



RAILROAD COMMISSION OF TEXAS

HEARINGS DIVISION

OIL AND GAS DOCKET NO. 7B-0286282

THE APPLICATION OF L.C.S. PRODUCTION COMPANY FOR A PERMIT TO INJECT FLUID INTO A RESERVOIR PRODUCTIVE OF OIL OR GAS PURSUANT TO STATEWIDE RULE 46 IN THE G.M. FREEMAN LEASE, WELL NOS. 22WI AND 23WI, WHITE FLAT (STRAWN) FIELD, NOLAN COUNTY, TEXAS

HEARD BY: Richard D. Atkins, P.E. – Technical Examiner
Marshall F. Enquist – Hearings Examiner
Karl Caldwell – Technical Examiner

PFD WRITTEN BY: Paul Dubois – Technical Examiner

APPEARANCES:

REPRESENTING:

APPLICANT:

David Gross
Dale E. Miller

L.C.S. Production Company

PROTESTANT:

Lloyd Muennick

Joy Dean McElmurry, Living Estate

PROCEDURAL HISTORY

Application Filed:	June 6, 2013
Protest Received:	July 25, 2013
Request for Hearing:	December 5, 2013
Notice of Hearing:	January 15, 2014
Date of Hearing:	February 12, 2014
Transcript Received:	March 26, 2014
Proposal For Decision Issued:	May 30, 2014

EXAMINERS' REPORT AND PROPOSAL FOR DECISION**STATEMENT OF THE CASE**

L.C.S. Production Company ("L.C.S.") requests authority pursuant to Statewide Rule 46 to inject produced saltwater for pressure maintenance and eventual water flood into the Strawn formation in the G.M. Freeman Lease, Well Nos. 22WI and 23WI, White Flat (Strawn) Field, Nolan County, Texas.

Notice of the subject application was published in the *Abilene Reporter-News*, a newspaper of general circulation in Nolan County, on July 2, 2013. Notice of the application was sent to the Nolan County Clerk, offset operators within ½ mile and the surface owner of the injection tract on July 16, 2013. The application was protested by Joy Dean McElmurry, who is the surface owner of the tract on which the proposed injection wells will be located.

DISCUSSION OF THE EVIDENCE**Applicant's Evidence**

L.C.S. is applying for a new injection permit for a pressure maintenance project. Production in the field has resulted in a reduction of reservoir pressure. Reinjecting the produced salt water will help to restore and maintain original reservoir pressure, resulting in reduced waste and conservation of hydrocarbon resources. L.C.S. believes that the proposed project will not harm hydrocarbon resources and that injected fluids will be confined to the Strawn Formation injection interval.

The application (Form H-1/H-1A) was dated June 6, 2013 and states that the two wells will be located approximately 14 miles east of Sweetwater, Texas. Drilling permits for the two wells have been issued. Well No. 22WI has been assigned API No. 353-33441, and Well No. 23WI has been issued API No. 353-33442. The proposed injection wells have not been drilled and are to be used to inject up to 5,000 bbl each of salt water per day into the subsurface depth interval from 5,000 to 5,200 feet within the Strawn Formation. The estimated average daily injection rate will be 500 bbl, and the maximum surface injection pressure will be 2,500 psig.

The two wells will be of identical construction. The Commission's Groundwater Advisory Unit (GAU) has issued a surface casing letter for the two wells indicating that the interval from the land surface to a depth of 150 feet must be protected. Each will be set with 175 feet of 8 5/8-inch surface casing cemented to the surface with 100 sacks of cement. Each well will have 5,345 feet of 4 1/2-inch long string casing cemented to 1,000 feet with 1,050 bags of cement. The wells will be equipped with 2 3/8-inch tubing set on

a packer at 4,953 feet, less than 100 feet above the top of the injection interval.

The wells are intended to maintain formation pressure in the Strawn. There are two producing wells on the lease. L.C.S. anticipates that the pressure maintenance project will evolve into a water flood project at some point in the future. L.C.S. will inject salt water produced from the two on-lease wells; L.C.S. also intends to use off-lease make-up salt water as needed.

