



# RAILROAD COMMISSION OF TEXAS

## HEARINGS DIVISION

### AMENDED PROPOSAL FOR DECISION

**OIL AND GAS DOCKET NO. 01-0294923**

---

**THE APPLICATION OF 4 SWIFT SERVICE, LLC PURSUANT TO STATEWIDE RULE 46 FOR A PERMIT TO INJECT FLUID INTO A RESERVOIR PRODUCTIVE OF OIL OR GAS, SOPHIA SWD, WELL NO. 1, WINTER GARDEN (OLMOS) FIELD, DIMMIT COUNTY, TEXAS**

---

**HEARD BY:** Richard Eyster, P.G. – Technical Examiner  
Laura Miles-Valdez – Hearings Examiner  
Marshall Enquist - Administrative Law Judge

**APPEARANCES:**

**REPRESENTING:**

**APPLICANT:**

George Neale  
Luis H. De Hoyos  
John Miller, P.E.  
Todd Reynolds

4 Swift Service, LLC

**PROTESTANT:**

Peter Gregg  
Ed Walker  
Dr. Ron Green

Wintergarden Ground Water Conservation District

### PROCEDURAL HISTORY

Application Filed:	January 6, 2015
Protest Received:	March 17, 2015
Date of Hearing:	March 31, 2015
Transcript Received:	April 9, 2015
Applicants Closing:	April 29, 2015
Protestants Closing:	April 29, 2015
Proposal For Decision Issued:	December 8, 2015
Amended Proposal for Decision Issued:	February 17, 2016



**STATEMENT OF THE CASE**

4 Swift Services, LLC (4 Swift) (Operator P-5 No. 953799) requests authority pursuant to Statewide Rule 46 to commercially inject saltwater and RCRA- exempt waste into the Olmos, San Miguel and Anacacho Formations in the Sophia SWD Lease, Well No.1, (Sophia-1), Winter Garden (Olmos) Field, Dimmit County Texas. The proposed injection well is located about one mile north of the town of Carrizo Springs on a 24.8 acre tract in an rural area. The application was declared administratively complete by the Railroad Commission of Texas' Oil and Gas Division on November 29, 2014.

Notice of the subject application was published in the *Carrizo Springs Javelin*, a newspaper of general circulation in Dimmit County on October 29, 2014. Notice of the application was sent to the surface owners of the subject lease on March 3, 2014. 4 Swift is the only operator within a one-half mile radius of the proposed well.

The application is protested by the Wintergarden Groundwater Conservation District (WGCD). The Protestant is concerned that four plugged and abandoned (Subject) dry holes (subject wells) located 0.8 to 1.4 miles from the proposed well may provide a pathway for salt water injected in the proposed well to migrate vertically into the freshwater Wilcox Formation.

**Applicable Law**

The Railroad Commission may grant a permit under Chapter 27 of the Texas Water Code, Subchapter D<sup>1</sup>, in whole or part and may issue a commercial permit to dispose of fluids by underground injection 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;
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 if required by Section 27.073.

---

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

**Matters Officially Noticed**

By letter dated February 1, 2016, the Technical Examiner and ALJ re-opened the hearing for the limited purpose of taking Official Notice of the fact that 4 Swift Service, LLC was the subject of Enforcement Docket No. 01-0296006, with a Master Default Order signed December 8, 2015. 4 Swift became subject to the restrictions of Texas Natural Resources Code §91.114 on December 28, 2015, now has a delinquent P-5 Organization Report and no longer has financial assurance posted with the Commission.

**DISCUSSION OF THE EVIDENCE****APPLICANT'S EVIDENCE**

4 Swift proposes to reenter a plugged oil well and recomplete the well as a commercial saltwater disposal well in the Olmos, San Miguel, and Anacacho Formations, and to use the well for the disposal of salt water and non-hazardous waste. At the time of the hearing on March 31, 2015, 4 Swift had an active Form P-5 and a cash deposit in the amount of \$7,000 for financial assurance.

The proposed injection well was drilled by Sage Energy Co. and originally named the Triplett Unit 1H (API No. 127-33635) ("Triplett Well"). The Triplett well was drilled on December 21, 2009, and plugged on October 16, 2012.

