

**THE APPLICATION OF FAIRWAY RESOURCES OPERATING, LLC TO CONSIDER
UNITIZATION AND SECONDARY RECOVERY AUTHORITY FOR THE NEWSOME UNIT,
NEWSOME (PITTSBURG 8200) FIELD, CAMP COUNTY, TEXAS**

HEARD BY: Richard D. Atkins, P.E. - Technical Examiner
Mark J. Helmueller - Legal Examiner

APPEARANCES:

REPRESENTING:

APPLICANT:

Carroll Martin
Joe E. Small
Matt Eagleston
Valary Schulz

Fairway Resources Operating, LLC

PROTESTANT:

Wilma Cason Brown

Self

PROCEDURAL HISTORY

Application Filed:	July 6, 2009
Request for Hearing:	July 8, 2009
Notice of Hearing:	July 22, 2009
Hearing Held:	September 3, 2009
Proposal for Decision Issued:	October 7, 2009
Amended Proposal for Decision Issued:	October 19, 2009

EXAMINERS' REPORT AND AMENDED PROPOSAL FOR DECISION

This amended Proposal For Decision has been prepared to clarify the examiner's recommendation denying applicant's request to convert the last producing well to injection operations on a Unit Tract that has royalty interest owners which have not ratified the unit agreement.

STATEMENT OF THE CASE

Fairway Resources Operating, LLC ("Fairway") requests Commission authority for unitization of the Newsome Unit and approval of secondary recovery operations on the

Unit. This application was protested by Wilma Cason Brown, a mineral owner in the proposed Newsome Unit.

DISCUSSION OF THE EVIDENCE

Applicant's Evidence

The Newsome (Pittsburg 8200) Field was discovered in October 1953 at a depth of approximately 8,150 feet. Cumulative production from the field is 1.8 MMBO and 30.3 MMCFG. There are only five producing oil wells carried on the proration schedule and they collectively produce approximately 30 BOPD and no casinghead gas.

The unitized formation is the subsurface productive portion of the Unit Area commonly known as the Pittsburg 8200 Sand as found between the subsurface depths of 8,136 feet and 8,236 feet on the log of the Wessely Energy Corp. - Johnson Lease, Well No. 1 (API No. 12-063-30223), located 1,100 feet from the north line and 2,000 feet from the west line of the J. M. Henrie Survey, Abstract 50, Camp County, Texas. The unitized formation is part of the Travis Peak geologic interval and contains three Pittsburg Sands, an Upper, Middle and Lower sand. The Lower Pittsburg sand is continuous across the entire unit and is the focus of Fairway's secondary recovery project. The Upper and Middle sands only produce within a limited portion of the unit that is on the crest of the structure.

The proposed Newsome Unit consists of 36 tracts which contain 918 acres. The proposed unit contains all of the productive portions of the Newsome (Pittsburg 8200) Field, as demonstrated by the Lower Pittsburg 8200 Sand net pay isopach map provided by Fairway. The isopach map was generated by using a 7% to 9% porosity cutoff.

Fairway proposes to drill one new injection well and convert two other wells to injection. The wells to be converted to injection include one plugged well and one existing producing well. The producing well Fairway proposes to convert to injection is the Barron Lease, Well No. 1, which is the only producing well on Unit Tract No. 30.

At the hearing, Fairway stated that 15.2% of the royalty interest owners in this tract could not be located and therefore had not ratified the unit agreement. However, Fairway's Exhibit No. 7 indicates that only 49.5% of the royalty interest owners in Tract No. 30 had ratified the unit agreement. After the hearing, Fairway submitted a ratification of the unit agreement by ExxonMobil, an overriding royalty owner with a 5.6% interest in Tract No. 30. Adding Exxon-Mobil increases the royalty ratification for Tract No. 30 to 68.2%, leaving 31.8% unsigned.