There are 7 wellbores within a one-quarter mile radius of the 22WI well. Five of these wells have been plugged and abandoned, one is an active producer (on the G.M. Freeman Lease), and one is an undrilled permitted location. Form W-3 plugging reports were filed for the five plugged and abandoned wells. Review of these forms indicate that all five have been plugged and cemented in such a manner as to protect usable quality groundwater. All of the plugged and abandoned wells contain plugs between the proposed injection interval and the base of usable quality water. All wells contain at least two plugs.

There are 12 wellbores within a one-quarter mile radius of the 23WI well. Eight of these wells have been plugged and abandoned, three are active producers, and one is an undrilled permitted location. Form W-3 plugging reports were filed for the eight plugged and abandoned wells. Review of these forms indicate that all eight have been plugged and cemented in such a manner as to protect usable quality groundwater. All of the plugged and abandoned wells contain plugs between the proposed injection interval and the base of usable quality water. All wells contain at least two plugs.

L.C.S. also evaluated all wellbores within a one-half mile radius of the proposed two injection wells; there are a total of 36 wellbores within this area, 17 of which are plugged and abandoned and six are carried on the proration schedule as shut-in. Five wells are permitted locations, and three are expired permit locations. Thus, within a one-half mile radius there are five producing wells.

Texas Water Development Board records indicate two water well locations within a two mile radius of the proposed injection wells. Well reports for these two wells indicated the water bearing strata were encountered at a depth of about 100 feet in each, which is consistent with the GAU's recommendation of protecting usable quality ground water to a depth of 150 feet.

Protestant's Evidence

Attorney Lloyd Muennink appeared at the hearing to represent the interests of Joy Dean McElmurray, who is the surface owner of the injection tract. The Protestant does not oppose the injection wells, but does oppose the Applicant's intention to retain the right to import off-lease water for injection onto the G.M. Freeman Lease. The Protestant did not put on a direct case. However, the Protestant argues that the Applicant did not establish

a need to use off-lease make-up water, nor did the Applicant attempt to quantify the amount of water needed for a successful pressure maintenance or eventual water flood project.

The Protestant also requests that the Applicant accommodate the landowner's rights by placing necessary service roads next to the fences rather than going directly across the property, which would reduce the farmable acreage and cultivation of the land.

EXAMINERS' OPINION

The Applicant has applied for a pressure maintenance project that may be developed into a water flood project in the future. The Applicant has not applied to permit disposal wells. The Protestant seeks to limit the surface impact to her land, a matter that is outside of Commission jurisdiction and appropriately considered in State District Court. The examiners recommend that the application be approved.

The proposed injection well will be completed in a manner that will protect usable-quality groundwater resources and will confine injected fluids to the injection interval. The type log submitted with the application identified high-gamma ray shale zones above and below the injection interval.

Existing wellbores within a one-quarter mile radius of the proposed wells have plugged in a manner that will protect usable quality groundwater. Use of the well for injection would result in the recovery of additional oil reserves produced by wells in the field by maintaining reservoir pressure. Therefore, the approval of the application would be in the public interest.

Commission records indicate L.C.S. has made a satisfactory showing of financial responsibility required by Section 27.073 of the Texas Water Code by securing a blanket financial assurance bond in the amount of \$250,000.

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.
2. Notice of the subject application was published in the *Abilene Reporter-News*, a newspaper of general circulation in Nolan County, on July 2, 2013. Notice of the application was sent to the Nolan County Clerk, offset operators within ½ mile and the surface owner of the injection tract on July 16, 2013.

