RAILROAD COMMISSION OF TEXAS

HEARINGS DIVISION

OIL AND GAS DOCKET NO. 7C-0280432

THE APPLICATION OF ACME ENERGY SERVICES INC., PURSUANT TO STATEWIDE RULE 9 FOR A PERMIT TO DISPOSE OF OIL AND GAS WASTE BY INJECTION INTO A POROUS FORMATION NOT PRODUCTIVE OF OIL OR GAS, FOR ITS UNIVERSITY UNIT 5-20-21 SWD LEASE, WELL NO. 1, LIN (WOLFCAMP) FIELD, IRION COUNTY, TEXAS

HEARD BY: Andres Trevino, P.E., Technical Examiner
Marshall Enquist, Hearings Examiner

PFD PREPARED BY: Paul Dubois, Technical Examiner

APPEARANCES:

APPLICANT:	**REPRESENTING:**
Tim George Kerry Pollard, P.E.	Acme Energy Services Inc.

PROTESTANTS:

Audrey Martin	Herself
Michell Martin	Herself
Doyle Shaw	Himself
Frances Shaw	Herself

PROCEDURAL HISTORY

Application Filed:	July 12, 2012
Protest Received:	August 15, 2012
Request for Hearing:	January 9, 2012
Notice of Hearing:	February 7, 2013
Date of Hearing:	March 22, 2013, 2013
Transcript Received:	October 8, 2013
Proposal For Decision Issued:	November 1, 2013

EXAMINERS' REPORT AND PROPOSAL FOR DECISION

STATEMENT OF THE CASE

Acme Energy Services, Inc. (Acme), requests authority pursuant to Statewide Rule 9 to operate its University Unit 5-20-21 SWD Lease Well No. 1 in Irion County, Texas, as a disposal well assigned to the Lin (Wolfcamp) Field. This will be a newly drilled, private, not commercial, disposal well injecting salt water and RCRA-exempt waste into the Ellenburger Formation, which is not productive of hydrocarbons in the area. Acme intends to use piping to move waste water from the wellheads and separator facilities to the disposal well. This well will dispose of water generated on this lease. Acme is a related entity to Endeavor Energy Resources, L.P., the lease operator.

Notice of the application was published in *The Big Lake Wildcat*, a newspaper of general circulation in Irion County, on November 12, 2012. Notice of the hearing was mailed on February 7, 2013 to the Irion County Clerk and to the surface owners of the disposal tract and each tract adjoining the disposal tract, and to the offset operators within one-half mile of the proposed location.

Commission staff determined the application to be administratively complete. Nearby residents Audrey Martin, Michell Martin, Doyle Shaw, and Frances Shaw protested the application and attended the hearing.

DISCUSSION OF THE EVIDENCE

Applicant's Evidence

Acme proposes to drill a new injection well on its University Unit 5-20-21 SWD Lease 3 miles southwest of the town of Barnhart in Irion County. Acme is a related entity to Endeavor Energy Resources, L.P., operator of the University Unit 5-20-21 lease. Endeavor is actively drilling horizontal wells in the Lin (Wolfcamp) Field. The proposed well will be used to dispose of produced salt water, frac flowback water, and RCRA-exempt waste generated on the University Unit 5-20-21 lease. This will not be a commercial disposal well. Fluids for disposal will be piped from the wellheads and separator facilities on the 2,098.8 acre lease to the injection well; Acme does not plan on trucking waste around the lease, although that may happen from time to time.

Acme's application contains the following disposal well completion and configuration details:

- The well will be drilled to an expected depth of 9,800 feet, and is permitted for 9,900 feet.
- 13 5/8-inch surface casing will be set to 800 feet and cemented to surface

with 400 sacks of Class C cement.

- 8 5/8-inch intermediate casing will be set to 9,200 feet and cemented to surface with 800 sacks of Class C cement.
- 5 1/2-inch production casing will be set at 8,850 feet and cemented to 4,000 feet with an 400 sacks of Class H cement.
- The well will be open hole completed in the Ellenburger Formation from the base of the intermediate casing at 9,200 feet to 9,800 feet.
- The injection interval will be 8,850 feet to 9,800 feet.
- 2 7/8-inch injection tubing will be set with a packer at 8,825 feet.

The disposal well will be permitted with a maximum daily injection volume of 7,000 BPD and an estimated average daily injection volume of 1,000 BPD. The maximum surface injection pressure will be 3,870 psig and the estimated average surface injection pressure will be 1,500 psig.

