

OIL AND GAS DOCKET NO. 09-0241942

THE APPLICATION OF L & R TANK TRUCKS TO CONSIDER COMMERCIAL DISPOSAL AUTHORITY ON ITS G. LYNCH LEASE, WELL NO. 1, MONTAGUE COUNTY, TEXAS

Heard By: Donna K. Chandler, Technical Examiner
Marshall F. Enquist, Hearings Examiner

Appearances:

Representing:

Glenn Johnson
Oladipo Aluko

L & R Tank Trucks

Lloyd Muennink
Thomas Hartman

Thomas Hartman

George Neale
H. P. Berkley, Jr.
Rick Johnston

H. P. Berkley, Jr.

Procedural History of Case:

Application Filed:	January 24, 2005
Protest Received:	January 31, 2005
Request for Hearing:	February 10, 2005
Notice of Hearing:	March 4, 2005
Hearing Held:	May 18, 26, 2005
Record Closed:	June 14, 2005
Proposal for Decision Issued:	July 27, 2005

EXAMINERS' REPORT AND PROPOSAL FOR DECISION

STATEMENT OF THE CASE

L & R Tank Trucks ("L & R") requests commercial disposal authority pursuant to Statewide Rule 9 for the G. Lynch lease well No. 1 in Montague County.

This application is protested by H. P. Berkley, Jr. and Thomas Hartman. Both Mr. Berkley and Mr. Harman are surface owners adjacent to the Lynch lease.

DISCUSSION OF THE EVIDENCE

L & R Tank Truck Evidence

L & R requests authority to dispose of a maximum of 3,000 barrels of water per day (BWPD) into its G. Lynch Well No. 1, with a maximum injection pressure of 1,380 psi. The proposed disposal interval is the Canyon sand between 2,762 feet and 2,990 feet. L & R requests commercial authority to allow disposal of water produced from other operators in the area, predominantly from wells in the Newark, East (Barnett Shale) Field. The well is located approximately 20 miles north of Decatur, Texas.

The subject well was drilled by Arkoma Production Co. of Texas in November 2002, to a total depth of 7,727 feet. The well was a dry hole and was scheduled to be plugged by Arkoma in July 2003. In October 2004, L & R purchased the well. The well has 479 feet of 8 $\frac{5}{8}$ " casing cemented to surface and 7,685 feet of 5 $\frac{1}{2}$ " casing, with the top of cement at 5,300 feet. Useable quality ground water occurs to a depth of approximately 450 feet according to the Texas Commission on Environmental Quality. There are cast iron bridge plugs set at 7,200 feet and 5,600 feet. L & R plans to set an additional bridge plug at 5,000 feet and perform a cement squeeze at approximately 3,040 feet, with cement circulated to surface behind the 5 $\frac{1}{2}$ " casing.

There is only one wellbore within a $\frac{1}{4}$ mile radius of the G. Lynch No. 1, the Sledge No. 1. The Sledge No. 1 was drilled in 1953 by Edwin L. Cox and is about 1,000 feet to the northeast of the G. Lynch No. 1. The well was drilled to a total depth of 6,551 feet and was plugged as a dry hole. The well was re-entered in 1968 by National Petroleum Corporation and produced from the Strawn at about 5,350 feet. The well was plugged in 1975. Commission reports regarding surface casing for the well are conflicting, but there is a minimum of 765 feet of 10 $\frac{3}{4}$ " surface casing cemented to surface. Additionally, there is 4 $\frac{1}{2}$ " casing at 6,548 feet. Cement plugs are set at 5,280 feet and 925 feet.

The Canyon sand proposed for injection is not limited in areal extent. Well logs of other dry holes outside the radius of review show the presence of the Canyon sand. This indicates to L & R that the sand is a good candidate for disposal.

L & R prepared an economic study of disposal costs in the area. L & R's evidence shows that it could cost operators up to \$3.98 per barrel to transport and dispose of salt water due to excessive waiting time at other facilities. L & R's witness also testified that many commercial facilities are at capacity, resulting in the long wait times and increased costs for unloading trucks. The G. Lynch well would provide an additional site for disposal, closer to development in Wise and Denton Counties than other existing facilities in Montague County. L & R estimates that the savings in disposal cost to operators will result in the recovery of additional gas of about 34 MMCF per well, due to a lower economic limit. This calculation

assumes each well produces 1,500 barrels of water per month.

Hartman Evidence

Mr. Thomas Hartman opposes approval of the application. Mr. Hartman's property is only about 500 feet from the proposed disposal facility and he believes that the presence of the facility will lower his property values. He is also concerned that injected salt water may not be confined to the Canyon sand and may pollute useable quality water. Additionally, Mr. Hartman objects to movement of injected salt water onto his property below the surface.

Berkley Evidence

Similar to Mr. Hartman, Mr. H. P. (Mike) Berkley, Jr. owns property about 500 feet from the proposed disposal facility. Mr. Berkley also owns the mineral estate under his property, which is currently under lease. Mr. Berkley lives on the property with his family and conducts ranching operations on the property. Mr. Berkley shares Mr. Hartman's opinion that his property will be less valuable with the presence of the proposed salt water disposal operation.

