



RAILROAD COMMISSION OF TEXAS

HEARINGS DIVISION

OIL AND GAS DOCKET NO. 08-0320009

APPLICATION OF BOYKIN ENERGY LLC (085182) PURSUANT TO STATEWIDE RULE 9 FOR A PERMIT TO DISPOSE OF OIL & GAS WASTE INTO A POROUS FORMATION NOT PRODUCTIVE OF OIL AND GAS FOR THE BATEMAN SWD LEASE, WELL NO. 2, WOLFBONE (TREND AREA) FIELD, REEVES COUNTY, TEXAS

OIL AND GAS DOCKET NO. 08-0320288

APPLICATION OF BOYKIN ENERGY LLC (085182) PURSUANT TO STATEWIDE RULE 9 FOR A PERMIT TO DISPOSE OF OIL & GAS WASTE INTO A POROUS FORMATION NOT PRODUCTIVE OF OIL AND GAS FOR THE BATEMAN SWD LEASE, WELL NO. 1, WOLFBONE (TREND AREA) FIELD, REEVES COUNTY, TEXAS

PROPOSAL FOR DECISION

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

PROCEDURAL HISTORY:

Application Filed:	August 31, 2018
Protest Received:	September 10, 2018
Request for Hearing Received:	April 22, 2019
Prehearing Conference:	July 11, 2019
Hearing on the Merits:	September 4 and 5, 2019
Transcript Received:	October 2, 2019
Proposal for Decision:	March 25, 2020

APPEARANCES:

Applicant:
Boykin Energy, LLC

Represented by:
George C. Neale, Attorney
Rick Johnston, Engineer
Todd Reynolds
Seth Crawford

Protestants:
Colgate Operating, LLC
Sergio Ojeda, Geologist
Kerry Pollard, Engineer

Represented by:
John Hicks, Attorney

TABLE OF CONTENTS

I.	Statement of the Case.....	3
II.	Notice and Jurisdiction.....	3
III.	Applicable Law	4
IV.	Discussion of the Evidence	5
	A. Applicant's Evidence.....	5
	B. Protestant's Evidence	7
V.	Examiners' Analysis of the Evidence.....	9
	A. Protection of Oil, Gas and Geothermal Resources	9
	B. Protection of Ground and Surface Fresh Water	10
	C. Financial Responsibility	10
VI.	Findings of Fact and Conclusions of Law	11
	Findings of Fact.....	11
	Conclusions Of Law.....	13
VII.	Examiners' Recommendation.....	14

I. Statement of the Case

Applicant Boykin Energy, LLC (“Boykin” or “Applicant”) filed two applications seeking authority pursuant to 16 Tex. Admin. Code § 3.9 (“SWR 9”) to dispose of oil and gas waste by injection into a porous formation not productive of oil or gas on the Bateman SWD Lease, Well No. 1, and Bateman SWD Lease, Well No. 2, in the Wolfbone (Trend Area) Field, in Pecos County, Texas. The proposed injection wells are located approximately 9 miles Southwest of Pecos, Texas, which is the nearest town in Reeves County.

For each of the two subject wells Boykin requests authority to dispose of 30,000 barrels per day (“bpd”) of produced water, into the Bell Canyon, Cherry Canyon, and Brushy Canyon formations from a depth of 4,400 feet to 6,400 feet, with a maximum surface injection pressure at 2,200 psig. Boykin agreed to reduce its maximum daily disposal volume to 20,000 bwpd and its maximum surface injection pressure to 1,100 psig, equivalent to .25 psi per foot of depth. Boykin filed applications for injection permits for Well Nos. 1 and 2 and Commission staff (“Staff”) has determined both applications to be administratively complete.

The subject applications are protested by the Colgate Operating, LLC. Protestant is an operator of three wells adjacent to the Boykin’s proposed wells. Protestant contends that water injected into the proposed Bateman SWD wells could reach Wolfcamp formation through newly discovered graben-like geohazards and threaten Colgate’s production. Protestant also contends that already permitted disposal wells in the area meeting the industry needs and generate higher pressure than what the Delaware Mountain Group can absorb.

