



# RAILROAD COMMISSION OF TEXAS

## HEARINGS DIVISION

### PROPOSAL FOR DECISION

**OIL AND GAS DOCKET NO. 02-0295871**

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**THE APPLICATION OF HIGH ROLLER WELLS, LLC PURSUANT TO STATEWIDE RULE 9 FOR A COMMERCIAL PERMIT TO DISPOSE OF OIL AND GAS WASTE BY INJECTION INTO A POROUS FORMATION NOT PRODUCTIVE OF OIL OR GAS, DEWITT SWD, WELL NO. 1, EAGLEVILLE (EAGLE FORD-2) FIELD, DEWITT COUNTY, TEXAS**

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**HEARD BY:** Peggy Laird, P.G. – Technical Examiner  
Terry Johnson – Legal Examiner

**SUBMITTED BY:** Peggy Laird, P.G. – Technical Examiner  
Marshall Enquist – Administrative Law Judge

**APPEARANCES:**

**REPRESENTING:**

**APPLICANT:**

George Neale  
Christopher Hotchkiss  
Rick Johnston  
Todd Reynolds  
Luke Garrett  
Doug White

High Roller Wells, L.L.C.

**PROTESTANTS:**

Brandon E. Durrett

Yorktown ISD  
Alan Umholtz  
Brian Dlugosch  
Brianne Dlugosch  
Michael Ressman  
Keith Lemke  
Christy Lemke  
Mark Niemeier  
Ernell Neimeier  
William C. Niemeier  
Don A. Janssen  
Debbie Janseen

Luke A. Cochran

City of Yorktown

**PROCEDURAL HISTORY**

Application Filed:	December 5, 2014
Protest Received:	December 3, 2014
Request for Hearing:	February 26, 2015
Notice of Hearing:	May 19, 2015
Date of Hearing:	June 16, 2015
Late-Filed Exhibits Received:	June 17, 2015
Transcript Received:	July 1, 2015
Proposal For Decision Issued:	April 12, 2016
Proposal For Decision Re-Issued:	April 15, 2016

### **STATEMENT OF THE CASE**

High Roller Wells, LLC ("HRW") seeks authority to dispose of oil and gas waste by injection pursuant to Statewide Rule 9 (16 Tex. Admin. Code §3.9)<sup>1</sup> for the DeWitt SWD Lease, Well No. 1 ("Well No. 1") and DeWitt SWD Lease, Well No. 2 ("Well No. 2"), (collectively, "Subject Wells"). The proposed injection wells will be commercial disposal wells, and are located in the Eagleville (Eagle Ford-2) Field, DeWitt County, Texas.

The wells will be newly drilled and will be located on a five-acre tract of land located 1.35 miles southwest of Yorktown, Texas. Well No.1 will be a directionally-drilled well and Well No. 2 will be a vertical well. Both wells will utilize the same injection interval from 6,620 to 7,500 feet in the Wilcox Formation.

Notice requirement service lists for the two wells are identical. Notices for both applications were published on November 26, 2014, in *The Cuero Record*, a newspaper of general circulation in DeWitt County. HRW is the owner of record of the five-acre surface tract. On December 4, 2014, notices for both applications were mailed to the DeWitt County Clerk, the owners of all adjoining surface tracts, and all operators of wells within a one-half mile radius of the proposed disposal wells' surface locations.

The applications are protested by surface owners of adjoining tracts, nearby surface owners, the Yorktown Independent School District, and the City of Yorktown. Mr. Alan Umholtz, Superintendent of Yorktown I.S.D., was present at the hearing as a witness for the Yorktown I.S.D.

The Administrative Law Judge ("ALJ") and Technical Examiner conclude HRW has met its burden of proof pursuant to Statewide Rule 9 and Chapter 27 of the Texas Water Code. The ALJ and Technical Examiner recommend that the Commission approve both applications and issue permits for Well No. 1 and Well No. 2.