3. The application was protested by Joy Dean McElmurry, who is the surface owner of the tract on which the proposed injection wells will be located.
4. The G.M. Freeman Lease, Well Nos. 22WI and 23WI, will be cased and cemented in a manner to protect usable quality water.
 - a. The Commission's GAU recommends that usable-quality water be protected to 150 feet in the area of the proposed injection well.
 - b. The well has 175 feet of 8 5/8" surface casing cemented to surface with 100 sacks of cement.
5. Fluids injected into the White Flat (Strawn) Field on G.M. Freeman Lease, Well Nos. 22WI and 23WI, will be confined to the injection interval.
 - a. The well will have 5,000 feet of 4 1/2" production casing cemented to 1,000 feet with 1,050 sacks.
 - b. Injection will be into Strawn Formation perforations between 5,000 feet and 5,200 feet through 2 3/8" tubing set on a packer at 4,953 feet.
 - c. There are 36 wellbores located within a 1/2 mile radius of the proposed injection well. All of the wells are properly plugged or cased and cemented in such a manner to protect the fresh water resources and prevent the migration of fluids from the injection interval.
6. Use of the G.M. Freeman Lease, Well Nos. 22WI and 23WI, as injection wells is in the public interest. The proposed injection is for the purpose of implementing a pressure maintenance project in the White Flat (Strawn) Field.
7. L.C.S. has an active P-5 Organization Report and a \$250,000 financial assurance bond on file with the Commission.

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. Approval of the application will not harm useable quality water resources, will not endanger oil, gas, or geothermal resources and will result in the further recovery of additional reserves from the Weinert, W. (Strawn) Field.
5. L.C.S. has made a satisfactory showing of financial responsibility to the extent required by Section 27.073 of the Texas Water Code.
6. L.C.S. 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 46.

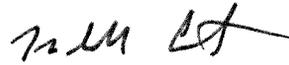
EXAMINERS' RECOMMENDATION

Based on the above findings of fact and conclusions of law, the examiners recommend that the Commission approve the application, as set out in the attached Final Order.

Respectfully submitted,



Paul Dubois
Technical Examiner



Marshall Enquist
Hearings Examiner

LCS PRODUCTION COMPANY

1-Jul-2013

Proposed Completion

KB: 1972.0'
DF: 1971.0'
GL: 1960.0'
Datum: KB, 12.0' above GL

G. M. Freeman #22WI

API#42-353-33441

1426' FSL & 2108' FEL
Sec 32, Blk 19, T&PRR Surv.
(A-563) Nolan County, Texas

Surface Pipe TOC @ Surface

8-5/8" 24#
CSA 175' w/ 150 Sx

4-1/2" Casing TOC @ 1000' Proposed

2-3/8" Internally Lined Tubing
TSA 4950'

Packer @ 4950'-4953'

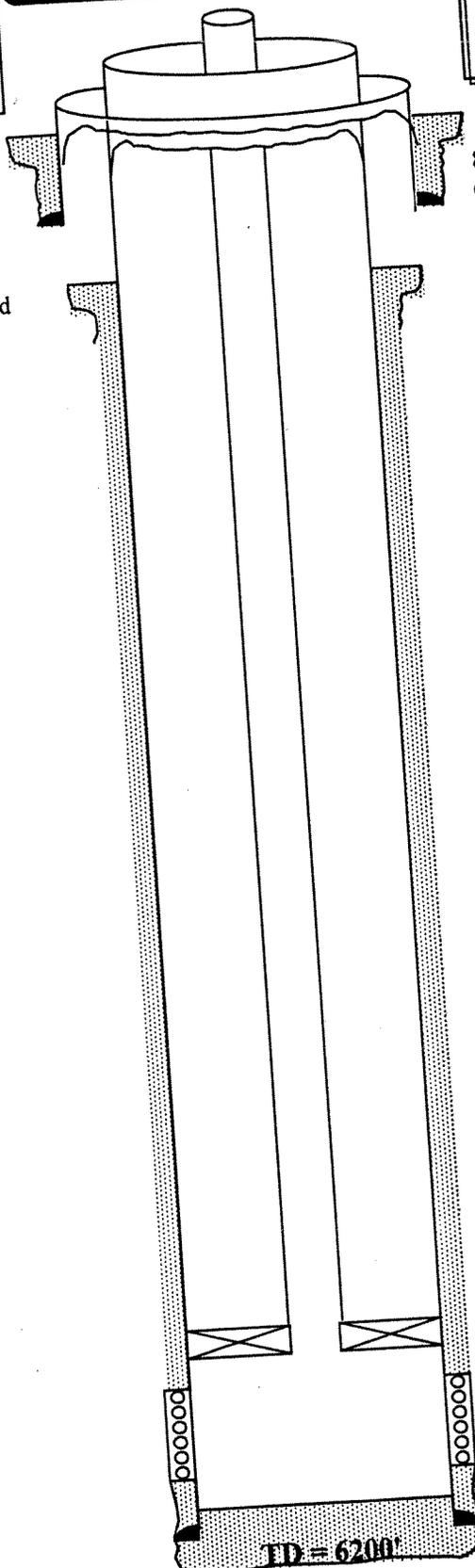
Strawn Perfs: 5000'-5200'