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

II. Notice and Jurisdiction

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

Boykin published a notice of application for Well Nos. 1 and 2 in the *Pecos Enterprise*, a newspaper of general circulation in Reeves County, Texas, on August 23, as required by SWR 9. On or about that date, Boykin also provided notice of the subject applications to the Reeves County Clerk, offset operators, and each affected person described in SWR 9.¹ The proposed injection wells are not within the corporate limits of a city or town.

On June 3, 2019, the Hearings Division of the Commission sent a Joint Notice of Prehearing Conference (“Notice”) for both applications via first-class mail to Applicant and

¹ Ex. Nos. 4 & 14.

all affected persons setting a pre-hearing conference date of July 11, 2019. The Notices contain (1) a statement of the time, place, and nature of the pre-hearing conference; (2) a statement of the legal authority and jurisdiction under which the hearing is to be held; (3) a reference to the particular sections of the statutes and rules involved; and (4) a short and plain statement of the matters asserted.² The pre-hearing conference was held on December 17, 2018. Applicant and Protestants appeared and participated. The hearing on the merits was set for September 4, 2019 and the parties were provided notice. Applicant and Protestants appeared and participated in the hearing on the merits. Consequently, all parties received more than 10 days' notice of the hearing and an opportunity for hearing.

III. Applicable Law

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

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

Tex. Water Code § 27.031 states in pertinent part:

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

Tex. Water Code § 27.051(b) states:

- (b) The railroad commission may grant an application for a permit under Subchapter C³ in whole or part and may issue the permit if it finds:
 - (1) that the use or installation of the injection well is in the public interest;
 - (2) that the use or installation of the injection well will not endanger or injure any oil, gas, or other mineral formation;
 - (3) that, with proper safeguards, both ground and surface fresh water can be adequately protected from pollution; and

² See Tex. Gov't Code §§ 2001.051, .052; 16 Tex. Admin. Code §§ 1.41, 1.42, 1.45, 3.46.

³ Subchapter C of the Texas Water Code authorizes the Commission to issue permits for injection wells used to dispose of oil and gas waste. See, e.g., Tex. Water Code § 27.031.

- (4) that the applicant has made a satisfactory showing of financial responsibility if required by Section 27.073.⁴

IV. Discussion of the Evidence⁵

At the hearing, Rick Johnston, Petroleum Engineer, Todd Reynolds, Geologist, and Seth Crawford, the owner of Boykin, appeared on behalf of the Boykin to offer sworn testimony and to sponsor documentary evidence. Sergio Ojeda, Geologist, and Kerry Pollard, Petroleum Engineer, appeared on behalf of Colgate to offer sworn expert testimony and to sponsor documentary evidence.

A. Applicant's Evidence

1. Application

The proposed wells, Well Nos. 1 and 2, Bateman SWD Lease, in the Wolfbone (Trend Area), Pecos County, Texas, would be newly drilled injection wells. Both wells have the same proposed design and operation limitations as follows:⁶

1. Drilled to a total depth of 6,500 feet;
2. Long string (7 5/8 - inch) set at 6,500 feet, calculated top of cement at 3,000 feet with the assistance of a DV tool at 4,400 feet;
3. 5 1/2" tubing and a packer at 4,300 feet;
4. Surface casing (13 1/2-inch) to 2,450 feet, cemented to the top;
5. Disposal interval of 4,400-6,400 feet, which includes the Bell Canyon, Cherry Canyon, and upper Brushy Canyon formations;
6. A maximum daily injection volume equal to 20,000 bpd; and
7. A maximum surface injection pressure equal to 1,100 psig.

Originally Boykin requested maximum daily disposal volume of 30,000 bwpd, with a maximum surface injection pressure of 2,200 psig. However, the Underground Injection Control Section ("UIC Section") requested that Boykin amend its applications due to the seismic events in the area of the proposed wells. Boykin agreed to reduce its maximum daily disposal volume to 20,000 bwpd and its maximum surface injection pressure to

⁴ Section 27.073 of the Texas Water Code authorizes the Commission to require financial assurance in order to issue an injection well permit. Statewide Rule 78 does require financial assurance for operators of disposal wells. See, e.g., Tex. Admin. Code § 3.78(a)(6), (d), (g).