The Commission's Groundwater Advisory Unit (GAU) has reviewed the proposed completion data in the application and determined that using the interval from 8,850 to 9,900 (the permitted depth) for disposal of oil and gas waste will not endanger the freshwater strata in the area. The GAU specified the following:

- The interval from the land surface to the base of the Santa Rosa, which is estimated to occur at a depth of 775 feet, must be protected.
- The base of usable-quality groundwater (BUQW) is 750 feet.
- The base of usable source of drinking water (USDW) is 850 feet.

Acme's completion design includes surface casing set through the BUQW and cemented back to the surface.

Public and private water supply is developed from the Santa Rosa and shallow formations. Acme identified two water wells within a one-mile radius of the proposed disposal well. Both wells are stock supply wells owned by the University of Texas (the surface owner of the proposed well site); one is three-fourths of a mile south and the other is one mile northeast. There are 18 more wells to the northeast toward Barnhart. Of these twenty wells, the deepest was 512 feet. This information is consistent with the GAU analysis and Acme's well design for the protection of usable quality groundwater resources.

No oil or gas wells were identified within a 1/4 mile radius of the proposed disposal well location. Four horizontal wells have been permitted for the Lin (Wolfcamp) Field within

the 1/4 mile radius, but none have been drilled. Of the four permits, only the bottom hole (lateral terminus) locations are within the 1/4 mile radius; the surface locations are outside of the area of review. Further, the Wolfcamp Formation is encountered at a depth of about 6,000 feet, shallower than the proposed injection interval. Within a one-mile radius of the proposed disposal well location, there are two completed horizontal wells and 19 permitted horizontal well locations. Of these, only one (a permitted well) will have a surface location within the one-mile radius. Of the two completed wells, both are cased and cemented to meet the Commission's groundwater protection requirements. All of these wells are permitted for Lin (Wolfcamp) Field.

The nearest disposal well is about five miles away and injects into the Ellenburger Formation, but it is not available for public commercial use. Without the proposed disposal well, all of the produced waste water from the University Unit 5-20-21 lease would have to be trucked more than 10 miles to the nearest public commercial disposal well.

Protestant's Evidence

The Protestants are residents of the Barnhart community who responded in protest based on the published notice of application. The Protestants were not parties entitled to notice under the Rule. However, they were each given the opportunity to speak at the hearing by way of a statement and by cross-examining Acme's witness. The Protestants did not offer a direct case.

The Protestants are concerned about their quality of life in the community of Barnhart. They expressed concerns over the truck traffic, which has increased significantly in recent years coincident with increased oil field activity. They are also concerned about the general degradation of environmental quality, especially air quality and odors.

The Protestants are concerned about their water supply, both in terms of quality and quantity. They disputed the number of injection wells in the area indicated by Acme, but did not provide refuting evidence. The Protestants believe that the waste placed in the ground would eventually work its way out of the ground. They were deeply concerned that–being a small town of about 75 persons–their needs and their environment were being overlooked because of the amount of development activity in the area.

Finally, the Protestants expressed concern and frustration about the Commission's protest and notification processes; they believed that many protests were not being recorded by the Commission and added to the hearing notice service lists, for this well and for others.

EXAMINERS' OPINION

The examiners are sympathetic to the Protestants, citizens of Barnhart who find their community–and thus their lives–changing around them, and they are unable to forestall these changes brought about by the current oil boom. In many ways the citizens of rural areas bear a disproportionate burden when it comes to living in close proximity with

such industrial activity. Indeed, the examiners feel the painful irony of what draws many to–and nurtures many in–the Rural Texas way of life, only to find industrial civilization meeting them there. The examiners admire the Protestants for their witness.

The examiners also recognize that salt water disposal is an integral and necessary aspect of hydrocarbon production, and that the State has established rules governing disposal by injection to protect usable quality water supplies and other resources. In addition, many in industry are researching means and methods of recycling such fluids to reduce both the water required for well completion and the need to dispose of produced water.

In this case, Acme has requested a permit for a non-commercial well that will dispose of salt water produced on the lease. Although the regulation of truck traffic is not in the Railroad Commission's public interest jurisdiction, this well is designed to be operated without the need for hauling waste water by truck.

