



RAILROAD COMMISSION OF TEXAS

HEARINGS DIVISION

OIL AND GAS DOCKET NO. 8A-0297351

**THE APPLICATION OF GREAT WESTERN DRILLING COMPANY TO CONSIDER
UNITIZATION AND SECONDARY RECOVERY AUTHORITY FOR THE PROPOSED
LINKER (LOWER CLEARFORK) UNIT, LINKER (CLEAR FORK) FIELD, HOCKLEY
COUNTY, TEXAS**

HEARD BY: Paul Dubois – Technical Examiner
Terry Johnson – Hearings Examiner

HEARING DATE: September 3, 2015

CONFERENCE DATE: October 6, 2015

APPEARANCES:

REPRESENTING:

APPLICANT:

Clark Jobe
Michael E. McElroy
Tom Magee
Wendy Roberson, P.G.
Cary Billingsley, P.E.
F. Carter Muire
Russell P. Richards
Dennis L. Hendrix

Great Western Drilling Company

EXAMINERS' REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Great Western Drilling Company ("Great Western") requests Commission authority for unitization of the Linker (Lower Clearfork) Unit ("Unit") and approval of secondary recovery operations on the Unit. The application is unopposed and the examiners recommend approval of the authority for unitization and approval of secondary recovery operations on the Unit.

DISCUSSION OF EVIDENCE

The Linker (Clear Fork) Field was discovered in April 1961 at a depth of 7,162 feet. There are numerous operators and numerous producing and injection wells carried on the proration schedule for the field. The Linker (Clear Fork) Field rules provide for 440 feet lease line spacing, 880 feet between well spacing, 42.5 acre density with 21.25 acre tolerance, and allocation based on 100% acres. The top allowable is an MER allowable of 250 BOPD, set in Oil & Gas Docket No. 8A-0244209. Cumulative production from the Linker (Clear Fork) Field through August 2015 is 6.9 MMBO.

The field was defined in Oil & Gas Docket No. 8A-98,87 as the subsurface depths of 6,900 to 8,480 feet as shown on the log of the Wheeler Properties - Hamilton Unit Lease, Well #3-W (API No. 42-219-35886), Labor 26, League 29, Atascosa CSL, Hockley County, Texas.

The unitized interval in the Linker (Lower Clearfork) Unit is defined as the Lower Clearfork Formation, being more particularly described as seen in the Great Western Drilling Company, C & H "13" #1 well (API No. 42-219-36752) located 1,025' FNL and 467' FEL of Labor 13, League 29, Garza CSL Survey, Hockley County, Texas, open hole log run by Halliburton dated December 31, 2004, the Spectral Density Dual Spaced Neutron, as the Stratigraphic equivalent points the upper boundary being the top of the Lower Clearfork Formation at 6,828' (-3,309') and the lower boundary being the top of the Wichita Albany Formation at 7,592' (-4,073').

The proposed Linker (Lower Clearfork) Unit consists of nine tracts which contain 1,058.1 acres. The productive interval contained within the Clearfork Formation is a stratigraphic trap. Primary depletion is the primary drive mechanism. The proposed Unit contains all of the productive portions of the Linker (Clear Fork) Field, as demonstrated by a cross section and structure map provided by Great Western. The productive portion of the unitized interval has an average porosity of 7.3%, an average permeability of 3.7 md, and an average structural thickness of 110 feet.

Great Western will inject produced salt water and fresh water at a rate of approximately 3,600 barrels per day.

Great Western calculated the original oil in place under the proposed Unit to be 36 MMBO. Primary recovery from the Unit is estimated to be 3.6 MMBO, or 10% of the original oil in place. Great Western estimates that secondary recovery will be equal to 50% of the primary recovery or approximately 1.7 MMBO. The project will result in an ultimate recovery for the proposed Unit of 14.7% of the original oil in place. The total cost to implement and operate the secondary recovery project is expected to be \$7.23 million. The value of the oil to be recovered as a result of the unitization is expected to exceed the cost to recover the additional oil.

The participation formula for the Unit is comprised of two factors: the first factor is

based 50% on acreage; the second factor is based 50% on barrels produced in December 2012. At the time of the hearing, 99.2% of the working interest ownership, and 99.9% of the royalty interest ownership had signed the Unit Agreement. There are State-owned lands in the proposed Unit, and the School Land Board has approved the State's participation in the Unit. Great Western anticipates nearly 100% sign up of the working and royalty interest ownership by the time the secondary recovery project is initiated, and will measure production from wells on tracts for which 100% sign-up was not achieved.