Fairway will drill two fresh water supply wells on 71 acres of surface that it owns, as a source for all water to be injected. The water supply wells will be completed in the Carrizo-Wilcox formation between 250 feet and 400 feet. Fairway plans to return the shut-in wells to production and at full unit development will have 8 producing, 3 injection and 2 water source wells.

Fairway is requesting the use of fresh water for two primary reasons. First, Fairway has discovered that successful Pittsburg formation waterflood projects in the area (Pittsburg, New Hope and Moncrief Fields) operate with very high injection pressures. The high injection pressures are primarily a result of low permeability which indicates that the reservoir has a limited capacity to tolerate anything that might plug pore throats and further inhibit injectivity. Even properly managed produced water contains solids and oil carryover that has a very detrimental effect on waterflood performance in the Pittsburg formation. Due to compatibility problems and severe corrosion, all produced water will be disposed of off lease or into a unit disposal well completed in the Woodbine formation.

Second, there are no other compatible sources of salt water in the area. All other produced water in the Newsome and nearby Pittsburg Fields is used for pressure maintenance and waterflooding of the Sub-Clarksville reservoir. The shallow Midway formation is not capable of providing the volumes of water required for Fairway's project. The deeper Woodbine formation is used for saltwater disposal in the area and is susceptible to anaerobic bacteria growth which is problematic in any waterflood that has injectivity issues. In addition, the water is corrosive, as evidenced by casing leaks in the area across the Woodbine interval, and contains barium which is an extremely difficult form of scale to treat.

Primary recovery from the field is expected to be 2.1 MMBO or approximately 30% of the original oil in place. Fairway estimates that secondary recovery will be less than 40% of primary recovery or about 640,000 BO. Fairway believes this estimate to be a conservative value as three other Pittsburg waterfloods in the Pittsburg, New Hope and Moncrief Fields, recovered 84%, 52% and 145% of primary recovery, respectively.

The total cost to implement and operate the secondary recovery project is approximately \$14.9 million. The estimated net revenue as a result of the secondary recovery project is approximately \$22 million over the 15 year life of the project. These estimates are based on an oil price of \$68 per barrel.

The participation formula for each tract in the Unit is based 70% on productive net acre-feet in the reservoir and 30% on the remaining primary reserves. At the time of the hearing, 96% of the working interest ownership and 77% of the royalty interest ownership had signed the unit agreement. There are no state lands in the Unit and Fairway will conduct monthly well tests to allocate production to wells on tracts for which 100% sign-up was not achieved.

Protestant's Evidence

Wilma Cason Brown, a mineral owner in the proposed Newsome Unit, appeared at the hearing to protest the application. Ms. Brown is opposed to the 70/30 percent participation formula, as she feels that Fairway is the largest mineral holder and stands to be awarded a disproportionate gain. She believes that Fairway is penalizing the existing

mineral owners in the unit that do not have producing wells on their tracts, as they still have recoverable hydrocarbons under their acreage.

Ms. Brown is also opposed to the formation of the northern boundary that does not take into account the areal extent of the sand, thereby omitting 30 acres of her original lease from Tract No. 7. She stated that the southern boundary is drawn with respect to the landowner boundaries, but the northern boundary is drawn as a straight line between two points without regard to landowner boundaries. She believes that Fairway is asking certain landowners, including herself, to include some of their acreage in the unit but to sever contiguous acreage, while observing Fairway making allowances for others on the southern boundary.

Ms. Brown submitted well logs comparing her Tract No. 9 to the offsetting Tract No. 10. She felt that the net acre feet on her tract had been minimized by Fairway and that no credit was given for the Upper Pittsburg sand. She stated that the current Net Pay Isopach was incorrect and inadequate and that this is an example of Fairway's failure to use the same "yardstick" for all members of the Unit.

EXAMINERS' OPINION

The examiners recommend that the application be approved, as Fairway met all of the statutory requirements for the approval of unitization and secondary recovery operations for the proposed Newsome Unit. Fairway demonstrated that the allocation formula was fair and reasonable and that the unit boundary contained all of the productive Newsome (Pittsburg 8200) Field. Acre feet credit was only given to the Upper Pittsburg Sand tracts located on the crest of the structure, as Fairway believes that the Upper Pittsburg Sand is wet and nonproductive on the flanks where Ms Brown's tracts are located.