Mr. Berkley testified that the road leading to the Lynch well is a relatively narrow farm to market road having no shoulders and many curves and hills. In his opinion, the road is not suitable for use by salt water hauling trucks traveling to the Lynch well.

Mr. Berkley also believes that there are adequate commercial disposal facilities already in operation to meet the salt water disposal needs in the area. Mr. Berkley testified that he rarely sees more than one truck at the nearby commercial disposal facilities. Additionally, Mr. Berkley believes that the disposal costs used by L & R are excessive, resulting in inflated estimates for recovery of additional reserves.

Given the lack of cement behind the 5 ½" casing at the proposed injection interval at 2,762 feet to 2,990 feet, Mr. Berkley urges that a cement squeeze be performed below 2,990 feet to insure that injected fluids cannot migrate behind pipe. Mr. Berkley also urges that L & R be required to run a cement bond log to prove that cement is adequate to confine fluids. In addition, the lack of cement across the Canyon interval in the Sledge No. 1 may be a problem. Mr. Berkley believes injected fluids that reach the Sledge No. 1 wellbore will not be confined to the Canyon zone.

In response to interrogatories prior to the hearing, L & R provided its opinion that the fracture pressure at 2,762 feet is 1,933 psig using a fracture gradient of 0.7 psi/foot. L & R specified that the 0.7 psi/foot was used by the Railroad Commission. Using this gradient, Mr. Berkley's witness calculated that a surface injection pressure of 1,380 psi, as requested by L & R, will fracture the formation. Additional calculations show that the formation will not fracture as long as the surface injection pressure is limited to 814 psi.

Mr. Berkley's witness also calculated that after the disposal of 1.2 million barrel of water into the Lynch well, the water would reach a distance of 500 feet and encroach on Berkley's subsurface. This volume would occur after 400 days of injection at the requested maximum

rate of 3,000 BWPD.

EXAMINERS' OPINION

The examiners recommend that the application for commercial disposal authority be approved, including a requirement that a cement squeeze be performed at approximately 3,040 feet on the G. Lynch No. 1. A cement bond log must be run to verify cement to a point at least 50 feet above the top perforation at 2,762 feet. A cast iron bridge plug must also be set at approximately 5,000 feet. Applicant did not object to any of these conditions of the permit.

Approval of the application is in the public interest. L & R has shown that additional salt water disposal capacity is needed in this area of significant development of the Barnett Shale. L & R's recent photographs of waiting conditions at nearby commercial disposal facilities refute protestants' claim that there is no need for additional disposal facilities.

The examiners recommend that the maximum surface injection pressure for the well be limited to 1,380 psi. The calculations submitted by Mr. Berkley are based on a fracture gradient of 0.70 psi/foot, which had been provided by L & R in response to interrogatories. However, in testimony at the hearing, L & R clarified that 1.0 psi/foot is the appropriate fracture gradient at this depth. A Commission staff document dated February 10, 2004 recommends that maximum surface injection pressure for disposal wells in the Wise County area be limited to 0.25 psi/foot for injection at depths less than 2,000 feet. With a water gradient of 0.45 psi/foot and a surface injection pressure of 0.25 psi/foot, the resulting pressure gradient is 0.70 psi/foot for shallow injection. This L & R application is for disposal at approximately 2,700 feet and does not fall under the shallow injection zone limitation used by the Commission.

The examiners do not believe that remedial cementing in the offsetting Sledge No. 1 is necessary. Protestants argue that the lack of cement across the disposal interval in the Sledge No. 1 will allow fluids to escape from the disposal interval in that well, in violation of Rule 9. Protestants suggest that L & R be required to re-enter the Sledge No. 1 and place a cement plug across the disposal interval. Even though L & R did not object to such a permit condition, the examiners do not believe that Rule 9 requires such action.

Protestants rely on Rule 9(6)(A)(v), which states "A permit for saltwater or other oil and gas waste disposal may be modified, suspended, or terminated by the commission for just cause after notice and opportunity for hearing, if injected fluids are escaping from the permitted disposal zone." The fact that a properly plugged wellbore is not cemented across the disposal interval is not a basis for requiring additional cement plugs in the well. Permits are routinely approved administratively under similar facts. Injected fluids which reach the Sledge No. 1 will "go around" the wellbore within the disposal interval. There are no open productive intervals in the Sledge No. 1 and the well has sufficient plugs and casing to protect fresh water.

