> Tr. Vol. 2, pgs. 181-182.

<sup>97</sup> Tr. Vol. 2, pg. 200.

<sup>98</sup> Tr. Vol. 2, pg. 208.

<sup>99</sup> Tr. Vol. 2, pg. 210.

<sup>100</sup> Tr. Vol. 2, pgs. 210, 213.

On-cross examination, Mr. Hale stated that he does not doubt the Form H-10 reported injection volume for January 2018 of 464,347 bbl, which is 59% (59.9%) of the permitted monthly volume for the Ruger Nail No. 1 facility.<sup>101</sup>

## **VI. EXAMINERS' ANALYSIS OF THE EVIDENCE**

### **A. Public Interest**

Based on the evidence in the record, the Examiners conclude that the proposed commercial disposal well is in the public interest. Saltwater is a by-product of oil and gas production. The proposed Chandler SWD will provide disposal capacity in an area where there is evidence of current and future oil and gas activity and provide a potential pipeline option for saltwater disposal. Within a 5-mile radius of the proposed disposal well location there are currently six drilling rigs drilling horizontal wells, and there is a total of 64 wells within a 5-mile radius with either a drilling permit issued or waiting for completion papers to be filed. The number of drilling permits issued for horizontal wells in the Spraberry (Trend Area) Field in Martin County in the third quarter of 2017 was 149 drilling permits; 154 drilling permits were issued in the fourth quarter of 2017; 189 drilling permits were issued in the first quarter of 2018; and 193 drilling permits were issued in the second quarter of 2018, through June 27, 2018. The general trend is an increase in the number of drilling permits issued.

The Examiners find the Protestants' evidence to support its claim that the proposed commercial disposal well is not in the public interest to be unpersuasive. The Protestants identified a total of 12 disposal wells within 8-miles as-the-crow-flies from the proposed disposal well location. Based on site observations from the right-of-way, the Protestants concluded that these facilities were not busy during their site visits, based on the number of trucks and wait times. However, none of the Protestants had any knowledge as to whether water was being piped to the facilities as opposed to, or in addition to, being trucked to the facilities for disposal.

The number of trucks at a facility and truck wait times are not the only consideration in determining the activity level at a facility. Water may be piped to a facility, and therefore trucks would not be needed to transport water. In addition, the evidence in the record shows that if all water were to be trucked to a disposal well by 110-bbl truck, it would take 227 full truck loads to reach 25,000 bbl. For a 24-hour facility this would require, on average, 9.5 truck loads per hour, or one truck every 6.3 minutes a day. The Protestants made a total of 54 site visits, however only 13 of the 54 visits were for 6 minutes or greater, and therefore, were not persuasive, as the absence of a truck at a facility during a visual observation period of less than 6.3 minutes does not indicate that a facility is not busy. A facility permitted for 25,000 bpd only requires one 110-bbl truck every 6.3 minutes a day to be at maximum capacity. In addition, 14 of the site visits that lasted 5 minutes or less observed at least one truck at the facility during that 5-minute observation period.

The Protestants also reviewed Forms H-10, comparing permitted injection volumes to reported injection volumes. For January 2018, the cumulative daily permitted

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<sup>101</sup> Tr. Vol. 2, pgs. 202-203, Ruger Exhibit No. 23, Protestants' Exhibit No. 41.

disposal volumes for the 12 disposal wells is 202,300 bpd. For the 31-day month of January 2018, the permitted disposal volume is 6,271,300 bbl, while the actual volume of water disposed for the month of January 2019 was 1,779,866 bbl, a cumulative average of 28% of the permitted volume. However, the largest percentage of injected volume to maximum permitted volume in January 2018 of these 12 facilities within 8 miles of the proposed disposal well location was 60% capacity, which is operated by the Applicant in this case, Ruger, applying for additional disposal capacity in this area.

In addition, the Protestants did not speak to anyone at any of the disposal facilities they visited and did not know if any of the facilities were closed. The Protestants did note that two of the facilities did not have any lights at night and concluded that these two facilities did not appear to be 24-hour facilities.

### **B. No Injury to Any Oil, Gas, or Other Mineral Formation**

Based on the evidence in the record, the Examiners conclude the proposed disposal well will not endanger or injure any productive formations in the area. Form W-14 lists the oil and productive zones within two miles of the proposed Chandler SWD location as the Spraberry (Trend Area) Field, Strawn, Atoka, and Mississippian. These productive zones are identified on Form W-14 to be at depths ranging from 7,600 feet to 11,000 feet, which are more than 1,000 feet deeper than the proposed disposal interval within the Glorieta and San Andres Formations. Below the base of the San Andres Formation is approximately 400 feet of limestone with the well log indicating low to zero porosity. Ruger's engineering witness also described non-permeable shales at the base of the disposal interval. These confining intervals will prevent fluid migration from the disposal interval to deeper formations. No Protestant disputed the testimony of the Applicant's engineering witness regarding the presence of confining intervals below the disposal interval and no evidence to the contrary was presented.

