



RAILROAD COMMISSION OF TEXAS

OFFICE OF GENERAL COUNSEL

December 28, 2000

OIL AND GAS DOCKET NO. 08-0226720

THE APPLICATION OF SYNERGY OIL AND GAS, INC. TO CONSIDER
UNITIZATION AND SECONDARY RECOVERY AUTHORITY FOR THE TUNSTILL
EAST UNIT, TUNSTILL, EAST (DELAWARE) FIELD, LOVING COUNTY, TEXAS

Heard by: Margaret Allen, Technical Examiner
Mark Helmueller, Hearings Examiner

Procedural History

Application filed: November 13, 2000
Hearing held: December 22, 2000

Appearances

W.D. (Bill) Griffin	Representing Synergy Oil and Gas, Inc.
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EXAMINERS' REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Synergy Oil and Gas, Inc. ("Synergy") is seeking Commission approval of its unitization agreement and of its plan for secondary recovery in the Tunstill East Unit, Tunstill, East (Delaware) Field, Loving County, Texas.

DISCUSSION OF THE EVIDENCE

The Tunstill, East (Delaware) Field was discovered in 1959, and has 26 producing wells, all operated by Synergy. Cumulative production is 2,869,00 barrels of oil and 7.3 BCF of gas. Current daily production from all of the wells on the twelve leases is 67 BO and 66 MCF, for a gas/oil ratio of 985 cubic feet per barrel.

All of the acreage thought to be economic in this reservoir is within the proposed 1640-acre unit. There are wells in the Tunstill, East (Delaware) Field just to the south of the unit but these wells have produced less than 10,000 BO and Synergy considers them uneconomic. There

is a plugged well just to the north of the proposed unit that was carried in the subject field, but the owner of that lease, the State of Texas, did not ask to have the lease included in the proposed unit.

The type log, from the Gulf Oil Corp. TXL-AV/NCT-A Well No. 2, shows the unitized interval to be between 3532 and 3714 feet, and extend from the top of the Lamar limestone through the Ramsey, Ford and Olds members of the Delaware Formation. Cross sections show the Delaware has lenticular but interconnected porosity across the proposed unit. The productive Delaware was probably deposited in a channel that extended from northwest to southeast, and that has since been cut-off. This stratigraphic reservoir dips from the northeast to southwest but there is no oil/water contact apparent along the southwestern edge of the field.

The reservoir has a depletion drive and the average permeability is 12.6 md. Porosity is 21%, water saturation is 36% and the pay thickness averages 15 feet. Original reservoir pressure was 1700 psi and current reservoir pressure is about 500 psi. Remaining primary production is estimated to be 165,000 barrels and the expected secondary recovery is an incremental 936,000 barrels of oil. Synergy based its estimate of secondary reserves on the results of the waterflood in the West Quito (Delaware) Unit. This nearby unit is only half as large as the proposed unit but has produced 823,000 barrels of secondary oil since it was approved in 1990.

In January of 1999, Synergy began a pilot waterflood on the proposed unit. The gas/oil ratio has decreased and oil production increased around the five injection wells. Fifteen additional injection wells will be drilled and five more injection wells will be converted from producing or disposal wells. There will be 26 producing wells.

The estimated net profit of \$6,653,000 from the secondary oil will exceed the \$3,615,000 capital cost of the project. The participation formula during Phase 1 is based on current production, defined as production between January of 1999 and May of 2000. During Phase 2, which begins January 1, 2002, participation will be based 50% on net acre-feet and 50% on cumulative primary production. All of the working interest and 80% of the royalty interest (as defined in Phase 2) in the 18 tracts have signed the unit agreement. Two royalty interest owners have not yet joined the unit but Synergy is hopeful that they will. The production from each tract with unsigned interest will be kept in a separate tank battery.

The interests of all owners in the field, whether or not they sign the unit agreement, will be protected. The State of Texas owns royalty interest in two of the tracts and has agreed to join the unit. It is necessary to unitize the acreage in order to conduct an effective waterflood. The persons entering into the unit own interests in the unit and the unit agreement is voluntarily entered into to establish pooled units for a secondary recovery operation. The unit agreement does not bind any interest owner who does not execute it. No one was compelled to enter into the unit agreement.

The unit agreement is subject to all valid rules, orders and regulations of the Railroad Commission. The agreement does not provide for the location of wells nor does the agreement relieve Synergy from its obligation to develop reasonably the leases in the unit. The agreement

does not anticipate the use of dry gas in the reservoir, nor does the unit agreement limit the amount of production from the unit properties. The unit agreement does not provide for cooperative refining or marketing of crude petroleum or its by-products. The agreement does not restrict any of the rights which persons now have to pool or unitize. The unit agreement does not attempt to set different field rules, and the operator has made a separate application to adopt rules for the field as a whole.