The original publication on July 25, 2012 for the disposal well application indicated an injection interval of 1,720 feet to 2,200 feet. The GAU indicated injecting into the depth interval of 3,000 to 5,800 feet would not endanger freshwater strata in the area. The University of Texas, surface owner, protested this injection interval. The interval was changed to the Ellenberger Formation at a depth of 8,850 to 9,800, below the Wolfcamp development and 8,000 feet below the fresh water supply strata. The University of Texas subsequently withdrew its protest.

The examiners recommend approval of the disposal well permit as requested by Acme. Commission staff determined the application to be administratively complete. Acme has met its financial assurance and burden of proof obligations. The Protestants offered no evidence to suggest that the proposed well would endanger or injure any oil, gas, or other mineral formation, or that ground and surface fresh water would not be adequately protected from pollution.

The examiners recommend adoption of the following Findings of Fact and Conclusions of Law:

FINDINGS OF FACT

1. Notice of the application was published in *The Big Lake Wildcat*, a newspaper of general circulation in Irion County, on November 12, 2012. Notice of the hearing was mailed on February 7, 2013 to the Irion County Clerk and to the surface owners of the disposal tract and each tract adjoining the disposal tract, and to the offset operators within one-half mile of the proposed location.

2. Acme Energy Services, Inc. is a related entity to Endeavor Energy Resources, L.P., the operator of Wolfcamp wells on the 2,098.8 acre lease.

3. The University Unit 5-20-21 SWD No. 1 well will be drilled and completed as follows:

a. The well will be drilled to an expected depth of 9,800 feet, and is permitted for 9,900 feet.

b. 13 5/8-inch surface casing will be set to 800 feet and cemented to surface with 400 sacks of Class C cement.

c. 8 5/8-inch intermediate casing will be set to 9,200 feet and cemented to surface with 800 sacks of Class C cement.

d. 5 1/2-inch production casing will be set at 8,850 feet and cemented to 4,000 feet with an 400 sacks of Class H cement.

e. The well will be open hole completed in the Ellenburger Formation from the base of the intermediate casing at 9,200 feet to 9,800 feet.

f. The injection interval will be 8,850 feet to 9,800 feet.

g. 2 7/8-inch injection tubing will be set with a packer at 8,825 feet.

4. The Groundwater Advisory Unit recommends that usable-quality water be protected to 750 feet in the area of the proposed well.

5. The University Unit 5-20-21 SWD No. 1 disposal well will be operated as follows:

a. A maximum daily injection volume of 7,000 BPD and an estimated average daily injection volume of 1,000 BPD.

b. maximum surface injection pressure will be 3,870 psig and the estimated average surface injection pressure will be 1,500 psig.

6. The University Unit 5-20-21 SWD No. 1 well will be cased, cemented and operated in a manner to protect usable quality water, and injection will be confined to the injection interval.

7. Injected fluids will be confined by (a) approximately 500 feet of Strawn and Cisco Formations between the injection interval and the Wolfcamp, the nearest producing formation, and (b) by about 8,000 feet of cased and cemented wellbore between the injection interval and the shallow groundwater zones requiring protection.

8. The University Unit 5-20-21 SWD No. 1 well will be cased, cemented and operated in a manner to not endanger or injure any oil, gas, or other mineral formation.

9. There are no wells–permitted, active, or plugged and abandoned–within one-quarter mile of the proposed disposal well.

10. No wells within one mile of the proposed disposal well have inadequate cementing, casing or other construction deficiencies that might result in harm to water or

hydrocarbon resources as a result of University Unit 5-20-21 SWD No. 1 operations.

11. The proposed well is located in the an area of active hydrocarbon development driven by horizontal wells in the Wolfcamp Formation.

12. The active hydrocarbon development in the area will require disposal of salt water and RCRA-exempt oil and gas waste.

13. The proposed well will only dispose of wastes generated on the 2,098.8 acre lease.

14. Waste fluids will be piped, not trucked, to the disposal well.

15. Acme has an active P-5 on file with the Commission, and $50,000 bond as financial assurance.

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. The use or installation of the proposed injection well is in the public interest.

4. The use or installation of the proposed injection well will not endanger or injure any oil, gas, or other mineral formation.

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.

6. Acme has made a satisfactory showing of financial responsibility to the extent required by Section 27.073 of the Texas Water Code.

7. Acme 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.

EXAMINERS' RECOMMENDATION

Based on the above findings and conclusions, the examiners recommend that the application be approved as set out in the attached Final Order.