### **C. With Proper Safeguards, Both Ground and Surface Fresh Water Will Be Protected**

With proper safeguards, both ground and surface fresh water will be protected. The Examiners recommend two special permit conditions, in addition to any special permits conditions required by UIC, prior to commencing disposal operations in the proposed Chandler SWD No. 1.

- 1) The disposal well shall be cased to the total depth of 6,200 feet and the casing cemented in compliance with Statewide Rule 13 (related to Casing, Cementing, Drilling, and Completion Requirements), in such a manner that the injected fluids will not endanger oil, gas, geothermal resources, or freshwater resources.
- 2) Prior to commencing disposal operations, the Applicant shall log the well and provide a copy of the electric log to UIC to show that the Glorieta and San Andres disposal formations are separated from freshwater formations

by impervious beds which will give adequate protection to the freshwater formations.

With the inclusion of the two special permit conditions listed above, the Examiners conclude that the proposed Chandler SWD No. 1 will adequately protect both ground and surface fresh water. The special permit conditions recommended by the Examiners are based on a review of Statewide Rule 9 and Form W-14 (Application to Dispose of Oil and Gas Waste By Injection into a Formation Not Productive of Oil and Gas) Instructions.

Special Permit Condition No. 1

Statewide Rule 9 Disposal Wells, Subsection (8) states:

*Casing. Disposal wells shall be cased and the casing cemented in compliance with §3.13 of this title (relating to Casing, Cementing, Drilling, and Completion Requirements) in such a manner that the injected fluids will not endanger oil, gas, geothermal resources, or freshwater resources.*

The proposed wellbore construction is for the well to be cased and cemented to the top of the disposal interval, with the disposal interval from 4,300 feet to 6,200 feet to be uncased. The Examiners recommend a special permit condition that the entire wellbore be cased in accordance with Statewide Rule 3.9(8) and the casing cemented in accordance with Statewide Rule 13.

Special Permit Condition No. 2

Statewide Rule 9 Disposal Wells, Subsection (2) states:

*Geological requirements. Before such formations are approved for disposal use, the applicant shall show that the formations are separated from freshwater formations by impervious beds which will give adequate protection to such freshwater formations. The applicant must submit a letter from the Groundwater Advisory Unit of the Oil and Gas Division stating that the use of such formation will not endanger the freshwater strata in that area and that the formations to be used for disposal are not freshwater-bearing.*

Form W-14 Instruction No. 5 states:

*If the application is for a new permit, attach a complete electrical log of the well or the log of a nearby well.*

Lastly, Form W-14 instructions state that additional information is available in the Underground Injection Control Manual, which is available on the Railroad Commission's website: [www.rrc.tx.us](http://www.rrc.tx.us). The injection/disposal well manual/ summary of standards and procedures, attachments for new wells subsection states:

### Well Log

The well log is needed to identify the top and bottom of the proposed injection zone and overlying formations.

1. A complete electric log or similar well log of the proposed injection/disposal well is required.
  - The log must include a header and show the proposed disposal/injection zone.
  - Driller's logs, caliper logs and collar logs are not adequate. If a well log is not available for the proposed injection/disposal well, the applicant may submit a log of a nearby well and identify the logged well on one of the plats submitted with the application.
2. If a well log is not available for the proposed injection/disposal well, the applicant may submit a log of a nearby well and identify the logged well on one of the plats submitted with the application.
3. If multiple wells are covered by one Form H-1 within the same application, only one well log is required.

The Protestants asserted that the Applicant did not provide data supporting the above requirements, such as applicable well logs, geologic cross sections, structure maps and geotechnical studies to show that the disposal formations are separated from freshwater formations by impervious beds which will give adequate protection to such freshwater formations. The well log provided with the application, Ruger Exhibit No. 5, does not show any well log data above the proposed disposal formation. Instead, the Applicant relied on Form W-2 completion papers for nearby wells completed in 1971 that only listed the formations encountered, and a brief formation description. These observations cannot be verified by a second party as they are merely a list of what someone observed.

However, the Examiners conclude that the preponderance of evidence indicates that the proposed disposal formation is separated by impervious beds which will give adequate protection to such freshwater formations. The Commission previously approved a disposal well permit for disposal into a similar interval (4,450 feet to 5,200 feet) with the San Andres Formation for Form W-14, Permit No. 14464, which was later cancelled, as the permit expired due to the well not being drilled within a three year period of issuance of the permit, per the standard permit condition No. 8 (Ruger Exhibit Nos. 17 and 18).

