



RAILROAD COMMISSION OF TEXAS

HEARINGS DIVISION

OIL & GAS DOCKET NO. 06-0281696

**THE APPLICATION OF SULPHUR RIVER EXPLORATION, INC. TO CONSIDER
UNITIZATION AND SECONDARY RECOVERY AUTHORITY FOR THE FROST
WATERFLOOD UNIT, FROST (SMACKOVER) FIELD, CASS COUNTY, TEXAS**

HEARD BY: Andres J. Trevino P.E., Technical Examiner
Michael Crnich - Legal Examiner
Marshall F. Enquist - Legal Examiner

PFD PREPARED BY: Richard D. Atkins, P.E. - Technical Examiner

APPEARANCES:

REPRESENTING:

APPLICANT:

John Soule
Greg Vujovich
Gary Garrison

Sulphur River Exploration, Inc.

PROTESTANT:

David Nelson
Rick Johnston
Elizabeth Prykryl
Walter "Bud" Scherr III

Valence Operating Company

PROCEDURAL HISTORY

Application Filed:	March 22, 2013
Notice of Hearing:	April 5, 2013
Hearing Held:	May 24 & July 10, 2013
Transcript Received:	July 23, 2013
Proposal for Decision Issued:	December 20, 2013

EXAMINERS' REPORT AND PROPOSAL FOR DECISION

STATEMENT OF THE CASE

Sulphur River Exploration, Inc. ("SRE") requests Commission approval of unitization and secondary recovery operations in a portion of the Frost (Smackover) Field on the proposed Frost Waterflood Unit. Notice of the hearing was sent to all operators and royalty interest owners within the proposed unit and all offset operators and mineral owners of unleased tracts adjacent to the proposed unit. Since there were several returned hearing notices, SRE published notice of the subject application in the *Atlanta Citizens Journal*, a newspaper of general circulation in Cass County, for four consecutive weeks beginning on April 14, 2013.

The application is protested by Valence Operating Company ("Valence"), an offset operator in the Frost (Smackover) Field. The examiners recommend approval of the authority for unitization of the proposed Frost Waterflood Unit and secondary recovery operations on the Unit.

DISCUSSION OF THE EVIDENCE

Applicant's Evidence

The Frost (Smackover) Field was discovered in February 1964 at an average depth of 9,800 feet. There are four producing oil wells and three operators carried on the oil proration schedule. Field Rules provide for 660'-1,650' well spacing, 160 acre oil units and allocation based on 100% acres. The top oil allowable is based on the 1965 Yardstick Allowable of 471 barrels of oil per day with an allowable gas-oil ratio of 2,000 cubic feet per barrel. Cumulative production from the field through March 2013 is 9.6 MMBO and 24.2 BCFG.

The unitized formation is the subsurface portion of the proposed unit area commonly known as the Smackover formation, which is recognized by the Commission as the Frost (Smackover) Field. The unitized interval is located between the subsurface depths of 9,660 feet and 9,910 feet as shown on the log of the Valence Operating Company (previously operated by Amerada Petroleum Corporation) - A. E. Frost Unit, Well No. 1 (API No. 42-067-00097), D Jones Survey, A-570, Cass County, Texas.

There are 17 tracts within the productive limits of the Frost (Smackover) Field (See SRE Exhibit No. 1 - Tract Plat). All owners of interests in production from the field were offered the opportunity to participate on the same yardstick basis, but only ten of the seventeen tracts have agreed to unitization. Tract 1 is owned by Robertson-Bryce Management, LLC and Tract 2 and 3 are owned by Valence and the owners of these three tracts have not agreed to unitization. Tract 7 is under lease to SRE, but the minerals are

owned by Valence. Tract 7 was not made an offer because it is beyond a "no-boundary" established by Tracts 1, 2 and 3. Although Tract 7 is within the productive limits of the of the Frost (Smackover) Field, it could not be included in the proposed unit because Valence refused to include Tracts 2 and 3 in the unit, creating the "no-boundary", if SRE would not include the tract containing the MacDonnell -B- Lease, Well No. 1.

