

December 13, 1999

**OIL AND GAS DOCKET NO. 08-0223121**

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**THE APPLICATION OF ABARTA OIL & GAS COMPANY, INC. TO CONSIDER UNITIZATION, AND SECONDARY RECOVERY AUTHORITY FOR THE BLOCK A-34 UNIT, BLOCK A-34, NORTHWEST (GLORIETA) FIELD, ANDREWS COUNTY, TEXAS**

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**Heard by:** Margaret Allen, Technical Examiner  
Mark Tittel, Hearings Examiner

**Procedural History**

Application filed: October 29, 1999  
Hearing held: December 13, 1999

**Appearances**

	Representing
George Friesen	Abarta Oil & Gas Co., Inc.
Ken E. Moore	

**EXAMINERS' REPORT AND RECOMMENDATION**

**STATEMENT OF THE CASE**

Abarta Oil & Gas Co. ("Abarta") is seeking Commission approval of its unitization agreement and of its plan for secondary recovery in the Block A-34 Unit, Block A-34, Northwest (Glorieta) Field, Ward County, Texas.

**DISCUSSION OF THE EVIDENCE**

The Block A-34, Northwest (Glorieta) Field was discovered in 1955, along the northeastern side of the Central Basin Platform. In 1966, D.W. St.Clair began disposing of produced saltwater into the Glorieta. Between 1972 and 1984, all but three of the original ten wells were plugged and abandoned. In 1994, the field was reactivated and new production and injection wells were drilled by Meridian Exploration Corp. Abarta was the majority owner at that time and took over operations in 1998.

The type log, the Abarta (originally Meridian Exploration Corp.) Augusta Jordan Well No. 2 shows the interval between 5910 and 6065 feet as the unitized Glorieta section. The Glorieta has upper and lower porous sections, divided by 10 to 15 feet of shale. The average permeability in the upper section is 2.5 md and in the lower section is 82 md. The original oil/water contact was at -

2756 feet, but the contact has moved to -2710 feet, about the top of the lower Glorieta. Abarta believes that the lower Glorieta interval has been swept as the field has a partial waterdrive. Abarta is hoping that it can waterflood the upper Glorieta separately from the lower Glorieta. At present, any water injected moves only through the high permeability streaks in the lower Glorieta. Although some make-up water is used in the existing injection wells, total injection volume is less than fluid withdrawal. Abarta believes it has been generally recycling water, and that none of the oil wells have shown response to the ongoing waterflood.

The proposed unit comprises the entire field and covers 843 acres. The Glorieta produces from a small four-way closure that is truncated to the north, east and west by a permeability pinchout. The location of the pinchout can be determined by the dry holes that encircle the Block A-34 Unit. The participation formula for the eleven tracts in the unit will be determined from the net pay isopach map. The field now has six producing and seven injection wells. At present, six of the eleven tracts have no production and will not share in the benefits of the waterflood unless the field is unitized.

Total primary production from the unit area has been 1,164,000 BO but field production is no longer economic. Without expanded secondary operations Abarta will abandon the field. Secondary recovery has the potential to recover an additional 383,000 BO from the upper Glorieta and will increase the recoverable reserves from the unit as a whole to 24% of the original recoverable oil in place. The estimated net revenue of \$1,343,000 from the secondary oil will exceed the \$240,000 capital cost of the project. During Phase I, one injection well will be converted to production and the lower Glorieta will be plugged in two more injection wells. If operations are successful at sealing off the lower Glorieta during Phase 1, then the lower Glorieta will be plugged off in two more injection wells. One other injection well will be converted to production.

There are 300 interest owners in the unit, and 92% of the royalty interest and 92% on the working interest have signed the unit agreement. The applicant expects more interest owners to join the unit for an estimated participation of 96% of the working interest and 98% of the royalty interest. If there remains any unsigned interest in a tract, Abarta will test production from that tract monthly.

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 Abarta 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 persons entitled to notice on November 4 or 12, 1999.
2. Notice of the unitization hearing was published in the Andrews County News, a newspaper of general circulation in Andrews County, on November 7, 14, 21, and 28, 1999.
3. The proposed unit includes eleven tracts, covering 843 acres.
4. The unit is bounded to the south by an oil/water contact, and by a porosity pinchout on the other three sides.
5. The proposed Block A-34 Unit covers all of the productive acreage in the Block A-34, Northwest (Glorieta) Field.
6. Only acreage that can reasonably be considered productive and that has been reasonably defined by development is included within the unit.
7. The unit is sufficiently large to operate an efficient secondary recovery project.
8. The unit area contains only that acreage reasonably necessary for a waterflood project.
9. There are now six producing wells and seven injection wells, and after Phase II there will be eight producing wells and five injection wells.
10. The oil reservoir in the Block A-34, Northwest (Glorieta) Field has a partial water drive in the lower Glorieta but secondary oil remains in the upper Glorieta.
11. Cumulative production from the field has been 1,164,000 BO and the expected secondary recovery is 383,000 BO.
12. The State of Texas owns no royalty interest in any of the tracts.
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, 92% of the working interest ownership and 92% of the royalty interest ownership 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 Block A-34, Northwest (Glorieta) 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 Abarta Oil & Gas Company, 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 Santa Rosa Formation.
32. Production from any tract with unsigned interests will be tested monthly.

### 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.

Respectfully submitted,

Margaret Allen  
Technical Hearings Examiner

Mark Tittel  
Legal Examiner

Date of Commission action: January 25, 2000

Exhibits

1. Location map
2. Plat of the unit
3. Type log
4. Field chronology
5. Production graph
6. Monthly well tests
7. Structural cross section
8. Core analysis
9. Type log
10. Well completion summary
11. Structure map
12. Isopach map
13. Volumetric calculations
14. Reservoir data
15. Production tabulation
16. Production graph
17. Costs
18. Projected income
19. Proration schedule
20. Forms H-1 and H-1A
21. Affidavit of publication
22. Unit agreement
23. Unit participation
24. 20 questions on unitization agreement