### **APPLICABLE LAW**

The Railroad Commission of Texas ("Commission") may grant an application for a disposal well permit under Texas Water Code § 27.051(b)<sup>2</sup> 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> 16 Tex. Admin. Code § 3.9 (Disposal Wells)

<sup>2</sup> Tex. Water Code §27.051(b)(1-4)

3. With proper safeguards, both ground and surface freshwater can be adequately protected from pollution; and
4. The applicant has made a satisfactory showing of financial responsibility as required by Section 27.073.

### **DISCUSSION OF THE EVIDENCE**

#### **APPLICANT'S EVIDENCE**

The Subject Wells will be located on a five-acre tract of land on the south side of State Highway 72 West and on the east side of FM 2980 S, 1.35 miles southwest of Yorktown in DeWitt County, Texas. The wells will inject produced salt water and RCRA-exempt<sup>1</sup> oilfield waste. Surface locations for both wells will be located near the southern end of the tract. Well No. 1 will be directionally drilled towards the northern end of the tract, with the bottom-hole located 332 feet north of the surface location. Well No. 2 will be a vertical well located about forty feet west of the surface location for Well No. 1. The bottom-hole locations of the Subject Wells will be about 330 feet apart. Rick Johnston, P.E., HRW's expert engineering witness, testified that the two wells will be drilled, completed and operated as follows:

- Drilled to a total vertical depth ("TVD") of 7,600 feet in the Wilcox Formation.
- Surface casing (10 ¾-inch) set to a depth of 1,250 feet with cement circulated to the surface.
- Long-string casing (7-inch) set to a TVD of 7,600 feet with cement circulated to the surface.
- Injection tubing (4 ½-inch) set with a packer at a TVD of 6,520 feet.
- The injection interval will be from 6,620 feet TVD to 7,500 feet TVD.
- Maximum daily injection volume of 25,000 barrels for each well, and an estimated daily injection volume of 8,000 barrels for each well.
- Maximum surface injection pressure of 3,310 pounds per square inch (psi) and an estimated average surface injection pressure of 850 psi.

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<sup>1</sup> Resource Conservation and Recovery Act: Examples of RCRA exempt oil and gas waste includes produced water, drilling fluids, hydraulic fracturing flow back fluids, rig wash and workover wastes.

### ***Groundwater and Geology***

The Commission's Groundwater Advisory Unit (GAU) reports that the base of usable quality water (BUQW) at the location of the Subject Wells is at a depth of 1,150 feet. Additionally, the GAU advised that the interval from 900 feet to 1,150 feet contains water of superior quality, and must be isolated from water in overlying and underlying beds. The base of underground sources of drinking water (USDW) is estimated to occur at a depth of 2,000 feet at the site of the Subject Wells.

The GAU issued "no-harm" letters for the Subject Wells on December 3, 2014. Those letters state, "Our review of the data contained in the application and of other available geologic data indicates that 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>1</sup>

The proposed disposal interval includes a thick continuous sand sequence from about 6,740 feet to 7,450 feet, as shown on the log of the Champlin Petroleum Company, Helen A. Gips #1.<sup>2</sup> This interval is commonly used for oil and gas waste disposal in the region. HRW reported that at least 630 feet of sand with 25% porosity representing the injection interval was shown on the log. The well log indicates a continuous shale sequence of more than 2,000 feet above the top of the proposed disposal interval, and several shale sequences below the proposed disposal interval. These shale strata will confine the injected fluids to the disposal zone, preventing injected fluids from migrating upwards into the usable quality water.

### ***Area Of Review***

There are two wells within the one-quarter mile area of review (AOR) that penetrate the disposal interval of the Subject Wells. One of the wells, the Southland Drlg. Co., Dan Auld & Colorado Oil Co., Stephen Best Survey A-66, Agnes Gips Lease, Well No.1 (API No. 123-00895) was a dry hole drilled and plugged in 1965. The plugging report<sup>3</sup> for the Southland Drlg. Co., Dan Auld & Colorado Oil Co. Well No. 1 states the well was drilled to a total depth of 10,015 feet. Surface casing was set at a depth of 617.5 feet according to the plugging record. No other casing was set or remains in the well. The Southland well was plugged May 10, 1965, by filling with mud to confine all oil, gas, and water to the strata. Cement plugs were set from 1,250 – 1,350 feet and 567 – 667 feet. A twenty-foot plug was placed by hand with metal plate welded on top.