In addition, in its application to dispose of oil and gas waste into strata in the depth interval from 4,300 feet to 6,200 feet, Ruger provided a letter from the GAU of the Oil and Gas Division for its application that stated: "Our review of the data contained in the application and of other available geologic data (emphasis added), indicate that, if

otherwise compliant with Railroad Commission rules and guidance, drilling and using this disposal well and injecting oil and gas waste into the subsurface stratum will not endanger the freshwater strata in that area” Therefore, based on the evidence in the record, Commission Staff had access to other available geologic data that is not in the record during its administrative review of the permit to make this determination.

With the two proposed special permit conditions, the Examiners conclude that with proper safeguards, both ground and surface fresh water will be protected. The Applicant’s well construction plan is to set 9 5/8-inch surface casing at a depth of 400 feet and cement the casing with cement circulated to surface. The GAU reported that the BUQW at the location of the Chandler SWD is at a depth of approximately 300 feet and the interval from the land surface to 300 feet must be protected. Based on the evidence in the record, the Examiners conclude that the surface casing will be set and cemented in a manner to protect fresh ground water. The proposed wellbore construction is to set 9 5/8-inch surface casing to a depth of 400 feet and the casing will be cemented with cement circulated to surface to protect the BUQW.

The base of underground sources of drinking water (“USDW”) is estimated to occur at a depth of 1,550 feet at the site of the Chandler SWD, while the proposed disposal interval is from 4,300 feet to 6,200 feet. After the 9 5/8-inch surface casing is set at 400 feet and cement circulated to surface, the proposed disposal well will have 7-inch long string casing set at a depth of 4,300 feet, and the casing at a depth of 4,300 feet will be cemented with cement circulated to surface. The Applicant proposes the disposal interval from 4,300 feet to 6,200 feet to be uncased, open hole, while the Examiners recommend the entire wellbore be cased and cemented.

A review of Commission records identifying all wellbores within a one-quarter mile area of review around the proposed well location showed three plugged and abandoned wells that penetrate the proposed disposal interval of the Chandler SWD. According to Commission records, the wells were plugged in accordance with Commission rules and will not act as a conduit for injected fluids to escape the disposal interval.

#### **D. Financial Assurance**

The Examiners conclude that Ruger has made an adequate showing of financial assurance. At the time of the hearing, Ruger (Operator No. 734092) had an active P-5 and \$25,000 letter of credit on file with the Commission as financial assurance.

#### **E. Seismic Survey**

Protestant Ms. Holloway raised a concern that Applicant did not use the input parameters listed under the Commission’s Underground Injection Control Manual available on the Commission’s website. The Examiners took official notice of the most recent information available on the USGS Earth Active Search database. A review of USGS seismic data shows no earthquakes have been reported within 100 square miles



(a 9.08 km radius circle) of the proposed disposal well location between January 1, 1973 and December 5, 2018.

**VII. RECOMMENDATION, PROPOSED FINDINGS OF FACT AND PROPOSED CONCLUSIONS OF LAW**

**FINDINGS OF FACT**

1. Ruger Properties, LLC seeks a permit authorizing commercial disposal operations pursuant to 16 Tex. Admin. Code § 3.9 for the Chandler SWD Lease, Well No. 1, Spraberry (Trend Area) Field, Martin County, Texas.
2. Notice of the application (Form W-14) was mailed to the owner of the surface tract, owners of adjacent tracts, operators of wells within a one-half mile radius, and the Martin County Clerk.
3. Notice of the application was published in the *Midland Reporter-Telegram*, a newspaper of general circulation published in Midland, Ector, Howard, Crane, Glasscock, Martin, Upton, and Andrews Counties, Texas, on September 22, 2017.
4. Pioneer Natural Resources, USA ("Pioneer") initially protested the application, but withdrew its protest prior to the hearing.
5. The application is currently protested by adjacent landowners Kathy Nobs, Virginia (Tandy) Poindexter, Kelly Poindexter, and Rhonda Holloway.
6. At least 10 days' notice of the hearing was provided to the owner of the surface tract, to adjacent surface owners, to the Martin County Clerk, and to operators with active wells within a half-mile of the proposed disposal well location, and to persons who filed protests. 16 Tex. Admin. Code § 3.9(5)(E)(i).
7. The use or installation of the Chandler SWD Lease, Well No. 1 is in the public interest.
  - a. The proposed Chandler SWD Lease, Well No. 1 will be located on a forty-acre tract of land near the intersection of CR 3200 and FM 1212, about 5 miles southwest of Tarzan, Texas and provide disposal capacity in an area where there is evidence of current and future oil and gas activity and provide a potential pipeline option for saltwater disposal
    - i. Within a 5-mile radius of the proposed disposal well location there are currently six drilling rigs drilling horizontal wells.
    - ii. There is a total of 64 wells within a 5-mile radius with either a drilling permit issued or waiting for completion papers to be filed.