FINDINGS OF FACT

1. Notice of hearing was sent to working interest owners, royalty interest owners and offset operators at least ten days prior to the hearing. Notice was published in the Levelland & Hockley County News-Press, a newspaper of general circulation in Hockley County, for four consecutive weeks beginning July 29, 2015.
2. The proposed Linker (Lower Clearfork) Unit consists of nine tracts which contain 1,058.1 acres.
3. The unitized formation is the subsurface portion of the Unit area commonly known as the Lower Clearfork Formation, being more particularly described as seen in the Great Western Drilling Company, C & H "13" #1 well located 1,025' FNL and 467' FEL of Labor 13, League 29, Garza CSL Survey, Hockley County, Texas, open hole log run by Halliburton dated December 31, 2004, the Spectral Density Dual Spaced Neutron, as the Stratigraphic equivalent points the upper boundary being the top of the Lower Clearfork Formation at 6,828' (-3,309') and the lower boundary being the top of the Wichita Albany Formation at 7,592' (-4,073').
4. The productive interval contained within the Clearfork Formation is a stratigraphic trap. Primary depletion is the primary drive mechanism.
5. At the time of the hearing, 99.2% of the working interest ownership and 99.9% of the royalty interest ownership had signed the Unit Agreement. Great Western anticipates nearly 100% sign up of the royalty interest ownership by the time the project is initiated.
6. Secondary recovery operations are expected to result in the recovery of an estimated 1.7 MMBO which could otherwise go unrecovered.
7. The total cost to implement and operate the secondary recovery project is expected to be \$7.23 million. The cost does not exceed the value of additional reserves to be recovered.
8. The participation formula for the Unit is comprised of two factors: the first

factor is based 50% on acreage; the second factor is based 50% on barrels produced in December 2012.

9. The secondary recovery project will not be successful unless the area is unitized.
10. The agreement was voluntarily executed by all parties affixing their signatures thereto and no person has been compelled or required to enter into the agreement. The Unit Agreement binds only those person who have executed it, their heirs, successors, assigns and legal representatives. The rights of all owners of interests in the field will be protected under the operation of the Unit, regardless of whether an owner signed the Unit Agreement.
11. The owners of interests in the oil and gas under each tract of land within the area reasonably defined by development have been given an opportunity to enter into the Unit on the same yardstick basis as owners of interests in the oil and gas under the other tracts in the Unit.
12. The proposed injection program will move hydrocarbons across lease lines, and unitization is necessary in order to protect the correlative rights of the various interest owners.
13. The unitization agreement is necessary to accomplish the purposes of establishing a Unit to effect secondary recovery operations for water injection and to operate cooperative facilities necessary thereto. Other available or existing methods or facilities for secondary recovery operations are inadequate for the purpose of secondary recovery.
14. The Unit Agreement does not provide, either directly or indirectly, for the cooperative refining or marketing if crude petroleum, distillate, condensate, or gas, or any by-product thereof.
15. The Unit Agreement is subject to all valid orders, rules and regulations of the Railroad Commission.
16. The Unit Agreement contains no provision regarding the field rules, nor does it limit the amount of production of oil and gas from the unitized area. The Unit Agreement does not release the operator from his obligation to reasonably develop lands or leases as a whole.
17. The Unit Agreement is a voluntary agreement entered into for the purpose of conducting secondary recovery operations.
18. The Unit Agreement does not provide for the location of wells.

19. There are State-owned lands in the proposed Unit, and the School Land Board has consented to participation in the Unit under the proposed allocation formula.
20. The Unit Agreement is in the interest of public welfare as being reasonably necessary to prevent waste and to promote conservation.
21. The reservoir described in the Unit Agreement is identified as a single reservoir for Commission purposes and is a suitable reservoir for a secondary recovery project.
22. The Unit Agreement contains only the acreage reasonably necessary to accomplish the proposed secondary recovery project.
23. Great Western will measure production from wells on tracts for which 100% sign-up was not achieved.

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 § 1.45
3. Applicant's proposed secondary recovery project satisfies all of the requirements set out in Tex. Nat. Res. Code Ann. §§101.001-052.
4. Approval of the proposed unit agreement for secondary recovery operations is in the public interest and is necessary to prevent waste and to promote the conservation of oil or gas or both.

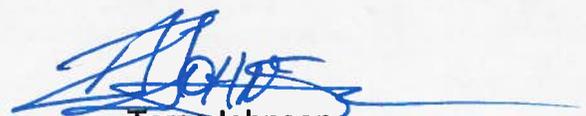
RECOMMENDATION

Based on the above filings of fact and conclusions of law, the examiners recommend approval of the proposed Linker (Lower Clearfork) Unit and secondary recovery operations project as set out in the attached order.

Respectfully submitted,



Paul Dubois
Technical Examiner



Terry Johnson
Hearings Examiner