The proposed Frost Waterflood Unit consists of ten tracts, which contain 577.508 acres, but only 473.843 acres are within the productive limits of the Frost (Smackover) Field. Acreage outside the field productive limits is included in order to follow property boundaries, but the non-productive area was allocated zero net-acre feet. The non-productive acreage will therefore not participate in unit production. The proposed unit contains a part of the productive portion of the Smackover formation, as demonstrated by a cross section, structure map and net pay isopach map submitted by SRE.

SRE operates two of four producing wells in the field. Secondary recovery will be accomplished by waterflooding. SRE already operates several Smackover waterflood units in the vicinity of the Frost (Smackover) Field. SRE proposes to implement a waterflood by drilling two injection wells with one on the east side and one on the west side of the proposed unit. Additional production and injection wells may drilled on the unit, depending on the success of the initial project.

SRE calculates that secondary recovery operations will recover an additional 477 MBO and 277 MMCFG. The total cost to unitize and implement the secondary recovery project is expected to be \$12.5 million. The value of the incremental recovery of oil and gas is \$28.6 million, which is \$16.1 million more than the project cost. The projected return on investment is estimated to be 2.3 to 1. This calculation is based on an oil price of \$80 per barrel.

Tract participation in unit production will be based 100% on net acre feet of reservoir pay. At the time of the hearing, 100% of the working interest ownership and more than 75% of the royalty interest ownership had signed the unit agreement. Most tracts in the proposed unit have more than 95% royalty interest sign-up and SRE expects to have 100% or nearly 100% of royalty interest sign-up before secondary recovery operations begin. There are no state lands in the Unit and SRE will conduct monthly well tests to allocate production to wells on tracts for which 100% sign-up was not achieved. The Unit and Unit Operating Agreements are standard form agreements. The Unit Agreement contains none of the provisions prohibited by statute and no one has been required to execute either agreement.

Productive Limits

SRE asserts that the Commission has determined the productive limits of the Frost (Smackover) Field and they are reflected in a final order issued by the Commission in 1972 in Oil & Gas Docket No. 6-60,553. The MacDonnell -B- Lease, Well No. 1, which Valence argues is within the productive limits, is outside the productive limits determined by the

Commission and is located to the northeast outside of the boundaries of Tract 7. The MacDonnell -B- Lease, Well No. 1, was drilled in 1978 and completed in the Smackover formation by Czar Resources in 1979. Neither Czar nor any other subsequent operator of the well, including Valence, has ever requested the Commission to revisit its determination of productive limits for the Frost (Smackover) Field after completion of the MacDonnell -B- Lease, Well No. 1. It was carried on the proration schedule and reported production in the Frost (Smackover) Field simply as "field of convenience", so the operator would not have to file a new field discovery application to report the limited amount of production from the well.

The MacDonnell -B- Lease, Well No. 1, is non-productive in other intervals shallower than the Smackover where re-completion was attempted. Valence obtained an injection permit and used the well for disposal in the Paluxy formation. When Valence first applied for a permit, the Smackover was included in the proposed disposal interval, confirming that Valence did not think the Smackover was productive at the location of the MacDonnell -B- Lease, Well No. 1. The well has been inactive since 2005.

Pressure and production data for the MacDonnell -B- Lease, Well No. 1, confirm it was not initially completed in the same source of supply as wells in the Frost (Smackover) Field. Although there may be a common aquifer below the limited source of supply from which the MacDonnell -B- Lease, Well No. 1, briefly produced, the more prolific common source of supply is recognized by the Commission as the Frost (Smackover) Field. The MacDonnell -B- Lease, Well No. 1, produced only 2,300 barrels of oil with an oil cut of only 19% while it was carried in the Frost (Smackover) Field. By way of comparison, the Barnhart - AE Frost No. 2, located structurally low to the MacDonnell -B- Lease, Well No. 1,, produced 748,000 barrels of oil from the field. Average production for wells in the Frost (Smackover) Field has been in excess of 740,000 barrels per well with an 85% oil cut. Wells in the field have recovered an average of 259 barrels of oil per acre-foot, but the MacDonnell -B- Lease, Well No. 1, recovered only 0.7 barrels of oil per acre-foot. When the MacDonnell -B- Lease, Well No. 1, was drilled and completed in the Smackover formation with a bottomhole pressure of 3,550 psi, the average field pressure was approximately 2,200 psi and the pressure in the nearest well within the productive limits, the Shell - MacDonnell -B-A-4, was approximately 1,900 psi. The MacDonnell -B- Lease, Well No. 1, encountered less than virgin reservoir pressure in the Smackover because of a common aquifer, but the insignificant oil column encountered by the MacDonnell -B- Lease, Well No. 1, is separated from the Frost (Smackover) Field by a saddle or permeability barrier.

