

**THE APPLICATION OF FRESH WIND RESOURCES TO CONSIDER UNITIZATION AND SECONDARY RECOVERY AUTHORITY FOR THE SOUTHERN GATE CADDO UNIT IN THE KNIGHT (CADDO) AND O-P-L (CADDO) FIELDS, YOUNG COUNTY, TEXAS**

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**HEARD BY:** Andres J. Trevino P.E., Technical Examiner  
James Doherty, Hearings Examiner

**DATE OF HEARING:** June 20, 2007

**APPEARANCES:**

Richard P. Marshall  
Bruce Robertson  
Larry Danbridge  
Jeff Ritchie  
Ross Raye

**REPRESENTING:**

Fresh Wind Resources

**EXAMINERS' REPORT AND RECOMMENDATION**

**STATEMENT OF THE CASE**

Fresh Wind Resources requests Commission authority for unitization of the Southern Gate Caddo Unit and approval of secondary recovery operations on the Unit in the Knight (Caddo) and O-P-L (Caddo) Fields.

This application was unopposed and the examiners recommend approval.

**DISCUSSION OF THE EVIDENCE**

The Knight (Caddo) Field was discovered in 1938 at an approximate depth of 3,800 feet. From 1938 to 1942, 21 wells were drilled in the field. From 1969 to the present three more wells were drilled in the Knight (Caddo) Field. The O-P-L (Caddo) Field was discovered in 1951 at an approximate depth of 3,838 feet. From 1951 to 1958, eight wells were drilled in the field. From 1969 to the present two more wells were drilled in the O-P-L (Caddo) Field. It is believed the two fields are connected based on cross-sections presented at the hearing.

There was a very limited waterflood initiated in 1969 by Cequin Corporation. The waterflood project consisted of one injection well and one producing well 5,000 feet away. No production increases or response was seen by Cequin and in 1976 the unit was sold to Riddle Oil Company. The low volume of water injected (96 BWPD) coupled with the large distance to the lone producing well are reason believed for the waterflood failure.

The area proposed for the subject unitization covers acreage that includes the majority of the productive reservoir. The reservoir limits are well defined and are believed to include both drained and undrained areas. Leaseholders of productive areas not in the unit were offered to participate in the unit. The area is in the late stage of primary production. Cumulative primary production from the thirty-five wells is 1,002,746 BO, or 9.5% of original oil in place. Remaining primary production from wells on the unit is estimated to be 26,479 BO.

The unitized formation is the subsurface portion of the Unit Area commonly known as the Knight (Caddo) and O-P-L (Caddo) Fields. The formation is described as the geologic stratigraphic equivalent of the limestone formation encountered in the interval from 3,718 feet to 3,934 feet on the Roye Operating Co. Stoffers No. 1, (API No. 42-503-38876) located in the G.W. Parker Survey, A-1513, Young County, Texas.

The unitized interval includes combining two separate fields which are producing from the same Caddo Lime formation. Fresh Wind Resources plans to address the consolidating of the two fields at a later date through a Commission hearing. Average porosity is 9.3% and average water saturation is 24.1%. The initial reservoir pressure was 1,500 psi and current pressure beneath the unit area is less than 100 psi. Fresh Wind Resources plans to waterflood the Project Area in stages. A Pilot Program being implemented initially will utilize three producing wells, six injection wells and one water supply well. The Full Scale Program will consist of 22 producing wells, 31 injection wells and 2 water plants with two Strawn water supply wells to supply salt water for the waterflood project. A total of 17 new producing wells and 22 new injection wells will be drilled. The remainder of the Project Area wells will be either recompleted existing wells or re-entered existing plugged wells.

The proposed Southern Gate Caddo Unit consists of 15 tracts which contain a total of 2,685 acres. There are 24,897 acre-feet of Caddo Lime in the proposed unit area. The participation formula is based on 100% acre-feet. The Unit Agreement has been ratified by over 90% of the royalty interest ownership and 100% of the working interest ownership. There are state lands in the Project Area, testimony was given that the General Land Office has indicated it would participate in the unit.

It is estimated that the total cost to implement the project will be \$14,058,000. Secondary reserves are estimated to be 2,307,930 BO. Estimated revenue from the secondary recovery project is \$119.7 million.

### **FINDINGS OF FACT**

1. Notice of this hearing was sent to all operators and royalty interest owners within the proposed unit and to offset operators and mineral owners of

unleased tracts. Notice was also published in *The Graham Leader*, a newspaper of general circulation in Young County, for four consecutive weeks beginning May 20, 2007. There were no protests to the application.

2. The proposed unit consists of 15 tracts which contain a total of 2,684.51 acres.
3. The unitized formation is the subsurface portion of the Unit Area commonly known as the Knight (Caddo) and O-P-L (Caddo) reservoir. The formation is described as the geologic stratigraphic equivalent of the limestone formation encountered in the interval from 3,718 feet to 3,934 feet on the Roye Operating Co. Stoffers No. 1, (API No. 42-503-38876) located in the G.W. Parker Survey, A-1513, Young County, Texas.
4. Secondary recovery operations will result in the recovery of an estimated 2,307,930 BO which would otherwise go unrecovered.
5. The cost to implement the project does not exceed the value of additional reserves to be recovered.
6. The participation formula is based on 100% acre feet.
7. The secondary recovery project will not be successful unless the area is unitized.
8. The secondary recovery program will use salt water from two Strawn water supply wells.
9. 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.
10. 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.
11. 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.

12. The unitization agreement is necessary to accomplish the purposes of establishing a unit to effect secondary recovery operations and to operate the necessary cooperative facilities. Other available or existing methods or facilities for secondary recovery operations are inadequate for the purpose of secondary recovery.
13. 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.
14. The unit agreement is subject to all valid orders, rules and regulations of the Railroad Commission.
15. 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.
16. The unit agreement is a voluntary agreement entered into for the purpose of conducting secondary recovery operations.
17. The unit agreement does not provide for the location of wells.
18. There are State lands in the unit.
19. The reservoir described in the unit agreement is a suitable reservoir for the proposed secondary recovery operation.
20. The unit agreement contains only the acreage reasonably necessary to accomplish the proposed secondary recovery project.
21. The unit agreement has been ratified by 100% of the working interest ownership and over 90% of the royalty interest ownership.
22. On tracts where 100% sign-up is not attained, applicant will conduct monthly well tests to account for production from that tract.

**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. (Vernon 1993).
4. Approval of the proposed unit agreement and 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 Southern Gate Caddo Unit and secondary recovery operations project as set out in the attached order.

Respectfully submitted,

Andres J. Trevino  
Technical Examiner

James Doherty  
Hearings Examiner