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<sup>1</sup> Applicant's Exhibit No. 2.

<sup>2</sup> Applicant's Exhibit No. 8

<sup>3</sup> Applicant's Exhibit No. 25.

The second well that penetrates the proposed disposal interval is an active commercial disposal well, the Phoenix Lease Services, LLC, Phoenix No. 1 well (API No. 12300000), Permit No. 13818, Underground Injection Control No. 000105700. The permit<sup>1</sup> for the Phoenix No. 1 well authorized surface casing to be set at 1,200 feet, long-string casing set at 7,700 feet, and both casing strings cemented to the surface. Completion reports for the Phoenix Well No. 1 were not offered into evidence.

### ***Nearby Oil & Gas Activity***

There is no oil, gas, or geothermal production from the Wilcox Formation in the immediate vicinity of the Subject Wells. There is production from intervals in the Wilcox Formation that are stratigraphically shallower and deeper than the injection interval. Two wells that produce above the injection interval are located about two miles from the Subject Wells. Five wells that produce below the injection interval are located about one to two miles from the Subject Wells. These producing zones are separated from the proposed disposal interval by a sixty to eighty-foot thick layer of shale. HRW reported that the position of the proposed disposal interval between the productive zones in the Wilcox Formation was acceptable to Commission staff for permitting under Statewide Rule 9, disposal into a nonproductive interval.<sup>2</sup>

### ***Pressure-Front Calculations***

HRW conducted pressure front calculations to assess whether injected fluids could leave the disposal interval and harm freshwater resources. The calculations were based on the following hydrogeologic parameters: (1) permeability of 500 millidarcies; (2) porosity 24 percent; and (3) formation thickness of 630 feet. HRW's calculations estimated that injecting 25,000 barrels per day for ten years into the two proposed disposal wells will result in a pressure increase in the nearby Southland plugged dry hole of about 88 psi, which is not sufficient to lift disposal fluids to the BUQW. In addition, HRW concluded that the additive effect of including the nearby Phoenix commercial disposal well operating at the same conditions would result in a cumulative pressure increase of 132 psi in the southland well. HRW concludes the total pressure increase is not sufficient to bring oilfield brine to the BUQW.

### ***Seismic Activity***

A review of online records of the U.S. Geological Survey dating back to 1973 did not identify any seismic events within a 9.08 kilometer radius of the Subject Wells, encompassing an area of 100 square miles.

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<sup>1</sup> Applicant's Exhibit No. 21.

<sup>2</sup> Tr., p. 45, lines 2 – 6.

***Surface Facility***

The Subject Wells will share a surface facility. The facility will have covered unloading bays to accommodate trucks. Tankage, chemicals, and mechanical equipment will be located within a concrete secondary containment structure. The secondary containment is located within an earthen bermed tertiary containment area. Total containment is designed to hold 150 percent of the combined tank capacity. Monitoring alarm systems for hydrogen sulfide gas will be included in the design of the facility.

HRW and NGL Water Solutions Eagle Ford ("NGL") have a contractual agreement to build and operate disposal facilities. HRW will complete the permitting process, drill the wells, and construct the facility. Once HRW has completed its development, NGL then will purchase and fully own the disposal facility, assuming responsibility for the operation and maintenance of the facility.

***Public Interest***

HRW identified three commercial disposal wells within a ten-mile radius of the Subject Wells. The first well, Phoenix Lease Services, LLC, Phoenix No. 1 (API No. 12300000), is located directly north of Highway 72 about 1000 feet from the Subject Wells. The other two wells are on Highway 72 two to three miles west of the Subject Wells. Basic Energy Services, L.P. is a trucking company that operates the second well, and only accepts their trucks' waste for disposal. Pyote Well Service, L.L.C. operates the third well, and accepts waste from multiple operators.