The Triplett well was completed in the Austin Chalk in January 2010 and plugged October 16, 2012. The well had three horizontal laterals. The first lateral is from 4,634 ft to 8,974 ft, the second from 4,632 ft to 7,035 ft, and the third lateral is from 4,632 ft to 9,247 ft. The three laterals are sealed off from the injection zone by a cast iron bridge plug set at 4,500 ft with 20 ft of cement from 4,480 ft to 4,500 ft.

4 Swift proposes to recomplete the Triplett well as a commercial disposal well and name it the Sophia SWD Well No.1, ("Sophia-1"). 4 Swift had initially proposed to inject at a maximum rate of 25,000 barrels of saltwater per day (BBLW/D) with an average injection rate of 15,000 BBLW/D, and a maximum surface injection pressure of 1,260 psig. At the hearing however, John Miller, P.E. stated that the Olmos Formation is a tight formation and therefore pressure constrained.<sup>2</sup> As a result, 4 Swift reduced the maximum daily volumes of injectate from the initial request of 25,000 BBLW/D to 10,000 BBLW/D and reduced the average daily injection volume to 5,000 BBLW/D with a maximum surface injection pressure of 1,260 psig. Mr. Miller stated the proposed injection interval is between 2,520 ft to 4,470 ft into the Olmos, San Miguel, and Anacacho Formations.

Surface facilities will comply with standard permit conditions for commercial disposal well facilities, including secondary containment.

---

<sup>2</sup>.Tr. pg. 40, lns. 4-24.

The proposed construction and operational details of the well are as follows:

- a. 10-3/4 inch surface casing currently exists in the well to 760 ft, cemented with 405 sacks and circulated to surface. When the well was originally plugged the 7-inch casing was cut at approximately 794 ft below ground level (bgl) and pulled.
- b. During re-entry, 4 Swift will tie into the 7-inch casing from 794 ft to surface.
- c. 7-inch casing is set at 4,636 ft and cemented with 920 sacks of cement. The annular height of the cement was 2,454 ft. The calculated height of cement was 2,182 ft.
- d. 4 Swift plans to perforate and squeeze cement from 2,160 ft to 2,180 ft with 600 sacks of cement and to circulate cement back to surface.
- e. 4 Swift will run two cement bond logs, one after the squeeze job, and a second cement bond log seven days later to confirm the integrity of the squeeze job.
- f. 2-3/8 inch tubing will be set at 2,420 ft, no higher than 100 ft above the injection interval.
- g. The proposed injection interval is between 2,520 ft to 4,470 ft into the Olmos, San Miguel, and Anacacho Formations.
- h. The maximum daily injection volume will be 10,000 barrels per day (BPD) with an average daily injection volume of 5,000 BPD.
- i. The maximum surface injection pressure will be 1,260 psig.
- j. The facility will receive produced salt water and RCRA-exempt waste for disposal by truck.
- k. Surface Facilities will comply with standard permit conditions for commercial disposal well facilities, including secondary containment.

A review of U.S. Geological Survey seismic activity data from 1900 to March 13, 2015, did not identify any historical seismic events within a 9.08 kilometer radius of the proposed injection well location.

4 Swift's Exhibit 8, and Protestants Exhibit No. 1 indicates there are no wells within a 1/4, 1/2, or 3/4, of a mile radius of the proposed injection well. The closest wellbores to the proposed injection well are the four subject wells. The closest subject well is a plugged and abandoned dry hole, Well 1 A-1442 (A), (Well A) which is located 4,224 ft or .8 miles from the proposed injection well.

4 Swift asserts the proposed injection well is necessary to accommodate the current drilling and hydraulic fracturing activity, most of which is occurring in the Eagle Ford Formation. Mr. Luis H. De Hoyos, Managing Member of 4 Swift, and Mr. Miller, both testified there is a tremendous current need for additional disposal capacity in the area. Specifically, they noted extensive drilling activity in the area and that disposal facilities in the area that are at capacity. At the time of the hearing 1,028 wells had been drilled in the 20 mile radius of the proposed injection well within the Eagle Ford Formation alone.

4 Swift's Exhibit No. 16 is a map depicting the drilling permit activity in the area of the proposed well from 2011 to 2015. The map shows that the majority of drilling permits in the area are for horizontal wells and the number of permits has increased annually in both Dimmit and Zavala counties. The horizontal wells in this field typically require multi-stage hydraulic fracturing, resulting in hundreds of thousands of barrels of water that must be disposed of properly. 4 Swift's Exhibit No. 17 shows that of the 1,248 leases within the 20-mile radius the cumulative water volume per lease is approximately 1,000 to 5,000 barrels with the highest cumulative range being two leases with 10 to 50 million barrels of water per lease. 4 Swift's Exhibit No. 18 shows that while some wells (163 of 864) using fracture stimulation required between 75,000 - 100,000 barrels of water, the majority (646-864) used between 100,000 - 250,000 barrels of water and a few (9 of 864) wells used between 250,000 - 500,000 barrels of water.