- iii. The number of drilling permits issued for horizontal wells in the Spraberry (Trend Area) Field in Martin County in the third quarter of 2017 was 149 drilling permits; 154 drilling permits were issued in the fourth quarter of 2017; 189 drilling permits were issued in the first quarter of 2018; and 193 drilling permits were issued in the second quarter of 2018, through June 27, 2018. The general trend is an increase in the number of drilling permits issued.
  - b. The number of trucks at a facility and truck wait times are not the only factors in determining the level of activity at a disposal facility. Water may be piped to a facility, and therefore trucks would not be needed to transport water.
  - c. Saltwater is a necessary by-product in oil and gas operations, and providing cost effective, safe disposal of this by-product is in the public interest.
8. The use or installation of the Chandler SWD Lease, Well No. 1 will not endanger or injure oil, gas, or other mineral formations.
- a. The injection interval is in the Glorieta and San Andres Formation from 4,300 feet to 6,200 feet.
  - b. The productive zones within two miles of the Chandler SWD Lease, Well No. 1 are the Spraberry (Trend Area) Field, Strawn, Atoka, and Mississippian formations. These productive zones are at depths ranging from 7,600 feet to 11,000 feet, which are more than 1,000 feet deeper than the proposed disposal interval within the Glorieta and San Andres Formations.
  - c. Below the base of the San Andres Formation is approximately 400 feet of limestone with low to zero porosity in addition to non-permeable shales at the base of the disposal interval.
9. With proper safeguards, both ground and surface fresh water can be adequately protected from pollution.
- a. The BUQW occurs from the land surface to a depth of 300 feet, and USDW at 1,550 feet.
  - b. The well construction plan is to set 9 5/8-inch surface casing at a depth of 400 feet and cement the casing to surface to protect the BUQW.
  - c. The injection interval is in the Glorieta and San Andres Formations between 4,300 feet and 6,200 feet, which is deeper than the BUQW and the USDW.
  - d. Ruger provided a letter from the GAU of the Oil and Gas Division with its application that stated "Our review of the data contained in the application and of other available geologic data indicate that, if otherwise compliant with

Railroad Commission rules and guidance, drilling and using this disposal well and injecting oil and gas waste into the subsurface stratum will not endanger the freshwater strata in that area”

- e. A special permit condition that the Ruger log the well and provide a copy of the electric log to UIC to show that the Glorieta and San Andres disposal formations are separated from freshwater formations by impervious beds which will give adequate protection to the freshwater formations prior to commencing injection operations will ensure adequate protection to the freshwater formations prior to commencing injection operations.
  - f. There are three plugged and abandoned wells within a quarter mile of the proposed Chandler SWD Lease, Well No. 1, that penetrate the proposed disposal interval of the Chandler SWD Lease, Well No. 1. Commission records show the wells were plugged in accordance with Commission rules and will not act as a conduit for injected fluids to escape the disposal interval.
10. A review of USGS seismic data shows no seismic events have been reported within 100 square miles of the proposed disposal well location.
11. At the time of the hearing, Ruger Properties, LLC (Operator No. 734092) had an active P-5 and \$25,000 letter of credit on file with the Commission as 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. Ruger has made a satisfactory showing of financial responsibility. Texas Water Code § 27.051(b)(4).
- 7. With special permit conditions, Ruger Properties, LLC. has met its burden of proof and the application for the Chandler SWD Lease, Well No. 1, satisfies the

requirements of Chapter 27 of the Texas Water Code and the Railroad Commission's Statewide Rule 9.

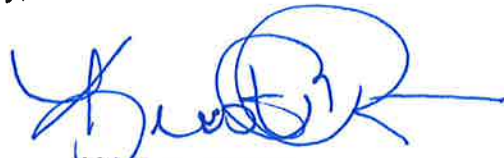
**EXAMINERS' RECOMMENDATION**

Based on the above findings of fact and conclusions of law, the Examiners recommend that the application of Ruger Properties, LLC for commercial disposal authority pursuant to Statewide Rule 9 for the Chandler SWD Lease, Well No. 1, Spraberry (Trend Area) Field, Martin County, Texas, **be approved with special permits conditions,** as set out in the attached Final Order.

Respectfully,



Karl Caldwell  
Technical Examiner



Kristi M. Reeve  
Administrative Law Judge