According to HRW and NGL testimony, the Phoenix and Pyote wells are not operating efficiently. HRW and NGL reached this conclusion based on the volume of waste fluids received for disposal at each facility; the volumes are significantly less than each facility's permitted volume. HRW maintains the limited availability of actual disposal capacity in this active area establishes a need for the additional disposal capacity provided by the Subject Wells.

NGL conducted a market analysis of waste disposal needs and capacity within a 20-mile radius of the Subject Wells. NGL reports that there are over one thousand wells that require salt water disposal services within a 20-mile radius of the Subject Wells. In addition, NGL has a dedicated contract for water disposal with EOG Resources, a large operator in the area, and NGL is in negotiations with other producers in the immediate area. NGL also expressed its intent to rely on pipelines for water delivery, which would reduce truck traffic.

***Operator Financial Assurance***

HRW has an active P-5 and financial assurance in the amount of \$25,000 in the form of a cash deposit, effective until September 30, 2016.

**PROTESTANTS' EVIDENCE**

The application is protested by two parties. The first party is the City of Yorktown and was represented by Luke Cochran. The second party, represented by Brandon Durrett, includes the Yorktown ISD and several surface owners of adjoining and nearby properties.

***City of Yorktown***

The City of Yorktown is concerned about the operational safety record of HRW. The City offered records of the U.S. Department of Labor, Occupational Safety and Health Administration (OSHA), for an HRW facility in Pearsall, Texas, that was cited in 2012 for serious violations following an explosion that injured three workers.<sup>1</sup> The City is concerned that the subject facility may present similar hazards to the Yorktown area, especially with regard to a nursing home located about one mile away. In addition, the City believes there is currently sufficient disposal capacity to meet the industry's needs in the area. The City did not provide evidence to support this assertion.

***Yorktown ISD, et al.***

Yorktown ISD and the other persons protesting the application assert that the current disposal capacity is underutilized and additional disposal capacity is not needed in the area, especially at the proposed location. Sixteen permitted disposal well facilities were identified within a 15-mile radius of the Subject Wells. Yorktown ISD, et al., tabulated data showing that the permitted disposal wells within a 15-mile radius are utilizing only 1.51 percent of their permitted capacity, and only 9 of the 16 disposal wells were shown to be currently active.

These protestants are also concerned about the potential for harm from surface water runoff and traffic safety from the proposed facility. In addition, the protestants are concerned about nearby dry holes that are not cased through the disposal interval.

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<sup>1</sup> City of Yorktown Exh. Nos. 1 and 2.

**ALJ'S AND TECHNICAL EXAMINER'S ANALYSIS OF THE EVIDENCE**

The evidence in the record demonstrates HRW has met its burden of proof and that the proposed DeWitt SWD Well Nos. 1 and 2 applications meet the requirements of Chapter 27 of the Texas Water Code and Statewide Rule 9. As a result, the ALJ and Technical Examiner recommend the subject disposal well applications be approved and the permits issued. The required elements of the Texas Water Code § 27.051(b) will be taken in turn.

***Public Interest***

HRW provided evidence and argument that the proposed disposal well is in the public interest as there is a continuing need for increased disposal capacity in the area. Specifically, HRW identified that there are only three disposal wells within a 10-mile radius, but there are at least 1,000 producing wells requiring salt water disposal in the area. Further, NGL, who will eventually operate the proposed wells, if permitted, cites its existing contract with a large operator in the area and its intention to concentrate on using pipelines to transport waste fluids to the proposed disposal wells. The protestants believe sufficient capacity already exists in the area. The ALJ and Technical Examiner are aware that permitted capacity and utilized capacity can differ widely, but the Commission has not adopted a specific point of departure to ascertain when additional capacity may or may not be needed.