⁵ The hearing transcript in this case is referred to as "Tr. Pg.[page(s)], Ln. [line(s)]." The exhibits are referred to as Ex. No. in order they've been presented, regardless who presented them.

⁶ Ex. Nos. 1 & 11.

1,100 psig, equivalent to .25 psi per foot of depth. Boykin also agreed to perform a step-rate test and measure the initial bottom hole pressure for both wells prior to injection.⁷

a. Geology and Area of Review

The proposed disposal zone for Well Nos. 1 and 2 is in the Delaware Mountain Group that includes the Bell Canyon, Cherry Canyon, and Brushy Canyon.⁸ Statewide Rule 3.9(7)(a) provides:

Except as otherwise provided in this paragraph, the applicant shall review the date of public record for wells that penetrate the proposed disposal zone within a 1/4 mile radius of the proposed disposal well to determine if all abandoned wells have been plugged in a manner that will prevent the movement of fluids from the disposal zone into freshwater strata. The applicant shall identify in the application any wells which appear from such review of public records to be unplugged or improperly plugged and any other unplugged or improperly plugged wells of which the applicant has actual knowledge.⁹

Boykin performed a 1/4-mile and 1/2-mile area of review study of active and plugged wells. Boykin's witness, Mr. Rick Johnston, a petroleum engineer and consultant, presented the 1/4-mile area of review map for each of the proposed wells¹⁰, showing that there are no penetrations into the disposal interval that could serve as a possible conduit to reach the Underground Sources of Drinking Water ("USDW") or the base of usable quality water("BUQW "). Mr. Johnston also presented the 1/2-mile area of review map¹¹, which showed only a single well, a horizontal well operated by protestant Colgate, the Iwo Jima 14-26 Unit No. 1H Well ("Iwo Jima 1H Well") (API No. 42-389-37270). The Iwo Jima 1H Well penetrates the disposal interval roughly one mile south-south-east of the proposed wells.

Boykin presented evidence to show there is a confining barrier above and below the proposed injection interval. Mr. Reynolds, geologist, sponsored exhibits¹² showing two cross section and corresponding correlation on the well logs. The correlations displayed the salt and anhydrite section situated immediately above the top of the requested disposal interval at 4,350' up to roughly 2,000', which will act as an upper confining interval. Mr. Reynolds testified that this section, the Castile anhydrite section, will serve as an upper confining interval, describing it as "very dense."¹³ Mr. Reynolds proceeded to testify regarding the lower confining interval, stating that the lower Brushy Canyon is very tight and along with the upper part of the Bone Springs will represent a competent confining layer.¹⁴

⁷ Ex. Nos. 8 & 16; Tr. Pg. 23, Ln. 10-18.

⁸ Tr. Pg. 12, Ln. 1-20; Ex. No. 1 & 11.

⁹ 16 Tex. Admin. Code § 3.9(7)(A).

¹⁰ Ex. Nos. 4 & 14; Tr. Pg. 15, Ln. 17-20; Tr. Pg. 27-28, Ln. 23-2.

¹¹ Ex. Nos. 4 & 14; Tr. Pg. 15, Ln. 9-16; Tr. Pg. 27-28, Ln. 23-24.

¹² Ex. No. 23-26.

¹³ Tr. Pg. 44-45, Ln. 24-12 and Pg. 48, Ln. 16-18.

