RAILROAD COMMISSION OF TEXAS
HEARINGS DIVISION

PROPOSAL FOR DECISION

OIL AND GAS DOCKET NO. 01-0291345

THE APPLICATION OF SABLE ENVIRONMENTAL, 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, KAPAVIK SWD LEASE, WELL NO. 1, PEACH CREEK (AUSTIN CHALK) FIELD, GONZALES COUNTY, TEXAS

HEARD BY: Paul Dubois – Technical Examiner
Marshall Enquist – Hearings Examiner

APPEARANCES:	**REPRESENTING:**
Applicant:	
Clay Nance	Sable Environmental, LLC
Cody Bates	
Kerry Pollard, P.E.	
Amber Lorick	
Protestants:	
Michael E. Floyd	Self
Leonard Phillip	Self
Willie Simper	Self

PROCEDURAL HISTORY

Application Filed:	July 7, 2014
Protest Received:	June 27, 2014
Request for Hearing:	August 4, 2014
Notice of Hearing:	September 29, 2014
Date of Hearing:	April 17, 2015
Transcript Received:	April 29, 2015
Proposal For Decision Issued:	May 18, 2015

STATEMENT OF THE CASE

Pursuant to Statewide Rule 9 (16 Tex. Admin. Code § 3.9), Sable Environmental, LLC (Sable) seeks a commercial permit to dispose of oil and gas waste by injection into a porous formation not productive of oil or gas, Kapavik SWD Lease Well No. 1, Peach Creek (Austin Chalk) Field, Gonzales County, Texas. This permit would authorize Sable to drill a new well into the lower Wilcox Formation for injection into the depth interval from 4,300 feet to 6,000 feet.

On July 7, 2014, notice of the application was mailed to the Gonzales County Clerk, the surface owner of the subject tract, and to the surface owners of adjoining tracts. There are no offsetting operators of wells within a one-half mile radius of the proposed well. Notice of the application was published on June 3, 2014, in the Gonzales Inquirer, a newspaper of general circulation in Gonzales County. The Application was protested by several adjoining surface owners who appeared at the hearing, including Michael Floyd, Leonard Phillip, and Willie Simper.

The Railroad Commission may grant a permit under Chapter 27 of the Texas Water Code, Subchapter D[1] in whole or part and may issue a 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.

The Examiners conclude that Sable has met its burden of proof and recommend the permit be granted.

DISCUSSION OF EVIDENCE

APPLICANT'S EVIDENCE

Sable proposes to drill and complete a new commercial salt water disposal (SWD) well in the lower Wilcox Formation and to use the well for the disposal of salt water and

---

[1] Tex. Water Code §27.051(b)(1-4)

non-hazardous waste from the production of oil and gas. Sable has an active Form P-5 and a cash deposit in the amount of $25,000 for financial assurance. Sable is an operator of nine commercial disposal wells serving the Eagle Ford play. These other disposal wells are located 40 or more miles to the southwest, with several in Karnes County. The proposed well will be located about 6.8 miles northeast of the City of Gonzales, in the G. W. Franklin survey, A-21 7, Gonzales County, Texas. Sable has a lease with the surface owners, David & Patricia Kapavik, to drill and operate the well and associated facilities on a five-acre tract, which is a portion of a much larger tract. Sable has not yet obtained a drilling permit for the well. A proposed wellbore schematic diagram is included as Attachment A.[2] The proposed construction and operational details of the well are as follows:

- The well will be drilled to a depth of 6,000 feet.
- Surface casing (9 5/8-inch) will be set to a depth of 2,700 feet with cement circulated to the surface.
- Production casing (7-inch) will be set to a depth of 6,100 feet with cement circulated to a depth of 3,700 feet (by calculation).
- The well will be perforated in the Wilcox Formation, in the interval from 4,300 feet to 6,000 feet, with the exact depth to be determined based on well log analysis after the borehole is drilled.
- Injection tubing (4-inch) will be set with a packer not more than 100 feet above the uppermost perforation.
- The maximum daily injection volume will be 25,000 barrels per day (BPD) with an average daily injection volume of 15,000 BPD.
- The maximum surface injection pressure will be 2,150 pounds per square inch gauge (psig), with an average surface injection pressure of 2,150 psig.
- The facility will receive salt water for disposal by truck with access from FM 532, which runs along the north side of the tract.