The City of Yorktown raised operational safety concerns associated with a HRW disposal facility in Pearsall, Texas. The City of Yorktown provided evidence that the HRW Pearsall facility was cited for violations of rules under the jurisdiction of OSHA, not the Railroad Commission of Texas. Worker safety issues remain under the jurisdiction of OSHA. Also, the City of Yorktown did not specifically or directly translate these concerns to the Subject Wells, other than in a general way. The City expressed concerns regarding the safety of a nursing home, but this structure is located about one mile away from the Subject Wells. Yorktown ISD expressed concern about traffic safety near the school. However, traffic safety issues are not within the jurisdiction of the Railroad Commission. Therefore, the ALJ and Technical Examiner conclude the evidence in the record indicates the subject well is in the public interest pursuant to Texas Water Code § 27.051(b)(1).

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

There is no oil, gas or geothermal production from the Wilcox Formation in the immediate vicinity of the Subject Wells. The Protestants presented no concerns with regard to the potential for harm to oil, gas or other mineral formations. The evidence in the record demonstrates the proposed disposal well will not endanger or injure any oil, gas, or other mineral formation pursuant to Texas Water Code § 27.051(b)(2).

***Prevent Pollution of Ground and Surface Fresh Water***

The BUQW at the location of the Subject Wells is at a depth of 1,150 feet. Additionally, the GAU advised that the interval from 900 feet to 1,150 feet contains water of superior quality, and must be isolated from water in overlying and underlying beds. The base of underground sources of drinking water (USDW) is estimated to occur at a depth of 2,000 feet at the site of the Subject Wells.

The proposed disposal interval includes a thick continuous sand sequence from about 6,740 feet to 7,450 feet. Further, there is a continuous shale sequence of more than 2,000 feet above the top of the proposed disposal interval, and several shale sequences below the proposed disposal interval. These shale strata will confine the injected fluids to the disposal zone, preventing injected fluids from migrating upwards into the usable quality water. The wells will be cased and cemented in accordance with Commission rules to prevent waste migration into freshwater zones. In addition, HRW provided pressure front calculations demonstrating 10 years of injection activity will not induce sufficient formation pressure in a nearby well to move waste into the freshwater strata.

The protestants expressed concern for surface water contamination from the proposed facility. As commercial disposal wells, the proposed permits will include a set of standard conditions to prevent a surface release of waste fluids. The Examiners conclude the proposed disposal wells meet all technical and legal requirements to ensure protection of freshwater resources. The evidence in the record demonstrates that, with proper safeguards, both ground and surface fresh water can be adequately protected from pollution pursuant to Texas Water Code § 27.051(b)(3).

***Demonstrate Financial Responsibility***

HRW has an active Organization Report (Form P-5, Operator No. 385669). HRW has filed a \$25,000 cash deposit with the Commission for financial assurance. The evidence in the record demonstrates the applicant has made a satisfactory showing of financial responsibility as required by Texas Water Code § 27.073 pursuant to Texas Water Code § 27.051(b)(4).

**FINDINGS OF FACT**

1. Notices for both applications were published on November 26, 2014, in *The Cuero Record*, a newspaper of general circulation in DeWitt County.
2. On December 4, 2014, notices for both applications were mailed to the DeWitt County Clerk, the owners of all adjoining surface tracts, and all operators of wells within a one-half mile radius of the proposed disposal wells' surface locations. HRW is the owner of record of the five-acre surface tract.

