THE APPLICATION OF KALOS CORPORATION TO CONSIDER UNITIZATION AND SECONDARY RECOVERY AUTHORITY FOR THE MOONROCK (RODESSA) FIELD UNIT, MOONROCK (RODESSA) FIELD, GREGG AND RUSK COUNTIES, TEXAS

HEARD BY: Donna K. Chandler, Technical Examiner Marshall F. Enquist, Hearings Examiner

DATE OF HEARING: May 5, 2006

APPEARANCES:

REPRESENTING:

Kalos Corporation

David Gross Larry Wright Ted Cooper

EXAMINERS' REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Kalos Corporation requests Commission authority for unitization of the Moonrock (Rodessa) Field Unit and approval of secondary recovery operations on the Unit.

This application was unprotested and the examiners recommend approval.

DISCUSSION OF THE EVIDENCE

The Moonrock (Rodessa) Field was discovered in 1984. Cumulative production from the eleven wells which have produced from the leases in the proposed unit is 503,000 BO and 1.877 BCF of gas.

The proposed Moonrock (Rodessa) Field Unit consists of 22 tracts which contain 950 acres. There are currently 9 producing wells within the proposed unit area which produce a total of approximately 300 BOPM. Kalos is the only operator in the field.

The unitized formation is the subsurface portion of the Unit Area commonly known as the Moonrock (Rodessa) Field which is described as that stratigraphic interval or its correlative equivalent between the log depths of 7,573 feet and 7,584 feet in the Kalos Corporation - Harrell Estate No. 1 well located 608 feet from the west line and 1,826 feet from the north line of the William H. Johnson Survey, A-118, Gregg County, Texas.

The proposed unit includes the entire Moonrock (Rodessa) Field. The field limits are well defined. Dry holes define the pinching out of the Rodessa to the north, east and south. To the west, the reservoir limit is defined by an oil-water contact at 7,180 feet subsea.

Remaining primary recovery from the leases within the unit boundaries is marginal, with primary recovery of 503,000 BO being approximately 15% of the original oil in place of 3.386 million BO. Estimated secondary recovery from the unit is estimated to be 411,000 BO, resulting in 27% recovery from both primary and secondary. It is expected that this secondary recovery project will have a life of 15 years.

Average porosity of the reservoir is 13% and average water saturation is 25%. Net pay ranges from 6 fee to 10 feet, with an average of 7.4 feet. Permeability averages 13 md. Original reservoir pressure was 3,500 psia and current pressure is 1,500 psia.

Kalos plans to ultimately have three injection wells on the Unit, two of which will be new drills. The third injection well will be a conversion of an existing producing well. The source water for the waterflood will be salt water produced from the Rodessa from a well downdip of the oil-water contact.. The total cost to implement and operate the secondary recovery project is \$1.43 million. The cost does not exceed the value of additional reserves to be recovered, estimated to be \$19 million.

The participation formula for the Unit is based on 75% net acre-feet and 25% useable wellbores. At the time of the hearing, 100% of the working interest ownership and 78.77% of the royalty interest ownership had signed the unit agreement. On tracts which do not have 100% sign-up, Kalos Corporation 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. Notice was published in the *Kilgore News Herald*, a newspaper of general circulation in Gregg and Rusk Counties, for four consecutive weeks beginning April 2, 2006.
- 2. The proposed unit consists of 22 tracts which contain 950 acres.

- 3. The unitized formation is the subsurface portion of the Unit Area commonly known as the Moonrock (Rodessa) Field which is described as that stratigraphic interval or its correlative equivalent between the log depths of 7,573 feet and 7,584 feet in the Kalos Corporation Harrell Estate No. 1 well located 608 feet from the west line and 1,826 feet from the north line of the William H. Johnson Survey, A-118, Gregg County, Texas.
- 4. At the time of the hearing, 100% of the working interest ownership and 78.77% of the royalty interest ownership had signed the unit agreement.
- 5. Cumulative recovery from the leases proposed for unitization is approximately 503,000 BO. Secondary recovery operations will result in the recovery of an estimated 411,000 BO which would otherwise go unrecovered.
- 6. Estimated cost to implement and operate the secondary recovery project is \$1.43 million. The cost does not exceed the value of additional reserves to be recovered.
- 7. The participation formula for the Unit is based on 75% net acre-feet and 25% useable wellbores.
- 8. The secondary recovery project will not be successful unless the area is unitized.
- 9. The injected water will be salt water from the Rodessa.
- 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.

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- 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. 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 <u>et seq</u>.
- 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 Moonrock (Rodessa) Field Unit and secondary recovery operations project as set out in the attached order.

Respectfully submitted,

Donna K. Chandler Technical Examiner

Marshall F. Enquist Hearings Examiner