At the hearing, Sable's expert engineering witness, Kerry Pollard, P.E., stated that Sable would be agreeable to other cementing configurations if the Commission believed such configurations would ensure protectiveness of freshwater resources.

---

[2] Sable Exh. No. 19.

The Commission's Groundwater Advisory Unit (GAU) determined the base of usable quality groundwater (BUQW) to be at a depth of 2,600 feet, which includes the Carrizo Formation. The base of underground sources of drinking water (USDW) is at a depth of 3,000 feet. The GAU determined that, if otherwise compliant with Commission rules, the proposed well will not endanger freshwater in the area.

Sable resolved an early protest with the Gonzales County Underground Water Conservation District (District) by an agreement that did not require amendments to the application. Among other things, Sable did agree to perform a cement bond log on the proposed well and to furnish a copy to the District. Sable also agreed to provide a copy of the cement bond log to the Commission.

The site location is identified on National Flood Insurance Program maps as being in an area of minimal flood hazard (*i.e.*, it is not in a flood plain); the site location has less than a 1 percent annual chance of flooding. The nearest surface water body is Denton Creek. Denton Creek and its associated flood plain are located about 2,200 feet northeast of the proposed well.

Through a review of Texas Water Development Board and Texas Commission on Environmental Quality records, Sable identified four water wells within a one-half mile radius of the site, and 45 water wells within a two-mile radius. The four wells within a one-half mile radius are all less than 407 feet deep, as are most of the wells identified within a two-mile radius of the site. The deepest well is more than 1.5 miles to the northwest and produces from the Carrizo Formation at a depth of about 2,360 feet.

The surface facilities will be constructed with access to FM 532. Water and skim oil storage tanks will be located within a containment structure made of high-density polyethylene (HDPE), an impermeable synthetic material. The structure will have sidewalls and a sufficient volume to contain the combined fluid capacity of all of the tankage and equipment within the structure. Rainfall landing within the containment area will be collected and injected into the subsurface via the SWD. Waste hauling trucks will connect directly to the receiving system; waste fluids will not come into contact with the ground surface or be openly exposed to the atmosphere. If the permit is approved, Sable will develop a Spill Prevention, Control and Countermeasure (SPCC) plan as a best practices management tool governing facility processes to prevent or mitigate the impacts from potential spills. Sable uses SPCC plans at its other facilities.

There is no oil or gas production from the Wilcox Formation within a two-mile radius of the proposed disposal well. The nearest production in the area is from the Austin Chalk, Eagle Ford, and Buda Formations at depths below 7,250 feet, more than 1,200 feet below the disposal interval.

There are no wellbores within a one-quarter mile area of review around the proposed well location. Within a one-half mile area of review there is a portion of one

horizontal wellbore, the TDC Engineering, Inc., Kelley Lease, Well No. 1 (API No. 177-31816). The surface location of Kelley Well No. 1 is beyond the one-half mile radius, but the horizontal drainhole crosses within one-half mile. The horizontal drainhole is completed in the Austin Chalk Formation 1,800 feet below the proposed Wilcox disposal interval. A review of plugging records indicates the casing annulus is fully cemented above 7,800 feet and seven plugs were set within the production casing.

The nearest surface location of a wellbore is about 2,800 feet to the southeast. The Don Ford & Associates, Ducho Unit No. I well (API No. 177-31049) produces from the Austin Chalk Formation. The well is cased and cemented through the proposed injection interval.

