

August 24, 2000

**OIL & GAS DOCKET NO. 02-0225333**

---

**THE APPLICATION OF QUINTANA PETROLEUM CORPORATION TO CONSIDER  
UNITIZATION AND SECONDARY RECOVERY AUTHORITY FOR THE TOM  
O'CONNOR (5730 FOOT SAND) UNIT IN THE TOM O'CONNOR (5730, EAST)  
FIELD, REFUGIO COUNTY, TEXAS**

---

**HEARD BY:** Thomas H. Richter, P.E., Technical Examiner  
Meredith Kawaguchi, Legal Examiner

**DATE OF HEARING:** August 16, 2000

**APPEARANCES:**

John Camp, attorney  
Kirk M. Briggs  
Roger Dixon

**REPRESENTING:**

Quintana Petroleum Corp.

**EXAMINERS' REPORT AND RECOMMENDATION**

**STATEMENT OF THE CASE**

This is the unopposed application of Quintana Petroleum Corp. for Commission authority for unitization of the Tom O'Connor (5370 Foot Sand) Unit and approval of secondary recovery operations on the Unit. The examiners recommend approval.

**DISCUSSION OF THE EVIDENCE**

The Tom O'Connor (5730, East) Field was discovered January 10, 2000 at approximately 5,826' subsurface depth. The field is the result of multi-well transfers from the "main" Tom O'Connor Field. The field is governed by Statewide Rules. Quintana is the only operator.

The proposed unitized interval is from 5,790' to 5,830' as shown on the type log of the Quintana Petroleum Corp., Maude Williams "A" Well No. 12, Thomas H. Webb Survey, A-298, Refugio County. The field, as well as the proposed unitized interval, is comprised of two "members": the "A" and "B". Both members are channel sand deposits. The "A" deposition feature is in a northwest-southeast direction ranging in thickness up to 12 feet. The "B" member sand is in a more east-west deposition feature ranging in thickness up to 10 feet. The sands are separated as much as 20 feet in vertical displacement, however, pressure data concludes that the

two sands merge. The productive area of the unit is defined by the current oil-water contact (not the original oil-water contact). The limits of the channel sand are well defined and are uniform and continuous across the unit.

The proposed Tom O'Connor (5370 Foot Sand) Unit consists of 3 tracts which contain 1,244 acres. There are currently 6 producing wells within the proposed unit area. Current production is 17 BOPD per well. Cumulative production as of July 1, 2000 is 3.648 million barrels of oil and 10.465 BCF of gas. Quintana proposes the re-completion of three wells to water injection wells. Make-up water will be supplied from produced water in the area. There will be 13 producing wells. It is estimated that an additional 650,000 BO will be recovered from the secondary recovery water injection program. This projection is based on the results of two other nearby waterflood injection projects: the Tom O'Connor 5400 Sand Lens #2 and the Tom O'Connor 5770 Upper (South).

The proposed secondary recovery project is economically feasible. The estimated capital cost of water injection well conversions and re-completions is \$371,500. The revenue from the sale of oil and gas produced is \$6.24 million (discount rate at 10%).

At the time of the hearing, 100% of the royalty interest ownership and 96% of the working interest ownership had signed the unit agreement. On any tract where there is not 100% ratification, the existing lease tank battery and the surface commingling instruments will remain in place for the accurate measurement of tract production. The participation formula is based on original oil-in-place by tract. Interest owners within the unit were offered the same opportunity to join the unit on the same yardstick basis. All persons with interests within the area reasonably defined by development were provided the opportunity to join the unit and were given notice of this application and hearing. Notice of this application and hearing was published in the *Refugio County Advantage Press*, a news paper of general circulation in the county where the proposed unit is located, on July 12, 19, 26 and August 2, 2000.

### **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 unleased tracts. Notice of this application and hearing was published in the *Refugio County Advantage Press*, a news paper of general circulation in the county where the proposed unit is located, on July 12, 19, 26 and August 2, 2000.
2. The proposed Tom O'Connor (5370 Foot Sand) Unit consists of 3 tracts which contain 1,244 acres.
  - a. The proposed unitized interval is from 5,790' to 5,830' as shown on the type log of the Quintana Petroleum Corp., Maude Williams "A" Well No.

12, Thomas H. Webb Survey, A-298, Refugio County.

- b. The field, as well as the proposed unitized interval, is comprised of two “members”: the “A” and “B”.
3. The secondary recovery water-flood operations are anticipated to recover an additional 650,000 barrels of oil.
  - a. Cumulative production as of July 1, 2000 is 3.648 million barrels of oil and 10.465 BCF of gas.
  - b. Quintana proposes the re-completion of three wells to water injection wells.
  - c. Make-up water will be supplied from produced water in the area. There will be 13 producing wells.
4. Secondary recovery operations are economically feasible.
  - a. The estimated capital cost of water injection well conversions and re-completions is \$371,500.
  - b. The revenue from the sale of oil and gas produced is \$6.24 million (discount rate at 10%).
5. The proposed participation formula is equitable and will provide for the protection of correlative rights. The participation formula is based on original oil-in-place by tract.
6. The rights of all owners of interests in the field, whether signers of the unit agreement or not, will be protected under its operation.
7. Persons entering into the unit agreement own or control production, leases, royalty or other interests in the field.
8. The secondary recovery project will not be successful unless the area is unitized.
9. The injected water will be salt water from the Santa Rosa.
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.

- a. The working interest owner ratification is 96%.
  - b. The royalty interest ratification is 100%.
  - c. On any tract where the is not 100% ratification, the existing lease stock tank battery and the surface commingling instruments will remain in place for the accurate measurement of tract production.
11. The owners of interest in the oil and gas under each tract of land within the unit 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.
  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.

**CONCLUSIONS OF LAW**

1. Proper notice was given to all persons entitled to notice pursuant to all applicable codes and regulatory statutes.
2. The requested secondary recovery project is a conservation matter properly within Commission jurisdiction as outlined in Chapter 101 of the Texas Natural Resources Code.
3. The unit described in the unit agreement is necessary to accomplish the purposes set out in TEX. NAT. RES. CODE ANN. §101.001 et seq. (Vernon 1993).
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 Tom O'Connor (5730 Foot Sand) Unit and secondary recovery operations project as set out in the attached order.

Respectfully submitted,

Thomas H. Richter, P.E.  
Technical Examiner

Meredith Kawaguchi  
Legal Examiner