Mr. De Hoyos stated that use of the proposed facility will reduce the water hauler truck waiting times in Dimmit County. The current disposal sites are seeing 45-60 trucks per day and haulers sometimes have to wait up to six hours, or travel more than thirty or forty miles, which greatly increases the disposal costs for operators. Installing the proposed injection well, will result in shorter travel times and shorter wait times, which will reduce water hauling and disposal costs.<sup>3</sup>

There is production from the Olmos Formation approximately two miles southwest of the proposed well, but the presence of multiple dry holes drilled in the Olmos Formation, including the subject wells, from 0.8 miles up to 1.8 miles away between the producing wells and the proposed injection well indicate that there is no production from the Olmos Formation closer than two miles from the proposed injection well.

Applicant's Exhibit No. 9 is a four well cross-section showing the shale layers above and below the proposed injection interval. The cross-section shows that there is a minimum of 400 ft of shale from 2,100 ft to the top of the injection interval at 2,520 ft that will act as a confining interval preventing the vertical migration of fluid. The cross-section also shows a minimum of 200 ft of shale below the proposed injection interval that will serve as a confining unit to prevent migration of injection fluids out of the proposed injection interval.

---

<sup>3</sup> Tr. pg. 91, Lns. 15-25.

The Commission's Groundwater Advisory Unit has determined that usable quality groundwater occurs from the land surface to a depth of 700 ft. The base of the Underground Source of Drinking Water (USDW) was determined to be 1,000 feet. 4 Swift asserts the proposed injection well will be cased and cemented to isolate the base of usable quality groundwater (BUQGW) and the USDW from the injection interval. There are no well bores penetrating the proposed injection zone within a 3/4 mile radius of the proposed injection well.

### **PROTESTANT'S EVIDENCE**

WGCD protested the subject application and stated the proposed disposal well permit should be denied. WGCD believes there are four dry holes ("subject wells") located between 0.8 mile to 1.4 miles from the proposed injection well that are not properly plugged or cemented. WGCD is concerned the open annulus in the subject wells could provide pathways for fluid from the proposed injection well to migrate up the well bores and contaminate fresh groundwater and possibly surface water.<sup>4</sup>

WGCDs' Exhibit No.1 is a map that shows the locations of the four Subject wells, all of which are outside the 1/4-mile, 1/2- mile, and 3/4-mile areas of review.

The closest subject well is a Subject dry hole located 0.8 miles from the proposed injection well, designated as Well No.1(A) Well A. Protestants Exhibit No. 3 is the August 03, 1955, Commission plugging report for Well A. The report states that Well A was drilled to a total depth of 3,120 ft. The plugging report states that the well had 10-3/4 inch surface casing from surface to a depth of 220 ft. The well was filled with drilling mud and cemented from 1,000 ft to 400 ft.

The second subject well, No. 5A (B) (Well B) is located 1.1 miles from the proposed injection well. Protestants Exhibit No. 4, a Commission drilling application dated April 23, 1956, indicates Well B was proposed to be drilled to a total depth of 3,000 ft. However, there were no records of the well ever being drilled presented during the hearing.<sup>5</sup>

Protestant's Exhibit No. 5 is the RRC plugging report for the third Subject well, No. 6A (C) Well C, which is located 1.2 miles from the Sophia-1 Well. The plugging report states the well was drilled to a total depth of 2,958 ft and was a dry hole. There was 2,800 ft of 4-1/2 casing left in the well, from surface to 2,800 ft. The well was pumped full of drilling mud and cemented with 25 sacks of cement at 400 ft and with 15 sacks of cement at 120 ft. The well was plugged on February 28, 1958.

---

<sup>4</sup> Tr. pg. 102, lns. 20-24, pg.103, lns. 3-8.

<sup>5</sup> Tr. pg. 148, lns. 1-25, pg. 149, lns.1-15.