FINDINGS OF FACT

1. Notice of these hearings was issued to all interest owners within the unit and to offset operators on November 21, 2000.
2. Notice of this unitization hearing was published in the Pecos Enterprise, a newspaper of general circulation in Loving County, on November 20 and 27, and December 4 and 11, 2000.
3. The proposed unit includes eighteen tracts, covers 1640 acres, and is sufficiently large to operate an efficient secondary recovery project
4. The unit includes all of the economic wells and leases in the Tunstill, East (Delaware) Field.
5. Only acreage that can reasonably be considered productive and that has been reasonably defined by development is included within the unit.
6. A pilot waterflood project has decreased the gas/oil ratio and increased oil production in the wells surrounding the five injection wells.
7. The Quito, West (Delaware) Field is along the same trend as the proposed Tunstill East Unit, and it has been waterflooded successfully.
8. There will be twenty-five injection wells: five in the pilot project, fifteen new wells to be drilled, and three to be converted from producing or disposal wells.
9. There will eventually be 26 producing wells.
10. The Delaware reservoir has lenticular but interconnected pay in the proposed unit, and has a depletion drive.
11. Cumulative production from the wells in the proposed unit is 2,869,000 BO, the estimated remaining primary production is 165,000 BO, and the estimated secondary recovery is 936,000 BO.
12. The State of Texas owns royalty interest in two of the tracts and has agreed to join the unit.

13. The waterflood project will not be successful unless the area is unitized; waterflood operations will sweep hydrocarbons across lease lines.
14. The proposed injection project is expected to produce a reasonable profit: the value of the anticipated additional recovery from the reservoir by means of the secondary recovery program will more than offset the cost of the proposed secondary recovery operation.
15. The rights of the owners of all interests in the field whether or not they join the unit will be protected under the operation of this unit.
16. The owners of interest in the oil and gas under each tract of land within the area reasonably defined by development and capable of inclusion in a contiguous unit have been given an opportunity to enter the unit on the same yardstick basis as the owners of interest in the oil and gas under the other tracts in the unit.
17. To date, 100% of the working interest ownership and 80% of the royalty interest ownership (Phase 2) have signed or ratified the unit agreement.
18. Such agreement does not bind any interest owner who does not execute the agreement.
19. No one was compelled to enter into the unit agreement; the owners of interests not desiring to enter the unit on the yardstick basis may continue to participate in production from the field on an independent basis governed by Commission rules and by the provision of the individual lease contract.
20. The persons entering into the unit own or control production, leases, royalty or other interest in the Tunstill, East (Delaware) Field.
21. The unit agreement is subject to all valid rules, orders and regulations of the Railroad Commission.
22. The unit agreement does not attempt to contain the field rules for the area or field.
23. The unit agreement does not limit the amount of production.
24. The unit agreement does not provide for cooperative refining or marketing of crude petroleum or its by-products.
25. The agreement was voluntarily entered into to establish pooled units to conduct secondary recovery operations.
26. The unit agreement does not restrict the rights which persons now have to make and enter into unitization and pooling agreements.

27. Such agreement does not provide for the location of wells.
28. The unit agreement does not relieve Synergy Oil and Gas, Inc. from its obligation to develop reasonably its leases committed to the unit.
29. There are no other existing alternate methods or facilities available that are adequate for the purpose of secondary recovery; the unitization agreement is necessary to accomplish the purposes set forth in Section 101.011 of the Texas Natural Resources Code, specifically the establishment of pooled units necessary to effect secondary recovery operations for oil or gas.
30. The unit agreement is in the interest of public welfare as reasonably necessary to prevent waste and promote conservation.
31. The injection fluid will be brackish water from the Pecos Alluvium.
32. Production from any tract with unsigned interests will be kept in separate tank batteries and reported separately to the Commission.

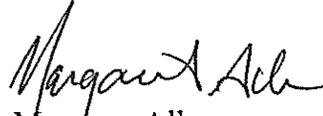
CONCLUSIONS OF LAW

1. Proper notice of this application and hearing was provided in accordance with all applicable regulatory statutes and rules.
2. All things have occurred or have been accomplished to afford the Commission the opportunity to consider and decide this matter.
3. Consideration of a secondary recovery program that will prevent the waste of otherwise recoverable hydrocarbon resources is a matter properly within the statutory jurisdiction of the Commission.
4. Approval of the proposed secondary waterflood injection program will foster conservation and prevent waste by providing for the recovery of hydrocarbons that would not otherwise be recovered.
5. The application complies with Chapter 101 of the Texas Natural Resources Code.
6. Because waterflood operations will sweep hydrocarbons across lease lines, a unit agreement is necessary to protect the correlative rights of working interest owners and royalty interest owners.

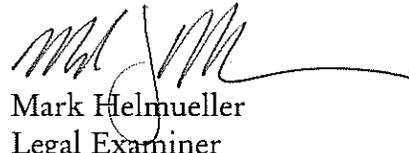
EXAMINERS' RECOMMENDATION

Based on the above findings of fact and conclusions of law, the examiners recommend the approval of the requested unitization and secondary recovery project in the Tunstill East Unit, Tunstill, East (Delaware) Field.

Respectfully submitted,



Margaret Allen
Technical Hearings Examiner



Mark Helmueller
Legal Examiner

Date of Commission action: January 9, 2001