A review of U.S. Geological Survey seismic activity data did not identify any historical seismic events within a 6-mile radius of the proposed well location (about 113 square miles).

A two-well cross section indicates the upper Wilcox Formation, which includes the USDW, is separated from the lower Wilcox Formation (the injection interval) by a shale stratum from about 3,100 feet to 4,400 feet. Several apparent sand lenses are within the larger shale interval, but, as a whole, the interval is about 90 percent shale. The largest, and uppermost, sand interval is from about 3,550 feet to 3,600 feet, as shown on the cross section log of the Spencer Unit, Well No. 1 (API 177-30548). The proposed disposal interval includes a thick sand sequence from about 4,450 feet to 5,250 feet, as shown on the log of the Spencer Unit Well No. 1. The well log indicates a continuous shale sequence from about 5,250 feet to about 7,100 feet, which is about 500 feet above the top of the Austin Chalk, the shallowest producing formation.

Sable asserts the proposed commercial disposal well is in the public interest as there is a current, ongoing and future need for waste disposal in the immediate area. Gonzales County is currently the fifth county in Texas in terms of oil production. From January 1 through April 15, 2015, 142 completion reports have been filed for wells in Gonzales County. Most of these completions were for horizontal wells in the Eagle Ford Shale Formation. The proposed Kapavik SWD is located on the western frontier of the Eagle Ford development in Gonzales County. There is one other commercial SWD within a five mile radius, the Clear Water Resources TE Gonzales SWD is located on FM 532 about two miles to the southwest towards Gonzales. There are four additional commercial SWDs within a 10 mile radius, none of which are east of the Kapavik location on FM 532. Several of Sable's other disposal wells in the Eagle Ford trend are operating at or near capacity. In addition, Clear Water Resources is pursuing applications for six additional disposal wells in Gonzales County.

PROTESTANTS EVIDENCE

The Protestants' primary concerns are the safety of the proposed facility with regard to traffic hazards on FM 532 and the potential for pollution of Denton Creek. The Protestants stipulated that they were opposed to the well because: (1) the location on FM 532 was not safe; and (2) the potential for surface water contamination in Denton Creek. The Protestants do not contest Sable's case with regard to the industry demand for additional disposal capacity.[3]

Protestant Michael Floyd is the owner of an adjoining tract of land north of the disposal tract, across FM 532. Mr Floyd stated there is a blind curve on FM 532 between the facility and Denton Creek to the northeast, as such he believes another location would be safer. Further, Mr. Floyd stated the proposed site is at an elevation of about 290 feet and that Denton Creek is about 260 feet. Consequently, an accident or spill of waste liquids at the site or along FM 532 would drain into Denton Creek. Mr. Floyd stated Denton Creek is flowing and that many people use the water.

Protestant Leonard Phillip is the owner of an adjoining tract of land north of the disposal tract, across FM 532. He stated the proposed location is not safe for the neighborhood Mr Phillip expressed concern about the blind curve on FM 532, and the number of trucks that would be traveling to and from the proposed well. He stated the proposed commercial disposal well will require additional signs, widening of the roadway, and construction of a roadway shoulder. Mr. Phillip also mentioned that a water well on his property had recently "blown completely out of the ground."[4] His well is 380 feet deep and about three-quarters of a mile north of the proposed disposal well. He plans on investigating the matter with the local groundwater conservation district after the hearing.

Protestant Willie Simper is the owner of an adjoining tract of land east of the disposal tract. He agrees with the other Protestants. In addition, Mr. Simper stated there was a producing oil well located about 400 yards from the proposed disposal well, but the producing oil well was not identified by Sable. On closer consideration, Mr. Simper agreed that the producing oil well was the Don Ford & Associates, Ducho Unit, Well No. I (API No. 42-177-31049). The well is located more than one-half mile southeast of the proposed disposal well. Sable's representative produced documentation that the well was cased and cemented in such a manner to protect the BUQW.

---

[3] Tr. pp. 94-95.