3. The applications are protested by surface owners of adjoining tracts, nearby surface owners, the Yorktown Independent School District, and the City of Yorktown.
4. The DeWitt SWD Well Nos. 1 and 2 will be drilled, completed and operated as follows:
  - a. Drilled to a total vertical depth ("TVD") of 7,600 feet in the Wilcox Formation.
  - b. Surface casing (10  $\frac{3}{4}$ -inch) set to a depth of 1,250 feet with cement circulated to the surface.
  - c. Long-string casing (7-inch) set to a TVD of 7,600 feet with cement circulated to the surface.
  - d. Injection tubing (4  $\frac{1}{2}$ -inch) set with a packer at a TVD of 6,520 feet.
  - e. Injection interval from 6,620 feet TVD to 7,500 feet TVD.
  - f. Maximum daily injection volume of 25,000 barrels for each well, and an estimated daily injection volume of 8,000 barrels for each well.
  - g. Maximum surface injection pressure of 3,310 pounds per square inch (psi) and an estimated average surface injection pressure of 850 psi.
  - h. Injected waste will be limited to produced salt water and non-hazardous oil and gas waste exempt from regulation under the Resource Conservation and Recovery Act.
5. The use or installation of the injection well is in the public interest.
  - a. There are three disposal wells within a 10-mile radius.
  - b. There are at least 1,000 producing wells requiring salt water disposal in the area.
  - c. Permitted capacity and utilized capacity can differ widely, and the Commission has not adopted a specific point of departure to ascertain when additional capacity may or may not be needed.
  - d. Worker safety and roadway safety issues are not within the Commission's jurisdiction.
6. The use or installation of the injection well will not endanger or injure any oil, gas, or other mineral formation.

- a. There is no oil, gas or geothermal production from the Wilcox Formation in the immediate vicinity of the Subject Wells.
7. With proper safeguards, both ground and surface fresh water can be adequately protected from pollution.
    - a. The BUQW at the location of the Subject Wells is at a depth of 1,150 feet, and the interval from 900 feet to 1,150 feet contains water of superior quality that must be isolated from water in overlying and underlying beds.
    - b. The base of underground sources of drinking water (USDW) is estimated to occur at a depth of 2,000 feet at the site of the Subject Wells.
    - c. The proposed disposal interval includes a thick continuous sand sequence from about 6,740 feet to 7,450 feet.
    - d. There is a continuous shale sequence of more than 2,000 feet above the top of the proposed disposal interval, and several shale sequences below the proposed disposal interval.
    - e. The well will be cased and cemented in accordance with Commission rules to prevent waste migration into freshwater zones.
    - f. Pressure front calculations demonstrate that 10 years of injection activity will not induce sufficient formation pressure in a nearby well to move waste into the freshwater strata.
    - g. As a commercial disposal well, the proposed permit will include a set of standard conditions to prevent a surface release of waste fluids.
  8. The applicant has made a satisfactory showing of financial responsibility as required by Section 27.073. HRW has an active Organization Report (Form P-5, Operator No. 385669), and has filed a \$25,000 cash deposit for financial assurance.

### **CONCLUSIONS OF LAW**

1. Resolution of the subject application is a matter committed to the jurisdiction of the Railroad Commission of Texas. Tex. Nat. Res. Code § 81.051
2. Findings of fact may be based only on the evidence and on matters that are officially noticed. Tex. Gov't Code §2001.141 (b).
3. All notice requirements have been satisfied. 16 Tex. Admin. Code § 3.9

4. The use or installation of the proposed disposal well is in the public interest. Texas Water Code § 27.051(b)(1).
5. 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).
6. With proper safeguards, both ground and surface fresh water can be adequately protected from pollution. Texas Water Code § 27.051(b)(3).
7. HRW has made a satisfactory showing of financial responsibility. Texas Water Code § 27.051(b)(4).
8. HRW Operating Corporation has met its burden of proof and its application satisfies the requirements of Chapter 27 of the Texas Water Code and the Railroad Commission's Statewide Rule 9.

#### RECOMMENDATION

Based on the above findings of fact and conclusions of law, the ALJ and Technical Examiner recommend the Commission enter orders granting each application of HRW for a commercial permit to dispose of oil and gas waste by injection into the Wilcox Formation, a porous formation not productive of oil or gas, for the DeWitt SWD Lease, Well Nos. 1 and 2, in the Eagleville (Eagle Ford-2) Field, DeWitt County, Texas.

Respectfully submitted,



Peggy Laird, P.G.  
Technical Examiner



Marshall Enquist  
Administrative Law Judge