The depositional environment of the Frost (Smackover) Field is consistent with the productive acreage determination made by the Commission in 1972. The depositional environment also explains why the MacDonnell -B- Lease, Well No. 1, is outside the productive limits of the field, even though it could be contoured in the field. During the 1972 productive limits hearing, Shell presented evidence from a well drilled to the Smackover adjacent to the eastern boundary of the field, arguing that small amounts of oil produced on drill stem test supported extension of the productive limits. The Commission

disagreed, concluding that small amounts of oil produced on drill stem test did not mean the well was within the productive limits when other data clearly show it is not. It is possible to contour the MacDonnell -B- Lease, Well No. 1, within the productive limits of the field based on log data. It is not proper, however, when all of the other hard data, which includes the production and pressure information, confirm the well is outside the productive limits. In addition, dip meters for the MacDonnell -B- Lease, Well No. 1, and the nearest well in the field indicate that a structural saddle exists between the two wells, separating and placing the MacDonnell -B- Lease, Well No. 1, beyond the productive limits of the Frost (Smackover) Field. Finally, geologic data from the nearest offset Smackover fields, Carbondale and Carbondale North, show that wells near those fields with similar electric and porosity log characteristics produce from separate reservoirs with very different fluid types and pressure behavior, all because of the depositional environment.

Drilling subsequent to the Commission's determination of productive limits for the Frost (Smackover) Field in 1972, has required only very minor modification of structural and isopach contouring and no revision of the productive limits themselves. Czar drilled the MacDonnell -B- Lease, Well No. 1, on acreage leased by Shell and farmed out to Czar. In 1984, more than 6 years after Czar drilled and completed the MacDonnell -B- Lease, Well No. 1, Shell continued to map the location of the MacDonnell -B- Lease, Well No. 1, outside the productive limits. Likewise, Valence mapped the well outside the productive limits in a 1986 hearing in which it was seeking a Rule 37 exception for another well in the Frost (Smackover) Field (Case No. 101,357). The Commission correctly determined the productive limits of the field in 1972 and SRE used those productive limits to make its offer of participation on the same yardstick basis to all owners of interests in production from the Frost (Smackover) Field.

The MacDonnell -B- Lease, Well No. 1, is not within the productive limits of the Frost (Smackover) Field. No significant volume of oil was ever produced. The well's poor performance was not the result of the timing when the well was drilled. Pressure data confirm the MacDonnell -B- Lease, Well No. 1, did not produce from the same common source of supply as wells in the Frost (Smackover) Field. Reservoir fluid properties confirm the MacDonnell -B- Lease, Well No. 1, is not within the same structure as the Frost (Smackover) Field. The reported gas-oil ratio for the MacDonnell -B- Lease, Well No. 1, was 20,000 standard cubic feet per barrel, while the Frost Field average is only 3,000 standard cubic feet per barrel.

Valence previously had oil and gas leases on much of the acreage now under lease to SRE and included in the proposed unit. Valence elected to plug and abandon its wells on those leases. Since its acquisition of the leases in 1998, SRE has studied and discussed with other operators in the field possible unitization and secondary recovery in order to optimize and maximize production from the field. Those discussions have included discussions with Valence, without Valence ever indicating any interest in participating in unitization and secondary recovery. SRE made its formal offer to participate in unitization and secondary recovery more than a year before the hearing. In that letter, SRE requested a response within 30 days or SRE would understand the recipient had no interest in participating. Valence never responded to SRE's offer.

Valence only started discussing its possible participation after receiving the notice of hearing in this matter. SRE opined that all discussions with Valence and the actions of Valence indicate its primary interest, and perhaps only interest, is maximizing dollars to Valence.