Protestants Exhibit No. 6 is the September 17, 1991, Commission plugging report for fourth Subject dry hole, Well 32892 (D), Well D, (API No. 42-127-32892). Well D is located 1.4 miles from the Sophia-1 Well. Well D has several plugs- the deepest plug is set at 4,500 ft to 4,400 ft. A second plug is set at 772 ft to 600ft. The third plug is set at 250 ft. The fourth is set at 40 ft. The well was cemented with 220 sacks of 15.6 lb/gal cement and filled with 9.7 lb drilling mud.

WGCD's expert witness, Dr. Ron Green, Ph.D., introduced pressure front calculations for 1, 2, 3, 4, 10, and 30 years of continuous operation of the Sophia-1 injection well and possible effects on the subject wells.<sup>6</sup> Dr. Green's pressure front calculations included porosity, permeability, viscosity, and compressibility assumptions based on EPA reference documents. The EPA reference documents used assumed data for injection wells and did not use actual formation data.<sup>7</sup> Dr. Green's calculations assumed that the subject wells were empty of fluid or drilling mud.<sup>8</sup>

Dr. Green's pressure front calculations for the four subject wells are in table form.<sup>9</sup> These calculations hypothesized that after one year there could be a 17 psi increase in the bottom hole pressure of Well A, and a rise in fluid level of 39 ft. After 30 years of continuous injection there would be a 32 psi rise in pressure and a fluid rise in the well of 72 ft.

Dr. Green's calculations show that if Well B was in fact drilled, then it would show a possible increase of 15 psi and a 33 ft rise in water level after one year. After 30 years of continuous operation the pressure increase will be 29 psi and a fluid elevation of 66 ft.

Dr. Green's calculations indicate that after one year of operation there could be an increase in pressure of 14 psi and fluid level increase of 32 ft in Well C. After 30 years, the pressure increase will be 28 psi and a fluid level rise of 64 ft.

Dr. Green's pressure front calculations indicate the one year pressure build up in Well D is 13 psi and the water level would rise 29 ft. After 30 years of operation, the proposed injection well may cause a pressure increase of 27psi and fluid level rise of 61 ft in Well D.

WGCD entered Exhibit No. 12 to show that an injection well may cause a surface breakout. In support, WGCD pointed to the "Mogford Well" (API. No 42-127-00054), which was abandoned in 1949 is located 1,747 ft from a separate injection well, the Carmen Jung 1 (Sandy SWD Well). The Mogford Well had a surface breakout which WGCD claims was from the operation of the Sandy SWD Well. The Mogford Well is located 1,747 ft from the Sandy SWD Well which is 427 ft greater

---

<sup>6</sup> WGCD Exhibit Nos. 7- 11.

<sup>7</sup> Tr. pg 139, lns. 1-5.

<sup>8</sup> Tr. pg.153, lns. 1-25.

<sup>9</sup> WGCD Exhibit 11, Table 2. Pressure build up at existing boreholes proximal to the proposed 4 Swift SWD after various durations of continuous injection.

than a 1/4-mile, and the Sandy SWD Well was injecting at an average pressure of 1,700 psi into a 29 ft injection zone.

Under cross-examination, Dr. Green testified that he had not seen any evidence where a commercial injection well injecting into the Olmos in this area had a sub-surface or surface breakout in an improperly plugged or otherwise improperly completed well, when a well was at least three-quarters miles distance from an injection well.<sup>10</sup> All of the subject wells that are of concern to the Protestant are outside of a three-quarters mile radius of the proposed injection well.

**EXAMINERS' OPINION**

The Railroad Commission may grant a permit for a commercial disposal well if the application meets the requirements of the Texas Water Code § 27.051(b), (1-4).

1. The use or installation of the injection well is in the public interest;
2. The use or installation of the injection well will not endanger or injure any oil, gas, or other mineral formation;
3. With proper safeguards, both ground and surface fresh water can be adequately protected from pollution; and
4. The applicant has made a satisfactory showing of financial responsibility if required by Section 27.073 under Commission statutes and regulatory requirements.

In the Examiners' opinion, the Applicant has not demonstrated that the proposed disposal well meets all of these requirements. A discussion of the required elements in the Texas Water Code § 27.051(b) (1-4) follows.