The examiners recommend Fairway's request to convert the last producing well to injection operations on a Tract 30, which includes royalty interest owners which have not ratified the unit agreement be denied. If this well is converted to injection, unsigned royalty owners in Tract 30, who are currently receiving royalties for production from this tract, will not be entitled to any royalties for oil originally in place under the tract and produced by Unit wells. The issue of conversion of producing wells to injection wells on tracts with unsigned interests was definitively addressed in *Oil & Gas Docket No. 5-95,279: Application of LASMO Energy Corporation for an Exception to Convert the Following Producing Wells to Injection Wells: J. D. Hansborough Unit, No. A-1, W.W. Wingfield Unit No. 2 and the J.R. Lusk Unit No. 1, in the Alabama Ferry (Glenrose "D") Field, Leon and Houston Counties, Texas.* (Final Order entered October 21, 1991). In *LASMO* the Commission dismissed an application to convert producing wells to injection wells holding that it lacked authority to grant such a request as it would compel an interest owner to unitize. The examiners in *LASMO* specifically noted, "The Commission's historical prohibition of last well conversions is necessary to protect the correlative rights of nonsigners as required by TNRC §101.013(a)."

There have been four unprotested dockets after *LASMO* where the Commission has granted authority to convert the last producing well on a tract with unsigned royalty interests to injection.¹ Two of the cases involved tracts where the unsigned interest was less than 1% of the royalty interest in the tract. The Commission approved the conversions where the *de minimis* interest owners did not appear in protest of the applications.

The other two cases involved interests greater than 1%, however, affirmations were made at the hearing that owners holding more than 1% of royalty interest did not oppose the conversion. Additionally, in both of these cases applicant provided testimony opining that if the wells were not converted to injectors, the proposed waterflood would fail.

In this case, even with the inclusion of ExxonMobil's overriding royalty interest, it appears that over 30% of the royalty interests in Tract 30 have not ratified the unit agreement. Additionally, there are no additional facts to show that if the Barron No. 1 Well is not converted to injection that the proposed waterflood will not be successful. No evidence was presented to establish that Fairway could not drill a new well to use for injection, rather than convert to injection the last producing well on Tract 30. Under these circumstances, the examiners therefore cannot recommend granting authority to convert the Barron No. 1 Well to injection operations.

FINDINGS OF FACT

1. Notice of this hearing was sent to all operators and royalty interest owners within the proposed unit. Notice was published in *The Pittsburg Gazette*, a newspaper of general circulation in Camp County, for four consecutive weeks on August 6, 13, 20 and 27, 2009.

¹ Please refer to *Oil & Gas Docket Nos. 7B-0200348, 7B-0200349, & 7B-0200350: Application of Henry Petroleum Corp. to Convert the Last Well on the Ellison, Sherrod and Furr Leases to Injection, Peacock (Tannehill) Field, Stonewall County, Texas* (Final Order entered April 5, 1993); *Oil & Gas Docket No. 8A-0202000: Application of Barbara Fasken to Convert the Gin North Unit, Well No. 101 to a Water Injection Well for Purposes of Secondary Recovery in the Gin North (8000) Field, Dawson County, Texas* (Final Order entered August 10, 1993); *Oil & Gas Docket No. 7B-0228174: Application of Ashtola Exploration Company, Inc., to Convert the Last Producing Well to Injection on Unit Tract 1, McCullough Unit, McCullough's (Conglomerate) Field, Throckmorton County, Texas* (Final Order entered June 5, 2001); and, *Oil and Gas Docket No. 8A-0230387: Application of Trinity Operating and Production, Inc. to Consider Unitization and Secondary Recovery Authority and to Convert the Last Producing Well to an Injection Well on the Proposed Dean (Spraberry) Unit in the Felken (Spraberry) Field, Dawson County, Texas* (Final Order entered March 21, 2002)