Protestant's Evidence

Valence owns and operates Tracts 2, 3 and 5 within the productive limits of the Frost (Smackover) Field. Valence asserts that when SRE offered it an opportunity to participate in the proposed Frost Waterflood Unit, SRE failed to include Tract 7 in the offer as required by law. Accordingly, Valence refused to accept any offer to include any of its other tracts in the unit because the productive portion of Tract 7 was to be excluded. The Unit Area, as presented by the applicant, contains 577.508 acres, with only 473.843 shown to be productive, when in fact the true productive limits of the field as presented by Valence contains a total of 1,236.21 productive acres. The Unit Operating Agreement is inconsistent with industry standards and provides for little input or approval from unit participants in governing the unit operations, giving almost total authority to the unit operator. Thus, it is inconsistent with what is intended to be cooperative development and production of the unit reserves.

The Commission determined the productive limits of the Frost (Smackover) Field more than forty years ago, and there has been no update since that time, even though additional wells have been drilled in the field. The only productive limits are reflected in a final order issued by the Commission in 1972 in Oil & Gas Docket No. 6-60,553. The Valence MacDonnell B Lease, Well No. 1, which Valence believes is clearly within the productive limits, was drilled in 1978 and completed in the Frost (Smackover) Field by Czar Resources in 1979. Neither the applicant nor any other operator in the field has ever objected to this well being assigned to the Frost (Smackover) Field. The MacDonnell B Lease, Well No. 1, was carried on the proration schedule, assigned an allowable and production was reported in the Frost (Smackover) Field from its date of first production without objection. Valence elected to honor this new data when presenting its productive limits map, while the applicant did not.

Protestant Valence presented testimony through a consulting petroleum engineer arguing that the MacDonnell -B- Lease, Well No. 1, is in the Frost (Smackover) Field. The engineer stated that Valence had not performed a geologic study of the field and had no map showing its interpretation of the productive limits. However, the engineer submitted a time versus cumulative oil production plot for the Frost (Smackover) Field, which included all of the wells that had ever produced from the field. Based on the plot, the field had produced 6.9 million barrels of oil as of October 1979. This production represented approximately 72 percent of the oil that's historically been produced from the field when the MacDonnell -B- No. 1 was completed into the field. The expert opined that it was not surprising for an edge well, that was drilled after 72% reservoir voidage, to not perform as well as the other wells in the field that were completed earlier. In addition, the first wells in the field weren't near the edge and had not experienced any water encroachment from the aquifer, which would have caused the oil column to move up-dip and away from them.

The engineer also submitted a bottomhole pressure versus time plot for wells in the Frost (Smackover) Field that had bottomhole pressure data on file at the Commission. The initial field bottomhole pressure at discovery in 1965 was approximately 4,500 psi. When the MacDonnell -B- Lease, Well No. 1, was completed in 1979, it had an initial bottomhole pressure of approximately 3,500 psi, while the average field bottomhole pressure had declined down to approximately 2,000 psi. The engineer believed that the MacDonnell -B- Lease, Well No. 1, was in pressure communication with the other wells and had experienced some pressure depletion. The existing wells had lower bottomhole pressures because they were in the vicinity of the high rates of reservoir voidage as a result of the production from the field. The plot also showed that, beginning in 1990, the current bottomhole pressures began to increase, which indicates that the aquifer is now supplying more volume to the reservoir than the current level of production is removing.

Valence argues that the depositional environment of the Frost (Smackover) Field is consistent with a common source of supply as exhibited on the cross section and productive limits map presented by Valence. The depositional environment also explains why the MacDonnell B Lease, Well No. 1, is well within the productive limits of the field, and can easily be contoured in the field. It is logical and geologically prudent to contour the MacDonnell B Lease, Well No. 1, within the productive limits of the field based on log data. It is even more logical, however, when all of the other hard data confirms the well is within the productive limits. Those data include production and pressure data. In addition, there is nothing between the MacDonnell B Lease, Well No. 1, and the nearest well in the field that would indicate any type of barrier exists between the two wells, separating and placing the MacDonnell B Lease, Well No. 1, beyond the productive limits of the Frost (Smackover) Field as contended by the applicant.

Valence previously had oil and gas leases on much of the acreage now under lease to SRE that are included in the proposed unit. Valence elected to plug and abandon some of its wells on those leases. Since its acquisition of the leases in 1998, SRE has studied and discussed with other operators in the field possible unitization and secondary recovery in order to optimize and maximize production from the field. Those discussions have included discussions with Valence, but those discussions have proven to be unsuccessful in having Valence join the unit because SRE has refused to include all of the acreage from the Valence tracts that Valence believes to be productive.