**Public Interest**

The disposal of saltwater and other waste fluids is a necessary aspect of hydrocarbon production. Operators are continuing to develop the Eagle Ford Formation in the area. 4 Swift's Exhibit No.18 is a map that shows fluid stimulation volumes within the 20-mile radius. Exhibit No. 18 shows that while some wells (163 of 864) using fracture stimulation required between 75,000 - 100,000 barrels of water, the majority (646-864) used between 100,000 - 250,000 barrels of water and a few (9 of 864) wells used between 250,000-500,000 barrels of water. According to 4 Swift, water haulers sometimes have to wait up to six hours or travel more than twenty miles to dispose of fluids. The current disposal sites are seeing 45-60 trucks per day. The waiting times and excessive travel times result in higher water hauling and disposal costs for area operators. Permitting the proposed injection well will result in shorter wait times and shorter travel times which will reduce water

---

<sup>10</sup> Tr . pg .177, lns. 10-24. pg. 178, lns. 7-15.



hauling and disposal costs for 4 Swifts customers. It will also decrease traffic on local roads. The Examiners' conclude the Applicant has demonstrated that additional disposal capacity is needed in this area.

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

The evidence in the record demonstrates no oil, gas, or other mineral formations will be harmed by the proposed disposal well. There are no active wells within one-half mile of the proposed disposal well. Therefore, there were no offset operators entitled to notice of the application. The nearest historical production from the Olmos Formation is about two miles southwest of the proposed well. Mr. Miller testified that the productive zone in the Olmos Formation is isolated from the proposed injection well as indicated by the presence of multiple dry holes, including three of the subject wells (A, B, & C), between the producing wells and the proposed injection well. The presence of multiple dry holes in the Olmos Formation between the proposed well and the producing wells indicate that there is no production from the Olmos Formation closer than two miles from the proposed injection well. The Examiners' conclude the Applicant has demonstrated that the proposed injection well will not endanger or injure any oil, gas, or mineral formations.

### **Protect Water Resources**

The evidence in the record demonstrates the proposed commercial disposal well contains proper safeguards for the adequate protection of ground and surface freshwater from pollution. The well will include two casing strings, both cemented to the surface. The wellbore design and operational parameters will be protective of fresh groundwater at and above the BUQW, which is 1,000 ft. 4 Swift had originally proposed to inject a maximum rate of 25,000 barrels of saltwater per day (BBLW/D) with an average injection rate of 15,000 BBLW/D, and a maximum surface injection pressure of 1,260 psig. However, during the hearing the Applicant's expert witness, John Miller stated that since the Olmos Formation is a pressure constrained formation 4 Swift will reduce the maximum daily volume of injectate from the initial request of 25,000 BBLW/D to 10,000 BBLW/D and reduce the average daily injection volume to 5,000 BBLW/D with a maximum surface injection pressure of 1,260 psig. There is a minimum of 400 ft of shale from 2,100 ft to the top of the injection interval at 2,520 ft which will serve as a confining interval preventing the vertical migration of fluid out of the injection interval. There is also a minimum of 200 ft of shale extending from the bottom of the injection interval at 4,400 ft to 4,600 ft effectively sealing the bottom of the injection interval. The facility will receive produced salt water and RCRA-exempt waste for disposal by truck. The Surface Facilities will comply with standard permit conditions for commercial disposal well facilities, including secondary containment.

The Examiners note WGCD's pressure front calculations did not use actual formation values, did not take into account the weight of the drilling mud column in the abandoned wells, and that the drilling mud could form a barrier to the migration of fluid up the borehole.<sup>11</sup>

---

<sup>11</sup> Tr. pg. 153, lns.11-21.

During rebuttal, Mr Miller stated that the weight of the drilling mud column in the four Subject wells should be taken into account in Dr. Greens pressure equations. Mr. Miller presented calculations showing that the weight of the drilling mud column in the Subject wells would be more than sufficient to overcome the pressure increase caused by the proposed injection well. For example, Mr. Miller multiplied the 9.7 lb/gallon drilling mud listed in the Well D plugging report by a conversion factor of .052 which gives you a mud weight in psi/foot of .504 psi per foot. The height of the drilling mud from 772 ft to 2,520 ft would be approximately 1,798 lbs. Applying the .504 psi per foot with the approximate height of the mud in the Subject well the weight of the mud column in Subject Well D, would be 906 lbs.<sup>12</sup> The increase of 27 psi is not sufficient to overcome a 906 lb column of 9.7 lb mud to bring oilfield brine to the BUQW at 1000 ft or to the surface. Wells A, C, and D all have mud column weights sufficient to prevent vertical migration of the injectate out of the injection interval.