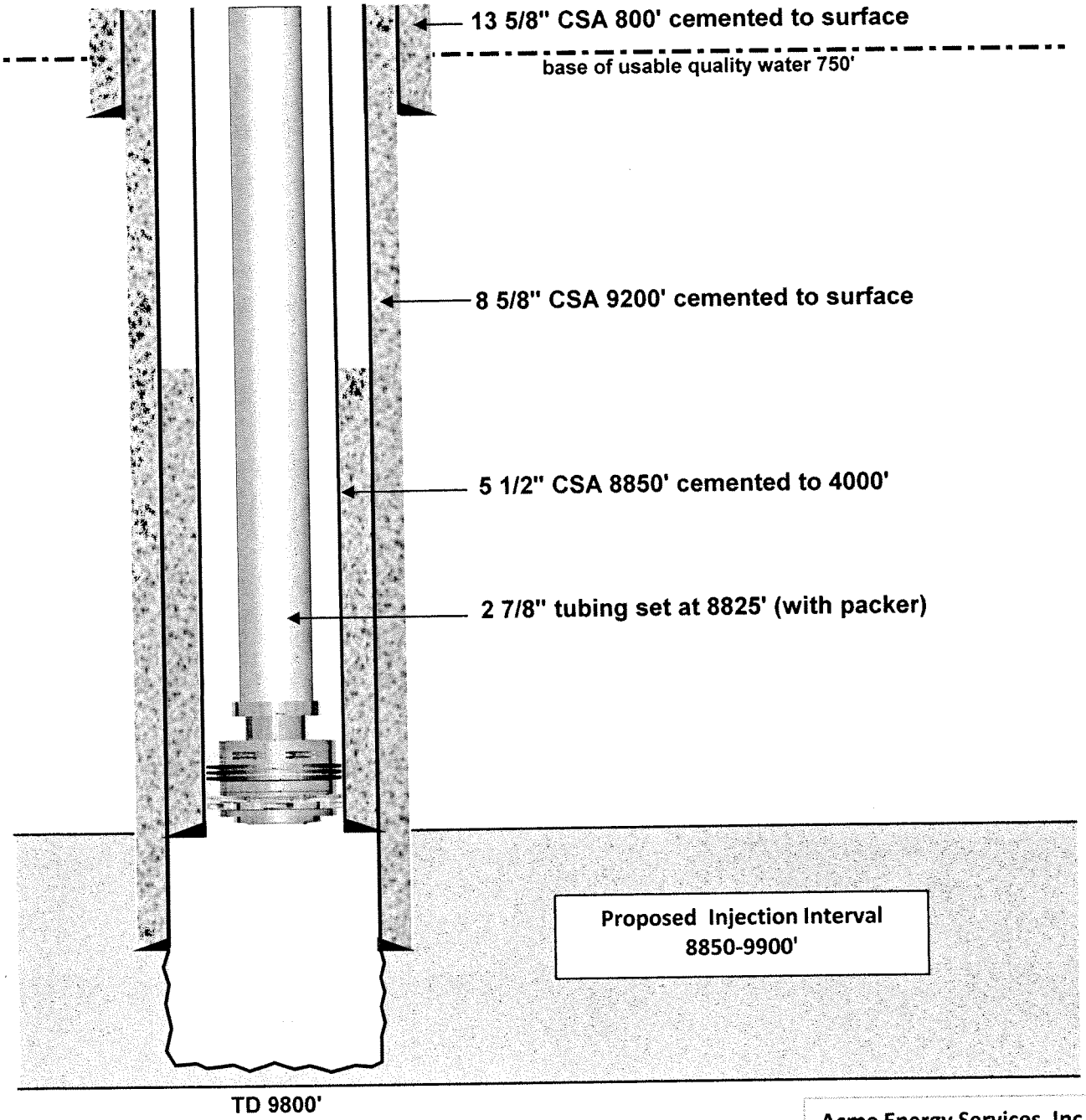
Respectfully submitted,

Paul Dubois
Technical Examiner

Marshall Enquist
Hearings Examiner

Wellbore Sketch

Acme Energy Services, Inc
University 5-20-21 SWD #1
(according to W-14)
Irion County, Texas



Acme Energy Services, Inc.
Exhibit No. 7
Docket No. 7C-0280432
March 22, 2013