¹⁴ Tr. Pg. 46, Ln. 1-7; Ex. No. 24.

b. Public Interest

Mr. Reynolds analyzed current water production¹⁵ for a 100 square mile area or 5.64 miles around the proposed wells. While these type of analysis are usually done on a 10-mile radius of review, a smaller area of review was used to more accurately assess the needs in the area. A smaller area of review would be more accurate since the proposed wells are being permitted as noncommercial, i.e. all water must be pipelined to the facility 10 miles of piping would not be realistic. Mr. Reynolds testified that there are 186 active oil and gas wells currently producing approximately 40,000 barrels of oil within that area of review. The witness asserts average water-to-oil ratio in this area was 3.5 to 1, which means that the current water production is approximately 140,000 bwpd.¹⁶ This number does not take into consideration the following extenuating factors: (1) whether or not the wells in this area are, will be, or have been hydraulically-fractured; (2) the 111 additional wells in this area that have not yet reported production as of the hearing; (3) the 78 additional drilling permits in this area; and (4) the oil and gas development in this area is expanding between the city of Pecos and the proposed wells.¹⁷ Further, there are only 8 active disposal wells in this area of review, with a total disposal capacity of 127,700 bwpd, meaning that the industry need is already outpacing the existing disposal capacity. Given the additional 111 wells that have yet to report production, and the 78 drilling permits, Mr. Reynolds testified that there is need for additional injection wells.¹⁸

c. Protection of Useable Quality Water Aquifers

The Commission's Groundwater Advisory Unit determined that the Base of Usable Water Quality at the proposed location for Well Nos. 1 and 2 from the land surface to a depth of 2,350 feet. The water-bearing strata from the land surface to a depth of 1,400', as well as the Rustler Formation, which is estimated to occur from 1,875' - 2,350', must be protected.¹⁹ Boykin proposes to run 10 ¾ inch casing to 2,450 feet, cement it back to surface and then run 7 5/8 - inch to 6,500 feet, with DV tool at 4,400 and calculated top of cement at 3,000 feet.²⁰

d. Financial Assurance

Boykin has an active Form P-5 Organization Report. As required by Statewide Rule 78, Boykin demonstrated financial responsibility in the form of a \$25,000 cash deposit.²¹

B. Protestant's Evidence

The protestant, Colgate Operating, LLC, maintains that Boykin's two proposed disposal wells would endanger Colgate's underlying oil and gas formations. Colgate

¹⁵ Ex. No. 36

¹⁶ Tr. Pg. 108-109, Ln. 16-11.

¹⁷ Tr. Pg. 108-110, Ln. 24-6.

¹⁸ Tr. Pg. 115, Ln. 19-25.

¹⁹ Ex. Nos. 3 & 13.

²⁰ Ex. Nos. 1 & 11.

²¹ Ex. No. 20.

maintains there is a presence of naturally occurring, densely fractured zones that penetrate the disposal interval and would be a conduit for Boykin's disposal operations outside of the injection interval. According to Colgate, the injection operations would push water from the Delaware Mountain Group down to the Upper Wolfcamp Formation, thereby harming Colgate's production.²²

Protestant Colgate operates three wells, Iwo Jima 1H, Midway 45-46 Unit 1H, and Guam 1H, that are 0.8 miles away from the proposed wells. Colgate was unaware of the existence of any densely fractured zones in this area until it experienced lost circulation while drilling the horizontal portion of the Guam 1 H in the Upper Wolfcamp through one of the zones in late 2018.²³

Two of Colgate's neighboring operators in the subject area, UpCurve Energy LLC and Jetta Permian LP, presented papers at the 2019 Unconventional Resources Technology Conference (URTeC) describing their experience with densely fractured zones, lost circulation, low fracture gradients, and abnormally high chlorides and H₂S in the subject part of the Reeves County. Using 3D-seismic data, these operators correlated the lost circulation, low fracture gradients, abnormally high chlorides and H₂S in their Wolfcamp wells with the graben²⁴-like features that penetrate the Delaware Mountain Group formations and extend into the Wolfcamp formation.²⁵ As a result, Colgate acquired 200 square miles of 3D-seismic data and conducted independent review around Iwo Jima 1H, Midway 45-46 Unit 1H, Guam 1H, and the two proposed Boykin wells.²⁶