EXAMINERS' OPINION

The only real issue in dispute between the applicant and protestant is where the productive limits of the Frost (Smackover) Field are located. Applicant used the productive limits determined by the Commission in 1972. Applicant's evidence confirms nothing has occurred since 1972 that requires revision of those productive limits. Protestant argued that drilling and completion of the MacDonnell -B- Lease, Well No. 1, extended the productive limits to the northeast and outside of the Tract 7 boundary. The examiners believe that the applicant used the correct productive limits of the Frost (Smackover) Field and made the offer of participation required by statute.

The evidence presented by applicant included not only the Commission's 1972 order and map identifying the productive limits of the field, but also evidence confirming that the determination made by the Commission in 1972, was and is, correct. Applicant also presented more than sufficient evidence to refute protestant's argument that the MacDonnell -B- Lease, Well No. 1, is within the productive limits of the Frost (Smackover) Field. Valence presented no geologic study. Its own witness testified Valence has not done a geologic study. Valence presented no map showing its own interpretation of the productive limits. The only map of the field Valence has ever presented to the Commission shows the MacDonnell -B- Lease, Well No. 1, northeast of tract 7 and outside the productive limits of the field. There is little evidentiary support for protestant's argument and, what evidence there is, lacks credibility.

Applicant's evidence relating to the MacDonnell -B- Lease, Well No. 1, and productive limits includes; 1) the gas-oil ratio for the MacDonnell -B- Lease, Well No. 1, was 20,000 standard cubic feet per barrel, while the Frost Field average is only 3,000 standard cubic feet per barrel; 2) the dipmeter data presented confirms the MacDonnell -B- Lease, Well No. 1, is in a separate Smackover structure from the Frost (Smackover) Field. There is a saddle between the field and the MacDonnell -B- Lease, Well No. 1, and, although there may be a common aquifer, the MacDonnell -B- Lease, Well No. 1, and wells in the Frost (Smackover) Field do not produce from a common oil column; 3) bottomhole pressures in the MacDonnell -B- Lease, Well No. 1, were considerably higher than bottomhole pressures in the Frost (Smackover) Field, with the differential being more than 1,650 psi between the MacDonnell -B- Lease, Well No. 1, and the nearest well in the field. By comparison, all the other of the wells in the field had very good pressure conformance, with a maximum difference of 500 psi between wells within the productive limits; 4) when the MacDonnell -B- Lease, Well No. 1, well was drilled and completed, a well within the productive limits of the Frost (Smackover) Field at a structural elevation lower than the MacDonnell -B- Lease, Well No. 1, was producing in excess of 120 barrels of oil per day. The MacDonnell -B- Lease, Well No. 1, averaged, at best, less than 4 barrels of oil per day. At the same time, the seven wells then producing from the Frost (Smackover) Field were producing more than 600 barrels of oil per day or approximately 85 barrels of oil per day per well.

Valence submitted a map prepared by SRE that shows the MacDonnell -B- Lease, Well No. 1, in the Frost (Smackover) Field. SRE's expert testified that map was prepared during negotiations with Valence to see if it was possible to map the MacDonnell -B- Lease, Well No. 1, within the field limits. He further testified, however, that although it is possible structurally to contour a map showing the well in the field, such mapping would be inconsistent with all of the other hard data for the field and therefore wrong. Shell, Barnhart and even Valence continued to map the MacDonnell -B- Lease, Well No. 1, outside the productive limits long after the well was completed.

The evidence presented by the protestant, Valence, is simply not credible and conflicts with the evidence Valence itself presented at a Commission hearing in 1986.¹ There is no credible evidence that acreage outside the productive limits previously determined by the Commission and used by the applicant is productive in the Frost (Smackover) Field. There is no credible evidence that the MacDonnell -B- Lease, Well No. 1, or the acreage from which it produced, ever contributed to production from the field or that it would contribute in any way to the production of additional oil and gas from the field when secondary recovery operations are initiated.