4-1/2" 10.5#
CSA 5345' w/ 1050 Sx

Original PBTD = 5300' est.

TD = 6200'

JMT



LCS PRODUCTION COMPANY

1-Jul-2013

Proposed Completion

KB: 1980.0'
DF: 1979.0'
GL: 1968.0'
Datum: KB, 12.0' above GL

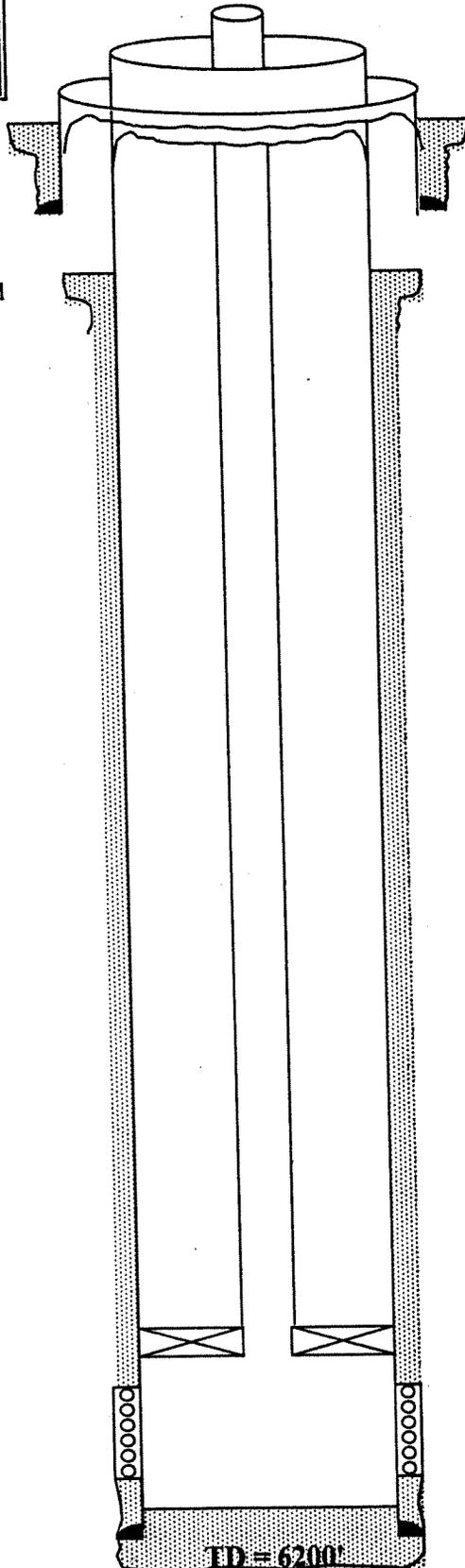
G. M. Freeman #23WI

API#42-353-33442

316' FSL & 2655' FEL
Sec 32, Blk 19, T&PRR Surv.
(A-563) Nolan County, Texas

Surface Pipe TOC @ Surface

4-1/2" Casing TOC @ 1000' Proposed



8-5/8" 24#
CSA 175' w/ 150 Sx

2-3/8" Internally Lined Tubing
TSA 4950'

Packer @ 4950'-4953'

Strawn Perfs: 5000'-5200'

4-1/2" 10.5#
CSA 5345' w/ 1050 Sx

Original PBTD = 5300' est.

TD = 6200'

JMT