Sergio Ojeda, Geologist, and Kerry Pollard, Engineer, testified on behalf of Colgate. Upon review of 3D-seismic data, Mr. Ojeda and Mr. Pollard testified that there are densely fractured zones that appear as grabens²⁷ which are located both north and south of the proposed wells.²⁸ Colgate described these features as "graben-like."²⁹ Mr. Ojeda further testified that while drilling the horizontal leg of Midway 1H well in the Wolfcamp formation, Colgate saw low fracture gradients in the toe of the well.³⁰ The Midway 1H produced H₂S at 425 ppm and water with chlorides over 80,000 ppm, with an unusually high water-oil ratio of 7.5:1, which according to Colgate's witness' correlates with the available 3D seismic data and indicates an intrusion of foreign water into the well.³¹ Mr. Ojeda maintains that the graben-like zones adjacent to the proposed wells go from Delaware Mountain Group and reach down into the Wolfcamp Formation.³²

²² Ex. No. 50.

²³ Tr. Pg. 239-241, Ln. 5-2. Ex. 44-49.

²⁴ A "graben" is a piece of Earth's crust that is shifted downward in comparison to adjacent crust known as "horsts," which are shifted upward. Grabens and horsts indicate that the earth's crust has been extended or pulled in opposite directions. <https://www.usgs.gov/news/earthword-graben>. Protestant describes the features observed in the Delaware Mountain Group as "graben-like" due to geological similarities to graben and horst structures (rift valleys) seen on the surface of the Earth.

²⁵ Ex. No. 40 & 41.

²⁶ Tr. Pg. 239-240, Pg. 21-15.

²⁷ Ex. No. 44 and 49; Tr. Pg. 268-269, Pg. 17-9.

²⁸ Tr. Pg. 299, Ln. 6-8.

²⁹ Tr. Pg. 228, Ln. 1-7; Pg. 248, Ln. 15-19.

³⁰ Tr. Pg. 314, Ln. 6-8.

³¹ Tr. Pg. 323, Ln. 1-8; Pg. 275-277, Ln. 10-14.

³² Tr. Pg. 277, Ln. 12-14; Ex. 44-49.

In addition, Colgate asserts that the Delaware Mountain Group contains permeable sand channels which connect to the graben-like geohazards³³. Water injected into the Delaware Mountain Group causes a pressure increase and flow towards the densely fractured graben-like zones.³⁴ Therefore, Colgate maintains that the water that Boykin proposes to inject into the proposed disposal wells in the Delaware Mountain Group would, if approved, potentially communicate with the densely fractured zones north and south of the proposed disposal wells.³⁵

Colgate offered an exhibit³⁶ showing that within one-half radius from the proposed disposal wells there are two SWD wells permitted to inject up to 45,000 bwpd into the Delaware Mountain Group, the SE Toyah SWD (which has been renamed by the current operator to the Something Royal SWD³⁷) permitted to a maximum of 25,000 bwpd and the Menarches SWD, permitted to inject up to 20,000 bwpd.³⁸ Colgate asserts, as testified by Mr. Pollard, that this already permitted injection puts Wolfcamp reserves in this area at risk, and Boykin's proposed additional injection of up to 40,000 bwpd would only increase that risk.³⁹

V. Examiners' Analysis of the Evidence

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

A. Protection of Oil, Gas and Geothermal Resources

The evidence demonstrates that the proposed injection wells will be drilled, completed, and operated in a manner that will not endanger or injure any oil, gas, or geothermal resource, as required by the Texas Water Code and SWR 9. According to the evidence, the Castile anhydrite section at roughly 4,350' going up to 2,000' will act as an upper confining interval, while the lower Brushy Canyon along with the upper part of the Bone Springs will represent the lower confining layer.⁴⁰

The protestant expressed concerns about densely fractured, graben-like zones jeopardizing lower confinement interval and serving as potential conduits from the proposed injection interval down to the productive Wolfcamp formation. Based on the presented evidence the proposed wells are 0.6 and 0.8 miles from the fractured graben-like geohazard. At 0.25 psi/ft maximum injection pressure, Examiners find that these wells, given their distance from the geohazards, would not generate sufficient pressure to impact the Wolfcamp formation through the graben-like features. In addition, to the extent the features identified by Colgate are indeed a potential conduit for the migration of fluids outside the injection interval, the location of these features have now been

³³ Tr. Pg. 335, Ln. 19-22.

