

OIL & GAS DOCKET NO. 06-0249293

**THE APPLICATION OF PETROHAWK OPERATING COMPANY TO CONSIDER
UNITIZATION AND SECONDARY RECOVERY AUTHORITY FOR THE SOUTH
TYLER PALUXY UNIT, TYLER FIELD, SMITH COUNTY, TEXAS**

HEARD BY: Donna K. Chandler, Technical Examiner
James M. Doherty, Hearings Examiner

DATE OF HEARING: November 17, 2006

APPEARANCES:

Richard Marshall
David Gibson
Jim Andress
Dale Nabors

David Gross

REPRESENTING:

Petrohawk Operating Company

Valence Operating Company

EXAMINERS' REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Petrohawk Operating Company requests Commission authority for unitization of the South Tyler Paluxy Unit and approval of secondary recovery operations on the Unit. The application had originally referenced the proposed unitization in the Tyler, South (Paluxy) Field. However, the wells which are the subject of the hearing are actually carried on Commission records in the Tyler Field.

This application was unopposed and the examiners recommend approval. Valence Operating Company, appeared at the hearing as an interested party.

DISCUSSION OF THE EVIDENCE

The Tyler Field was discovered in 1948 and production is from the Paluxy at a depth of approximately 7,700 feet. Cumulative production from the nine wells which have produced from the leases in the proposed unit is 2 million BO and 419 MMCF of gas.

The proposed South Tyler Paluxy Unit consists of 24 tracts which contain 461.6 acres. There are currently 3 producing wells within the proposed unit area which produce a total of approximately 12-15 BOPD. Petrohawk operates two wells and Wilson Resources, Inc. operates the third well.

The unitized formation is the stratigraphic equivalent from a measured depth of 7,670 feet to 7,750 feet subsurface, as identified on the log of the Humble Oil and Refining Company, Tyler Oil Unit #2, Well No. 1. This well is located 3,500 feet from the most southerly south line and 3,700 feet from the west line of the Oliver Anderson Survey, Abstract A-20, Smith County.

The proposed unit includes the entire productive limits of the Tyler Field. The field limits are defined by a major fault to the east. The downdip limit is a tar seal at -7,141 feet, which is the lowest known oil. There are numerous dry holes downdip of -7,141 feet.

Average porosity of the reservoir is 22.2% and average permeability is over 300 md. Net pay thickness averages 17.6 feet. Current bottomhole pressure is about 300 psi.

Petrohawk plans to ultimately have one downdip injection well on the Unit and a maximum of four producing wells. The source water for the waterflood will initially be fresh water from the Carrizo-Wilcox. Petrohawk has purchased the water rights on 7.13 acres, which is estimated to contain 15.5 million barrels of fresh water. Fresh water is the preferred injection fluid because of its known compatibility with the Paluxy in other nearby waterfloods. As the waterflood progresses, more produced salt water will be used for injection. Petrohawk estimates that a maximum of 2.5 million barrels of fresh water will be used in the project. Petrohawk must obtain separate Commission approval for use of the fresh water. The total cost to implement and operate the secondary recovery project is approximately \$15 million. The cost does not exceed the value of additional reserves to be recovered, estimated to be \$78 million.

Remaining primary recovery from the leases within the unit boundaries is estimated to be 47,000 BO. Phase I of the secondary recovery project will end after the production of this 47,000 BO. During Phase I, participation will be based on primary reserves for each tract. Phase II begins after the production of 47,000 BO from the Unit. Tract participation in Phase II is based on 100% net acre-feet. Estimated secondary recovery from the unit is estimated to be 1.6 million BO over a 50 year projected life.

At the time of the hearing, approximately 92% of the working interest ownership and 78% of the royalty interest ownership had ratified the unit agreement. On tracts which do not have 100% sign-up, Petrohawk will maintain separate tank batteries in order to account for production from those tracts. There are no state lands in the Unit.

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 offsetting unleased tracts.
2. Notice of this application was published on October 19, 2006, in the *Tyler Morning Telegraph and Tyler Courier-Times Telegraph*, a newspaper of general circulation in Smith County, Texas. Pursuant to direction of the examiners, notice is also being published once a week for four additional consecutive weeks, providing that a protest to the application may be filed on or before December 27, 2006.
3. All parties have agreed in writing that this Final Order shall be effective on December 28, 2006, unless a protest to the application is filed in response to the additional publication of notice on or before December 27, 2006. The applicant has agreed that if such a timely protest is filed, this proceeding shall be reopened.
4. The proposed unit consists of 24 tracts which contain 461.4 acres.
5. The unitized formation is the stratigraphic equivalent from a measured depth of 7,670 feet to 7,750 feet subsurface, as identified on the log of the Humble Oil and Refining Company, Tyler Oil Unit #2, Well No. 1. This well is located 3,500 feet from the most southerly south line and 3,700 feet from the west line of the Oliver Anderson Survey, Abstract A-20, Smith County.
6. At the time of the hearing, approximately 92% of the working interest ownership and 78% of the royalty interest ownership had signed the unit agreement.
7. Cumulative recovery from the leases proposed for unitization is approximately 2 million BO. Secondary recovery operations will result in the recovery of an estimated 1.6 million BO which would otherwise go unrecovered.
8. Estimated cost to implement and operate the secondary recovery project is approximately \$15 million. The cost does not exceed the value of additional reserves to be recovered.
9. The participation formula for the Unit in Phase I is based on remaining primary reserves. Phase II begins after the recovery of the remaining 47,000 barrels of primary reserves. Phase II participation is based on 100% net acre feet.

10. The secondary recovery project will not be successful unless the area is unitized.
11. Initially, the injected water will be fresh water from the Carrizo-Wilcox. Increasing amount of produced salt water will be used as the project continues.
12. 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.
13. 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.
14. 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.
15. 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.
16. 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.
17. The unit agreement is subject to all valid orders, rules and regulations of the Railroad Commission.
18. 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.
19. The unit agreement is a voluntary agreement entered into for the purpose of conducting secondary recovery operations.
20. The unit agreement does not provide for the location of wells.

21. There are no state lands in the unit.
22. The unit agreement is in the interest of public welfare as being reasonably necessary to prevent waste and to promote conservation.
23. 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.
24. The unit agreement contains only the acreage reasonably necessary to accomplish the proposed secondary recovery project.
25. On tracts where 100% sign-up is not attained, applicant will maintain separate tank batteries 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.
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 South Tyler Paluxy Unit and secondary recovery operations project as set out in the attached order.

Respectfully submitted,

Donna K. Chandler
Technical Examiner

James M. Doherty
Hearings Examiner