[4] Tr. pg. 54.

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). The Examiners conclude Sable has demonstrated the proposed well meets these requirements and recommend the permit be granted. A discussion of the required elements in the Texas Water Code § 27.051(b)(1-4) follows.

The Use or Installation of the Injection Well Is in the Public Interest

The Applicant has demonstrated that the use or installation of the proposed Kapavik SWD Well No. 1 is in the public interest. The Protestants do not oppose the well on the basis of industry need for disposal capacity. Gonzales County is currently the fifth largest county in Texas in terms of oil production. Sable contends additional disposal capacity is needed in Gonzales County. This testimony was not challenged. The Protestants agreed that disposal wells were necessary, but the location of this particular well was ill-advised from a safety standpoint.

Protecting Oil, Gas, or Other Mineral Formations

The lower Wilcox Formation disposal interval is not productive of oil or gas within two miles of the proposed well. The nearest producing intervals are the Austin Chalk, Eagle Ford, and Buda Formations, which are more than 1,200 feet below the base of the injection interval. A thick shale stratum is present between the base of the injection interval and the upper-most hydrocarbon producing interval.

No wellbores penetrate the disposal interval within a one-half mile radius of the proposed well. The nearest wellbore penetrating the disposal interval is the Don Ford & Associates, Ducho Unit, Well No. I (API No. 42-177-31049), which produces from the Austin Chalk. The well is located more than one-half mile southeast of the proposed disposal well. The Ducho Unit producing well was cased and cemented in such a manner as to protect the BUQW.

Protecting Ground and Surface Fresh Water from Pollution

Sable has demonstrated that, with adequate safeguards, the proposed injection well will not result in pollution of fresh surface or ground water. The facility will feature a closed liquid collection system; waste fluids will not be exposed to the atmosphere or ground surface. Tanks and mechanical equipment will be located within a secondary containment structure with sufficient capacity to contain all received fluids on the site at any one time. Further, Sable will develop and implement a SPCC to prevent and mitigate potential spills. There are no wetlands on site; Denton Creek is more than 2,000 feet to the east-northeast.

The proposed disposal permit includes standard provisions for commercial surface facilities to protect ground and surface fresh water from pollution.

The proposed wellbore design and operational parameters will be protective of fresh groundwater at and above the BUQW, which is 2,600 feet below ground surface. Sable proposed to cement the long-string casing up to a depth of 3,700 feet. The Examiners recommend the cement be brought up to a depth of 3,500 feet to ensure coverage of sand strata identified on the log of the Spencer Unit, Well No. I (API No. 42-177-30548).[5] There will be at least 400 feet of continuous shale stratum between 3,500 feet and the BUQW at 2,600 feet.

Sable entered into a private agreement with the Gonzales County Underground Water Conservation District by perform a cement bond log on the proposed well and to furnish a copy to the District and the Commission.

Mr. Phillip stated that his 380-foot deep groundwater well recently blew out, an event unrelated to the proposed well. His water well is located about three-quarters of a mile north of the proposed disposal well. Mr. Phillip stated he plans to investigate the event with the assistance of the local groundwater conservation district, and perhaps the Commission's district office. There is historical hydrocarbon production nearby the damaged water well. The shallow depth of the water well, its distance from the proposed disposal well, the presence of thick shale strata in the intervening layers, and the design parameters of the disposal well indicate the proposed disposal well will not have an impact on Mr. Phillip's water well.

The Protestants expressed concern about the location of the proposed well near a blind curve on FM 532 in close proximity to Denton Creek. The Commission does not have jurisdiction over roadway safety.

Financial Responsibility

Sable has an active Form P-5 and a cash deposit for the amount of $25,000 for financial assurance. Sable has made a satisfactory showing of financial responsibility as required by the Texas Water Code §27.073.

FINDINGS OF FACT

1. On July 7, 2014, notice of the application was mailed to the Gonzales County Clerk, the surface owner of the subject tract, and to the surface owners of adjoining tracts.