³⁴ Tr. Pg. 282, Ln. 8-18; Pg. 285, Ln. 10-24.

³⁵ Tr. Pg. 288-289, Ln. 8-16.

³⁶ Ex. 63 & 64.

³⁷ Tr. Pg. 331, Ln. 7-9.

³⁸ Tr. Pg. 409, Ln. 1-3.

³⁹ Tr. Pg. 336, Ln. 16-19; Pg. 337-338, Ln. 24-17.

⁴⁰ Ex. 24.

identified and as such can be avoided or monitored for further data gathering. In line with avoiding the graben-like features and out of the abundance of caution, Examiners further recommend lowering the top of the injection interval by 200', as proposed by Boykin, to avoid any shallow channeling in the Delaware Mountain Group.

Colgate contends that already permitted injection puts Wolfcamp reserves in this area at risk, and Boykin's proposed additional injection of up to 40,000 bwpd would increase that risk. As discussed above, the Examiners maintain that the potential communication between the upper injection zone and lower production zone is minimal or absent for the proposed wells due to their distance from the features identified by Colgate. In addition, it must again be noted in this context that Boykin agreed to lower the injection pressure from 2,200 psi to 1,100 psi, further diminishing potential impact on the graben-like geohazards.

As Mr. Reynolds testified, the Delaware Sands are the most widely used disposal interval throughout the entire Delaware Basin, taking approximately 95% of the disposal volumes in Reeves County.⁴¹ As noted above, there is substantial evidence of industry need for disposal wells in the area and the proposed wells have low injection pressure and are situated at the greatest possible distance in the area from the identified graben-like feature—greater in fact, than several injection wells already permitted in the area.⁴²

B. Protection of Ground and Surface Fresh Water

The evidence demonstrates the wells will be operated in a manner that will adequately protect ground and surface fresh water from pollution. The proposed injection wells will be constructed and operated in a manner that will protect surface water and groundwater strata from the land surface to a depth of 1,400', as well as the Rustler Formation, occurring from 1,875' - 2,350', from pollution.⁴³ The injection interval the proposed injection wells will not endanger or injure any oil, gas, mineral, or geothermal resource or formation.

According to the evidence, all the wells that are plugged and abandoned in the half-mile radius from the subject wells are plugged and abandoned in a way that no well will provide a pathway for the migration of injected fluids outside of the disposal zone as each well is sufficiently cased and cemented and plugged in accordance with Commission rules.

C. Financial Responsibility

Boykin has an active Form P-5 Organization Report. As required by Statewide Rule 78, Boykin demonstrated financial responsibility in the form of a \$25,000 cash deposit.⁴⁴

⁴¹ Tr. Pg. 47, Ln. 5-7

⁴² Tr. Pg. 393-395, Ln. 14-11.

⁴³ Ex. 2, 3, 12, and 13.

⁴⁴ Ex. No. 20.

D. Public Interest

Applicant has applied for a commercial permit indicating an expectation that there is a need for disposal, since there is hydrocarbon production in the area. There are several existing injection wells in the area, including the Bravo Oil Co., LLC - Monarchos SWD No. 1 Well, the Water Bridge Texas Operating LLC, Something Royal SWD No. 1H Well and Aquaman SWD No. 1 Well. The existing disposal wells are operating close to full capacity⁴⁵, suggesting a need for additional disposal capacity in the area of the proposed wells.