WGCD introduced the Mogford Well as an example of a injection well possibly causing a surface breakout. The Mogford Well is located 1,747 ft from the Sandy SWD Well which is 427 ft further than 1/4 mile. The Sandy SWD Well was injecting 2,000 BBL/D at an average pressure of 1,700 psi into a 29 ft injection zone. However, in the instant case, the closest subject well, Well A, is located 4,224 ft (.8 miles) from the proposed injection well which is over twice as far as the Mogford Well. Additionally, the proposed injection well will be injecting into a larger injection interval of approximately 240 ft at a lower injection pressure with an average daily injection volume of 5,000 BPD and the maximum surface injection pressure will be 1,260 psig. Due to the differences in the distance from injection wells to the subject wells, the differences in the size of the injection zones, injection pressures and volumes the Examiners conclude that the Protestant's use of the Mogford Well does not prove that the proposed injection well will cause a subsurface or surface breakout.

Under cross-examination Dr. Green stated that he had not seen any evidence where a commercial injection well injecting into the Olmos Formation, in this area, had a subsurface or surface breakout due to an improperly plugged or otherwise improperly completed well when that well was at least three-quarters (.75) of a mile distance from an injection well.<sup>13</sup> All of the subject wells that are of concern to the Protestant are 0.8, 1.1, 1.2, and 1.4 miles of the proposed injection well.

The Examiners conclude the record contains sufficient evidence to demonstrate that both ground and surface fresh water will be adequately protected from pollution.

---

<sup>12</sup>Tr. pg. 186, lns. 3-12.

<sup>13</sup>. Tr .P: 177. L 10-24. P. 178. L. 7-15

**Financial Responsibility**

At the time of the hearing, on March 31, 2015, 4 Swift Service, LLC was able to demonstrate financial responsibility. Since that time, 4 Swift became the respondent in Enforcement Docket No. 01-0296006. A Master Default Order was signed in that docket on December 8, 2015. 4 Swift was ordered to pay an administrative penalty of \$1500 and place the Dilley Washout Facility at 160 County Road 4605, Frio County, Texas in compliance with Commission rules and regulations. On December 28, 2015, 4 Swift became subject to the restrictions of Texas Natural Resources Code §91.114 for a period of seven years. Those restrictions cannot be removed unless 4 Swift complies with the conditions of the Master Default Order in Docket No. 01-0296006. 4 Swift's financial assurance in the amount of a \$7,000 cash deposit has been relinquished to the Commission and its Form P-5 Organization Report is delinquent.

In light of the above, 4 Swift cannot make the necessary showing of financial responsibility. Additionally, the Commission cannot issue a permit to an organization with a delinquent Form P-5.

**FINDINGS OF FACT**

1. 4 Swift Services, LLC ("4 Swift") seeks a permit authorizing commercial disposal operations pursuant to 16 Tex. Admin. Code § 3.46 ("Statewide Rule 46") for the Sophia SWD Lease, Well No.1, (Sophia-1), Winter Garden (Olmos) Field, Dimmit County Texas ("Sophia SWD No. 1").
2. Notice of this hearing was given to all parties entitled to notice at least ten days prior to the date of hearing.
3. Notice of the application was published in the *Carrizo Springs Javelin*, a newspaper of general circulation in Dimmit County, on October 29, 2014. Notice of this application and hearing was provided to all persons entitled to notice at least ten (10) days prior to the date of the hearing. 4 Swift is the only operator within a three-quarter mile radius of the proposed well.
4. The application was protested by the Wintergarden Groundwater Conservation District.
5. 4 Swift proposes to convert an existing well into a commercial disposal well.
6. The proposed injection well is proposed to be a commercial disposal well for the disposal of saltwater and RCRA- exempt waste. The proposed injection well is located about one mile north of the town of Carrizo Springs on a 24.8 acre tract in an rural area.