---

[5] Sable Exh. No. 25.

a. There are no offsetting operators of wells within a one-half mile radius of the proposed.

b. Notice of the application was published on June 3, 2014, in the Gonzales Inquirer, a newspaper of general circulation in Gonzales County.

2. The Application was protested by several adjoining surface owners who appeared at the hearing, including Michael Floyd, Leonard Phillip, and Willie Simper.

3. The proposed well will be located about 6.8 miles northeast of the City of Gonzales, in the G. W. Franklin survey, A-217, Gonzales County, Texas.

a. The well will be drilled to a depth of 6,000 feet and inject into the lower Wilcox Formation in the depth interval from 4,300 feet to 6,000 feet.

b. Surface casing (9 5/8-inch) will be set to a depth of 2,700 feet with cement circulated to the surface.

c. Production casing (7-inch) will be set to a depth of 6,100 feet with cement circulated to a depth of 3,500 feet.

d. Sable will conduct a cement bond log and provide a copy of the log to the Commission.

e. Injection tubing (4-inch) will be set with a packer not more than 100 feet above the uppermost perforation.

f. The maximum daily injection volume will be 25,000 barrels per day (BPD) with an average daily injection volume of 15,000 BPD.

g. The maximum surface injection pressure will be 2,150 pounds per square inch gauge (psig), with an average surface injection pressure of 2,150 psig.

h. The facility will receive salt water for disposal by truck with access from FM 532 on the north side of the tract.

4. The base of usable quality groundwater (BUQW) is at a depth of 2,600 feet, corresponding to the Carrizo Formation. The well will be cased and cemented to isolate the BUQW from the injection interval.

a. Two thick shale formations are present immediately above and below the disposal interval.

b. Water wells within a one-mile radius produce from depths of about 407 feet or less.

5. There is no production from the Wilcox Formation within a two-mile radius of the proposed disposal well. The nearest production in the area is from the Austin Chalk, Eagle Ford, and Buda Formations at depths below 7,250 feet.

6. Within a one-half mile radius of the proposed well, there are no wellbores that penetrate the disposal interval.

7. Highway traffic safety on FM 532 is not within the jurisdiction of the Commission.

8. The proposed well location is not located within a designated flood hazard zone. The nearest such zone is along Denton Creek, about 2,000 feet to the northeast.

9. USGS records do not indicate any seismic activity within a six mile radius (about 113 square miles) of the proposed well location.

10. Sable will develop a Spill Prevention, Control and Countermeasure (SPCC) plan as a best practices management tool governing facility processes to prevent or mitigate the impacts from potential spills.

11. Sable has an active Form P-5 and a cash deposit in the amount of $25,000 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. All notice requirements have been satisfied. 16 Tex. Admin. Code § 3.9

3. The installation and use of the proposed commercial disposal well is in the public interest. Texas Water Code § 27.051(b)(1)

4. The installation and use of the proposed injection well will not endanger or injure any oil, gas, or other mineral formation. Texas Water Code §27.051(b)(2)

5. With proper safeguards, as provided by terms and conditions in the attached final order, which are incorporated herein by reference, both ground and surface fresh water can be adequately protected from pollution. Texas Water Code § 27.051(b)(3)

6. Sable Environmental, LLC has made a satisfactory showing of financial responsibility. Texas Water Code § 27.051(b)(4)

7. Sable Environmental, LLC has met its burden of proof and satisfied the requirements of Chapter 27 of the Texas Water Code and the Railroad Commission's Statewide Rule 9. 16 Tex. Admin. Code § 3.9

RECOMMENDATION

Based on the above findings of fact and conclusions of law, the Examiners recommend the Commission enter an order approving Sable's application and issue a permit for the Kapavick SWD Lease Well No. 1.

Respectfully submitted,

Paul Dubois
Technical Examiner

Marshall Enquist
Hearings Examiner