VI. Findings of Fact and Conclusions of Law

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

Findings of Fact

1. On August 23, 2019, Boykin published notice of the subject applications in the *Pecos Enterprise*, a newspaper of general circulation in Reeves County, Texas.
2. On August 30, 2018, Boykin provided notice of the subject applications to the Reeves County Clerk, operators of wells within 1/2-mile of the proposed location, and all other affected persons, as required by 16 Tex. Admin. Code § 3.9.
3. On September 10, 2018, Colgate Operating, LLC filed with the Commission a protest of the subject applications.
4. On April 22, 2019, Boykin filed a request for hearing on Statewide Rule 9 for a Permit to dispose of oil and gas waste by injection into a porous formation non-productive of oil or gas. On May 20, 2019, Injection-Storage Permits Unit ("UIC") proceeded to forward Boykin's hearing request on Statewide Rule 9. The application is administratively complete, and the hearing was requested because the application is protested.
5. On June 3, 2019, the Hearings Division of the Commission sent a Joint Notice of Prehearing Conference ("Notice") for both applications via first-class mail to Applicant and all affected persons setting a pre-hearing conference date of July 11, 2019. The Notices contain (1) a statement of the time, place, and nature of the pre-hearing conference; (2) a statement of the legal authority and jurisdiction under which the hearing is to be held; (3) a reference to the particular sections of the statutes and rules involved; and (4) a short and plain statement of the matters asserted. The pre-hearing conference was held on December 17, 2018. Applicant and Protestants appeared and participated. The hearing on the merits was set for September 4, 2019 and the parties were provided notice. Applicant and Protestants appeared and participated in the hearing on the merits. Consequently,

⁴⁵ Tr. Pg. 436-437, lines 18-10.

- all parties received more than 10 days' notice of the hearing and an opportunity for hearing.
6. The proposed locations for Well Nos. 1 and 2 are approximately 9 miles south-west of Pecos, Texas in Reeves County.
 7. The proposed injection wells will be completed and operated as follows:
 - a) Drilled to a total depth of 6,500 feet;
 - b) Long string (7 5/8 - inch) set at 6,500 feet, calculated top of cement at 3,000 feet with the assistance of a DV tool at 4,400 feet;
 - c) 5 1/2" tubing and a packer at 4,300 feet;
 - d) Surface casing (13 1/2-inch) to 2,450 feet, cemented to the top;
 - e) Disposal interval of 4,400-6,400 feet, which includes the Bell Canyon, Cherry Canyon, and upper Brushy Canyon formations;
 - f) A maximum daily injection volume equal to 20,000 bpd; and
 - g) A maximum surface injection pressure equal to 1,100 psig.
 8. On March 28, 2019, the UIC Section requested that Boykin amend its applications due to the seismic events in the area of the proposed wells. On April 16, 2019, Boykin agreed to reduce its maximum daily disposal volume to from 30,000 bwpd to 20,000 bwpd and its maximum surface injection pressure to 2,200 psig to 1,100 psig. Boykin also agreed to perform a step-rate test and measure the initial bottom hole pressure for both wells prior to injection.
 9. GAU determined the base of usable quality ground water to occur at a depth of approximately 2,350'. The water-bearing strata from the land surface to a depth of 1,400', as well as the Rustler Formation, which is estimated to occur from 1,875' - 2,350', must be protected in accordance with GAU letter No. 204288.
 10. The proposed injection well will be sufficiently cased and cemented to protect groundwater resources.
 11. The use or installation of the proposed injection well will not endanger or injure any oil, gas, or other mineral formation.
 12. A 1/4-mile area review shows no penetrations of the disposal interval and no wells in the 1/4 radius can act as a conduit for injection fluids to escape the disposal interval. The 1/2-mile area of review map shows a single well operated by protestant Colgate, the Iwo Jima 14-26 Unit No. 1H Well (API No. 42-389-37270).

The Iwo Jima 1H Well penetrates the disposal interval roughly one mile south-south-east of the proposed wells.

13. The use or installation of the proposed injection wells is in the public interest.
14. Boykin has an active Form P-5 Organization Report.
15. Boykin has made a satisfactory showing of financial responsibility required by Tex. Water Code § 27.073.

Conclusions of Law

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

VII. Examiners' Recommendation

Based on the evidence presented at the hearing, the Examiners recommend approval of the Application of Boykin Energy, LLC for commercial permits to dispose of oil and gas waste by injection into the Cherry Canyon, Brushy Canyon and Bell Canyon Formations, porous formations not productive of oil and gas, for the Bateman SWD Lease, Well No. 1, and Bateman SWD Lease, Well No. 2, in the Wolfbone (Trend Area), in Pecos County, Texas.

Respectfully submitted,



Petar Buva
Technical Examiner



Ezra A. Johnson
Administrative Law Judge