2. The proposed Newsome Unit consists of 36 tracts which contain 918 acres.
3. The unitized formation is the subsurface productive portion of the Unit Area commonly known as the Pittsburg 8200 Sand as found between the subsurface depths of 8,136 feet and 8,236 feet on the log of the Wessely Energy Corp. - Johnson Lease, Well No. 1 (API No. 12-063-30223), located 1,100 feet from the north line and 2,000 feet from the west line of the J. M. Henrie Survey, Abstract 50, Camp County, Texas.
4. At the time of the hearing, 96% of the working interest ownership and 77% of the royalty interest ownership had signed the unit agreement.
5. Secondary recovery operations will result in the recovery of an estimated 640,000 BO which would otherwise go unrecovered.
6. The total cost to implement and operate the secondary recovery project is approximately \$14.9 million. The estimated net revenue as a result of the secondary recovery project is approximately \$22 million over the 15 year life of the project. The cost does not exceed the value of additional reserves to be recovered.
7. The participation formula for each tract in the Unit is based 70% on productive net acre-feet in the reservoir and 30% on the remaining primary reserves.
8. The secondary recovery project will not be successful unless the area is unitized.
9. The secondary recovery project will be a waterflood initially utilizing three injection wells. Injected water will be fresh water produced from the Carrizo-Wilcox formation between 250 feet and 400 feet.
 - a. Successful Pittsburg formation waterflood projects in the area (Pittsburg, New Hope and Moncrief Fields) operate with very high injection pressures.
 - b. The high injection pressures are primarily a result of low permeability which indicates that the reservoir has a limited capacity to tolerate anything that might plug pore throats and further inhibit injectivity. Even properly managed produced water contains solids and oil carryover that has a very detrimental effect on waterflood performance in the Pittsburg formation.
 - c. All other produced water in the Newsome and nearby Pittsburg Fields is used for pressure maintenance and waterflooding of the Sub-

Clarksville reservoir.

- d. There are no other compatible sources of salt water in the area.
 - e. Due to compatibility problems and severe corrosion, all produced water will be disposed of off lease or into a unit disposal well completed in the Woodbine formation.
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 persons 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 interest 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 interest 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 of 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 field rules, nor does it limit the amount of production of oil or 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 no state lands in the unit.
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 water injection secondary recovery operation.
22. The unit agreement contains only the acreage reasonably necessary to accomplish the proposed secondary recovery project.
23. Monthly well tests will be conducted to allocate production to wells on tracts for which 100% sign-up was not achieved.
24. Conversion of the Tract 30 producing well to injection is not warranted.
 - a. Tract 30 within the proposed unit area has only one producing well.
 - b. More than 30% of the royalty interests in Tract 30 have not signed the unit agreement.
 - c. The unsigned owners will be deprived of all royalties on oil for Tract 30 if the last producing well is converted to injection.
 - d. Locations at which a new well could be drilled for injection purposes exist on the unit.

CONCLUSIONS OF LAW

1. Proper notice was given to all persons legally entitled to notice.
2. All things have occurred or have been accomplished that are necessary to give the Commission jurisdiction in this matter.
3. Applicant's proposed secondary recovery project satisfies all of the

requirements set out in TEX. NAT. RES. CODE ANN. §§101.001 et seq.

4. The prohibition of converting the last producing well to an injection well is necessary to protect the correlative rights of nonsigners to the unit agreement as required by TEX. NAT. RES. CODE ANN. §§103.013 (a)(3).
5. 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.

EXAMINERS' RECOMMENDATION

Based on the above findings of fact and conclusions of law, the examiners recommend approval of the proposed Newsome Unit and secondary recovery operations, as set out in the attached order.

Respectfully submitted,

Richard D. Atkins, P.E.
Technical Examiner

Mark J. Helmueller
Legal Examiner