7. The Sophia SWD Well No. 1 commercial disposal well is proposed to be constructed and operated in accordance with the requirements of Statewide Rule 46 and the Texas Water Code, including:
  - a. 10-3/4 inch surface casing currently exists in the well to 760 ft, cemented with 405 sacks and circulated to surface. When the well was originally plugged the 7-inch casing was cut at approximately 794 ft and pulled.
  - b. During re-entry 4 Swift will dress off the 7-inch casing where it was cut and then tie into the 7-inch casing from 794 ft to surface.
  - c. 7-inch casing is set at 4,636 ft and cemented with 920 sacks of cement. The annular height of the cement was 2,454 ft. The calculated height of cement was 2,182 ft.
  - d. 4 Swift plans to perforate and squeeze cement from 2,160 to 2,180 ft with 600 sacks of cement and to circulate cement back to surface.
  - e. 4 Swift will run two cement bond logs, one after the squeeze job, and a second cement bond log seven days later to confirm the integrity of the squeeze job.
  - f. 2-3/8 inch tubing will be set at 2,420 ft, 100 ft higher than the top of the injection interval of 2,520.
  - g. The proposed injection interval is between 2,520 to 4,470 ft into the Olmos, San Miguel and Anacacho Formations.
  - h. The proposed maximum daily injection volume will be 10,000 barrels per day (BPD) with an average daily injection volume of 5,000 BPD.
  - i. The proposed maximum surface injection pressure will be 1,260 psig.
  - j. The facility will receive produced salt water and RCRA-exempt waste for disposal by truck.
  - k. Surface Facilities will comply with standard permit conditions for commercial disposal well facilities, including secondary containment.
  
8. The use or installation of the Sophia SWD No. 1 would be in the public interest.
  - a. There are 864 wells in the area. 163 of 864 wells in the area using fracture stimulation required between 75,000 - 100,000 barrels of water, the majority (646-864) used between 100,000 - 250,000 barrels of water and a few (9 of 864) wells used between 250,000 - 500,000 barrels of water.

- b. The proposed disposal well will increase efficiency, in terms of reducing both truck travel time and miles driven to properly dispose of water.
9. With proper safeguards, both ground and surface fresh water could be adequately protected from pollution.
  - a. The base of usable-quality water (BUQW) occurs from the surface to a depth of 700 feet.
  - b. The injection interval is directly overlain by 400 ft of shale from 2,100 ft to the top of the injection interval at 2,520 ft isolating the disposal interval from the overlying Wilcox Formation.
  - c. No wellbores penetrate the disposal interval within a one-quarter mile area of review, within one-half mile, or within a three-quarters mile radius of the proposed disposal well.
  - d. The 4 Swift facility will incorporate all required standard containment design features for commercial disposal facilities designed to prevent pollution.
10. The use or installation of the Sophia SWD No. 1 Well, as proposed, would not endanger or injure oil, gas, or other mineral formations.
  - a. The proposed well is located in the an area of active hydrocarbon development driven by horizontal wells in the Eagle Ford Formation.
  - b. The nearest hydrocarbon production in the Olmos Formation is two miles away, and the presence of multiple dry holes between the closest production and the proposed injection well indicate that there is no production in the Olmos Formation closer than two miles.
  - c. The active hydrocarbon development in the area will require disposal of salt water and RCRA-exempt oil and gas waste.
11. 4 Swift Service, LLC was the respondent in Enforcement Docket No. 01-0296006. A Master Default Order was signed in that docket on December 8, 2015. 4 Swift was ordered to pay an administrative penalty of \$1500 and place the Dilley Washout Facility at 160 County Road 4605, Frio County, Texas in compliance with Commission rules and regulations.
12. 4 Swift's financial assurance in the amount of a \$7,000 cash deposit has been relinquished to the Commission and it's Form P-5 Organization Report is delinquent.

13. 4 Swift cannot make a satisfactory showing of financial responsibility as required by the Texas Water Code §27.073.
14. The Commission cannot grant a permit to an operator whose Form P-5 Organization Report is delinquent.

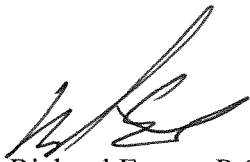
**CONCLUSIONS OF LAW**


1. Proper notice was issued in accordance with the applicable statutory and regulatory requirements.
2. All things have occurred to give the Railroad Commission jurisdiction to consider this matter.
3. 4 Swift has not made a satisfactory showing of financial responsibility to the extent required by Section 27.073 of the Texas Water Code.
4. 4 Swift has a delinquent Form P-5 Organization Report, which prevents the Commission from granting it any permit.

**EXAMINERS' RECOMMENDATION**

Based on the above Findings of Fact and Conclusions of Law, the Examiners recommend that 4 Swift Service, LLC's application for a commercial disposal well into a porous formation productive of hydrocarbons for its Sophia SWD Lease, Well No.1 be denied.

Respectfully submitted,

  
Richard Eyster, P.G.  
Technical Examiner

  
Marshall Enquist  
Administrative Law Judge