Protestants allege that injected fluids will eventually cross the lease line of the Lynch Lease, resulting in a trespass of injected fluids into the subsurface of their lands. If protestants

pursue this cause of action, "The cause is properly within the jurisdiction of the courts because the Railroad Commission has no authority to determine title to land or property rights." Amarillo Oil Company v. Energy-Agri Products, Inc., 794 S.W.2d 20 (Tex. 1990) citing Railroad Comm'n v. City of Austin, 524 S.W.2d 262, (Tex. 1975), Jones v. Killingsworth, 403 S.W.2d 325, Tex 1965), Nale V. Carroll, 289 S.W.2d 743, (Tex. 1956), Ryan Consol. Petroleum Corp. v. Pickens, 285 S.W.2d 201 (Tex. 1955) and Magnolia Petroleum Co. v. Railroad Comm'n, 170 S.W.2d 189 (Tex. 1943). Depending on the facts, the Texas Supreme Court has come down on both sides of the subsurface trespass issue. (Compare Railroad Commission v. Manziel, 361 S.W.2d 560, (Tex. 1962) with A.W. Gregg v. Delhi-Taylor Corp., 344 S.W.2d 411 (Tex. 1961).

Protestants also assert a "takings" issue; that the trespass of injected fluids would result in the permanent, physical occupation of their subsurface. As stated above, the Commission has no authority in this area and the proper source of relief is the court system. However, the examiners note that even if injected fluids did occupy the disposal interval beneath protestant's lands, nothing would prevent protestants from drilling and using their own disposal well in the same interval due to the migratory nature of injected fluids. In other words, it is debatable, and a matter for the courts, whether saltwater disposal operations rise to the level of a "permanent, physical occupation" of adjacent properties. "...This court has consistently distinguished between flooding cases involving a permanent, physical occupation, on the one hand, and cases involving a more temporary invasion, or government action outside the owner's property that causes consequential damages within, on the other. A taking has always been found only in the former situation." (Referring to surface flooding, as by water impoundments) Loretto v. Teleprompter Manhattan CATV Corp., 458 U.S. 419, 428 (1982).

On the second day of the hearing, the parties disagreed over the nature of exhibits that had been exchanged the day before. L&R had provided exhibits that it stated were in part rebuttal exhibits and in part exhibits provided under a duty to supplement discovery. Mr. Berkley and Mr. Hartman objected to the exhibits, and the examiners took the objection under advisement. Mr. Berkley took the precaution of offering two of the disputed exhibits, Berkley #16 and #17, as his own, in order to have his expert witness, Rick Johnston, testify about them. Berkley # 16 and #17 were admitted. L&R later called Larry Stark to comment on the remaining exhibits that L&R had provided the protestants the evening before and Mr. Stark's testimony regarding the exhibits was clearly rebuttal to testimony previously offered by the protestants. As such they were legitimate rebuttal exhibits and L&R Exhibits #33 through #42 are admitted.

FINDINGS OF FACT

1. 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. Notice was also published in *The Bowie News*, a newspaper of general circulation in Montague County, on January 27, 2005.
2. The Railroad Commission has no authority to determine title to land or property rights.

3. Use of the Lynch No. 1 well as a commercial disposal well will not endanger any oil, gas or other mineral formation and will not cause the pollution of fresh water strata.
 - a. The Texas Commission on Environmental Quality recommends protection of useable quality water resources to a depth of 450 feet in the G. Lynch No. 1.
 - b. The G. Lynch No. 1 has 479 feet of 8 $\frac{5}{8}$ " casing cemented to surface and 7,685 feet of 5 $\frac{1}{2}$ " casing, with top of cement at approximately 5,300 feet.
 - c. Injection will be through tubing set on a packer at 2,662 feet.
 - d. With a cement squeeze operation placing cement behind the 5 $\frac{1}{2}$ " casing from 50 feet below the perforations to 50 feet above the perforations, the injected fluids will be confined to the injection interval in the G. Lynch No. 1 well.
 - e. The only wellbore within a $\frac{1}{4}$ mile radius of the G. Lynch No. 1 is the Sledge No. 1, which was properly plugged in 1975.
 - f. The Sledge No. 1 is plugged and cased in a manner which will protect useable quality water resources and there are no productive intervals open in the well.
4. Use of the G. Lynch No. 1 as a commercial disposal well with a maximum injection volume of 3,000 BWPD and a maximum injection pressure of 1,380 psig is in the public interest.
 - a. There is a need for additional disposal capacity in the Newark, East (Barnett Shale) Field, which is undergoing significant development.
 - b. The new wells in the field require large fracture stimulations which use water.
 - c. This commercial disposal facility will serve to reduce costs associated with disposal of fracture fluids and produced salt water.
 - d. A surface injection pressure of 1,380 psi is appropriate at this depth and will not fracture the formation.

CONCLUSIONS OF LAW

1. Proper notice was issued in accordance with the applicable statutory and

regulatory requirements.

2. All things necessary to give the Railroad Commission jurisdiction to consider this matter have occurred.
3. L & R Petroleum Corp. has met its burden of proof and its application satisfies the requirements of Chapter 27 of the Texas Water Code and the Railroad Commission's Statewide Rule 9.
4. Approval of the application for commercial disposal authority will not harm useable quality water resources and will not harm other mineral bearing formations.

EXAMINERS' RECOMMENDATION

Based on the above findings and conclusions, the examiners recommend that the application of L & R Petroleum Corp. for commercial disposal authority for its G. Lynch No. 1 be approved as set out in the attached Final Order.

Respectfully submitted,

Donna K. Chandler
Technical Examiner

Marshall F. Enquist
Hearings Examiner