Valence once owned and operated much of the acreage now under lease to SRE and included in the proposed unit. Valence could have initiated efforts to unitize the Frost (Smackover) Field at that time, but it did not. Valence instead chose to plug its wells and to allow its leases to terminate. Valence could have joined the unit proposed by SRE, but it did not. If Valence is not satisfied with what SRE has proposed, Valence is still free to initiate unitization and secondary recovery operations on its own acreage. Valence is not required to participate in the unit proposed by SRE. The actions and inactions of Valence do not justify delaying approval of SRE's application. SRE's proposal complies with applicable statutory and regulatory requirements and will result in the recovery of significant volumes of additional oil and gas from the Frost (Smackover) Field.

The examiners recommend approval of the authority for unitization of the proposed Frost Waterflood Unit and secondary recovery operations on the Unit, as requested by SRE.

FINDINGS OF FACT

1. Notice of this hearing was sent to all operators and royalty interest owners within and adjacent to the proposed unit. Notice was published in the *Atlanta Citizens Journal*, a newspaper of general circulation in Cass County, once a week for four consecutive weeks beginning on April 14, 2013.
2. The proposed Frost Waterflood Unit consists of ten tracts containing a total of 577.508 acres ("Unit Area").
3. The unitized formation is the subsurface portion of the Unit Area commonly known as the Smackover formation and is located between the subsurface depths of 9,660 feet and 9,910 feet as shown on the log of the Valence Operating Company (previously operated by Amerada Petroleum

¹ See Oil & Gas Docket No. 101,357: The Application of Valence Petroleum Company, Inc. For an Exception to Statewide Rule 37 for the MacDonnell Company of Lima, Inc., Unit Lease, Well No. 1, Frost (Smackover) Field, Cass County, Texas

Corporation) - A. E. Frost Unit, Well No. 1 (API No. 42-067-00097), D Jones Survey, A-570, Cass County, Texas.

4. The unitized formation within the Unit Area is a single reservoir for Commission purposes and is a suitable reservoir for a water-injection secondary recovery project.
5. At the time of the hearing, 100% of the working interest ownership and more than 75% of the royalty interest ownership had signed the unit agreement.
6. Secondary recovery operations are expected to result in the recovery of an additional 477 MBO and 277 MMCFG, which would otherwise go unrecovered.
7. The total cost to unitize and implement the secondary recovery project is expected to be \$12.5 million. The projected return on investment is estimated to be 2.3 to 1. The total cost does not exceed the value of additional reserves to be recovered.
8. The participation formula for each tract is based 100% on net acre feet of reservoir pay.
9. The secondary recovery project will not be successful unless the area is unitized.
10. Sulphur River Exploration, Inc. ("SRE") operates two of four producing wells in the field. SRE proposes to implement a waterflood by drilling two injection wells with one on the east side and one on the west side of the proposed Unit Area. Additional production and injection wells may drilled on the unit, depending on the success of the initial project.
11. The Unit Agreement and Unit Operating Agreement were 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.
12. 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.

13. 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.
14. The unitization agreement is necessary to accomplish the purposes of establishing a unit to effect secondary recovery operations for water injection and operating cooperative facilities necessary thereto. Other available or existing methods or facilities for secondary recovery operations are inadequate for the purpose of secondary recovery.
15. 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.
16. The unit agreement is subject to all valid orders, rules and regulations of the Railroad Commission.
17. 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.
18. The unit agreement is a voluntary agreement entered into for the purpose of conducting secondary recovery operations.
19. The unit agreement does not provide for the location of wells.
20. There are no state owned lands in the proposed unit.
21. The unit agreement is in the interest of public welfare as being reasonably necessary to prevent waste and to promote conservation.
22. 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.
23. The unit agreement contains only the acreage reasonably necessary to accomplish the proposed secondary recovery project.
24. Monthly well tests will be conducted to allocate production to wells on tracts for which 100% sign-up was not achieved.

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. §§101.001-052.
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.

EXAMINERS' RECOMMENDATION

Based on the above findings of fact and conclusions of law, the examiners recommend that the Commission approve the proposed Frost Waterflood Unit and secondary recovery operations on the unit, as set out in the attached final order.

Respectfully submitted,



Richard D. Atkins, P.E.
Technical Examiner



Michael Crnich
Legal Examiner