



RAILROAD COMMISSION OF TEXAS

OFFICE OF GENERAL COUNSEL

OIL AND GAS DOCKET NO. 08-0246430

THE APPLICATION OF WHITING OIL AND GAS CORPORATION TO CONSIDER UNITIZATION, AND SECONDARY RECOVERY AUTHORITY FOR THE WOULD HAVE EAST SIDE UNIT, WOULD HAVE (CLEARFORK) FIELD, HOWARD COUNTY, TEXAS

Heard by: Margaret Allen, Technical Examiner

Procedural History

Application filed: February 23, 2006

Hearing held: April 27, 2006

Appearances

Michael McElroy
John H. Benton
Mark D. Sonnenfeld
Chris Potter

Representing
Whiting Oil and Gas Corporation

EXAMINERS' REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Whiting Oil and Gas Corporation ("Whiting") is seeking Commission approval of its unitization agreement and of its plan for secondary recovery in the Would Have East Side Unit, Would Have (Clearfork) Field, Smith County, Texas.

DISCUSSION OF THE EVIDENCE

The Would Have (Clearfork) Field was discovered in September, 2001, and has 14 leases owned by three operators. The proposed unit comprises all 997 acres within the producing leases to the east of the Guitar Lease. Whiting has been waterflooding the Guitar Lease for some time and it is therefore not included with the proposed unit.

The reservoir produces from a skeletal carbonate, debris flow that was deposited in the deep Midland Basin after flowing down from the existing Clear Fork shelf. The limestone debris flow pinches out updip, and the reservoir is a stratigraphic accumulation of cleaner grainstones with vuggy porosity. The 'pay prone' section is at the base of the Would Have limestone which otherwise

comprises dense, black, non-porous limestone. The unitized interval also includes some erratic limestone pay intervals in the overlying Dillard limestone. Whiting has not been able to predict the producing Dillard lenses but will attempt to waterflood them along with the Would Have pay.

The original reservoir pressure was about 2000 psi, and is now less than 1000 psi. The unitized interval will be from 5458' to 5597' below the surface. There are eight tracts within the proposed unit and 23 currently producing wells. Three wells will be converted to injection and one injection well will be drilled to create a peripheral waterflood.

This field is unique among Clear Fork reservoirs as it has as much as 40 md of permeability. The best model for estimating secondary reserves from this unit is the successful waterflood on the Guitar Lease in the same field. Estimated primary production from the proposed Would Have East Side Unit will be 1,400,000 BO, and the applicant hopes secondary operations will increase production by another 2,000,000 BO. The estimated gross revenue of \$142,000,000 from the secondary oil will exceed the \$1,500,000 capital cost of the project.

Phase 1 tract participation is based on remaining primary reserves. Phase 2, which will begin after cumulative production equals estimated primary reserves, is based 90% on estimated ultimate recovery from a tract and 10% on hydrocarbon pore volume. As of the hearing date, 95% of the royalty interest had signed the unit agreement, as had 100% of the working interest. Whiting will continue to seek sign up of interest owners. The last well on any tract with unsigned interest owners will not be converted to an injection well and the wells on each such tract be tested frequently to account for production from these leases on an individual basis.

The interests of all owners in the field, whether or not they sign the unit agreement, will be protected. The State of Texas owns no royalty interest in any of the tracts. 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 Whiting from its obligation to develop reasonably the leases in the unit. The unit agreement does not 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, nor does it attempt to set field rules. The injection fluid will be produced water from other leases Whiting operates.

FINDINGS OF FACT

1. Notice of the unitization hearing was issued to all interest owners in the proposed Would Have East Side Unit, both signed and unsigned, and to all offset operators on March 15 or 31, 2006.
2. Notice of the unitization hearing was published in the *Big Spring Herald*, a newspaper of general circulation in Howard County, on March 17, 24, 31 and April 7, 2006.

3. The proposed unit includes 8 tracts and covers 997 acres.
4. The reservoir rock is a carbonate debris flow that entered the deep Midland Basin from the Clear Fork shelf, and the trap is bounded by stratigraphic pinchouts.
5. Only acreage that can reasonably be considered productive and all that has been reasonably defined by development is included within the unit.
6. There will be twenty producing wells and four injection wells in a peripheral pattern.
7. The injection fluid will be produced water from other Whiting leases.
8. The unit is sufficiently large to operate an efficient secondary recovery project.
9. The unit area contains only that acreage reasonably necessary for a waterflood project.
10. The oil reservoir in the Would Have (Clearfork) Field has a solution gas drive, making this Clear Fork reservoir a good candidate for secondary recovery.
11. Estimated primary production from the tracts in the proposed unit will be 1,400,000 BO.
12. The anticipated secondary recovery is 2,000,000 BO.
13. The State of Texas owns no royalty interest in any of the tracts.
14. The waterflood project will not be successful unless the area is unitized; waterflood operations will sweep hydrocarbons across lease lines.
15. 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.
16. 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.
17. 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.
18. To date 100% of the working interest ownership and 95% of the royalty interest ownership have signed or ratified the unit agreement.
19. Such agreement does not bind any interest owner who does not execute the agreement.

20. 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.
21. The persons entering into the unit own or control production, leases, royalty or other interest in the Would Have (Clearfork) Field.
22. The unit agreement is subject to all valid rules, orders and regulations of the Railroad Commission.
23. The unit agreement does not attempt to contain the field rules for the area or field.
24. The unit agreement does not limit the amount of production.
25. The unit agreement does not provide for cooperative refining or marketing of crude petroleum or its by-products.
26. The agreement was voluntarily entered into to establish pooled units to conduct secondary recovery operations.
27. The unit agreement does not restrict the rights which persons now have to make and enter into unitization and pooling agreements.
28. Such agreement does not provide for the location of wells.
29. The unit agreement does not relieve Whiting Oil and Gas Corporation from its obligation to develop reasonably its leases committed to the unit.
30. 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.
31. The unit agreement is in the interest of public welfare as reasonably necessary to prevent waste and promote conservation.
32. Production from wells on any tract with unsigned interest will be tested frequently and reported separately.

CONCLUSIONS OF LAW

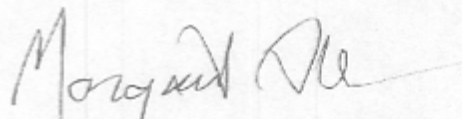
1. Proper notice of this application and hearing was provided in accordance with all applicable regulatory statutes and rules.
2. All things have occurred or have been accomplished to afford the Commission the opportunity to consider and decide this matter.

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 examiner recommends the approval of the requested unitization and proposed secondary recovery project in the Would Have East Side Unit, Would Have (Clearfork) Field.

Respectfully submitted,



Margaret Allen
Technical Hearings Examiner